



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

MEMORANDUM OF AGREEMENT

FOR THE

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER
TREATMENT WORKS: CIVIL WORKS

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

and

STEFANUTTI STOCKS (PTY) LTD

Reg No: [REDACTED]

Contract No. 203Q/2023/24

PREAMBLE

Making progress [REDACTED] er.

WHEREAS Tender 203Q/2023/24 was awarded to **STEFANUTTI STOCKS (PTY) LTD**, in line with resolution **SCMB 27/02/25** dated **10 February 2025** for the **UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS** in the amount of **R1 545 931 057.13** (including VAT) from date of commencement of contract for a period of **54 months**, subject to the conclusion of a Section 33 of the MFMA process and Council adopting a resolution in which it approves the entire contract exactly as it is to be executed and in which it authorises the Municipal Manager to sign the contract on behalf of the municipality."

AND WHEREAS it is recorded that this Contract will be governed by the General Conditions of Contract for Construction Works, Third Edition, 2015, read with the Contract Specific Data ("CSD") annexed hereto marked "**PART C1.2: CONTRACT DATA**".

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. PARTIES

The Parties to this Contract are:

- 1.1. **The City of Cape Town**, a metropolitan municipality, established in terms of the Local Government: Municipal Structures Act. 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("**the Employer**"), herein represented by **the City Manager or his nominee** duly authorised hereto;
- 1.2. **Stefanutti Stocks (Pty) Ltd**, a private company registered in terms of the laws of the Republic of South Africa with registration no: **2003/022221/07** with its principal place of business situated at [REDACTED] **St, Airport Industria, Cape Town, 7490** (the "**Contractor**"), herein represented by its duly authorised representative, [REDACTED] in his capacity as **Director**;

hereinafter jointly referred to as "**Parties**" and in singular, a "**Party**".

2. INTERPRETATION

- 2.1. In the event of any conflict between the provisions of this Contract, the GCC and any Part attached hereto, or any other document incorporated by reference to this Contract, save to the extent expressly stated to the contrary, such conflict will be resolved by giving precedence to such different parts of this Contract in the following order of precedence:

- 2.1.1 the Form of Offer and Acceptance,
- 2.1.2 the Contract Specific Data within the Contract Data,
- 2.1.3 the General Conditions of Contract for Construction Works, Third Edition, 2015,
- 2.1.4 the Drawings,
- 2.1.5 the Scope of Work,

2.1.6 the Pricing Data, and

2.1.7 the conditions of tender, the tender data and tender schedules

2.2 The provisions of this Contract supersede and replace the provisions of any previous agreement entered into between the Parties relating to the same subject matter.

3. APPOINTMENT AND DURATION

3.1. The Employer hereby appoints the Contractor to perform the Scope of Work for the Employer from Date of Commencement.

3.2. Unless terminated earlier in accordance with the provisions as set out in the GCC or any other provision in terms of this Contract, this Contract shall terminate **54 months from date of commencement (excluding defects liability period), inclusive of the 14 day period referred to in (Clause 5.3.2), and inclusive of non-working days referred to in (Clause 5.8.1), but exclusive of special non-working days (Clause 5.8.1).**

4. MUTUAL GOOD FAITH / CO-OPERATION

4.1. The Parties represent and undertake to do all such things, perform all such acts and take all steps to procure the doing of all such things and the performance of all such acts, as may be necessary or incidental to give effect to the execution of this Contract.

4.2. The Parties shall at all times during the continuance of this Contract observe the principles of good faith towards one another in the performance of their obligations in terms of this Contract.

5. OBLIGATIONS OF THE EMPLOYER

5.1. The Employer undertakes to perform its obligations in accordance with the Contract, including but not limited to the Scope of Work (**PART C3: SCOPE OF WORK**), subject to the satisfactory fulfilment of the obligations by the Contractor as set out in this Contract.

5.2. The Employer shall monitor and evaluate the Contractor's performance in respect of the Scope of Work.

6. OBLIGATIONS OF THE CONTRACTOR

6.1. The Contractor hereby agrees and undertakes to perform the Services to the Employer as set out in Scope of Work (**PART C3: SCOPE OF WORK**).

6.2. The Contractor will perform the Works as expeditiously as possible and furthermore agrees and undertakes to perform the services in accordance with the operational requirements of the Employer.

- 6.3. The Contractor will ensure that the Works will be of a satisfactory quality and fit for purpose.
- 6.4. The Contractor shall, ensure that its employees, agents, representatives, sub-contractors and suppliers comply with this Contract and all applicable Laws in the execution of the Works.
- 6.5. The Contractor will not conduct any activity of whatsoever nature which may be detrimental to the Employer's reputation and goodwill.

7. PRICING DATA

- 7.1. The Contract Price for the Works shall be as set out in the Pricing Data annexed marked **"PART C2: PRICING DATA"**.
- 7.2. The Contractor shall not be entitled to any other consideration for the rendering of the Works other than as provided for in this Contract.

IMPORTANT TO NOTE:

- 1. The Contractor's complete Tender submission (that is Volumes 1 to 7), including the Tender Drawings as well as the supporting documentation submitted with the Contractor's Tender, is incorporated by reference and forms part of this Contract.
- 2. All the supporting documentation (appendices and annexures) submitted with the Contractors Tender, pertaining to Addendums to Tender and Clarifications to Tender, form part of this Contract.

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

SCHEDULE 1: COMPULSORY ENTERPRISE QUESTIONNAIRE

Section 1: Name of enterprise: STEFANUTTI STOCKS (PM) LTD

Section 2: VAT registration number, if any: 4670 212 200

Section 2a: National Treasury Central Supplier Database registration number : MAAA0458964.

Section 2b: SARS Tax Compliance Status PIN : G582423218

Section 3: CIDB registration number, if any: 105118

Section 4: Particulars of sole proprietors and partners in partnerships

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

Section 5: Particulars of companies and close corporations

Company registration number 2003/022221/07

Close corporation number N/A

Tax reference number 9623257152

Section 6: Foreign Bidding Suppliers

Is tenderer the accredited representative in South Africa for the Goods / Services / Works offered? ☐ Yes ☒ No
If yes, enclose proof

Is tenderer a foreign based supplier for the Goods / Services / Works offered?	☐ Yes ☒ No If yes, answer the Questionnaire to Bidding Foreign Suppliers (below)
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Questionnaire to Bidding Foreign Suppliers

a) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa?	☐ Yes	☐ No
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b) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa?	☐ Yes	☐ No
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c) Does the tenderer have a permanent establishment in the Republic of South Africa?	☐ Yes	☐ No
--	------------------------------	-----------------------------

d) Does the tenderer have any source of income in the Republic of South Africa?	☐ Yes	☐ No
---	------------------------------	-----------------------------

e) Is the tenderer liable in the Republic of South Africa for any form of taxation?	☐ Yes	☐ No
---	------------------------------	-----------------------------

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

Signed

Date

24/7/24

Name

Position

DIRECTOR

Enterprise
name

STEFALUTTI STOCKS (PTY) LTD

	Pages
C1.1 Form of Offer and Acceptance (Agreement).....	8 – 104
C1.2 Contract Data (data provided by Contractor)	105
C2.2 Bills of Quantities.....	813 – 817



CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.1 Form of Offer and Acceptance

Offer

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

CONTRACT NO. 203Q/2023/24: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

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

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

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

Rand ONE BILLION FIVE HUNDRED AND FORTY FIVE MILLION NINE HUNDRED AND THIRTY

ONE THOUSAND AND FIFTY SEVEN RAND AND THIRTEEN CENTS ONLY. (In words);

R. 1.545.931.057-13 (In figures)

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

[Redacted signature block for tenderer]

[Redacted signature block for employer]

for the tenderer

(Name of organization/tenderer) STEFANUTTI STOCKS (Pty) LTD

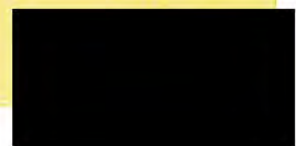
(Address of organization/tenderer) [Redacted address]

Name and
signature
of witness

[Redacted witness signature]

Date 24 JULY 2024

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



Acceptance

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

The terms of the contract are contained in:

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

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

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

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

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

The Parties	Employer	Contractor
Business Name	CITY OF CAPE TOWN	STEFANUTTI STOCKS (PTY) LTD
Business Registration	Not applicable	1002421762
Tax number (VAT)	4500193497	4670212200
Physical Address	Civic Centre 12 Hertzog Boulevard Cape Town 8000	 St
Accepted contract sum including tax	R1 545 931 057.13	 5 931 057.13
Accepted contract duration	54 months (excluding defects liability period), inclusive of the 14 day period referred to in (Clause 5.3.2), and inclusive of non-working days referred to in (Clause 5.8.1), but exclusive of special non-working days (Clause 5.8.1).	54 months (excluding defects liability period), inclusive of the 14 day period referred to in (Clause 5.3.2), and inclusive of non-working days referred to in (Clause 5.8.1), but exclusive of special non-working days
Signed - who by signature hereto warrants authority		
Name of signatory		
Signed: Date		
Signed: Location		
Signed: Witness		
Name of Witness		

Schedule of Deviations

Notes:

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

1 Subject Addendum No 1

Details: Issued 7 May 2024 – Pages including appendices in link.

2 Subject Addendum No 2

Details: Issued 7 June 2024 – Pages including appendices in link.

3 Subject Addendum No 3

Details: Issued 11 July 2024 – Pages including appendices in link.

4 Subject Addendum No 4

Details: Issued 18 July 2024 – Pages including appendices in link.

5 Subject Addendum No 5

Details: Issued 19 July 2024 – Pages including appendices in link.

6 Subject Addendum No 6

Details: Issued 23 July 2024 – Pages including appendices in link.

7 Subject Clarification No 1 and No 2

Details: Issued 19 September 2024 and 16 October 2024 respectively

8 Subject Clarification No 1 and No 2 Response Letter

Details: Responded 26 September 2024 and 18 October 2024 respectively

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

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





Email: [REDACTED]

07 MAY 2024

NOTICE TO TENDERERS NO: 1

Pages 16

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JUNE 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 1 TO TENDER DOCUMENTS

ATD1-1 TENDERING PROCEDURES AND TENDER DATA

**ATD1-1.1 Volume 1: Tendering Procedures
Part T1: Tendering Procedures**

ATD1-1.1.1 Amend the Contract No. on page 1 footer to "203Q/2023/24".

ATD1-1.1.2 Amend the Contract No. on page 4 header to "203Q/2023/24".

**ATD1-1.2 Volume 1: Tendering Procedures
Part T2: Tender Data**

ATD1-1.2.1 After the last sentence of Clause C.2.13.11 c) (Page 15) add the following.

"Tenderers are also requested to submit completed electronic versions (i.e., Microsoft Excel version) of the Bills of Quantities and Technical Data Sheets as an unofficial version, i.e., filled in by the tenderer in the format issued by the Employer. The unofficial version shall not be regarded as a substitute for the documents as contemplated in C2.13.3."

ATD1-1.2.2 Replace the last sentence of Clause C.2.13.11 d) (Page 15) with the following.

"The Employer may through addenda re-issue the Bills of Quantities and Technical Data Sheets in its entirety, as electronic versions. Tenderers may complete these documents electronically and print to hard copy in the same format as contemplated in C.2.13.11 c). In this instance, the printed submission



shall be returned in its entirety and tenderers shall unbind the affected tender documents and replace the hardcopy with the printed version, and then rebind the affected tender documents to its original condition."

- ATD1-1.2.3 In the detailed functionality criteria table (Page 9), under section 1.1, replace the text "R350 million (per individual project)", with the following text "R250 million (per individual project)".

1

- ATD1-1.2.4 In the detailed functionality criteria table (Page 11), under section 2.2 replace the text "R350 million (per individual project)", with the following text "R250 million (per individual project)".

ATD1-2 RETURNABLE DOCUMENTS

ATD1-2.1 **Volume 2: Returnable Documents Book 1 of 2 (Page 38 – 500 Only) and Book 2 of 2 (Page 501 – 884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities**

- ATD1-2.1.1 The text for the short description for some of the items in the Bill of Quantities was found to be cut and the full text of the short description was not clearly displayed on the printed Tender Documents. This has been corrected on the Electronic Version of the Bill of Quantities which is made available to tenderers with Addendum No 1 (Appendix J) to Tender Documents, as contemplated in ATD1-1.2.1 and ATD1-1.2.2. Tenderers are to note that page numbering in electronic versions of the Bill of Quantities Schedules have been amended to suit the issue of this Addendum to tender and as such the page number ends with the suffix "- ADD". Where page numbers are referenced in this Addendum, the page numbering has been amended accordingly as per Addendum to tender No.1.

- ATD1-2.1.2 In Bill of Quantities Schedules C8, C10, C12, C13, C14, C18, C19, C23, C24, C47, C48, and C61, some of the item numbers were missing. This has been corrected on the Electronic Version of the Bill of Quantities which is made available to tenderers with Addendum No 1 (Appendix J) to Tender Documents. Where item numbers were included, subsequent item numbering was amended accordingly. Tenderers are to take note that the numbering in the Addendum to Tender No.1 corresponds with the numbering of the Electronic Version of the Bill of Quantities described in ATD12.1, unless an item was omitted in the current Electronic Version in which case reference has to be made to item numbering on the printed Tender Documents.

- ATD1-2.1.3 In the Bill of Quantities replace all instances of the word "Bedim" with "Bidim".

- ATD1-2.1.4 The following Bill of Quantities Schedules and Item Numbers refers:

Bill C5, Item no 373
 Bill C11, Item no 55
 Bill C20, Item no 204
 Bill C27, Item no 100
 Bill C28, Item no 105
 Bill C29, Item no 124
 Bill C36, Item no 93

Replace the Unit for the above-mentioned bill and item numbers with "m²".

- ATD1-2.1.5 Add new items 19 and 20 to Bill C1 General (Page 48-ADD). Subsequent items are to be renumbered accordingly after this addition.

19	8(a) Weighbridge Unit	Prov Sum	1	750,000.00
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20		(b) Charge required by Contractor on subitem (a) above	X100%	750,000.00	
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ATD1-2.1.6 Amend the short description of the following items in Bill C3 Bulk Earthworks (Pages 61-ADD to 62ADD).

33		(b) G5 compacted to 97% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	2500
34		(c) G6 compacted to 95% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1500
35		(g) G7 compacted to 95% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1000
36		(h) G9 compacted to 93% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1000

ATD1-2.1.7 Add new item 43 to Bill C3 Bulk Earthworks (Page 62-ADD). Subsequent items are to be renumbered accordingly after this addition.

	PSD 8.3.20	Compaction of In-situ material to 98% modified AASHTO maximum density:		
43		Underneath structure foundation to a depth of 1000 mm	m ²	78300

ATD1-2.1.8 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 62-ADD).

45		(ii) Minimum 98% of modified AASHTO density (100% for sand) for roads, 150mm thick	m ³	25770
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ATD1-2.1.9 Replace the quantity of the following item in Bill C8 Secondary Settling Tank (Page 126-ADD).

94		Secondary Settling Tank	Sum	1
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ATD1-2.1.10 On Bill C10 UV Channel and Building (Page 140-ADD) under the heading "Earthworks" in the short description column add the following text, "as specified in SANS 1200D and in the project specifications".

ATD1-2.1.11 Amend the short description of the following item in Bill C10 UV Channel and Building (Page 147ADD).

93		Form opening for louvres, size 1020mm x 940, louvres to be supplied by others.	No	6.00
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ATD1-2.1.12 Amend the unit of the following items in Bill C10 UV Channel and Building (Pages 143-ADD to 144ADD).

61		Inlet Channels	Sum	1
62		Inlet Sump	Sum	1
63		Channels in Building	Sum	1
64		By Pass channel	Sum	1
65		Outlet Sump	Sum	1

ATD1-2.1.13 Omit the following item in Bill C10 UV Channel and Building (Page 145-ADD).

	PSH 8.3.1	Supply and fabrication of hot-dipped galvanised steelwork: (a) Jointing by welding or bolting: 50 x 50 x 5 Equal angle	t	0.04
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ATD1-2.1.14 Replace the quantity of the following item in Bill C11 Chlorine Contact Tank (Page 153-ADD).

47		Filter bed - 120 mm no-fines concrete layer including provision for 20 mm thick packed mortar skin	m³	410
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ATD1-2.1.15 Amend the unit of the following items in Bill C12 Balancing Tank (Modification to Existing Reactor) (Page 163-ADD).

67		Test conducted before refurbishment	Sum	1.0
68		Test conducted after refurbishment	Sum	1.0

ATD1-2.1.16 Amend the unit of the following item in Bill C14 Gravity Thickeners (Page 182-ADD).

86		Gravity thickener	Sum	1
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ATD1-2.1.17 On the summary page of Bill C18 Flow Splitter Structures (Page 235-ADD) omit the text "SANS 1200 HA STRUCTURAL STEELWORK (SUNDRY ITEMS)".

ATD1-2.1.18 Amend the chief reference and short description of the following item in Bill C19 Return Flow Pumpstation (Page 238-ADD).

32	PSG 8.13	Casting items in Concrete (a) Up to 300 mm nominal bore Through 300 mm walls or sides	No	2.0
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ATD1-2.1.19 Replace items 193 – 196 with the following updated items 193 -196 below and add items 197-199 in Bill C20 Ancillary Structures (Page 259-ADD).

193		100mm nominal dia. Grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1300mm	No	6.0
194		100mm nominal dia. 90 deg bend, stainless steel Grade 304L stainless steel (SS)	No	2.0
195		SG Iron flange adaptor for Upvc pipes	No	4.0
196		110mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.0

197		110mm dia. 1000mm long uPVC rocker pipe	No	4.0
198		110mm dia. 45 deg. uPVC bend	No	4.0
199		SG Iron equal tees for Upvc pipes	No	2.0

ATD1-2.1.20 Amend the short description for the following item in Bill C20 Ancillary Structures (Page 262-ADD).

206		(iii) Gate as indicated on the drawings, approximate size, 5080mm x 1750mm	No	2.00
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ATD1-2.1.21 Omit the following item in Bill C25 Anaerobic Digesters (Page 297-ADD). Subsequent items are renumbered accordingly after omission.

	PSGG	GRP OPEN GRID FLOORING		
		as specified in PSGG in the project specifications		
59	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring Sludge Withdrawal Chamber	m ²	6

ATD1-2.1.22 On the Summary Sheet of Bill C25 Anaerobic Digesters (Page 299-ADD) after SANS 1200H STRUCTURAL STEEL WORK omit the text "(SUNDRY ITEMS)".

ATD1-2.1.23 On the Summary Sheet of Bill C25 Anaerobic Digesters (Page 299-ADD) after SANS 1200H STRUCTURAL STEEL WORK add a new line with text "PSGG: GRP OPEN GRID FLOORING".

ATD1-2.1.24 Replace items 144 and 145 in Bill C31 Dewatering Building (Page 378-ADD) with the following.

144		Loose furniture	Prov Sum	1	200,000.00
145		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	X100%	200,000.00	

ATD1-2.1.25 Replace the quantity of item 143 and add new item 144 to Bill C33 Combined Heat and Power Building (Page 403-ADD).

143		Flooring Detail 2, Flooring Type 7	m ²	70.0
(d) Miscellaneous Steel Items				
144		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	55.0

ATD1-2.1.26 Replace the quantity of item 109 and add new item 110 to Bill C34 Centralised Generator Building (Page 416-ADD).

109		Flooring Detail 2, Flooring Type 7	m ²	70.0
(d) Miscellaneous Steel Items				
110		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	55.0

ATD1-2.1.27 In Bill of Quantities Schedules C41 (Page 516-ADD), C42 (Page 535-ADD), the incorrect chief reference clause and short descriptions were provided for the scheduling of structural steel. The correct chief reference clause and short description for the scheduling of structural steel has been replaced on all affected Bill of Quantities Schedules as indicated below.

	PSH 8.3.1	Structural Steel:		
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ATD1-2.1.28 Replace the following items in Bill C42 Guard House (Page 540-ADD).

101		Provide the Provisional Sum as indicated for Building Signage	Prov Sum	1.0	30,000.00
102		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	30,000.00	
103		Loose furniture	Prov Sum	1.0	15,000.00
104		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	15,000.00	

ATD1-2.1.29 Replace short description of the following item in Bill C42 Guard House (Page 541-ADD).

		POST -TENSIONED SLAB			
		As specified on drawings DRG-CC – 0796, -0797 and -0799			

ATD1-2.1.30 Omit the following text in Bill C43 Weighbridge and Building (Page 550-ADD).

	8.3.1	Supply and fabrication of hot-dipped galvanised steelwork:		
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ATD1-2.1.31 On the Summary Sheet of Bill of Quantities Schedules C44 (Page 594-ADD), C45 (Page 642-ADD), C46 (Page 649-ADD), C47 (Page 657-ADD) the incorrect description of the SANS code was provided for Medium Pressure Pipelines. This has been updated as indicated below.

SANS 1200 L	MEDIUM-PRESSURE PIPELINES	
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ATD1-2.1.32 Amend the short description of the items below in Bill C47 Service Water Reticulation (Page 652ADD).

23	32 mm dia HDPE Class 12.5 (orange stripe)	m	131.1	23
24	63 mm dia HDPE Class 12.5 (orange stripe)	m	861.6	24
25	90 mm dia HDPE Class 12.5 (orange stripe)	m	106.5	25
26	140 mm dia HDPE Class 12.5 (orange stripe)	m	169.0	26

ATD1-2.1.33 On summary of sections on of Bill C49 Stormwater Drainage (Page 681-ADD) after SANS 1200 DB EARTHWORKS (PIPE TRENCHES) add the summary of sections as indicated below.

SANS 1200DB	EARTHWORKS (SUB-SOIL DRAINAGE)	
SANS 1200D	EARTHWORKS (GABIONS AND PITCHING)	
SANS 1200MK	KERBING AND CHANNELLING	
SANS 1200LB	BEDDING (PIPES)	

SANS 1200 LD	SEWERS (SECONDARY STORMWATER SYSTEM):	
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ATD1-2.1.34 Amend the short description of the following item on Bill C58 Security Hut (Page 748-ADD).

5		G7 compacted to 98% Modified AASHTO (unless otherwise stated) in 150mm thick layers (unless otherwise stated)	m ³	71.0	
---	--	---	----------------	------	--

ATD1-2.2 Volume 2: Returnable Documents Book 2 of 2 (Page 501 – 884 Only) Part T2: Returnable Documents – T2.2 Returnable Schedules

ATD1-2.2.1 On Bill C44 Interconnecting Pipework – Liquid Stream (Page 569-ADD), amend the short description of the following item 215 (Pipeline IB13) and 216 (Pipeline IB14).

215		700mm dia Pipeline IB14	m	290.0	
216		700mm dia	m	360.0	

ATD1-2.2.2 On Bill C44 Interconnecting Pipework – Liquid Stream, the pipe fittings were amended for the pipelines listed below. Amendments were made in terms of the short description, unit or quantity, amendments may also include the addition of new items or omission of previous items. Subsequent items were renumbered accordingly after any additions or omissions.

TE Pipelines

- i. Page 570-ADD – Pipeline TE01 : Items 224 – 227 – Pipeline TE02 : Items 228 – 230
 - Pipeline TE03 : Items 232, 239
 - Pipeline TE04 : Items 240, 243
- ii. Page 571-ADD – Pipeline TE06 : Item 251
 - Pipeline TE07 : Items 252 – 255
 - Pipeline TE08 : Item 254
- Pipeline TE09 : Item 263 iii. Page 572-ADD – Pipeline TE10 : Item 265 – Pipeline TE11 : Item 271
 - Pipeline TE12 : Items 272, 274 – 275
 - Pipeline TE13 : Items 276 – 279
 - Pipeline TE15 : Items 280 – 283
- iv. Page 573-ADD – Pipeline TE14 : Item 284
 - Pipeline TE16 : Item 291 – 294
 - Pipeline TE17 : Item 298
 - Pipeline TE18 : Items 299, 301 – 302
- v. Page 574-ADD – Pipeline TE19 : Item 303 – 304, 306
 - Pipeline TE20 : Item 311
 - Pipeline TE21 : Item 313

ML Pipelines

- i. Page 575-ADD – Pipeline ML01 : Items 321 – 322, 324, 326

- Pipeline ML02 : Items 330 – 332, 334 – Pipeline ML03 : Items 338 – 339
- ii. Page 576-ADD – Pipeline ML04 : Items 347 – 348, 350, 352
– Pipeline ML05 : Items 356 – 358, 360
- iii. Page 577-ADD – Pipeline ML06 : Items 364 – 365, 369
– Pipeline ML07 : Items 373 – 375, 377
- iv. Page 578-ADD – Pipeline ML08 : Items 381 – 383, 385
– Pipeline ML09 : Items 389 – 390, 394 v. Page 579-ADD –
Pipeline ML10 : Items 398 – 399, 403 to 580-ADD – Pipeline
ML11 : Items 407 – 409, 411 – Pipeline ML12 : Items 415 – 417,
419
– Pipeline ML13 : Items 423 – 425, 429 – 430 – Pipeline ML14 :
Items 433, 437
- vi. Page 581-ADD – Pipeline ML15 :
Items 438 – 439, 441, 446 – Pipeline
ML16 : Items 449 – 450

RS Pipelines

- i. Page 581-ADD – Pipeline RS01 : Item 456 ii.
Page 582-ADD – Pipeline RS02 : Item 462 to 584-ADD
– Pipeline RS03 : Items 469, 472, 476 – 477
– Pipeline RS04 : Items 481, 484, 486
– Pipeline RS05 : Items 491, 494, 496
– Pipeline RS06 : Items 501, 504, 506
– Pipeline RS07 : Items 511, 514 – 516 – Pipeline RS08 : Items 522
– 523
- iii. Page 585-ADD – Pipeline RS09 : Items 524, 527,
529, 534 to 586-ADD – Pipeline RS10 : Items
535, 538, 542
– Pipeline RS11 : Items 546, 549 – 551
– Pipeline RS12 : Items 553 – 558
– Pipeline RS13 : Items 559 – 560, 562 – 564, 566 – 567
- iv. Page 587-ADD – Pipeline RS14 : Items
570, 572 to 588-ADD – Pipeline RS15 :
Items 575, 575
– Pipeline RS16 : Items 578, 580, 583 – 584
– Pipeline RS17 : Items 585 – 588
– Pipeline RS18 : Items 590, 592, 594
– Pipeline RS19 : Items 595, 597, 599

IB Pipelines

- i. Page 588-ADD – Pipeline IB01 : Items 602, 603
– 604 ii. Page 589-ADD – Pipeline IB02 : Items 609, 611
– Pipeline IB03 : Items 613 – 614
– Pipeline IB04 : Item 616
– Pipeline IB05 : Item 622
– Pipeline IB06 : Item 629
- iii. Page 590-ADD – Pipeline IB07 :
Item 633 – Pipeline IB08 : Item 639
– Pipeline IB09 : Items 644 – 646 – Pipeline IB10 : Items 647, 650
- iv. Page 591-ADD – Pipeline IB11 : Items 652 –
653, 655 to 592-ADD – Pipeline IB12 : Item
660
– Pipeline IB13 : Items 662 – 671
– Pipeline IB14 : Items 672 – 679 – Pipeline IB15 : Item 682

ATD1-2.2.3 On Bill C45 Interconnecting Pipework – Sludge Stream (Page 602-ADD), omit items 126 - 133 and amend item numbers accordingly.

ATD1-2.2.4 On Bill C45 Interconnecting Pipework – Sludge Stream (Page 623-ADD), add the following new items 481-482.

491	Pipelines AR01 - AR04 1100mm dia	m	400.0	
492	Pipelines RR01 - RR04 450mm dia	m	240.0	

ATD1-2.2.5 On Bill C45 Interconnecting Pipework – Sludge Stream, the pipe fittings were amended for the pipelines listed below. Amendments were made in terms of the short description, unit or quantity, amendments may also include the addition of new items or omission of previous items. Subsequent items were renumbered accordingly after any additions or omissions.

DS Pipelines

- i. Page 609-ADD – Pipeline DS01 : Items 216 – 218 – Pipeline DS02 : Items 222 – 224
– Pipeline DS03 : Items 227 – 228
- ii. Page 610-ADD – Pipeline DS04 : Items 235, 237 – 238 – Pipeline DS05 : Items 241, 243 – 244 – Pipeline DS06 : Items 248 – 249
- iii. Page 611-ADD – Pipeline DS07 : Item 253
– Pipeline DS08 : Items 257 – 258

PS Pipelines

- i. Page 611-ADD – Pipeline PS01 : Item 265
- ii. Page 612-ADD – Pipeline PS02 : Item 277
– Pipeline PS03 : Item 289
- iii. Page 613-ADD – Pipeline PS04 : Item 301
– Pipeline PS05 : Item 308
- iv. Page 614-ADD – Pipeline PS06 : Item 316
– Pipeline PS07 : Item 325

TS Pipelines

- i. Page 617-ADD – Pipeline TS07 : Items 372, 376, 380
– Pipeline TS08 : Item 390
- ii. Page 618-ADD – Pipeline TS09 : Items 398 – 399
– Pipeline TS10 : Items 407 – 408

SC Pipelines

- i. Page 623-ADD – Pipeline SC01 : Item 486
- ii. Page 624-ADD – Pipeline SC02 : Item 493
– Pipeline SC04 : Item 500
- iii. Page 625-ADD – Pipeline SC07 : Item 514 – Pipeline SC08 : Item 521
– Pipeline SC10 : Item 529
- iv. Page 626-ADD – Pipeline SC11 : Item 534 – Pipeline SC13 : Item 542
– Pipeline SC14 : Item 547 v. Page 627-ADD – Pipeline SC17 : Item 555
– Pipeline SC20 : Item 561

- vi. Page 628-ADD – Pipeline SC23 : Item 567

SS Pipelines

- i. Page 628-ADD – Pipeline SS01 : Items 576
 – 577, 580 to 629-ADD – Pipeline SS02 : Items 586
 – 587, 590 – Pipeline SS03 : Items 596 – 597, 600
 – Pipeline SS04 : Items 606 – 607, 610, 612
- ii. Page 630-ADD – Pipeline SS05 : Items 615 – 616
 – Pipeline SS06 : Items 619 – 620, 623
 – Pipeline SS07 : Items 629 – 630, 633, 635
- iii. Page 631-ADD – Pipeline SS08 : Items 638 – 639, 642
 – Pipeline SS09 : Items 648 – 649, 652
- iv. Page 632-ADD – Pipeline SS10 : Items 658 – 659
 – Pipeline SS16 : Items 662 – 663, 666
 – Pipeline SS17 : Items 672 – 673, 676
- v. Page 633-ADD – Pipeline SS18 : Items 682 – 683, 685
 – Pipeline SS19 : Items 692 – 693, 695

WS Pipelines

- i. Page 634-ADD – Pipeline WS01 : Item 703
 – Pipeline WS03 : Item 711
- ii. Page 635-ADD – Pipeline WS05 : Item 720
 – Pipeline WS07 : Item 728
 – Pipeline WS09 : Item 734
- iii. Page 636-ADD – Pipeline WS10 : Item 742
 to 637-ADD – Pipeline WS11 : Items 743, 748, 751
 – Pipeline WS12 : Items 753 – 755, 759
 – Pipeline WS13 : Items 761 – 763, 767
 – Pipeline WS14 : Items 769 – 771, 775
- iv. Page 638-ADD – Pipeline WS15 : Items 777 – 779, 783
 – Pipeline WS16 : Item 784
 – Pipeline WS17 : Item 788
 – Pipeline WS19 : Item 793
 – Pipeline WS20 : Item 797
- v. Page 639-ADD – Pipeline WS22 : Items 804 – 805, 808

ATD1-2.2.6 For simplicity and to avoid confusion, replace Bill C44 Interconnecting Pipework – Liquid Stream (Pages 555-ADD to 594-ADD) and Bill C45 Interconnecting Pipework – Sludge Stream (Pages 595-ADD to 642-ADD) with revised sheets, see Appendix D.

ATD1-2.2.7 Replace the Summary of Bill of Quantities (Page 812) with a revised sheet (Page 812-ADD), see Appendix C.

ATD1-2.2.8 Replace Schedule 17: Estimated Monthly Expenditure (Pages 843 to 844) with revised sheets (Page 843-ADD to 844-ADD), see Appendix E.

ATD1-3 CONTRACT

ATD1-3.1 Volume 3: The Contract
 Part C1: Agreements and Contract Data – C1.2 Contract Data

ATD1-3.1.1

In Part C1: Agreements and Contract Data, C1.2: Contract Data, Clause 5.13.1: (Page 892), replace:

"The penalty for failing to complete the Works is 1/20 of 1% of the Contract Award Amount per calendar day.

The penalty for delay for sectional completion shall be as follows:

1. The penalty for delay for sectional completion of scheduled activities which does not impact the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will be a "percentage" of 1/20 of 1% of the Contract Award Amount per calendar day. This "percentage" shall be the "Contract Award Amount of the Portion of Works subject to Sectional Completion" over "the Contract Award Amount excluding contingencies and contract price adjustment (i.e., escalation)".
2. The penalty for delay for sectional completion for scheduled activities which impacts the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will result in full penalties being applied, i.e., 1/20 of 1% of the Contract Award Amount per calendar day."

with the following;

"The penalty for failing to complete the Works is 1/50 of 1% of the Contract Award Amount (as per C1.1 Form of Offer and Acceptance) per calendar day.

The maximum amount of Delay penalties shall be limited to 20% of the Contract Value (as per C1.1 Form of Offer and Acceptance).

The penalty for delay for sectional completion shall be as follows:

1. The penalty for delay for sectional completion of scheduled activities which does not impact the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will be a "percentage" of 1/50 of 1% of the Contract Award Amount (as per C1.1 Form of Offer and Acceptance) per calendar day. This "percentage" shall be the "Contract Award Amount of the Portion of Works subject to Sectional Completion" over "the Contract Award Amount excluding contingencies and contract price adjustment (i.e., escalation)".
2. The penalty for delay for sectional completion for scheduled activities which impacts the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will result in full penalties being applied, i.e., 1/50 of 1% of the Contract Award Amount (as per C1.1 Form of Offer and Acceptance) per calendar day."

ATD1-4

SCOPE OF WORK AND SITE INFORMATION

ATD1-4.1

**Volume 3A: Scope of Work and Site Information
Part C3: Scope of Works – C3.4 Construction**

ATD1-4.1.1

In Part C3: Scope of Works, C3.4: Construction, Clause 3.4.31 Variations and Additions to the Standard Specifications (Page 39), omit the following

"SANS 1200 HA : Structural steelwork (sundry items)"

ATD1-4.1.2

See attached in Appendix F for As Built information pertaining to the structures to be demolished as per Volume 3A: Scope of Work and Site Information, C3.4 Construction, Clause C3.4.13.1 Demolition Works and Volume 2: Returnable Documents Book 1 of 2 – Pages 38 -500 Only, Bill C4 Flow Diversions and Demolition. As-built information has been provided for the Structures and Buildings available to the Employer. For the remainder of the structures not listed, there is no asbuilt information, and tenderers will need to estimate the required dimensions from the survey drawing (Drawing No. 1001780-0000-DRG-CC-0006 and 1001780-0000-DRG-CC-0007) provided.

ATD1-4.2	Volume 3A: Scope of Work and Site Information Part C3: Scope of Works – C3.5 Management
ATD1-4.2.1	In Part C3: Scope of Works, C3.5: Construction, Clause 3.5.7.1 Sequencing of the Works, replace the Table (Page 64 -71) with revised Table, see Appendix G.
ATD1-4.3	Volume 3A: Scope of Work and Site Information Part C3: Scope of Works – C3.6 Annexes
ATD1-4.3.1	Amend the Contract No. on page 74-footer to "203Q/2023/24".
ATD1-4.4	Volume 3A: Scope of Work and Site Information Part C3: Scope of Work – C3.7 – Specifications
ATD1-4.4.1	In Part C3: Scope of Works, C3.7: Specifications, Clause 3.7.1 Standard Specifications (Page 81), under the heading titled "Other applicable Standard Specifications to the project shall apply:" after the last standard specification add the following standard specification "SANS 10400 : Building Regulations"
ATD1-4.4.2	In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), replace the description of clause PSD 8.3.16 (d) (Page 118) with the following "(d) G7 quality material compacted to 98% (100% for sand) Modified AASHTO (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) Unit : m3"
ATD1-4.4.3	In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), after clause PSD 8.3.16 (f) (Page 118) add the following new clauses "(g) G7 quality material compacted to 95% (100% for sand) Modified AASHTO (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) Unit : m3 (h) G9 quality material compacted to 95% (100% for sand) Modified AASHTO (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) Unit : m3"
ATD1-4.4.4	In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), after clause PSD 8.3.19 (Page 119) add the following new clause " PSD 8.3.20 Compaction of In-situ material to 98% modified AASHTO maximum density Unit : m² The unit of measurement shall be the square metre of in-situ material compacted as instructed in writing by the Engineer. Separate items will be scheduled for compacting the in-situ material to 98% of modified AASHTO density to varying depths. The purpose will be to improve the founding conditions beneath the structures. The tendered rate shall include full compensation for scarifying, watering, shaping, and compacting the in-situ material to the specified depths. The rate shall also include full compensation for taking of dynamic core penetration (DCP) tests as ordered by the Engineer prior to the commencement of the compaction operation, which results shall be used by the Engineer to determine the depth of the in-situ layer to be compacted."
ATD1-4.4.5	In Part C3: Scope of Works, C3.7: Specifications, PSG: Concrete (Structural) (1200 G), include the unit of measurement for PSG 8.21 (Page 178) and replace the clause number and name with the following " PSG 8.21 WATERTIGHTNESS TESTING Unit: Sum"

ATD1-4.4.6 In Part C3: Scope of Works, C3.7: Specifications, PS3 SOLAR ROOFTOP PV, under clause PS3 06.9.5 SCADA INEGRATION (Page 368) replace Clause a) with the following, " a) The PV system shall integrate with the Employer's SCADA system implemented by others (191Q/2023/24 Contract)."

ATD1-5 **REVISED TENDER DRAWINGS**

ATD1-5.1 **Volume 4: Book of Drawings**

ATD1-5.1.1 Replace drawing 1001780-0000-DRG-CC-0004 Rev T0 (Phasing of Works),
With drawing 1001780-0000-DRG-CC-0004 Rev T1 (Phasing of Works). See Appendix H.

ATD1-5.1.2 Replace drawing 1001780-0000-DRG-CC-0005 Rev T0 (No-Go Zone Areas),
With drawing 1001780-0000-DRG-CC-0005 Rev T1 (No-Go Zone Areas). See Appendix H.

ATD1-5.1.3 Replace drawings:

1001780-0000-DRG-CC-0102 Rev T0 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 1 of 3))
1001780-0000-DRG-CC-0103 Rev T0 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 2 of 3))
1001780-0000-DRG-CC-0104 Rev T0 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 3 of 3))

With the following drawings:

1001780-0000-DRG-CC-0102 Rev T1 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 1 of 3))
1001780-0000-DRG-CC-0103 Rev T1 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 2 of 3))
1001780-0000-DRG-CC-0104 Rev T1 (Bulk Platform (Stage 1) Typical Cross Sections (Sheet 3 of 3))

See Appendix H.

ATD1-5.1.4 Replace drawings:

1001780-0000-DRG-CC-0867 Rev T0 (Process Pipework: Longsection (IB13)),
1001780-0000-DRG-CC-0868 Rev T0 (Process Pipework: Longsection (IB14))

With the following drawings:

1001780-0000-DRG-CC-0867 Rev T1 (Process Pipework: Longsection (IB13)) 1001780-0000-DRG-CC-0868 Rev T1 (Process Pipework: Longsection (IB14))

See Appendix H.

ATD1-5.1.5

Replace drawings:

1001780-0000-DRG-CC-0980 Rev T0 (Process Pipeline Fitting Schedule – Primary Sludge Pipelines)
1001780-0000-DRG-CC-0981 Rev T0 (Process Pipeline Fitting Schedule – Digested Sludge Pipelines)
1001780-0000-DRG-CC-0982 Rev T0 (Process Pipeline Fitting Schedule – Scum Sludge Pipelines)
1001780-0000-DRG-CC-0983 Rev T0 (Process Pipeline Fitting Schedule – Thickened Sludge Pipelines)
1001780-0000-DRG-CC-0984 Rev T0 (Process Pipeline Fitting Schedule – Waste Activated Sludge Pipelines)
1001780-0000-DRG-CC-0985 Rev T0 (Process Pipeline Fitting Schedule – Raw Sewage Pipelines)
1001780-0000-DRG-CC-0986 Rev T0 (Process Pipeline Fitting Schedule – Treated Effluent Pipelines)
1001780-0000-DRG-CC-0987 Rev T0 (Process Pipeline Fitting Schedule – Inlet Works By-Pass Pipelines)
1001780-0000-DRG-CC-0988 Rev T0 (Process Pipeline Fitting Schedule – Mixed Liquor Pipelines)
1001780-0000-DRG-CC-0989 Rev T0 (Process Pipeline Fitting Schedule – Secondary Sludge Pipelines)
1001780-0000-DRG-CC-0990 Rev T0 (Process Pipeline Fitting Schedule – Supernatant Return Pipelines)

With the following drawings:

1001780-0000-DRG-CC-0980 Rev T1 (Process Pipeline Fitting Schedule – Primary Sludge Pipelines)
1001780-0000-DRG-CC-0981 Rev T1 (Process Pipeline Fitting Schedule – Digested Sludge Pipelines)
1001780-0000-DRG-CC-0982 Rev T1 (Process Pipeline Fitting Schedule – Scum Sludge Pipelines)
1001780-0000-DRG-CC-0983 Rev T1 (Process Pipeline Fitting Schedule – Thickened Sludge Pipelines)
1001780-0000-DRG-CC-0984 Rev T1 (Process Pipeline Fitting Schedule – Waste Activated Sludge Pipelines)
1001780-0000-DRG-CC-0985 Rev T1 (Process Pipeline Fitting Schedule – Raw Sewage Pipelines)
1001780-0000-DRG-CC-0986 Rev T1 (Process Pipeline Fitting Schedule – Treated Effluent Pipelines)
1001780-0000-DRG-CC-0987 Rev T1 (Process Pipeline Fitting Schedule – Inlet Works By-Pass Pipelines)
1001780-0000-DRG-CC-0988 Rev T1 (Process Pipeline Fitting Schedule – Mixed Liquor Pipelines)
1001780-0000-DRG-CC-0989 Rev T1 (Process Pipeline Fitting Schedule – Secondary Sludge Pipelines) 1001780-0000-DRG-CC-0990 Rev T1 (Process Pipeline Fitting Schedule – Supernatant Return Pipelines)

See Appendix H.

ATD1-5.1.6

For drawings under Section F, Process Pipelines, i.e., drawings 1001780-0000-DRG-CC-0801 to 1001780-0000-DRG-CC-0991, replace all instances of the following note:

"VJC VIKING JOHNSON COUPLING (FUSION-BONDED EPOXY COATED)"

with the following:

"VJC VIKING JOHNSON COUPLING (FUSION-BONDED EPOXY COATED) / OR / STEP
VIKING JOHNSON COUPLING DOUBLE BOLT SET, LONG BARREL ON GRP SIDE (FUSION-BONDED EPOXY COATED)"

Only the pipeline drawings described in ATD 1-5.1.4 – ATD 1-5.1.5 have been updated with Addendum to Tender No.1. Tenderers are to replace all other instances of the note as indicated in the drawings provided under Section F, Process Pipelines.

ATD1-6

ADDITIONAL TENDER DRAWINGS

ATD1-6.1

Volume 4: Book of Drawings

ATD1-6.1.1

Please add drawing 1001780-0000-DRG-FI-20000 Rev T0 (UV, SST and Flow Balancing Tank Electrical Building Fire Safety Layout). See Appendix I.

ATD1-6.1.2

Please add drawing 1001780-0000-DRG-CC-0030 Rev T0 (Site Establishment and Stockpile Area). See Appendix I.

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-Responsive.

Yours faithfully,



For Director: Supply Chain Management

ADDENDUM No. 1

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER No. 203Q/2023/24

At.....on this.....Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)

TENDERER:.....
(Name of firm in ink and capitals)

Enclosures:

Click on the button below to access the Dropbox link:

[Addendum 01 Enclosures](#)

Or use this link:

<https://www.dropbox.com/sc/fo/eu4royzwdwnw8xfd3uka1/AJMIyJZzTLT2J8?Fb7TTe3q?rlkey=49i5pv0d2igmwlyh2kxd57j1u&sl=xu3pfcfv&dl=0>

- 1) Appendix A : Tenderer's Queries
- 2) Appendix B : Site Clarification Meeting Minutes
- 3) Appendix C : Revised Summary of Bill of Quantities Sheet
- 4) Appendix D : Revised Bill C44 Interconnecting Pipework – Liquid Stream
Revised Bill C45 Interconnecting Pipework – Sludge Stream
- 5) Appendix E : Revised Schedule 17: Estimated Monthly Expenditure
- 6) Appendix F : As-Built Information
- 7) Appendix G : Revised Table of Sequencing of Works
- 8) Appendix H : Revised Tender Drawings
- 9) Appendix I : Additional Tender Drawings
- 10) Appendix J : Electronic Version of Bills of Quantities and Technical Data
Sheets 11) Appendix K : Selected Split File Tender Drawings



E [REDACTED]

07 JUNE 2024

NOTICE TO TENDERERS NO: 2

Pages 177

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JULY 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 2 TO TENDER DOCUMENTS

ATD2-1 **GENERAL TENDER INFORMATION**

ATD2-1.1 **Volume 1: Tendering Procedures, General Tender Information**

ATD2-1.1.1 On page i amend the closing date from "25 June 2024" to "25 July 2024".

ATD2-2 **TENDERING PROCEDURES**

ATD2-2.1 **Volume 1: Tendering Procedures, Part T1: Tendering Procedures – T1.1 Tender Notice and Invitation to Tender**

ATD2-2.1.1 On page 2 amend the closing time for receipt of tenders from "10:00 on 25 June 2024" to "10:00 on 25 July 2024".

ATD2-3 **RETURNABLE DOCUMENTS**

ATD2-3.1 **Volume 2: Returnable Documents Book 1 of 2 (Page 38 – 500 Only) and Book 2 of 2 (Page 501 – 884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities**



ATD2-3.1.1 For simplicity and to avoid confusion, a revised electronic copy of the Bill of Quantities, incorporating all the changes outlined below, is issued as part of this Addendum. This version replaces the electronic version previously issued as part of the tender document and Addendum to tender No. 01 (Appendix J). See Appendix B of this Addendum to Tender for the revised copy of the Bill of Quantities.

ATD2-3.1.2 Amend the quantity of the following item in Bill C1 Preliminary and General (Page 51-ADD).

85	PSA 8.17	Community Liaison Officer	Month	54
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1

ATD2-3.1.3 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 59-ADD).

1		(i) Necessary excavations (Clean Sand compacted to 100%), in 150 mm thick layers	m ³	104700
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ATD2-3.1.4 Replace item 2 with the following revised item 2 in Bill C3 Bulk Earthworks (Page 59-ADD).

2	PSD 8.3.2 (b)	Excavate in all materials and dispose of:	m ³	12350
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ATD2-3.1.5 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 59-ADD).

3		G7 quality fill material to be compacted to 98% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm.	m ³	49400
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ATD2-3.1.6 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 59-ADD).

5		(i) Necessary excavations (Clean Sand compacted to 100% MOD AASTHO yielding a CBR of 20%), in 150 mm thick layers	m ³	84800
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ATD2-3.1.7 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 60-ADD).

9		(i) Necessary excavations (Clean Sand compacted to 100% MOD AASTHO yielding a CBR of 20%), in 150 mm thick layers	m ³	223250
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ATD2-3.1.8 Omit the following item in Bill C3 Bulk Earthworks (Page 60-ADD). Subsequent items are renumbered accordingly after omission.

17		From Stockpiles - Clean Sand compacted to 100% Modified AASHTO yielding a CBR of 20% in layers not exceeding 150mm	m ³	216130
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ATD2-3.1.9 Amend the quantity of the following item in Bill C3 Bulk Earthworks (Page 60-ADD).

17		From Commercial Sources - G7 quality fill material to be compacted to 98% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m ³	74600
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ATD2-3.1.10 Amend the short description and quantity of item 30 and add new item 31 to Bill C3 Bulk Earthworks (Page 61-ADD). Subsequent items are to be renumbered accordingly after this addition.

30	PSD 8.3.14	Extra over item 8.3.2 (a) for temporary stockpiling at Macassar Wastewater Treatment Works	m ³	85430
31	PSD 8.3.14	Extra over item 8.3.2 (a) for temporary stockpiling at Zandvliet Wastewater Treatment Works	m ³	21360

ATD2-3.1.11 Amend the description and quantity of the following item in Bill C3 Bulk Earthworks (Page 61-ADD).

32	PSD 8.3.15	Extra over item PSD 8.3.2 and PSD 8.3.3 (a) for disposing of spoil material on a site provided by the Contractor	m ³	74300
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ATD2-3.1.12 Amend the short description of the following text in Bill C25 Anaerobic Digesters (Page 295-ADD).

	PSG 8.23	HDPE covering (3mm thick with anchor knobs cast into concrete with formwork):		
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ATD2-3.1.13 Amend the short description of the following item in Bill C44 Interconnecting Pipework – Liquid Stream (Page 586-ADD).

567		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm.	No	1.0
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ATD2-3.1.14 Omit the following items in Bill C45 Interconnecting Pipework – Sludge stream. Subsequent items are renumbered accordingly after omission. (Page 596-ADD).

		Pipeline SC20		
22		Up to 1.5 m	m	23.0
23		Over 1.5 m up to 2.5 m	m	30.0

ATD2-3.1.15 Omit the following items in Bill C45 Interconnecting Pipework – Sludge stream. Subsequent items are renumbered accordingly after omission. (Page 600-ADD).

		Pipeline WS05		
103		Over 1.5 m up to 2.5 m	m	4.0
104		Over 2.5 m up to 3.5 m	m	3.0

ATD2-3.1.16 Amend the short description of the following items in Bill C29 Service Water Pump Station (Page 343-ADD).

	PSG 8.23	Concrete protection and proprietary floor finishes		
81		Type 8 – Epoxy floor finish (refer to SANS 1200G – 5.5.26)	m ²	265.0
		Skirtings		
82		Type 5 – Epoxy cove skirting (refer to SANS 1200G – 5.5.26)	m	120.0

ATD2-3.1.17 Amend the short description of the following item in Bill C32 Boiler House (Page 385-ADD).

	PSG 8.23	Concrete protection and proprietary floor finishes		
42		Type 4 – Epoxy floor finish (refer to SANS 1200G – 5.5.26)	m ²	201.0

ATD2-3.1.18 Amend the short description of the following item in Bill C34 Centralised Generator Building (Page 410-ADD).

	PSG 8.23	Concrete protection and proprietary floor finishes		
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54	Type 7 – Epoxy floor finish (refer to SANS 1200G – 5.5.26)	m ²	593.0
Skirtings			
55	Type 5 – Epoxy cove skirting (refer to SANS 1200G – 5.5.26)	m	316.0

ATD2-3.1.19 Add new item 46 to Bill C43 Weighbridge and Building (Page 549-ADD). Subsequent items are to be renumbered accordingly after this addition.

Skirtings			
46	Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	13.0

ATD2-3.1.20 Omit the following item in Bill C43 Weighbridge and Building (Page 553-ADD). Subsequent items are renumbered accordingly after omission.

(b) Items measured by length:			
76	300 x 100mm high tile skirting, to match adjacent floor tiles, "TAL" or equivalent epoxy adhesive and grout, colour grey (S4)	m	13.0

ATD2-3.1.21 Amend the short description of items 363 - 364 in Bill C5 Inlet Works (Page 95-ADD).

363	Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	2.0
364	Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	2.0

ATD2-3.1.22 Add new item 88 to Bill C10 UV Channels and Building (Page 147-ADD). Subsequent items are to be renumbered accordingly after this addition.

88	Form opening for standard louvre unit 1020 x 940mm high (louvre installed by others)	No	6.0
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ATD2-3.1.23 Replace items 90 - 93 for the following revised items 90 - 93 in Bill C10 UV Channels and Building (Page 147-ADD).

	PD 10.4	Doors, Windows, louvres, etc:		
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc		
90		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.0
91		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.0
		WG66 "Winblock" or equivalent high density precast concrete window with aluminium frame, top hung with powder coated finish and 6.4mm laminated safety glass		
92		WinBlocks 1800x600	No	10.0
		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel		
		channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design		
93		Slatted roller shutter door for 3650 x 3050mm high opening	No	1.0

ATD2-3.1.24 Replace the quantity of item 99 and amend the short description of item 100 in Bill C26 Blower Building (Page 310-ADD).

99		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	3.0
100		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	2.0

ATD2-3.1.25 Add new item 102 to Bill C26 Blower Building (Page 310-ADD). Subsequent items are to be renumbered accordingly after this addition.

102		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.0
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ATD2-3.1.26 Add new item 87 to Bill C27 Chlorination Building (Page 320-ADD). Subsequent items are to be renumbered accordingly after this addition.

87		Double fire door comprising 2 x leaves size 1200 x 3457mm high in and including frame size 2528 x 3500mm high (Ironmongery Type D)	No	1.0
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ATD2-3.1.27 Omit the following item in Bill C27 Chlorination Building (Page 321-ADD). Subsequent items are renumbered accordingly after omission.

		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hotdipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design		
88		Overhead roller shutter door for 2540 x 2400mm high opening	No	1.0

ATD2-3.1.28 Replace items 93 and 94 with the following revised items 93 and 94 in Bill C28 TSE Pump Station and Filter Building (Page 334-ADD).

93		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.0
94		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.0

ATD2-3.1.29 Add new item 111 to Bill C29 Service Water Pump Station (Page 347-ADD). Subsequent items are to be renumbered accordingly after this addition.

111		Double fire door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high (Ironmongery Type D)	No	1.0
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ATD2-3.1.30 Omit the following item in Bill C29 Service Water Pump Station (Page 348-ADD). Subsequent items are renumbered accordingly after omission.

113		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hotdipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design	No	1.0
		Overhead roller shutter door for 2540 x 2400mm high opening		

ATD2-3.1.31 Amend the short description of item 102 and 103 in Bill C30 Main Sludge Transfer Pump Station (Page 361-ADD).

102		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.0
103		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	2.0

ATD2-3.1.32 Add new items 114 and 115 to Bill C31 Dewatering Building (Page 374-ADD). Subsequent items are to be renumbered accordingly after this addition.

114		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	3.0
115		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	6.0

ATD2-3.1.33 Amend the short description of item 64 in Bill C32 Boiler House (Page 387-ADD).

64		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.0
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ATD2-3.1.34 Replace items 128 and 129 with revised items 128, 129 and add new item 130 in Bill C33 Combined Heat and Power Building (Page 401-ADD). Subsequent items are to be renumbered accordingly after this addition.

128		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.0
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129		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	5.0
130		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	2.0

ATD2-3.1.35 Amend the short description of items 95 and 96 in Bill C34 Centralised Generator Building (Page 414-ADD).

95		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	6.0
96		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	7.0

ATD2-3.1.36 Replace the quantity of items 101 and 102 and add new items 103 and 104 to Bill C35 MV Intake Substation (Page 428-ADD). Subsequent items are to be renumbered accordingly after this addition.

101		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	2.0
102		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	4.0
103		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	3.0
104		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	4.0

ATD2-3.1.37 Amend the short description of item 79 and replace the quantity of item 80 in Bill C36 Inlet Works Electrical Building (Page 440-ADD).

79		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.0
80		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.0

ATD2-3.1.38 Add new item 82 to Bill C36 Inlet Works Electrical Building (Page 441-ADD). Subsequent items are to be renumbered accordingly after this addition.

82		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	1.0
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ATD2-3.1.39 Replace the quantity of item 83 in Bill C37 Reactor Electrical Building (Page 452-ADD).

83		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	2.0
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ATD2-3.1.40 Amend the short description of item 85 and add new item 86 to Bill C37 Reactor Electrical Building (Page 452-ADD). Subsequent items are to be renumbered accordingly after this addition.

85		Double fire door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high (Ironmongery Type D)	No	2.0
86		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.0

ATD2-3.1.41 Amend the short description of item 83 and replace the quantity of item 84 in Bill C38 Service Water Electrical Building (Page 464-ADD).

83		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.0
84		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.0

ATD2-3.1.42 Add new item 86 to Bill C38 Service Water Tank Electrical Building (Page 464-ADD). Subsequent items are to be renumbered accordingly after this addition.

86		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	1.0
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ATD2-3.1.43 Amend the short description of item 87 and replace the quantity of item 88 in Bill C39 UV, SST and Flow Balancing Tank Electrical Building (Page 475-ADD).

87		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.0
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88		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.0
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ATD2-3.1.44 Add new item 90 to Bill C39 UV, SST and Flow Balancing Tank Electrical Building (Page 475-ADD). Subsequent items are to be renumbered accordingly after this addition.

90		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	1.0
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ATD2-3.1.45 Amend the short description of item 69 in Bill C43 Weighbridge and Building (Page 552-ADD).

69		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.0
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ATD2-3.1.46 Amend the short description of item 69 in Bill C58 Security Hut (Page 754-ADD).

69		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.0
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ATD2-3.1.47 Add new items 223 and 224 to Bill C54 Building Electrical (Page 718-ADD). Subsequent items are to be renumbered accordingly after this addition.

		20mm Diameter, Hot-dipped Galvanised Conduit complete with round boxes where necessary.		
223		(i) Supply	m	4000.0
224		(ii) Install	m	4000.0

ATD2-3.1.48 Amend the quantity of the following items in Bill C57 Rooftop Solar (Page 742-ADD).

		PROCESS & OPERATIONS BUILDING		
	PS3 12.8	Battery		
9		(i) Supply and deliver (R/kWh)	kWh	40.0
10		(ii) Install (R/kWh)	kWh	40.0

ATD2-3.1.49 Amend the quantity of the following items in Bill C57 Rooftop Solar (Page 743-ADD).

		PROCESS & OPERATIONS BUILDING		
	PS3 12.8	Battery		
25		(i) Supply and deliver (R/kWh)	kWh	20.0
26		(ii) Install (R/kWh)	kWh	20.0

ATD2-3.1.50 Amend the quantity of the following items in Bill C57 Rooftop Solar (Page 744-ADD).

	PS3 12.1	PV modules		
33		(i) Supply and deliver (R/kWp)	kWp	75.0
34		(ii) Install (R/kWp)	kWp	75.0

ATD2-3.1.51 Amend the quantity of the following items in Bill C57 Rooftop Solar (Page 744-ADD).

	PS3 12.7	Flat roof panel supporting components (incl. ballasts)		
41		(i) Supply and deliver (R/kWp)	kWp	30.0
42		(ii) Install (R/kWp)	kWp	30.0
	PS3 12.15	Pitched roof module mounting components		
43		(i) Supply and deliver (R/kWp)	kWp	45.0
44		(ii) Install (R/kWp)	kWp	45.0

ATD2-3.1.52 Replace Schedule 5: Declaration of Interest – State Employees (MBD 4 Amended) (Pages 822 to 823) with revised sheets (Page 822-ADD to 823-ADD), see Appendix C.

ATD2-3.1.53 Replace Schedule 17: Schedule of Estimated Monthly Expenditure (Pages 843 to 844) with revised sheets (Page 843-ADD to 844-ADD), see Appendix D.

ATD2-4 **DRAFT CONTRACT**

ATD2-4.1 **Volume 3: Draft Contract**

Part C1: Agreements and Contract Data – C1.2 Contract Data

- ATD2-4.1.1 In Part C1: Agreements and Contract Data, C1.2: Contract Data, Clause 1.1.1.14 (Page 888), replace the words "48 (Forty-eight)" in the first line with "54 (Fifty-four)".

ATD2-5 SCOPE OF WORK AND SITE INFORMATION

**ATD2-5.1 Volume 3A: Scope of Work and Site Information
Part C3: Scope of Works – C3.4 Construction**

- ATD2-5.1.1 In Part C3: Scope of Works, C3.4: Construction, Clause 3.4.13.3 Construction Restrictions, replace the Table (Page 51 -53) with revised Table (Page 51 ADD – 53 ADD), see Appendix E.

**ATD2-5.2 Volume 3A: Scope of Work and Site Information
Part C3: Scope of Works – C3.5 Management**

- ATD2-5.2.1 In Part C3: Scope of Works, C3.5: Construction, Clause 3.5.7.1 Sequencing of the Works, replace the Table (Page 64 -71) with revised Table (Page 64 ADD – 71 ADD), see Appendix F.

**ATD2-5.3 Volume 3A: Scope of Work and Site Information
Part C3: Scope of Work – C3.7 – Specifications**

- ATD2-5.3.1 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), Clause PSD 8.3.2 (a) (Page 113), replace the second sentence of the clause description with the following

"The tendered rates shall cover the cost of complying with all the precautions required in terms of Subclause 5.1 of SANS 1200D (as amended), in addition to the cost of excavating in all materials, basic selection, stockpiling, loading, transporting within the applicable freehaul distance, offloading, spreading or backfilling, watering, compacting, final grading, complying with the requirements of for tolerances, providing for testing, finishing and tidying, all in accordance with the specifications."

- ATD2-5.3.2 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), Clause PSD 8.3.2 (b) (Page 113) replace the third sentence of the clause description with the following

"The tendered rates shall cover the cost of complying with all the precautions required in terms of Subclause 5.1 of SANS 1200D (as amended), in addition to the cost of excavation, basic selection, stockpiling, loading, transporting within the applicable freehaul distance, off-loading at the spoil site, maintaining, and finishing the spoil site, all in accordance with the specifications."

- ATD2-5.3.3 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), replace Clause PSD 8.3.2 (d) (Pages 113 – Pages 114) in its entirety with the following.

"PSD 8.3.2. (d) Extra-over Items PSD 8.3.2 (a) and PSD 8.3.2 (b) and PSD 8.3.2 (c) for:

- (1) Hard rock excavation Unit: m3

The rate shall cover the additional cost of the operations enumerated in Subclauses 8.3.2 (a), and 8.3.2 (b) and 8.3.2 (c) above for any portion of the excavation that is classified as hard rock (see Drawing D-1 and D-2)."

- ATD2-5.3.4 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), replace Clause PSD 8.3.14 (Page 117) in its entirety with the following

"Extra over item PSD 8.3.2(a) for temporary Stockpiling Unit : m3

The unit of measurement shall be the cubic metre of material from necessary excavations, temporarily stockpiled by the Contractor on the instructions of the Employer's Agent, before being used in embankments or backfill. Measurements shall be taken in place in compacted embankment or backfill as the case may be. The tendered rate shall include for the costs, additional to those provided for in PSD 8.3.2(a) and PSD 8.3.3(a) for clearing the proposed stockpile area, off-loading, forming and maintaining the stockpile for as long as is required, including dust control, reloading and transporting within the applicable freehaul distance from the stockpile.

Care is to be taken to avoid clearing of vegetation in areas beyond the limits indicated on the drawings. Areas contaminated or occupied by stockpiles of natural or treated materials are to be reinstated. The Contractor is required to produce environmental method statements that outline the approach to minimise the impact of his work activities on the environment as well as measures to reinstate the area after construction to a condition at least equivalent to its state before construction. Method statements shall be submitted to the Engineer for approval prior to any commencement.

Payments to the Contractor under this item will only be made in respect of that material stockpiled on the instructions of the Employer's Agent (which instruction shall state specifically that payments for such stockpiling will be paid for under this item) and no payments will be made to the Contractor under this item in respect of materials stockpiled by the Contractor on his own volition, nor for materials necessarily stockpiled by the Contractor in consequence of the sequence of operations adopted by it in the course of executing the Works, whether such stockpiling was avoidable or otherwise."

- ATD2-5.3.5 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), replace the heading of Clause PSD 8.3.15 (Page 117) with the following.

"PSD 8.3.15 Extra over items PSD 8.3.2 and PSD 8.3.3(a) for disposing of spoil material on a site provided by the Contractor Unit : m3"

- ATD2-5.3.6 In Part C3: Scope of Works, C3.7: Specifications, PS3: Solar Rooftop PV, replace the description of Clause PS3 06.3 (g) (Page 361) with the following.

"(g) The installation orientation and angle shall be selected to result in best solar yield, but the mounting structure and panels shall be parallel to the main building lines"

- ATD2-5.3.7 In Part C3: Scope of Works, C3.7: Specifications, PDP: Sewage Ponds, replace Clause PDP 07.1.6 g) (g) (Page 267) with the following.

"g) Remove sludge from site and dispose of at a General Landfill site
(i) (Load, transport and dispose of sludge (stockpiled) on site to a General Landfill site provided by the Contractor) Unit : m3

The unit of measurement shall be the cubic metre of stockpiled sludge. The rate must include loading, transport and disposal of sludge and shall include all labour, plant and material to remove the sludge from site and dispose of at a General Landfill site provided by the Contractor."

ATD2-6 REVISED TENDER DRAWINGS

ATD2-6.1 Volume 4: Book of Drawings

- ATD2-6.1.1 Replace the following general drawings:

1001780-0000-DRG-CC-0004 Rev T1 (Phasing of Works),
1001780-0000-DRG-CC-0009 Rev T0 (Site Demolition Plan and Diversion of Works),
1001780-0000-DRG-CC-0030 Rev T0 (Site Establishment and Stockpile Area),

With the following:

1001780-0000-DRG-CC-0004 Rev T2 (Phasing of Works).
1001780-0000-DRG-CC-0030 Rev T1 (Site Establishment and Stockpile Area).
1001780-0000-DRG-CC-0009 Rev T1 (Site Demolition Plan and Diversion of Works).

See Appendix G.

ATD2-6.1.2

Drawing range CC-0805 – CC-0813 was duplicated erroneously during tender. The drawing range which contains "Building Finishes for Process and Industrial Buildings" and "Door and Window Schedules for Process and Industrial Buildings" were incorrectly numbered as follows:

1001780-0000-DRG-CC-0805 Rev T0 (Building Finishes for Process and Industrial Buildings (Sheet 1 of 1))
1001780-0000-DRG-CC-0806 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 1 of 8))
1001780-0000-DRG-CC-0807 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 2 of 8))
1001780-0000-DRG-CC-0808 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 3 of 8))
1001780-0000-DRG-CC-0809 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 4 of 8))
1001780-0000-DRG-CC-0810 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 5 of 8))
1001780-0000-DRG-CC-0811 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 6 of 8))
1001780-0000-DRG-CC-0812 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 7 of 8))
1001780-0000-DRG-CC-0813 Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 8 of 8))

Replace the incorrectly numbered drawings with the following:

1001780-0000-DRG-CC-0799a Rev T0 (Building Finishes for Process and Industrial Buildings (Sheet 1 of 1))
1001780-0000-DRG-CC-0799b Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 1 of 8))
1001780-0000-DRG-CC-0799c Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 2 of 8))
1001780-0000-DRG-CC-0799d Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 3 of 8))
1001780-0000-DRG-CC-0799e Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 4 of 8))
1001780-0000-DRG-CC-0799f Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 5 of 8))
1001780-0000-DRG-CC-0799g Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 6 of 8))
1001780-0000-DRG-CC-0799h Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 7 of 8))
1001780-0000-DRG-CC-0799i Rev T0 (Door and Window Schedules for Process and Industrial Buildings (Sheet 8 of 8))

See Appendix G.

Tenderers are to note the other revisions made to these drawings are in line with the items amended in the Bill of Quantities as described in ATD2-3.

ATD2-6.1.3

Replace drawings:

1001780-0000-DRG-AA-0031 Rev T0 (Process Operations Building - Aluminium Schedules Ground Storey 1/4)
1001780-0000-DRG-AA-0032 Rev T0 (Process Operations Building - Aluminium Schedules Ground Storey 2/4)
1001780-0000-DRG-AA-0033 Rev T0 (Process Operations Building - Aluminium Schedules Ground Storey 3/4)
1001780-0000-DRG-AA-0034 Rev T0 (Process Operations Building - Aluminium Schedules Ground Storey 4/4)
1001780-0000-DRG-AA-0035 Rev T0 (Process Operations Building - Aluminium Schedules First Storey 1/4)
1001780-0000-DRG-AA-0036 Rev T0 (Process Operations Building - Aluminium Schedules First Storey 2/4)
1001780-0000-DRG-AA-0037 Rev T0 (Process Operations Building - Aluminium Schedules First Storey 3/4)
1001780-0000-DRG-AA-0038 Rev T0 (Process Operations Building - Aluminium Schedules First Storey 4/4)
1001780-0000-DRG-AA-0040 Rev T0 (Process Operations Building - Door Schedules)
1001780-0000-DRG-AA-0117 Rev T0 (Workshop and Stores Building: Aluminium Schedules - Ground Storey 1/2)
1001780-0000-DRG-AA-0118 Rev T0 (Workshop and Stores Building: Aluminium Schedules - Ground Storey 2/2)
1001780-0000-DRG-AA-0119 Rev T0 (Workshop and Stores Building: Aluminium Schedules - First Storey 1/3)
1001780-0000-DRG-AA-0120 Rev T0 (Workshop and Stores Building: Aluminium Schedules - First Storey 2/3)
1001780-0000-DRG-AA-0121 Rev T0 (Workshop and Stores Building: Aluminium Schedules - First Storey 3/3)
1001780-0000-DRG-AA-0122 Rev T0 (Workshop and Stores Building: Aluminium Schedules - Roof Level)
1001780-0000-DRG-AA-0124 Rev T0 (Workshop and Stores Building: Door & Roller Shutter Schedules)
1001780-0000-DRG-AA-0126 Rev T0 (Workshop and Stores Building: Louvre Schedules) 1001780-0000-DRG-AA-0210 Rev T0 (Guard House: Aluminium Schedules)

With the following drawings:

1001780-0000-DRG-AA-0031 Rev T1 (Process Operations Building - Aluminium Schedules Ground Storey 1/4)
1001780-0000-DRG-AA-0032 Rev T1 (Process Operations Building - Aluminium Schedules Ground Storey 2/4)
1001780-0000-DRG-AA-0033 Rev T1 (Process Operations Building - Aluminium Schedules Ground Storey 3/4)
1001780-0000-DRG-AA-0034 Rev T1 (Process Operations Building - Aluminium Schedules Ground Storey 4/4)
1001780-0000-DRG-AA-0035 Rev T1 (Process Operations Building - Aluminium Schedules First Storey 1/4)
1001780-0000-DRG-AA-0036 Rev T1 (Process Operations Building - Aluminium Schedules First Storey 2/4)
1001780-0000-DRG-AA-0037 Rev T1 (Process Operations Building - Aluminium Schedules First Storey 3/4)
1001780-0000-DRG-AA-0038 Rev T1 (Process Operations Building - Aluminium Schedules First Storey 4/4)
1001780-0000-DRG-AA-0040 Rev T1 (Process Operations Building - Door Schedules)
1001780-0000-DRG-AA-0117 Rev T1 (Workshop and Stores Building: Aluminium Schedules - Ground Storey 1/2)
1001780-0000-DRG-AA-0118 Rev T1 (Workshop and Stores Building: Aluminium Schedules - Ground Storey 2/2)
1001780-0000-DRG-AA-0119 Rev T1 (Workshop and Stores Building: Aluminium Schedules - First Storey 1/3)
1001780-0000-DRG-AA-0120 Rev T1 (Workshop and Stores Building: Aluminium Schedules - First Storey 2/3)
1001780-0000-DRG-AA-0121 Rev T1 (Workshop and Stores Building: Aluminium Schedules - First Storey 3/3)
1001780-0000-DRG-AA-0122 Rev T1 (Workshop and Stores Building: Aluminium Schedules - Roof Level)
1001780-0000-DRG-AA-0124 Rev T1 (Workshop and Stores Building: Door & Roller Shutter Schedules)
1001780-0000-DRG-AA-0126 Rev T1 (Workshop and Stores Building: Louvre Schedules) 1001780-0000-DRG-AA-0210 Rev T1 (Guard House: Aluminium Schedules)

See Appendix G.

1001780-0000-DRG-EL-0002 Rev T0 (MV Intake Substation - Lighting Layout)
 1001780-0000-DRG-EL-0005 Rev T0 (Guard House - Lighting Layout)
 1001780-0000-DRG-EL-0006 Rev T0 (Guard House - Small Power Layout)
 1001780-0000-DRG-EL-0008 Rev T0 (Centralised Generator Building - Lighting Layout)
 1001780-0000-DRG-EL-0009 Rev T0 (Centralised Generator Building - Small Power Layout)
 1001780-0000-DRG-EL-0010 Rev T0 (Centralised Generator Building - Single Line Diagram)
 1001780-0000-DRG-EL-0011 Rev T0 (Weigh Bridge Building - Lighting Layout)
 1001780-0000-DRG-EL-0014 Rev T0 (Inlet Works Screw Pump Station Building 1 & 2 Lighting Layout)
 1001780-0000-DRG-EL-0015 Rev T0 (Inlet Works Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0017 Rev T0 (Inlet Works Electrical Building - Single Line Diagram)
 1001780-0000-DRG-EL-0018 Rev T0 (Bioreactor Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0019 Rev T0 (Bioreactor Electrical Building - Small Power Layout)
 1001780-0000-DRG-EL-0022 Rev T0 (Main Sludge Transfer Pumpstation - Lighting Layout)
 1001780-0000-DRG-EL-0023 Rev T0 (Main Sludge Transfer Pumpstation - Small Power Layout)
 1001780-0000-DRG-EL-0024 Rev T0 (Main Sludge Transfer Pumpstation - Single Line Diagram)
 1001780-0000-DRG-EL-0027 Rev T0 (Dewatering Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0028 Rev T0 (Dewatering Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0030 Rev T0 (Dewatering Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0031 Rev T0 (Dewatering Building Upper Level - Small Power Layout)
 1001780-0000-DRG-EL-0032 Rev T0 (Dewatering Building Upper Level - Single Line Diagram)
 1001780-0000-DRG-EL-0033 Rev T0 (CHP Building - Lighting Layout)
 1001780-0000-DRG-EL-0039 Rev T0 (Boiler House Lighting Layout)
 1001780-0000-DRG-EL-0042 Rev T0 (UV Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0045 Rev T0 (UV Building - Lighting Layout)
 1001780-0000-DRG-EL-0049 Rev T0 (Blower Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0052 Rev T0 (TSE and Filter Building - Lighting Layout)
 1001780-0000-DRG-EL-0055 Rev T0 (Chlorination Building - Lighting Layout)
 1001780-0000-DRG-EL-0058 Rev T0 (Workshop and Stores Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0059 Rev T0 (Workshop and Stores Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0061 Rev T0 (Workshop and Stores Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0062 Rev T0 (Workshop and Stores Building Upper Level - Small Power Layout)
 1001780-0000-DRG-EL-0064 Rev T0 (Service Water Pump Station - Lighting Layout)
 1001780-0000-DRG-EL-0067 Rev T0 (Process Operation Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0068 Rev T0 (Process Operation Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0070 Rev T0 (Process Operation Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0071 Rev T0 (Process Operation Building Upper Level - Small Power Layout)
 1001780-0000-DRG-EL-0073 Rev T0 (Guard Hut - Lighting Layout)
 1001780-0000-DRG-EL-0074 Rev T0 (Guard Hut - Small Power Layout)
 1001780-0000-DRG-EL-0076 Rev T0 (Service Water Electrical Building - Lighting Layout)

With the following drawings:

1001780-0000-DRG-EL-0002 Rev T1 (MV Intake Substation - Lighting Layout)
 1001780-0000-DRG-EL-0005 Rev T1 (Guard House - Lighting Layout)
 1001780-0000-DRG-EL-0006 Rev T1 (Guard House - Small Power Layout)
 1001780-0000-DRG-EL-0008 Rev T1 (Centralised Generator Building - Lighting Layout)
 1001780-0000-DRG-EL-0009 Rev T1 (Centralised Generator Building - Small Power Layout)
 1001780-0000-DRG-EL-0010 Rev T1 (Centralised Generator Building - Single Line Diagram)
 1001780-0000-DRG-EL-0011 Rev T1 (Weigh Bridge Building - Lighting Layout)
 1001780-0000-DRG-EL-0014 Rev T1 (Inlet Works Screw Pump Station Building 1 & 2 Lighting Layout)
 1001780-0000-DRG-EL-0015 Rev T1 (Inlet Works Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0017 Rev T1 (Inlet Works Electrical Building - Single Line Diagram)
 1001780-0000-DRG-EL-0018 Rev T1 (Bioreactor Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0019 Rev T1 (Bioreactor Electrical Building - Small Power Layout)
 1001780-0000-DRG-EL-0022 Rev T1 (Main Sludge Transfer Pumpstation - Lighting Layout)
 1001780-0000-DRG-EL-0023 Rev T1 (Main Sludge Transfer Pumpstation - Small Power Layout)
 1001780-0000-DRG-EL-0024 Rev T1 (Main Sludge Transfer Pumpstation - Single Line Diagram)
 1001780-0000-DRG-EL-0027 Rev T1 (Dewatering Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0028 Rev T1 (Dewatering Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0030 Rev T1 (Dewatering Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0031 Rev T1 (Dewatering Building Upper Level - Small Power Layout)
 1001780-0000-DRG-EL-0032 Rev T1 (Dewatering Building Upper Level - Single Line Diagram)
 1001780-0000-DRG-EL-0033 Rev T1 (CHP Building - Lighting Layout)
 1001780-0000-DRG-EL-0039 Rev T1 (Boiler House Lighting Layout)
 1001780-0000-DRG-EL-0042 Rev T1 (UV Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0045 Rev T1 (UV Building - Lighting Layout)
 1001780-0000-DRG-EL-0049 Rev T1 (Blower Electrical Building - Lighting Layout)
 1001780-0000-DRG-EL-0052 Rev T1 (TSE and Filter Building - Lighting Layout)
 1001780-0000-DRG-EL-0055 Rev T1 (Chlorination Building - Lighting Layout)
 1001780-0000-DRG-EL-0058 Rev T1 (Workshop and Stores Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0059 Rev T1 (Workshop and Stores Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0061 Rev T1 (Workshop and Stores Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0062 Rev T1 (Workshop and Stores Building Upper Level - Small Power Layout)
 1001780-0000-DRG-EL-0064 Rev T1 (Service Water Pump Station - Lighting Layout)

1001780-0000-DRG-EL-0067 Rev T1 (Process Operation Building Lower Level - Lighting Layout)
 1001780-0000-DRG-EL-0068 Rev T1 (Process Operation Building Lower Level - Small Power Layout)
 1001780-0000-DRG-EL-0070 Rev T1 (Process Operation Building Upper Level - Lighting Layout)
 1001780-0000-DRG-EL-0071 Rev T1 (Process Operation Building Upper Level - Small Power Layout) 1001780-0000-DRG-EL-0073 Rev T1 (Guard Hut - Lighting Layout)
 1001780-0000-DRG-EL-0074 Rev T1 (Guard Hut - Small Power Layout)
 1001780-0000-DRG-EL-0076 Rev T1 (Service Water Electrical Building - Lighting Layout)

See Appendix G.

ATD2-6.1.5

For drawings under Section I. Electrical and Electronic Building Drawings, i.e., drawings 10017800000-DRG-EL-0001 to 1001780-0000-DRG-EL-0156(i) and drawings 1001780-0000-DRG-EE-0020 to 1001780-0000-DRG-EE-0028, replace all instances of the following camera design type notes:

Design Type	Camera Type	Tender Model Number
A	Bullet	5.0C-H5A-BO2-IR
B	Bullet	4.0C-H5A-BO2-IR
C	Bullet	4.0C-H5A-BO1-IR
D	Dome	4.0C-H5A-DO1-IR
E	Dome	2.0C-H5A-D1-IR

with the following:

Design Type	Camera Type	Revised Tender Model Number
A	Bullet	6.0C-H6A-BO1-IR
B	Bullet	6.0C-H6A-BO1-IR
C	Bullet	4.0C-H6A-BO1-IR
D	Dome	4.0C-H6A-DO1-IR
E	Dome	2.0C-H6A-D1-IR

ATD2-7

ADDITIONAL TENDER DRAWINGS

ATD2-7.1

Volume 4: Book of Drawings

ATD2-7.1.1

Please add the following additional Tender drawings:

1001780-0000-DRG-AA-0015 Rev T0 (Process Operations Building – Ironmongery Schedules – Aluminium Glazing)
 1001780-0000-DRG-AA-0016 Rev T0 (Process Operations Building – Ironmongery Schedules – Timber Doors)
 1001780-0000-DRG-AA-0114 Rev T0 (Workshop and Stores Building – Ironmongery Schedules – Aluminium Glazing)
 1001780-0000-DRG-AA-0115 Rev T0 (Workshop and Stores Building – Ironmongery Schedules – Timber Doors) 1001780-0000-DRG-AA-0214 Rev T0 (Guard House – Ironmongery Schedules)

See Appendix H.

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-Responsive.



Director: Supply Chain Management

ADDENDUM No. 2

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER No. 203Q/2023/24



At.....on this.....Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)

TENDERER:.....
(Name of firm in ink and capitals)

Enclosures :

Click on the button below to access the Dropbox link:

Addendum 02 Enclosures

Or use this link:

<https://www.dropbox.com/scl/fo/13gbcquylsefnbx7l4az7/AKFfuql8CE30ai2NejV0Hrk?rlkey=yins5mgkelkxb9d0o6tdlhyrt&st=3f08zxc4&dl=0>

- 1) Appendix A : Tenderer's Queries
- 2) Appendix B : Electronic Version of Bills of Quantities
- 3) Appendix C : Revised Schedule 5: Declaration of Interest – State Employees (MBD 4 Amended)
- 4) Appendix D : Revised Schedule 17: Schedule of Estimated Monthly Expenditure
- 5) Appendix E : Revised Table of Construction Restrictions
- 6) Appendix F : Revised Table of Sequencing of Works
- 7) Appendix G : Revised Tender Drawings
- 8) Appendix H : Additional Tender Drawings



E: [REDACTED]

11 July 2024

NOTICE TO TENDERERS NO: 3

Pages 14

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JULY 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 3 TO TENDER DOCUMENTS

ATD3-1 RETURNABLE DOCUMENTS

ATD3-1.1 Volume 2: Returnable Documents Book 1 of 2 (Page 38-500 Only) and Book 2 of 2 (Page 501-884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities

ATD3-1.1.1 For simplicity and to avoid confusion, a revised electronic copy of the Bill of Quantities, incorporating all the changes outlined below, is issued as part of this Addendum. This version replaces the electronic version previously issued as part of the tender document and Addendum to tender No. 02 (**Appendix B**). See **Appendix B** of this Addendum to Tender for the revised copy of the Bill of Quantities.

ATD3-1.1.2 In Bill of Quantities Schedule C20, some of the item numbers were duplicated. This has been corrected on the Electronic Version of the Bill of Quantities which is made available to tenderers with Addendum No to tender No.3 (**Appendix B**). Where item numbers were included, subsequent item numbering was amended accordingly.

ATD3-1.1.3 Replace and/or amend the chief reference and/or short description for the headings/subheadings of the following bill of quantities entries:



Bill C3 Bulk Earthworks

- For items 3 (Page 59-ADD), 7 (Page 59-ADD) and 11 (Page 60-ADD) replace the short description with **"Clean Sand compacted to 100% MOD AASTHO yielding a CBR of 20%, in 150 mm thick layers"**

Bill C4 Flow Diversion, Page 65-ADD

- Prior to item 9, omit the heading **"(d) G7 compacted to 95% Modified AASHTO (unless otherwise stated) in 150mm thick layers (unless otherwise stated)"**

Bill C5 Inlet Works, Page 95-ADD

- Prior to item 366, replace the chief reference with **"PD 10.5"** and the short description of the heading with **"Ceilings and Bulkheads"** (Page 95-ADD)

1

- Prior to item 369, replace the chief reference with **"PD 10.7"** (Page 95-ADD)
- Prior to item 371, replace the chief reference with **"PD 10.8"** and in the next row replace the short description of the subheading with **"(b) Items measured by length:"** (Page 95-ADD)
- Prior to item 374, replace the sub heading with **"(d) Miscellaneous Items"** (Page 96-ADD)

Bill C7 Biological Reactor, Page 119-ADD

- Prior to item 145, replace the short description of the subheading with **"Flooring Detail 2, Flooring Type 7, Additional Support Type E"**.

Bill C27 Chlorination Building, Page 322-ADD

- Prior to item 95, replace the short description of the heading with **"Miscellaneous Items"**

Bill C28 TSE Pump Station and Filter Building, Page 335-ADD

- Prior to item 101, replace the short description of the heading with **"Miscellaneous Items"**. In the next row omit the chief reference and replace the short descriptions of the subheadings with **"(c) Items measured by area:"**. In the next row replace the short description of the second sub heading with **"Damp- and waterproofing"**

Bill C29 Service Water Pumpstation

- Prior to item 114, replace the chief reference with **"PD 10.7"** (Page 348-ADD) - Prior to item 120, replace the chief reference with **"PD 10.8"** (Page 349-ADD)

Bill C30 Main Sludge Transfer Pumpstation

- Prior to item 104, replace the short description of the heading with **"Ceilings and Bulkheads"** (Page 361 – ADD)
- Prior to item 107, replace the chief reference to **"PD 10.7"** (Page 361-ADD)
- Prior to item 111, omit the short description heading **"Miscellaneous Work"** (Page 362-ADD)
- Prior to item 114, add chief reference **"PD 10.8"** and a short description of the heading **"Miscellaneous Items"**. In the next row replace the short description of the subheading with **"(c) Items measured by area:"** (Page 362-ADD)

Bill C32 Boiler House, Page 388 – ADD

- Prior to item 67, replace the chief reference with **"PD 10.7"**
- Prior to item 73, replace the chief reference with **"PD 10.8"**

Bill C33 Combined Heat and Power Building, Page 403-ADD

- Prior to item 145, replace the sub heading with **"(d) Miscellaneous Items"**

Bill C34 Centralised Generator Building, Page 416-ADD

- Prior to item 110, replace the sub heading with **"(d) Miscellaneous Items"**

Bill C35 MV Intake Substation

- Prior to item 107, replace the chief reference with **"PD 10.7"** (Page 428-ADD)
- Prior to item 123, replace the chief reference with **"PD 10.8"** (Page 430-ADD)
- Prior to item 131, replace the sub heading with **"(d) Miscellaneous Items"** (Page 431-ADD)

Bill C36 Inlet Works Electrical Building

- Prior to item 83, replace the chief reference with "**PD 10.7**" (Page 441–ADD)
- Prior to item 89, replace the chief reference with "**PD 10.8**" (Page 441–ADD)
- Prior to item 95, replace the sub heading with "**(d) Miscellaneous Items**" (Page 443 – ADD)

Bill C37 Reactor Electrical Building

- Prior to item 87, replace the chief reference with "**PD 10.7**" (Page 452–ADD)
- Prior to item 93, replace the chief reference with "**PD 10.8**" (Page 453–ADD)
- Prior to item 99, replace the sub heading with "**(d) Miscellaneous Items**" (Page 454–ADD)

Bill C38 Service Water Electrical Building, Page 466–ADD

- Prior to item 99, replace the sub heading with "**(d) Miscellaneous Items**"

Bill C39 UV, SST and Flow Balancing Tank Electrical Building,

- Prior to item 91, replace the chief reference with "**PD 10.7**" (Page 476–ADD)
- Prior to item 97, replace the chief reference with "**PD 10.8**" (Page 476–ADD)
- Prior to item 102, replace the sub heading with "**(d) Miscellaneous Items**" (Page 478–ADD)

Bill C41 Workshop and Store Building, Page 523–ADD

- Prior to item 141, replace the chief reference with "**PD 10.5**"

Bill C42 Guardhouse

- Prior to item 85, replace the chief reference with "**PD 10.7**" (Page 538–ADD)
- Prior to item 98, replace the chief reference with "**PD 10.8**" (Page 540–ADD)

Bill C43 Weighbridge and Building, Page 553–ADD

- Prior to item 77, replace the chief reference with "**PD 10.8**" and the short description of the heading with "**Miscellaneous Items**". In the next row replace the short description of the sub heading with "**(c) Items measured by area:**". In the next row add new short description for second subheading with "**Damp-and waterproofing**"

Bill C49 Stormwater Drainage, Page 673–ADD

- For item 80, replace the chief reference with "**PSDK 8.2.1**"
- Prior to item 81, replace the chief reference with "**8.2.2**"
- For item 87, replace the chief reference with "**PSDK 8.2.1.12**"
- For item 88, replace the chief reference with "**PSDK 8.2.13**"

Bill C58 Security Hut

- Prior to item 76, replace the chief reference with "**PD 10.7**" (Page 755–ADD)
- Prior to item 86, replace the chief reference with "**PD 10.8**" and in the next row replace the short description of the sub heading with "**(c) Items measured by length:**" (Page 756–ADD)
- Prior to item 88, replace the short description of the heading with "**(c) Items measured by**"

ATD3-1.1.4 The following Bill of Quantities Schedules and Item Numbers refers:

- | | | |
|--|---|-----------------------|
| - Bill C5, Item no 6 | - | Bill C25, Item no 6 |
| - Bill C6, Item no 6 | - | Bill C26, Item no 1 |
| - Bill C7, Item no 5 | - | Bill C27, Item no 1 |
| - Bill C8, Item no 6 | - | Bill C28, Item no 1 |
| - Bill C9, Item no 6 and 13 | - | Bill C29, Item no 6 |
| - Bill C10, Item no 6 | - | Bill C30, Item no 5 |
| - Bill C11, Item no 7 | - | Bill C31, Item no 1 |
| - Bill C12, Item no 7 | - | Bill C32, Item no 1 |
| - Bill C13, Item no 21 | - | Bill C33, Item no 6 |
| - Bill C14, Item no 6 | | - Bill C34, Item no 1 |
| - Bill C15, Item no 6 | | - Bill C35, Item no 1 |
| - Bill C16, Item no 6 | | - Bill C36, Item no 1 |
| - Bill C17, Item no 6 | | - Bill C37, Item no 1 |
| - Bill C18, Item no 6, 13, 20, 29, 34, 39, 45 and 51 | | - Bill C38, Item no 1 |
| - Bill C19, Item no 6 | | - Bill C39, Item no 7 |
| - Bill C20, Item no 7 | - | Bill C40, Item no 1 |
| - Bill C21, Item no 6 | - | Bill C41, Item no 1 |
| - Bill C22, Item no 6 | - | Bill C42, Item no 6 |
| - Bill C23, Item no 6 | - | Bill C43, Item no 1 |
| - Bill C24, Item no 6 | - | Bill C58, Item no 5 |

Replace the short description for the above-mentioned bill and item numbers with the following:

"(a) Clean Sand compacted to 100% Modified AASHTO yielding a CBR of 20% (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)."

ATD3-1.1.5 The following Bill of Quantities Schedules and Item Numbers refers:

- | | | | | |
|---|---|-------------------------|----------------------------|-----------------------|
| - Bill C5, Item no 373 | - | Bill C27, Item no 100 - | Bill C9, Item no 66 and 67 | - |
| Bill C28, Item no 105 | - | Bill C10, Item no 94 | - | Bill C29, Item no 124 |
| - Bill C11, Item no 55 | - | Bill C31, Item no 148 | | |
| - Bill C15, Item no 39 | - | Bill C33, Item no 144 | | |
| - Bill C16, Item no 35 | - | Bill C34, Item no 109 | | |
| - Bill C17, Item no 33 | - | Bill C35, Item no 130 | | |
| - Bill C18, Item no 382, 383, 384 and 385 | - | Bill C36, Item no 94 | | |
| - Bill C19, Item no 36 | - | Bill C37, Item no 98 | | |
| - Bill C20, Item no 185, 186 and 187 | - | Bill C38, Item no 98 | | |

Replace the short description for the above-mentioned bill and item numbers with the following:

"Flooring Detail 2, Flooring Type 7, Additional Support Type E".

ATD3-1.1.6 Amend the quantity of item 17 and add new item 18 to Bill C3 Bulk Earthworks (Page 60-ADD). Subsequent items are to be renumbered accordingly after this addition.

17		From Commercial Sources - G7 quality fill material to be compacted to 98% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m ³	11200
18		From Commercial Sources - G8 quality fill material to be compacted to 95% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m ³	63400

ATD3-1.1.7 Add the following Item in Bill C5 Inlet Works (Page 96 -ADD). Subsequent items are renumbered accordingly after addition.

375		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
375		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.8 Add the following Item in Bill C7 Biological Reactor (Page 119-ADD). Subsequent items are renumbered accordingly after addition.

		(d) Miscellaneous Items		
151		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	50.00
152		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
153		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.9 Add the following Item in Bill C9 Effluent Collector & CCT Inlet Channels (Page 138-ADD). Subsequent items are renumbered accordingly after addition.

		(d) Miscellaneous Items		
67		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
68		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.10 Add the following Item in Bill C9 Effluent Collector & CCT Inlet Channels (Page 138-ADD). Subsequent items are renumbered accordingly after addition.

		(d) Miscellaneous Items		
70		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
71		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.11 Add the following Item in Bill C15 RAS Return Channel (Page 191-ADD). Subsequent items are renumbered accordingly after addition.

		(d) Miscellaneous Items		
40		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	50.00
41		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
42		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.12 Add the following Item in Bill C16 Treated Effluent Outlet Channels (Page 198-ADD). Subsequent items are renumbered accordingly after addition.

		(d) Miscellaneous Items		
70		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00
71		Flooring Detail 2 (40x40x5mm SS316)	m	50.00

ATD3-1.1.13 Add the following Item in Bill C18 Flow Splitter Structures (Page 234-ADD). Subsequent items are renumbered accordingly after addition.

		(a) SST 6-WAY SPLITTERS		
		(a) GRP Open Grid Flooring by Area of the Grid		
381		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	30

ATD3-1.1.14 Add the following Item in Bill C18 Flow Splitter Structures (Page 234-ADD). Subsequent items are renumbered accordingly after addition.

		(g) FLOW BALANCING TANK FLOW SPLITTER		
		(a) GRP Open Grid Flooring by Area of the Grid		
386		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	10

ATD3-1.1.15 Add the following Item in Bill C19 Return Flow Pump Station (Page 239-ADD). Subsequent items are renumbered accordingly after addition.

	PSG 8.12	Granolithic Screeding		
32		Floor screed: 100mm screed 3% sloped to fall in dry well	m ²	20

ATD3-1.1.16 Omit the following Item and Section in Bill C19 Return Flow Pump Station (Page 240-ADD). Subsequent items are renumbered accordingly after omission.

	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK		
	PD 10	as specified in the project specifications		
		RETURN FLOW PUMP STATION		
35	PD 10.2	Floor screeds: Cement mortar screed	m ²	20

ATD3-1.1.17 On summary of sections of Bill C19 Return Flow Pump Station (Page 242-ADD) omit the Section "PD: PARTICULAR SPECIFICATION PD: BUILDING WORK",

ATD3-1.1.18 Add the following Items in Bill C20 Ancillary Structures (Page 250-ADD). Subsequent items are renumbered accordingly after addition.

		Provisional Sums				
70		Chemical Dosing Building	Prov Sum	1.00	1,500,000	R1,500,000
71		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	1,500,000		

ATD3-1.1.19 Add the following item in Bill C40 Process Operations Building (Page 487-ADD). Subsequent items are renumbered accordingly after addition.

72	PSH 8.3.8	Ladders, complete and installed Ladder Type 1, of lengths: 4000mm long	No	1.0
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ATD3-1.1.20 Add the following items in Bill C40 Process Operations Building (Page 507-ADD). Subsequent items are renumbered accordingly after addition.

334		Roof access Rainbowlite (or equivalent) 1200 x 1200 standard access hatch with 6.5mm PVB LAM safety glass. Colour: Clear. Hinged with manual opening mechanism to manufacturers specification	No	1.0
335		Roof anchors M10 stainless steel roof anchor points complete with hangers, washers, nuts, inspection plates, etc in accordance with SANS 50795 and EN795	No	50

ATD3-1.1.21 Add the following item in Bill C41 Workshop and Stores Building (Page 516-ADD). Subsequent items are renumbered accordingly after addition.

62	PSH 8.3.8	Ladders, complete and installed Ladder Type 1, of lengths: 3000mm long	No	1.0
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ATD3-1.1.22 Add the following item in Bill C41 Workshop and Stores Building (Page 527-ADD). Subsequent items are renumbered accordingly after addition.

193		Roof access Rainbowlite (or equivalent) 1200 x 1200 standard access hatch with 6.5mm PVB LAM safety glass. Colour: Clear. Hinged with manual opening mechanism to manufacturers specification Roof anchors	No	1.0
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194		M10 stainless steel roof anchor points complete with hangers, washers, nuts, inspection plates, etc in accordance with SANS 50795 and EN795	No	20
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ATD3-1.1.23 Amend the quantity for the following items, Bill C50 Roadworks (Page 682-ADD).

2		(ii) Minimum 93% of modified AASHTO density (100% for sand) for roads, 150mm thick	m ³	18300
3		(i) Ripping	m ³	200
4		(a) Cut to fill compacted to 93% of modified AASHTO maximum density	m ³	1850

ATD3-1.1.24 Amend the quantity for the following item, Bill C50 Roadworks (Page 683-ADD).

9		(ii) 150mm selected subgrade (SSG), G7 selected layer compacted to 93% of modified AASHTO maximum density	m ³	18000
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ATD3-1.1.25 Amend the quantity for the following items, Bill C50 Roadworks (Page 683-ADD).

11		(a) Soft excavation	m ³	43200
12		(b) Hard excavation	m ³	4400

ATD3-1.1.26 Amend the quantity for the following item 22 and add new items 23-25, Bill C50 Roadworks (Page 684-ADD). Subsequent items are renumbered accordingly after addition.

22		(c) 150mm cemented natural gravel subbase, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m ³	1500
23		(d) 200mm cemented natural gravel subbase, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m ³	8000

24		(e) 250mm cemented natural gravel subbase, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m ³	7600
25		(f) 200mm Gravel Wearing Course, Type 1, compacted to 95% of modified AASHTO maximum density	m ³	1100

ATD3-1.2 Volume 2: Returnable Documents Book 2 of 2 (Page 501-884 Only), Part T2: Returnable Documents
– T2.2 Returnable Schedules, Schedule 26: Technical Data Sheets

ATD3-1.2.1 Replace Data Sheet No. DS-EL-0003: Lighting Schedule in its entirety with the electronic Lighting Schedule provided under **Appendix C**.

ATD3-1.2.2 Replace Data Sheet No. DS-EL-0004: Rooftop Solar PV in its entirety with the electronic Lighting Schedule provided under **Appendix C**.

ATD3-1.2.3 Technical Data sheet pages have been amended (specifically page breaks) to allow for additional pages in Data Sheet No. DS-EL-0003. For Simplicity and to avoid confusion, the electronic Electrical Technical Data Sheets in its entirety has been provided under **Appendix C**.

ATD3-2 SCOPE OF WORKS AND SITE INFORMATION

ATD3-2.1 Volume 3A: Scope of Work and Site Information
Part C3: Scope of Works – C3.5 Management

ATD3-2.1.1 In Part C3: Scope of Works, C3.5: Construction, Clause 3.5.7.1 Sequencing of the Works, replace the Table (Page 64 ADD -71 ADD in Addendum No. 2) with revised Table (Page 64 ADD – 71 ADD part of this Addendum), see **Appendix D**.

ATD3-2.2 Volume 3A: Scope of Work and Site Information
Part C3: Scope of Works – C3.7 Specifications

ATD3-2.2.1 In Part C3: Scope of Works, C3.7: Specifications, PSC: Site Clearance (SANS 1200 C), Clause PSC 8.2.8 (Page 100), replace the units in the Clause heading with "m³/No" with "Sum/m³/No".

ATD3-2.2.2 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), Clause PSD 8.3.2 (b) (Page 113), omit the text in the line after the Clause heading "(i) Dispose of on-site" and move

text "Unit" : m³" to the Clause heading.

ATD3-2.2.3 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), Clause PSD 8.3.16 (a) (Page 118), after the words "Modified AASHTO", add the following text "yielding a CBR of 20%"

ATD3-2.2.4 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 5.5.6 (Page 180), add the following to the Clause:

"Anchor holes shall be prepared in strict accordance with the relevant chemical mortar/adhesive manufacturer's instructions. This typically includes allowing the substrate to cure beyond 28 days (as applicable), ensuring that the substrate is sound and moisture content below the maximum allowed, clean, free from contaminants such as dirt, oil, grease, rust, coatings, etc.

After creating and preparing the anchor holes but before anchoring the applicable fasteners, reinforcing or other objects (as applicable), the Contractor shall make provision for the Engineer to inspect the hole depth and preparation. Anchoring shall only take place after receiving the Engineer's approval and after the Contractor's representative overseeing the anchoring has demonstrated to the Engineer that the chemical mortar/adhesive manufacturer's installation method is well understood."

ATD3-2.2.5 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 5.7.1.2 (Page 181), replace the second paragraph with the following:

"Unless otherwise indicated stanchions shall be top mounted (base mounted) to suit the arrangement requirements and shall be of welded construction. Stanchions which are hollow shall be self-draining. When anchoring top mounted or removable stanchions to brickwork or concrete, they shall be installed with their centre line 140 mm from the edge of a concrete slab or wall (unless otherwise indicated) and centred atop upstand beams. No stanchion shall be mounted with its centre closer than 300mm to a concrete or brickwork joint."

ATD3-2.2.6 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), add the following new clause after Clause PSH 7.4 (Page 187):

"PSH 7.5 Testing of Chemically Anchored Fasteners

The Engineer may require that the Contractor perform pull-out tests on a select number (as determined by the Engineer) of chemically anchored fasteners to confirm that the fasteners meet the chemical mortar/adhesive manufacturer's characteristic loads. The Engineer shall identify the fasteners to be tested and the Contractor shall provide all equipment required and conduct the tests in the presence of the Engineer. The pull direction shall not be more than 5° off the axis of the bolt.

The pull-out test equipment will typically include an eye-nut for connecting to the anchored fastener, a pulling device (mechanical or hydraulic), a calibrated crane scale and a temporary support structure"

ATD3-2.2.7 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 8.3 (Page 187), in the third line of the first paragraph after the words "SANS 1200 HC," add the following text "testing (unless scheduled separately)."

- ATD3-2.2.8 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 8.3.7 (Page 188), in the third line of the last paragraph after the words "SANS 1200 HC," add the following text "testing (unless scheduled separately),".
- ATD3-2.2.9 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 8.3.8 (Page 188), in the third line of the second paragraph after the words "SANS 1200 HC," add the following text "testing (unless scheduled separately),".
- ATD3-2.2.10 In Part C3: Scope of Works, C3.7: Specifications, PSH: Structural Steelwork (SANS 1200 H), Clause PSH 8.3.9 (Page 188-189), in the seventh and eight line of the first paragraph after the words "SANS 1200 HC," add the following text "testing (unless scheduled separately),".
- ATD3-2.2.11 In Part C3: Scope of Works, C3.7: Specifications, PD: Building Work, Clause 10.7 (Page 261), replace the heading "Miscellaneous" with "Miscellaneous Work".
- ATD3-2.2.12 In Part C3: Scope of Works, C3.7: Specifications, PD: Building Work (Page 262), add the following new clause after Clause 10.7:

"PD 10.8 Miscellaneous Items

(a) Items measured by number:

- i. (Description of Item).....Unit: number
- ii. Etc.

(b) Items measured by length:

- i. (Description of Item).....Unit: metre (m)
- ii. Etc.

(c) Items measured by area:

- i. (Description of Item).....Unit: square metre (m²)
- ii. Etc.

(d) Items measured by volume:

- i. (Description of Item).....Unit: cubic metre (m³)
- ii. Etc.

The unit of measurement shall be the number, linear metre, square metre and cubic metre as applicable to each item.

The tendered rates shall include full compensation for all labour, plant, equipment, transport, etc, manufacturing or providing and installing each item complete as scheduled and shown on the drawings and shall include all corrosion protection (paintwork) where applicable."

- ATD3-2.2.13 In Part C3: Scope of Works, C3.7: Specifications, PSGG: GRP Open Grid Flooring, PSGG Clause 03.6 (Page 384), at the end of the clause add the following text "Additional supports are required where panels span over a distance greater than 1m, supports to be spaced in order to meet the performance requirements of this specification and should be according to the supplier's requirements. As a minimum spacing should not be greater than 1m between additional supports."
- ATD3-2.2.14 In Part C3: Scope of Works, C3.7: Specifications, PSGG: GRP Open Grid Flooring, Clause PSGG 08.1 (a) GRP Open Grid Flooring by Area of the grid flooring (Page 385), after the text "mounting accessories" add the following text "including additional supports and end connections where applicable."
- ATD3-2.2.15 In Part C3: Scope of Works, C3.7: Specifications, PSGG: GRP Open Grid Flooring, Clause PSGG 08.1 (d) Miscellaneous Steel Items (Page 385), replace the heading "Miscellaneous Steel Items" with "Miscellaneous Items"

- ATD3-2.2.16 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.1.1(Page 8 of the SPE-CC-003 Specification), in the last line of the second paragraph replace the text "Clause PA 11" with the following text "Clause 5".
- ATD3-2.2.17 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.3.2 (b) (Page 10 of the SPE-CC-003 Specification), in the second line of the first paragraph replace the text "Clause PA 4.7" with the following text "Subclause 4.7".
- ATD3-2.2.18 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.3.2 (c) (Page 10 of the SPE-CC-003 Specification), in the first line of the first bullet replace the text "Subclause PA 4.3.1" with the following text "Subclause 4.3.1".
- ATD3-2.2.19 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.3.2 (d) (Page 10 of the SPE-CC-003 Specification), in the second line replace the text "Subclause PA 5.1" with the following text "Subclause 4.3.1".
- ATD3-2.2.20 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.5.3 (Page 14 of the SPE-CC-003 Specification), in the third line of the first paragraph replace the text "Subclause PA 2.6" with the following text "Subclause 3.6".
- ATD3-2.2.21 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.2 (a) (Page 15 of the SPE-CC-003 Specification), in the first line of the second paragraph replace the text "Subclause PA 2.8" with the following text "Subclause 3.8".
- ATD3-2.2.22 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.3 (a) (Page 16 of the SPE-CC-003 Specification), make the following amendments to the clause
- In the first paragraph under the first bullet replace the text "Subclause PA 8.5" with the following text "Subclause 4.6.5".
 - In the first line of last paragraph under the first bullet replace the text "Subclause PA 2.8" with the following text "Subclause 3.8".
 - In the last line of the last paragraph under the third bullet replace the text "Subclause PA 2.7 (c)" with the following text "Subclause 3.7 (c)".
- ATD3-2.2.23 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.4, in the second paragraph replace the text "Subclause PA 2.7 (a)" with the following "Subclause 3.7 (a)".
- ATD3-2.2.24 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.5 (Page 17 of the SPE-CC-003 Specification), in the last line of the sixth paragraph replace the text "Clause PA 10" with the following text "Clause 4.8".
- ATD3-2.2.25 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.6 (a) (Page 18 of the SPE-CC-003 Specification), in the second line replace the text "Subclause PA 2.7(b)" with the following text "Subclause 3.7 (b)".
- ATD3-2.2.26 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.6.6 (b) (Page 18 of the SPE-CC-003 Specification), make the following amendments to the clause
- In the second line replace the text "Subclause PA 2.7(c)" with the following text "Subclause 3.7 (c)".
 - In the last line replace the text "Subclause PA 8.6(a)" with the following "Subclause 4.6.6 (a)",
- ATD3-2.2.27 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 4.7.2 (Page 18 of the SPE-CC-003 Specification), in the last line replace the text "Clause PA 10" with the following text "Subclause 4.8".
- ATD3-2.2.28 In Part C3: Scope of Works, C3.7: Specifications, SPE-CC-003: Concrete Block Pavements, Clause 5.6 (Page 22 of the SPE-CC-003 Specification), in the first line replace the text "Subclause PA 11.7" with the following text "Subclause 5.7".

ATD3-3 **REVISED TENDER DRAWINGS**

ATD3-3.1 Volume 4: Book of Drawings

ATD3-3.1.1 Replace the following Standard Detail drawings:

1001780-0000-DRG-CC-0206 Rev T0 (Typical Flooring Details (Sheet 2 of 3))
1001780-0000-DRG-CC-0207 Rev T0 (Typical Flooring Details (Sheet 3 of 3))
1001780-0000-DRG-CC-0208 Rev T0 (Typical Steel Door Details - Single)
1001780-0000-DRG-CC-0209 Rev T0 (Typical Steel Door Details - Double)
1001780-0000-DRG-CC-0211 Rev T0 (Typical Steel Door Details – Ironmongery (Sheet 2 of 2))
1001780-0000-DRG-CC-0213 Rev T0 (Ladder Types (Sheet 1 of 3))
1001780-0000-DRG-CC-0214 Rev T0 (Ladder Types (Sheet 2 of 3))
1001780-0000-DRG-CC-0215 Rev T0 (Ladder Types (Sheet 3 of 3))
1001780-0000-DRG-CC-0216 Rev T0 (Handrails Sheet 1 of 2)
1001780-0000-DRG-CC-0217 Rev T0 (Handrails Sheet 2 of 2)

With the following:

1001780-0000-DRG-CC-0206 Rev T1 (Typical Flooring Details (Sheet 2 of 3))
1001780-0000-DRG-CC-0207 Rev T1 (Typical Flooring Details (Sheet 3 of 3))
1001780-0000-DRG-CC-0208 Rev T1 (Typical Steel Door Details - Single)
1001780-0000-DRG-CC-0209 Rev T1 (Typical Steel Door Details - Double)
1001780-0000-DRG-CC-0211 Rev T1 (Typical Steel Door Details – Ironmongery (Sheet 2 of 2))
1001780-0000-DRG-CC-0213 Rev T1 (Ladder Types (Sheet 1 of 3))
1001780-0000-DRG-CC-0214 Rev T1 (Ladder Types (Sheet 2 of 3))
1001780-0000-DRG-CC-0215 Rev T1 (Ladder Types (Sheet 3 of 3))
1001780-0000-DRG-CC-0216 Rev T1 (Handrails Sheet 1 of 2)
1001780-0000-DRG-CC-0217 Rev T1 (Handrails Sheet 2 of 2)

See Appendix E

ATD3-3.1.2 Replace the following Roads and Stormwater drawings:

1001780-0000-DRG-CC-1002 Rev T0 (Roads General Layout)
1001780-0000-DRG-CC-1010 Rev T0 (Roads Typical Cross Sections)

With the following:

1001780-0000-DRG-CC-1002 Rev T1 (Roads General Layout)
1001780-0000-DRG-CC-1010 Rev T1 (Roads Typical Cross Sections)

See Appendix E

ATD3-3.1.3 Replace the following Architectural drawings:

1001780-0000-DRG-AA-0049 Rev T0 (Process Operations Building: Joinery Specifications)
1001780-0000-DRG-AA-0075 Rev T0 (Process Operations Building: Joinery Schedules Laboratory 1/2)
1001780-0000-DRG-AA-0076 Rev T0 (Process Operations Building: Joinery Schedules Laboratory 2/2)
1001780-0000-DRG-AA-0077 Rev T0 (Process Operations Building: Joinery Schedules Reception)
1001780-0000-DRG-AA-0130 Rev T0 (Workshop and Stores Building: Joinery Specifications)
1001780-0000-DRG-AA-0154 Rev T0 (Workshop and Stores Building: Construction Details - 5)
1001780-0000-DRG-AA-0212 Rev T0 (Guard House: Joinery Schedules 1 of 2) 1001780-0000-DRG-AA-0213 Rev T0 (Guard House: Joinery Schedules 2 of 2)

With the following:

1001780-0000-DRG-AA-0049 Rev T1 (Process Operations Building: Joinery Specifications)
1001780-0000-DRG-AA-0075 Rev T1 (Process Operations Building: Joinery Schedules Laboratory 1/2)
1001780-0000-DRG-AA-0076 Rev T1 (Process Operations Building: Joinery Schedules Laboratory 2/2)
1001780-0000-DRG-AA-0077 Rev T1 (Process Operations Building: Joinery Schedules Reception)
1001780-0000-DRG-AA-0130 Rev T1 (Workshop and Stores Building: Joinery Specifications)
1001780-0000-DRG-AA-0154 Rev T1 (Workshop and Stores Building: Construction Details - 5)
1001780-0000-DRG-AA-0212 Rev T1 (Guard House: Joinery Schedules 1 of 2) 1001780-0000-DRG-AA-0213 Rev T1 (Guard House: Joinery Schedules 2 of 2)

See Appendix E

ATD3-3.1.4

For drawings under Section B. Bulk Earthworks, i.e., drawings 1001780-0000-DRG-CC-0100 to 1001780-0000-DRG-CC-0131 replace all instances of the following note:

"G7 quality fill material to be compacted to 98% MOD AASHTO (100% for sand) in layers not exceeding 150mm"

with the following:

"Clean Sand compacted to 100% MOD AASTHO yielding a CBR of 20%, in 150 mm thick layers"

ATD3-3.1.5

The following tender drawings refers:

1001780-0000-DRG-CC-0358 Rev T0 (Reactor 6-Way Splitter: General Arrangement)
1001780-0000-DRG-CC-0360 Rev T0 (Reactor 6-Way Splitter: Sections & Details)
1001780-0000-DRG-CC-0370 Rev T0 (Biological Reactor Floor, Wall and Columns - Sections and Details (sheet 1 of 3))
1001780-0000-DRG-CC-0371 Rev T0 (Biological Reactor Floor, Wall and Columns - Sections and Details (Sheet 2 of 3))
1001780-0000-DRG-CC-0373 Rev T0 (Biological Reactor: Sections (sheet 1 of 3))
1001780-0000-DRG-CC-0374 Rev T0 (Biological Reactor: Sections (Sheet 2 of 3))
1001780-0000-DRG-CC-0375 Rev T0 (Biological Reactor: Sections (Sheet 3 of 3))
1001780-0000-DRG-CC-0376 Rev T0 (Biological Reactor: Inlet Chamber - Typical Sections and Details)
1001780-0000-DRG-CC-0378 Rev T0 (Biological Reactor: A-Recycle Pump Station & Was Withdrawal Box)
1001780-0000-DRG-CC-0393 Rev T0 (SST Cluster Distribution/Mixing Chamber: General Arrangement)
1001780-0000-DRG-CC-0394 Rev T0 (SST Cluster Distribution/Mixing Chamber: Sections & Details)
1001780-0000-DRG-CC-0398 Rev T0 (Secondary Settling Tank 6-Way Splitters: General Arrangement)
1001780-0000-DRG-CC-0399 Rev T0 (Secondary Settling Tank 6-Way Splitters: Sections and Details)
1001780-0000-DRG-CC-0406 Rev T0 (Secondary Settling Tanks No.1 – No. 12: Section and Details (Sheet 1 Of 2))
1001780-0000-DRG-CC-0407 Rev T0 (Secondary Settling Tanks No.1 – No. 12: Section and Details (Sheet 2 Of 2))
1001780-0000-DRG-CC-0416 Rev T0 (Ras Return Channel: Sections and Details)
1001780-0000-DRG-CC-0420 Rev T0 (UV Channels & Building: General Arrangement)
1001780-0000-DRG-CC-0425 Rev T0 (UV Channels & Building: Elevations)
1001780-0000-DRG-CC-0429 Rev T0 (Chlorine Contact Tank: General Arrangement)
1001780-0000-DRG-CC-0432 Rev T0 (Chlorine Contact Tank: Sections & Details)
1001780-0000-DRG-CC-0436 Rev T0 (Chlorine Contact Tank: Service Water Pump Station Feed Channel - Sections and Details)
1001780-0000-DRG-CC-0443 Rev T0 (Effluent Collector Channel: Sections and Details)
1001780-0000-DRG-CC-0449 Rev T0 (Chlorine Contact Tank Inlet Channel: Sections & Details)
1001780-0000-DRG-CC-0457 Rev T0 (Bypass Effluent Channel: Sections & Details (Sheet 2 of 2))
1001780-0000-DRG-CC-0464 Rev T0 (Treated Effluent Outlet Structure: Sections and Details)
1001780-0000-DRG-CC-0558 Rev T0 (Was Holding Tanks: Sections and Details (Sheet 2 of 2))
1001780-0000-DRG-CC-0572 Rev T0 (Service Water Pump Station: Foundation Layout)
1001780-0000-DRG-CC-0573 Rev T0 (Service Water Pump Station: General Arrangement)
1001780-0000-DRG-CC-0574 Rev T0 (Service Water Pump Station: Roof and Joint Layout)
1001780-0000-DRG-CC-0575 Rev T0 (Service Water Pump Station: Sections & Details (Sheet 1 of 3)) 1001780-0000-DRG-CC-0576 Rev T0 (Service Water Pump Station: Sections & Details (Sheet 2 of 3))
1001780-0000-DRG-CC-0577 Rev T0 (Service Water Pump Station: Sections & Details (Sheet 2 of 3))
1001780-0000-DRG-CC-0650 Rev T0 (Chlorination Building: Grounded Floor Layout)
1001780-0000-DRG-CC-0651 Rev T0 (Chlorination Building: Joint Layout)
1001780-0000-DRG-CC-0654 Rev T0 (Chlorination Building: Sections & Details (Sheet 2 of 2))
1001780-0000-DRG-CC-0676 Rev T0 (Dewatering Building: Ground Floor Layout)
1001780-0000-DRG-CC-0677 Rev T0 (Dewatering Building: First Storey Floor Layout)
1001780-0000-DRG-CC-0679 Rev T0 (Dewatering Building: Sections & Details (Sheet 2 of 2))
1001780-0000-DRG-CC-0724 Rev T0 (TSE Pump Station & Filter Building: General Arrangement)
1001780-0000-DRG-CC-0728 Rev T0 (TSE Pump Station & Filter Building: Sections & Details (Sheet 2 of 3))

On the above-mentioned drawings replace all instances that refer to the flooring type, flooring detail and additional supports with "Flooring Detail 2, Flooring Type 7, Additional Support Type E".

ATD3-4

ADDITIONAL TENDER DRAWINGS

ATD3-4.1

Volume 4: Book of Drawings

ATD3-4.1.1 Please add the following additional Tender drawings:

1001780-0000-DRG-CC-1009A Rev T0 (Road Longsection (8of9))
1001780-0000-DRG-CC-1009B Rev T0 (Road Longsection (9of9))

See Appendix F

Enclosures :

Click on the button below to access the Dropbox link:

Addendum 03 Enclosures

Or use this link:

https://www.dropbox.com/scl/fo/v3921om8ay09x9m3akthy/ACPHBZkICWoYfU8W_jQzRko?rlkey=4hafyagwj3h0ftu-en6kmj9ny3&st=byri8qpn&dl=0

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-Responsive.

Yours faithfully,


For Director: Supply Chain Management

ADDENDUM No. 3

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER No. 203Q/2023/24

At.....on this.....Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)

TENDERER:.....
(NAME OF FIRM IN INK AND CAPITALS)



E: [REDACTED]

18 July 2024

NOTICE TO TENDERERS NO: 4

Pages 3

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JULY 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 4 TO TENDER DOCUMENTS

ATD4-1 RETURABLE DOCUMENTS

ATD4-1.1 Volume 2: Returnable Documents Book 1 of 2 (Page 38-500 Only) and Book 2 of 2 (Page 501-884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities

ATD4-1.1.1 For simplicity and to avoid confusion, a revised electronic copy of the Bill of Quantities, incorporating all the changes outlined below, is issued as part of this Addendum. This version replaces the electronic version previously issued as part of the tender document and Addendum to tender No. 03 (**Appendix A**). See **Appendix A** of this Addendum to Tender for the revised copy of the Bill of Quantities.

ATD4-1.1.2 Replace and/or amend the chief reference and/or short description for the headings/subheadings of the following bill of quantities entries:

Bill C3 Bulk Earthworks: For items 3 (Page 59-ADD), 7 (Page 59-ADD) and 11 (Page 60-ADD) replace the short description with:

"Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa"

ATD4-1.1.3 The following Bill of Quantities Schedules and Item Numbers refers:

- | | |
|----------------------|-----------------------|
| - Bill C5, Item no 6 | - Bill C25, Item no 6 |
| - Bill C6, Item no 6 | - Bill C26, Item no 1 |
| - Bill C7, Item no 5 | - Bill C27, Item no 1 |
| - Bill C8, Item no 6 | - Bill C28, Item no 1 |

- Bill C9, Item no 6 and 13 - Bill C29, Item no 6
- Bill C10, Item no 6 - Bill C30, Item no 5
- Bill C11, Item no 7 - Bill C31, Item no 1
- Bill C12, Item no 7 - Bill C32, Item no 1
- Bill C13, Item no 21 - Bill C33, Item no 6

- BILL C14, ITEM NO 6 - BILL C34, ITEM NO 1 4

- BILL C15, ITEM NO 6 - BILL C35, ITEM NO 4

- BILL C16, ITEM NO 6 - BILL C36, ITEM NO 4

- BILL C17, ITEM NO 6 - BILL C37, ITEM NO 4

- BILL C18, ITEM NO 6, 13, 20, 29, 34, 39, 45 AND 51 - BILL C38, ITEM NO 4

- BILL C19, ITEM NO 6 - BILL C39, ITEM NO 4

- Bill C20, Item no 7, 9, 10, 11, 12, 18 and 19 - Bill C40, Item no 1
- Bill C21, Item no 6 - Bill C41, Item no 1
- Bill C22, Item no 6 - Bill C42, Item no 6
- Bill C23, Item no 6 - Bill C43, Item no 1
- Bill C24, Item no 6 - Bill C58, Item no 5

Replace the short description for the above-mentioned bill and item numbers with the following:

“(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated).”

ATD4-1.1.4 The following Bill of Quantities Schedules and Item Numbers refers:

- Bill C3, Item no 1
- Bill C3, Item no 5
- Bill C3, Item no 9

For the above-mentioned bill and item numbers replace the short description of the following

text, “...MOD AASHTO yielding a CBR of 20%...” with the following text “...MAMDD to achieve minimum bearing pressure of 150 kPa...”

ATD4-1.1.5 The following Bill of Quantities Schedules and Item Numbers refers:



- Bill C5, Item no 1
- Bill C6, Item no 1
- Bill C7, Item no 1
- Bill C8, Item no 1
- Bill C9, Item no 1 and 8
- Bill C10, Item no 1
- Bill C11, Item no 1
- Bill C12, Item no 2
- Bill C14, Item no 1
- Bill C15, Item no 1
- Bill C16, Item no 1
- Bill C17, Item no 1
- Bill C18, Item no 1, 8, 15, 24, 31, 35, 40 and 46
- Bill C19, Item no 1
- Bill C20, Item no 1 and 13
- Bill C21, Item no 1
- Bill C22, Item no 1
- Bill C23, Item no 1
- Bill C24, Item no 1
- Bill C25, Item no 1

For the above-mentioned bill and item numbers replace the short description of the following text, "...**Modified AASHTO yielding a CBR of 20%...**" with the following text "...**MAMDD to achieve minimum bearing pressure of 150 kPa...**"

ATD4-1.1.6 Amend the quantity of item 18 and add new item 19 to Bill C3 Bulk Earthworks (Page 60-ADD).

Subsequent items are to be renumbered accordingly after this addition.

18		From Commercial Sources - G8 quality fill material to be compacted to 95% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m ³	31700
----	--	--	----------------	-------

2

19		From Commercial Sources - Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa in layers not exceeding 150mm	m ³	31700
----	--	---	----------------	-------

ATD4-2 **SCOPE OF WORKS AND SITE INFORMATION**

ATD4-2.1 **Volume 3A: Scope of Work and Site Information**
Part C3: Scope of Works – C3.7 Specifications

ATD4-2.1.1 In Part C3: Scope of Works, C3.7: Specifications, PSD: Earthworks (SANS 1200 D), Clause PSD 8.3.16 (a) (Page 118), replace the words "Modified AASHTO yielding a CBR of 20%", with the following words "MAMDD to achieve minimum bearing pressure of 150 kPa"

ATD4-3 **REVISED TENDER DRAWINGS**

ATD4-3.1 **Volume 4: Book of Drawings**

ATD4-3.1.1 For drawings under Section B. Bulk Earthworks, i.e., drawings 1001780-0000-DRG-CC-0100 to 1001780-0000-DRG-CC-0131 replace all instances of the following note:

"Clean Sand compacted to 100% MOD AASTHO yielding a CBR of 20%, in 150 mm thick layers "

with the following:

"Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa, in 150 mm thick layers "

Please see the link below to access the supporting documents (i.e., Appendices) to Addendum No. 4 for the abovementioned tender. The Dropbox link is accessible through the button below:

Addendum 04 Enclosures

Or use this link:

https://www.dropbox.com/scl/fo/v3921om8ay09x9m3akthy/ACPHBZkICWoYfU8W_jQzRKo?rlkey=4hafvqgwj3h0ftu_en6kmi9ny3&st=byri8qpn&dl=0

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-responsive.

Yours faithfully,


.....
For Director: Supply Chain Management

ADDENDUM No. 4

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER No. 203Q/2023/24

Aton this..... Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)





TENDERER:.....
.....
capitals) 3

(Name of firm in ink and

FINANCE

E: [REDACTED]

19 July 2024

NOTICE TO TENDERERS NO: 5

Pages 3

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JULY 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 5 TO TENDER DOCUMENTS

ATD5-1 RETURNABLE DOCUMENTS

ATD5-1.1 Volume 2: Returnable Documents Book 1 of 2 (Page 38-500 Only) and Book 2 of 2 (Page 501-884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities

ATD5-1.1.1 The formulas in the total column for some of the newly added Bill of Quantities entries from Addendum 3 and Addendum 4 were not calculating. This has been corrected in a revised electronic copy of the Bill of Quantities issued as part of Addendum 5 (issued for simplicity and to avoid confusion). This version replaces the electronic version previously issued as part of the tender document and Addendum to tender No. 04 (Appendix A**).**

See **Appendix A** of this Addendum (i.e., Addendum No. 05) to Tender for the revised copy of the Bill of Quantities.

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-responsive.



Yours faithfully ,

For Director: Supply Chain Management
ADDENDUM No. 5

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER No. 203Q/2023/24

At.....on this.....Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)

TENDERER:.....
(Name of firm in ink and capitals)

1

FINANCE

E: [REDACTED]

23 July 2024

NOTICE TO TENDERERS NO: 6

Pages 4

TENDER NUMBER: 203Q/2023/24

DESCRIPTION: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

CLOSING DATE: 25 JULY 2024

BOX NUMBER: 143

Dear Sir/Madam

Your attention is specifically drawn to the following amendments which are to be made to the Tender Document for the above tender, in terms of tender clause C3.2 of the Standard Conditions of Tender and you will be deemed to have made allowance necessary to provide for these amendments in your Tender offer.

Tenderers should take note of the following:

ADDENDUM NO 5 TO TENDER DOCUMENTS





ATD6-1

RETURNABLE DOCUMENTS

ATD6-1.1

Volume 2: Returnable Documents Book 1 of 2 (Page 38-500 Only) and Book 2 of 2 (Page 501-884 Only), Part T2: Returnable Documents – C2.2 Bill of Quantities

ATD6-1.1.1

The formulas in the total column for some of the newly added Bill of Quantities entries from Addendum 5 were not calculating. This has been corrected in a revised electronic copy of the Bill of Quantities issued as part of Addendum 6 (issued for simplicity and to avoid confusion). This version replaces the electronic version previously issued as part of the tender document and Addendum to tender No. 05 (**Appendix A**).

See **Appendix A** of this Addendum (i.e., Addendum No. 06) to Tender for the revised copy of the Bill of Quantities.

ATD6-1.1.2

The following Bill of Quantities Schedules and Item Numbers refers:

- | | | | |
|------|-----------|--------|-----|
| i. | Bill C3: | - Item | 33 |
| ii. | Bill C44: | - Item | 229 |
| | | - Item | 230 |
| | | - Item | 251 |
| | | - Item | 277 |
| | | - Item | 278 |
| | | - Item | 292 |
| | | - Item | 293 |
| | | - Item | 298 |
| | | - Item | 306 |
| | | - Item | 310 |
| | | - Item | 311 |
| | | - Item | 430 |
| | | - Item | 689 |
| iii. | Bill C45: | - Item | 327 |

1

For the above-mentioned bill and item numbers corrections have been made as contemplated in ATD6-1.1.1.

ATD6-1.1.3

The following Bill of Quantities Schedules and Item Numbers refers:

- | | | | |
|-----|----------|--------|----|
| iv. | Bill C3: | - Item | 22 |
|-----|----------|--------|----|

For the above-mentioned bill and item number the rate cell for this bill of quantities entry has been unlocked allowing tenderers to capture their entries.



ATD6-1.1.4 Amend the quantity of item 6 to Bill C2 Site Clearance (Page 53-ADD), back to its intended quantity. This quantity was updated in error previously and has now been corrected to the intended tender quantity.

6		(vi) Undeveloped Area within existing fence boundary	m ²	180000
---	--	--	----------------	--------

ATD6-1.1.5 Amend the amount of item 86 to Bill C50 Roadworks (Page 690-ADD), to "Rate Only".

86		(c) Hard material	m ²			Rate Only
----	--	-------------------	----------------	--	--	-----------

Tenderers are to return a signed copy of this notice/addendum with the submission of their Tender. Failure to return a signed copy of the Addendum may result in the Tender being declared non-responsive.

Yours faithfully,



For Director: Supply Chain Management



Aton this.....Day of2024

Signature:.....

Name of Signatory:.....
(in ink and capitals)

TENDERER:.....
(Name of firm in ink and capitals)



Email: SCM [REDACTED]

19 SEPTEMBER 2024

Stefanutti Stocks (Pty) Ltd
[REDACTED]
[REDACTED]
[REDACTED]

Email: [REDACTED]

Dear Sir

TENDER NO.: 191Q/2023/24

DESCRIPTION: DESIGN BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE UPGRADING AND EXPANSION OF THE MACASSAR WASTEWATER TREATMENT WORKS.

TENDER CLARIFICATION NO.1

The City of Cape Town (CCT) is currently evaluating the above tender, and in terms of clauses C.2.17 and C.3.10 of the Contract Document, please clarify the following items in order for the CCT to proceed with the evaluation of this Tender.

VOLUME 2: Returnable Documents

Part T2.2: Returnable Schedules

Schedule 9: Schedule of Work Experience of Tenderer

Schedule 9 of T2.2 Returnable Schedules, states, "In the case of a joint venture, the nature of work and financial contribution must also be listed for the participating firms. The value of work of the participating firms must align with the valued stated on the taking over certificate or performance certificate. The values will be escalated to date of closure of this Tender process by the Employer/Employer's Representative using an escalation factor of 7.5% per annum."

The tenderer has not provided information regarding the nature of the work completed as well as their financial contribution in the joint ventures on the Palapye Water Treatment Works (WUC 036 (2018)) contract. The BEC requires that this information be provided for the aforementioned contract.

VOLUME 2: Returnable Documents

Part T2.2: Returnable Schedules

Schedule 9: Schedule of Work Experience of Tenderer

There are discrepancies in the values of the Mechanical, Electrical, and Civil work completed under the Noolgedagt Potable Water Treatment Works (AW 2015/16/32) contract stated in the supporting documentation. The BEC requires the tenderer to confirm these values for each discipline (i.e., mechanical, electrical and civil).

VOLUME 2: Returnable Documents
Part T2.2: Returnable Schedules
Schedule 9: Schedule of Work Experience of Tenderer

The tenderer has not provided details of the EC&I scope for the Coal Tar Filtration East (0630-CEP-SFS-CA-0001) contract. The BEC requires the tenderer to provide details about the nature of the work completed under this contract.

VOLUME 2: Returnable Documents
Part T2.2: Returnable Schedules
Schedule 9: Schedule of Work Experience of Tenderer

Schedule 9 of T2.2 Returnable Schedules, states, *"the value of work must align with the valued stated on the Taking Over Certificate, or Performance Certificate. The values will be escalated to date of closure of this Tender process by the Employer/Employer's Representative"*.

In the case of the Palapye Water Treatment Works (WUC 036 (2018)) and Noolitgedagt Potable Water Treatment Works (AW 2015/16/32) contracts, the tenderer has escalated the original contract value (i.e., the value of the contract at tender stage) and has not provided the final contract value as included in the final certificate. The BEC requires the tenderer to provide this information about the aforementioned contracts.

VOLUME 2: Returnable Documents
Part T2.2: Returnable Schedules
Schedule 28: Technical Data Sheets

After conducting a review of the provided information, the BEC noted that items offered by the tenderer varies from the standard and detailed specification as listed in **Table 1** to **Table 2**. Some of the variations may be deemed unacceptable. The queries below (Table 1 to Table 2) provide an opportunity for the Tenderer to align the offered equipment with the project specifications. Failure to address these may lead to the tender being deemed non-responsive at the discretion of the CCT.

In the event that the tender is of the opinion that its offer does conform, or exceed the requirements of the specification, it shall motivate and substantiate this with reference material.

In instances where it cannot achieve the specification requirement, it shall motivate this accordingly.

Please tick the applicable box provided.

Table 1: Mechanical Technical Data Sheets – Variations from Specification

TD01	First Lift Pump Station: Archimedean Screw Pumps
Item 4.1	The tenderer has indicated material and coatings of "5235R or higher". The Employer's agent believes that this is a typographical error. Please confirm that this should be "S235R or higher". ☐ Yes, this is correct. ☐ No, this is not correct. If no, please provide material and coatings for aforementioned items _____.

Item 4.2	The tenderer has indicated material and coatings of "5235R or higher". The Employer's agent believes that this is a typographical error. Please confirm that this should be "S235R or higher". ☐ Yes, this is correct. ☐ No, this is not correct. If no, please provide material and coatings for aforementioned items _____.
Item 6.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD02	Mechanical Front Rake Screens
Item 7.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD03	Perforated Plate Belt Screens
Item 7.1.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD04	Second Lift Pump Station: Archimedean Screw Pumps
Item 4.1	The tenderer has indicated material and coatings of "5235R or higher". The Employer's agent believes that this is a typographical error. Please confirm that this should be "S235R or higher". ☐ Yes, this is correct. ☐ No, this is not correct. If no, please provide material and coatings for aforementioned items _____.
Item 4.2	The tenderer has indicated material and coatings of "5235R or higher". The Employer's agent believes that this is a typographical error. Please confirm that this should be "S235R or higher". ☐ Yes, this is correct. ☐ No, this is not correct. If no, please provide material and coatings for aforementioned items _____.

Item 6.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD07	Wash Compactor: Inlet Works
Item 7.2.4	Although not explicitly stated in the Detailed Mechanical Specifications, the Employer's agent views washer compactors as heavy shock application and shall therefore have a service factor of 2. Please confirm that the equipment offered conforms to Section 13 of the Detailed Mechanical Specification for heavy shock application (i.e., service factor of 2)? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD08	Vortex Degritter Equipment
Item 4.3	The tenderer has offered additional equipment to what is required for gravity grit extraction from the vortex degritters. Please confirm that no additional equipment will be offered in addition to the gravity extraction equipment. ☐ Yes, we conform to the specification and no additional equipment will be offered. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD09	Grit Classifier (with integrated washing)
Item 2.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.1.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.2.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD10	Skip Dolly
Item 1.1	The tenderer has offered three (3) skip dollies on the technical datasheet and have priced for four (4) skip dollies on the Schedule of Quantities. Please confirm that the number of items on the datasheet is an error and the offer is for four (4) items as per Detailed Mechanical Specification and Schedule of Quantities? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD11	Odour Control Equipment - Inlet Works
Item 1.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 3.3	The Detailed Mechanical Specification called for minimum load on odour control covers of 500 kg/m² or 5 kN/m². Please confirm that the equipment offered will meet the specification. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD12	Odour Control Equipment - Gravity Thickener and Main Sludge Pump Station
Item 1.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 3.3	The Detailed Mechanical Specification called for minimum load on odour control covers of 500 kg/m² or 5 kN/m². Please confirm that the equipment offered will meet the specification. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Item 4.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD18	Primary Settling Tank
Item 3	The Tenderer has referred to Section 33 of the Detailed Mechanical Specification, however, Section 28 of the Detailed Mechanical Specification relates to the Primary Settling Tanks. Please confirm that items 3.1 to 3.7 shall comply with Section 28 of the Detailed Mechanical Specification. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD21	Mechanical Screens at UV Facility
Item 2.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 6.1.3	The nameplate power has been given as 111 kW. The Employer's agent believes that this may be a typographical error as the power is excessive for the type of equipment and application. Please confirm the correct value for the power _____ kW.
Item 7.1.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.2.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD22	Odour Control Equipment - Dewatering
Item 4.3	The Detailed Mechanical Specification called for minimum load on odour control covers of 500 kg/m² or 5 kN/m². Please confirm that the equipment offered will meet the specification. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD23	Fine Bubble Diffused Aeration Equipment
Item 7.4.1	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 9.1.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD24	RAS Pump Station - Submersible Axial Column Pump
Item 5.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD25	Primary Sludge Hydro Cyclone
Item 2.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD30	Digested Sludge Recirculation Pumps
General	The tenderer's information regarding the Digested Sludge Recirculation Pumps provided is not clear. Please provide a brief description of the pumps (i.e. to which system do they belong, how they are configured, and how they operate).
TD32	Digester Feed Pumps
Item 2.1	The Employer's agent believes that there may be a typographical error in this item. Please confirm the that the equipment on offer complies with the Detailed Mechanical Specifications. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 2.6	The Employer's agent believes that there may be a typographical error in this item. Please confirm the that the equipment on offer complies with the Detailed Mechanical Specifications. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD39	Primary Sludge Belt Presses
Item 2.6	This information has not been provided. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD40	WAS Linear Screens
Item 2.6	This information has not been provided. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Item 7.4	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.10	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD41	WAS Belt Presses
Item 2.6	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD42	Primary Sludge Horizontal Screw Conveyor
Item 2.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD44	Live Bottom Screw Conveyor (Primary Sludge Silos)
Item 2.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.1	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.5	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD45	Live Bottom Screw Conveyor (WAS Silos)
Item 2.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.1	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 7.5	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD47	Service Water Pumps - End Suction Centrifugal Pump
Item 5.3	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.4	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD48	TSE Pump Station - Horizontal Multistage Centrifugal Pumps
Items 2.5, 2.6, & 2.7	The tenderer's information regarding operation of the TSE Pumps provided is not clear. Please provide a brief description of the pumps (i.e., the total flow for 2 pumps running, 3 pumps running, and 4 pumps running, as well as the efficiency at each point).
Item 4.5	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.6	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Item 4.7	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.8	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.6	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.8	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.9	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.10	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 5.11	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 6.10	This information has not been provided Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD49	Poly Solution Preparation Unit
Item 2.1.2	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD50	Ventilation for Main Sludge Pump Station
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD51	Ventilation for Dewatering Building
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD52	Ventilation for Poly Storage Room (dehumidifier)
General	A significant portion of TD52 has been completed as "will be confirmed based on final design". Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

TD53	Ventilation for TSE Pump Station
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD54	Ventilation for Service Water Pump Station
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD55	Ventilation for Blower House
General	A significant portion of TD55 has been completed as "will be confirmed based on final design". Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.1	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD56	Ventilation for Chlorine Building
General	A significant portion of TD56 has been completed as "will be confirmed based on final design". Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.6	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
Item 4.1.7	The tenderer's offer varies from the Detailed Mechanical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
TD59	Lifting Equipment for Upper Screw Pump Station
Item 1.1	The Employer's agent believes that there may be a typographical error for this item. Please confirm that the equipment on offer complies with the Detailed Mechanical Specifications. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Table 2: Electrical Technical Data Sheets –Variations from Specification

DS-EP-0001	MV Switchgear: 11kV Macassar WWTW Eskom Incoming Switching Station Switchboard
DS-EP-0001A	The returned data sheet makes refers the reader to 'the Manufacturer's Data Sheet', however the ABB UniGear Technical Specification offer appended only references switchboard for <i>Main Intake Substation, 11kV Biogas and Renewable Generator, 11kV Main Incomers and 11kV Diesel Generator</i>. Please clarify if the <i>11kV Macassar WWTW Eskom Incoming Switching Station Switchboard</i> will also be equal specification as the ABB panels offered.

DS-EP-0001B DS-EP-0001C DS-EP-0001D DS-EP-0001E	The returned data sheet makes refers the reader to 'the Manufacturer's Data Sheet', however the ABB UniGear Technical Specification offer appended provides information in another format as the Data Sheets included in the Returnable Schedules. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
DS-EP-0002B	Secondary Switchgear: Earthing
7.06	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
10.06	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification and includes the RTU? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
14.02	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
15.03	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
DS-EP-0003A/B	Battery Tripping Units
3.01	The tenderer's offer varies from the Detailed Electrical Specification. Please state the Ah value offered and confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
3.08	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

DS-EP-0004	Distribution Transformers
11.01, 11.02	The relevance of the cost shown in the Data Sheet is unclear. Please confirm if the specified type tests are included in the priced offer. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
DS-EP-0005	Isolation Transformers
9.01, 9.02	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
10.01, 10.02	The relevance of the cost shown in the Data Sheet is unclear. Please confirm if the specified type tests are included in the priced offer. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
DS-EP-0007	NERCT
3.09	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
5.01	The tenderer's offer varies from the Detailed Electrical Specification. Please confirm that the equipment offered will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
14.01, 14.02	The relevance of the cost shown in the Data Sheet is unclear. Please confirm if the specified type tests are included in the priced offer. ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.
DS-EE-0025	LV Electrical Motors
	Data Sheets marked as N/A despite having numerous electric motors as part of the scope. Please provide electric motor details for all applications or refer to data / information already provided elsewhere in the technical offer.

DS-EE-0050	Diesel Generators
20	Supplementary details are provided about additional information of what is included and excluded on matters like fuel, documents, etc. Please confirm that the scope priced for in the offer will meet the specification? ☐ Yes, we conform to the specification. ☐ No, we do not conform to the specification. See supporting documentation attached.

Please submit your response as requested to [REDACTED] by no later than Wednesday, 25 September 2024 at 15:00pm.



Director: Supply Chain Management





Email: [REDACTED]

16 OCTOBER 2024

Stefanutti Stocks



Email: [REDACTED]

Dear Sir

TENDER NO.: 203Q/2023/24
DESCRIPTION: Upgrade and Extension of the Macassar Wastewater Treatment Works: Civil Works.
Details of the contract are listed below for reference:

TENDER CLARIFICATION NO.2

The City of Cape Town (CCT) is currently evaluating the above tender, and in terms of clauses C.2.17 and C.3.10 of the Contract Document, please clarify the following items in order for the CCT to proceed with the evaluation of this Tender.

VOLUME 2: Returnable Documents Part C2.2: Bills of Quantities Zero Tendered Rates

The tenderer has indicated zero tendered rates for the line items listed in Table 1. In terms of Clause 7 of C2.1 - Pricing Assumptions, i.e., "A price or rate should be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item.". The BEC requires confirmation that the zero tendered rates for these items have been allowed for, or covered, by other prices or rates in the Schedule of Quantities.

Table 1: Bill of Quantities - Zero Tendered Rates

Bill No.	Bill Description	Item Number	Line Item Description
C1	Preliminary and General	2	Value-related preliminary and general charges
C1	Preliminary and General	3	Locate, record, protect and reinstate pegs
C1	Preliminary and General	62	Dealing with traffic
C1	Preliminary and General	63	(a) Existing Inlet Works
C1	Preliminary and General	64	(b) Existing Biological Reactors
C1	Preliminary and General	65	(c) Existing RAS / WAS and Final Effluent Pump Stations
C1	Preliminary and General	66	(d) Existing Secondary Settling Tanks
C1	Preliminary and General	67	(e) Existing Chlorine Contact Tank
C1	Preliminary and General	68	(f) Existing Sludge Dewatering Building and surrounding structures
C1	Preliminary and General	69	(g) Existing Filter and Chlorine Buildings
C1	Preliminary and General	70	(h) Existing Admin and Workshop Buildings



Bill No.	Bill Description	Item Number	Line-Item Description
C1	Preliminary and General	71	(i) All other existing ancillary structures
C1	Preliminary and General	80	(b) Dealing with surface water
C1	Preliminary and General	81	Insurance to be effected by the Contractor
C1	Preliminary and General	82	Accommodating other Contractors
C1	Preliminary and General	83	Adhering to Environmental Management Plan
C1	Preliminary and General	84	Complying with the Health and Safety Requirements
C2	Site Clearance	1	(i) Grassed Areas (Platform & Vegetated Areas)
C2	Site Clearance	2	(ii) Asphalt Surfaces
C2	Site Clearance	3	(iii) Gravel Surfaces
C2	Site Clearance	4	(vi) Stone Pitching
C2	Site Clearance	5	(v) Pipeline routes (3.0m wide)
C3	Bulk Earthworks	4	(1) Hard rock excavation
C3	Bulk Earthworks	8	(1) Hard rock excavation
C3	Bulk Earthworks	12	(1) Hard rock excavation
C3	Bulk Earthworks	14	(2) Hard rock excavation
C3	Bulk Earthworks	20	Extra excavation in all materials to provide working space around structure
C3	Bulk Earthworks	34	Extra over item PSD 8.3.2 and PSD 8.3.3 (a) for disposing of spoil material on a site provided by the Contractor
C3	Bulk Earthworks	56	Underneath structure foundation to a depth of 1000 mm
C5	Inlet Works	2	Hard rock excavation
C7	Biological Reactor	2	Hard rock excavation
C8	Secondary Settling Tanks	2	Hard rock excavation
C9	Main Effluent Channel	2	(2) Hard rock excavation
C9	Main Effluent Channel	9	Hard rock excavation
C10	UV Channels and Building	2	Hard rock excavation
C11	Chlorine Contact Tank	2	Hard rock excavation
C12	Balancing Tank (Modification To Existing Reactor)	3	Hard rock excavation
C14	Gravity Thickeners	2	Hard rock excavation
C15	RAS Return Channel	2	Hard rock excavation
C16	Treated Effluent Outlet Structure	2	Hard rock excavation
C17	Bypass Effluent Channel	2	Hard rock excavation
C18	Flow Splitter Structures	2	Hard rock excavation
C18	Flow Splitter Structures	9	Hard rock excavation
C18	Flow Splitter Structures	16	Hard rock excavation
C18	Flow Splitter Structures	25	Hard rock excavation
C18	Flow Splitter Structures	29 (second instance)	Hard rock excavation
C18	Flow Splitter Structures	35 (second instance)	Hard rock excavation
C18	Flow Splitter Structures	41	Hard rock excavation
C18	Flow Splitter Structures	47	Hard rock excavation
C19	Return Flow Pump Stations	2	Hard rock excavation
C20	Ancillary Structures	2	Hard rock excavation
C20	Ancillary Structures	14	Hard rock excavation
C21	Primary and WAS Sludge Silos	2	Hard rock excavation
C22	Primary Sludge Circular Holding Tanks	2	Hard rock excavation
C23	Was Circular Holding Tanks	2	Hard rock excavation
C24	Gas Holding Tanks	2	Hard rock excavation
C25	Anaerobic Digesters	2	Hard rock excavation
C25	Anaerobic Digesters	56	Hard rock excavation
C29	Service Water Pump Station	2	All Internal Digester surfaces
C30	Main Sludge Transfer Pump Station	2	Hard rock excavation
C33	Combined Heat and Power Building	2	Hard rock excavation
C39	UV, SST and Flow Balancing Tank Electrical Building	3	Hard rock excavation
C42	Guard House	2	Hard rock excavation
C44	Interconnecting Pipework - Liquid Stream	131	(1) Hard material
C44	Interconnecting Pipework - Liquid Stream	133	(b) Intermediate material

B/I No	B/I Description	Item Number	Line-Item Description
C44	Interconnecting Pipework - Liquid Stream	138	(c) Excavate and dispose of unsuitable material from trench bottom
C44	Interconnecting Pipework - Liquid Stream	142	(i) Over 1,5 m up to 2,5 m
C44	Interconnecting Pipework - Liquid Stream	143	(ii) Over 2,5 m up to 3,5 m
C44	Interconnecting Pipework - Liquid Stream	144	(iii) Over 3,5 m up to 4,5 m
C44	Interconnecting Pipework - Liquid Stream	145	(iv) Over 4,5 m up to 5,5 m
C44	Interconnecting Pipework - Liquid Stream	146	(v) Over 5,5 m up to 6,5 m
C45	Interconnecting Pipework - Sludge Stream	136	(1) Hard material
C45	Interconnecting Pipework - Sludge Stream	138	(b) Intermediate material
C45	Interconnecting Pipework - Sludge Stream	143	(c) Excavate and dispose of unsuitable material from trench bottom
C45	Interconnecting Pipework - Sludge Stream	147	(i) Up to 1.5 m
C45	Interconnecting Pipework - Sludge Stream	148	(ii) Over 1.5 m up to 2.5 m
C45	Interconnecting Pipework - Sludge Stream	149	(iii) Over 2.5 m up to 3.5 m
C45	Interconnecting Pipework - Sludge Stream	150	(iv) Over 3.5 m up to 4.5 m
C45	Interconnecting Pipework - Sludge Stream	151	(v) Over 4.5 m up to 5.5 m
C46	Potable Water Reticulation	3	(1) Hard material
C46	Potable Water Reticulation	5	(b) Intermediate material
C46	Potable Water Reticulation	9	(c) Excavate and dispose of unsuitable material from trench bottom
C46	Potable Water Reticulation	13	(i) Over 1,5 m up to 2,5 m
C46	Potable Water Reticulation	14	(ii) Over 2,5 m up to 3,5 m
C47	Service Water Reticulation	3	(1) Hard material
C47	Service Water Reticulation	5	(b) Intermediate material
C47	Service Water Reticulation	9	(c) Excavate and dispose of unsuitable material from trench bottom
C47	Service Water Reticulation	13	(i) Over 1,5 m up to 2,5 m
C47	Service Water Reticulation	14	(ii) Over 2,5 m up to 3,5 m
C48	On-Site Sewage Reticulation	3	(i) Hard rock excavation
C48	On-Site Sewage Reticulation	24	(2) Hard rock excavation
C48	On-Site Sewage Reticulation	31	(c) Excavate and dispose of unsuitable material from trench bottom
C48	On-Site Sewage Reticulation	35	(i) Depth exceeding 1.0m up to 1.5m
C48	On-Site Sewage Reticulation	36	(ii) Depth exceeding 1.5m up to 2.0m
C48	On-Site Sewage Reticulation	37	(iii) Depth exceeding 2.0m up to 2.5m
C48	On-Site Sewage Reticulation	38	(iv) Depth exceeding 2.5m up to 3.0m
C48	On-Site Sewage Reticulation	39	(v) Depth exceeding 3.0m up to 3.5m
C48	On-Site Sewage Reticulation	40	(vi) Depth exceeding 3.5m up to 4.0m
C48	On-Site Sewage Reticulation	41	(vii) Depth exceeding 4.0m up to 4.5m
C48	On-Site Sewage Reticulation	42	(viii) Depth exceeding 4.5m up to 5.0m
C48	On-Site Sewage Reticulation	43	(ix) Depth exceeding 5.0 m up to 5.5m
C48	On-Site Sewage Reticulation	44	(x) Depth exceeding 5.5 m up to 6.0m
C48	On-Site Sewage Reticulation	50	(i) Existing building connections
C48	On-Site Sewage Reticulation	51	(ii) Pipes up to 300 mm diameter
C48	On-Site Sewage Reticulation	52	(iii) Pipes above 300 mm diameter and up to 600 mm diameter
C48	On-Site Sewage Reticulation	53	(iv) Telecommunication cables in ducts
C48	On-Site Sewage Reticulation	54	(v) Existing electrical cabling
C49	Stormwater Drainage	35	(2) Hard rock excavation
C49	Stormwater Drainage	42	(c) Excavate and dispose of unsuitable material from trench bottom
C49	Stormwater Drainage	46	(i) Depth exceeding 1.0m up to 1.5m
C49	Stormwater Drainage	47	(ii) Depth exceeding 1.5m up to 2.0m
C49	Stormwater Drainage	48	(iii) Depth exceeding 2.0m up to 2.5m
C49	Stormwater Drainage	49	(iv) Depth exceeding 2.5m up to 3.0m

Bill No.	Bill Description	Item Number	Line Item Description
C49	Stormwater Drainage	50	(v) Depth exceeding 3.0m up to 3.5m
C49	Stormwater Drainage	51	(vi) Depth exceeding 3.5m up to 4.0m
C49	Stormwater Drainage	52	(vii) Depth exceeding 4.0m up to 4.5m
C49	Stormwater Drainage	53	(viii) Depth exceeding 4.5m up to 5.0m
C49	Stormwater Drainage	59	(i) Existing building connections
C49	Stormwater Drainage	60	(ii) Pipes up to 300 mm diameter
C49	Stormwater Drainage	61	(iii) Pipes above 300 mm diameter and up to 600 mm diameter
C49	Stormwater Drainage	62	(iv) Telecommunication cables in ducts
C49	Stormwater Drainage	63	(v) Existing electrical cabling
C50	Roadworks	12	(b) Hard excavation
C51	Sleeves	10	(i) Hard rock excavation
C51	Sleeves	13	(c) Excavate and dispose of unsuitable material from trench bottom
C52	Block Retaining Walls	2	(b) Extra over item (a) above for hard rock excavation
C52	Block Retaining Walls	6	(b) Extra over subitem (a) above for excavation in hard material
C53	Fencing	3	(i) Ripping
C53	Fencing	11	Extra over items 8.3.5 (a) and 8.3.5 (b) for excavating and breaking down material in hard excavation
C53	Fencing	13	(b) Hard excavation
C54	Building Electrical	2	Delivery to site of equipment
C54	Building Electrical	86	(ii) Install
C54	Building Electrical	208	(ii) Install
C54	Building Electrical	266	In soft rock
C54	Building Electrical	267	In rock
C54	Building Electrical	269	Surplus excavated material spread and levelled on site as directed
C58	Security Hut	2	Hard rock excavation
C58	Security Hut	4	Extra over item PSD 8.3.3 (a) for temporary stockpiling
C60	Workshop and Store HVAC	24	Ø50-Ø32-Ø40 mm Tees insulated PVC piping.
C62	Site Wide Sub-Soil Drainage	4	(1) Hard material
C62	Site Wide Sub-Soil Drainage	9	(c) Excavate and dispose of unsuitable material from trench bottom
C62	Site Wide Sub-Soil Drainage	13	(ii) Depth exceeding 2.5 m up to 3.5 m
C62	Site Wide Sub-Soil Drainage	14	(iii) Depth exceeding 3.5 m up to 4.5 m
C62	Site Wide Sub-Soil Drainage	15	(iv) Depth exceeding 4.5 m up to 5.5 m

☐ Yes, we can confirm the rates as zero rates and no cost.

☐ No, we do not.

VOLUME 2: Returnable Documents

Part C2.2: Bills of Quantities

Rate Included elsewhere

The tenderer has indicated that the rates for the line items listed in **Error! Reference source not found.** are included elsewhere (i.e., in other line items). In terms of Clause 7 of C2.1 - Pricing Assumptions, i.e., "A price or rate should be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item.". The BEC requires confirmation that this is included in other line items in the bill of quantities and for the tenderer to indicate where this has been included.

Table 2: Bill of Quantities - Rates Included Elsewhere

Bill No.	Bill Description	Item Number	Line Item Description
C50	Roadworks	54	Rolling to locked up condition as specified in PSMJ 5.6

Bill No.	Bill Description	Item Number	Line-Item Description
☐ Yes, this item is included in another line item in the bill of quantities. The cost for this item has been included in schedule _____ item _____.			
☐ No, this item is not included in another line item in the bill of quantities.			
C56	Fire Detection and Alarm Systems (FDAS)	5	Labelling of all equipment and conductors per building
☐ Yes, this item is included in another line item in the bill of quantities. The cost for this item has been included in schedule _____ item _____.			
☐ No, this item is not included in another line item in the bill of quantities.			

VOLUME 2: Returnable Documents
Part C2.2: Bills of Quantities
Unbalanced Rates (excessively low)

In terms of Clause C.3.9.5 of T1.2 – Tender Data, i.e., "In the event of tendered rates or lump sums being declared by the Employer to be unacceptable to it because they are not priced, either excessively low or high, or not in proper balance with other rates or lump sums, the Tenderer may be required to produce evidence and advance arguments in support of the tendered rates or lump sums objected to", the BEC believes that the rates listed in **Table 3** are low. In accordance with Clause C3.9.5, the BEC requires the tenderer to provide a justification of these rates.

Table 3: Bill of Quantities – Unbalanced Rates Below Expected Values

Bill No.	Bill Description	Item Number	Line-Item Description
C3	Bulk Earthworks	1	(l) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C3	Bulk Earthworks	5	(l) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C3	Bulk Earthworks	9	(l) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C5	Inlet Works	1	Inlet Works (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C5	Inlet Works	319	a) Horizontal top mounted
C5	Inlet Works	320	e) Sloping top mounted
C6	Primary Settling Tanks	1	Primary Settling Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C6	Primary Settling Tanks	103	a) Horizontal top mounted
C6	Primary Settling Tanks	104	e) Sloping top mounted
C7	Biological Reactor	1	Biological Reactor (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C7	Biological Reactor	140	a) Horizontal top mounted
C7	Biological Reactor	141	e) Sloping top mounted
C8	Secondary Settling Tanks	1	Secondary Settling Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C9	Main Effluent Channel	1	Effluent Collector Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C9	Main Effluent Channel	8	CCT Inlet Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C9	Main Effluent Channel	54	a) Horizontal top mounted

Bill No	Bill Description	Item Number	Line/Item Description
C9	Main Effluent Channel	55	e) Sloping top mounted
C9	Main Effluent Channel	59	a) Horizontal top mounted
C9	Main Effluent Channel	60	e) Sloping top mounted
C10	UV Channels and Building	1	UV Channels and Building (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C10	UV Channels and Building	69	a) Horizontal top mounted
C10	UV Channels and Building	70	e) Sloping top mounted
C11	Chlorine Contact Tank	1	Chlorine contact tank (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C11	Chlorine Contact Tank	49	a) Horizontal top mounted
C11	Chlorine Contact Tank	50	e) Sloping top mounted
C12	Balancing Tank	2	Overflow Chamber Structure (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C12	Balancing Tank (Modification to Existing Reactor)	75	a) Horizontal top mounted
C12	Balancing Tank (Modification to Existing Reactor)	76	e) Sloping top mounted
C13	Maturation Ponds	16	(i) Necessary excavations and compacting in layers of 150mm thick to 95% MOD AASTHO
C14	Gravity Thickeners	1	Sludge Gravity Thickener (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C14	Gravity Thickeners	91	a) Horizontal top mounted
C14	Gravity Thickeners	92	e) Sloping top mounted
C15	RAS Return Channel	1	RAS return channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C15	RAS Return Channel	33	a) Horizontal top mounted
C15	RAS Return Channel	34	e) Sloping top mounted
C16	Treated Effluent Outlet Channel	1	Treated Effluent Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C16	Treated Effluent Outlet Structure	29	a) Horizontal top mounted
C16	Treated Effluent Outlet Structure	30	e) Sloping top mounted
C17	Bypass Effluent Channel	1	Bypass Effluent Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C17	Bypass Effluent Channel	28	a) Horizontal top mounted
C17	Bypass Effluent Channel	29	e) Sloping top mounted
C18	Flow Splitter Structures	1	SST 6-Way Splitters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	8	Reactor 6-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	15	PST 6 Way Splitters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	24	Anaerobic Digesters Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	31	Primary Sludge Holding Tanks 2-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	35	WAS Holding Tanks 4-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers

Bill No.	Bill Description	Item Number	Line-Item Description
C18	Flow Splitter Structures	40	Flow Balancing Tank Flow Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	46	Concrete Lined Maturation Ponds Flow Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C18	Flow Splitter Structures	344	a) Horizontal top mounted
C18	Flow Splitter Structures	344	e) Sloping top mounted
C18	Flow Splitter Structures	349	a) Horizontal top mounted
C18	Flow Splitter Structures	350	e) Sloping top mounted
C18	Flow Splitter Structures	354	a) Horizontal top mounted
C18	Flow Splitter Structures	357	e) Sloping top mounted
C18	Flow Splitter Structures	359	a) Horizontal top mounted
C18	Flow Splitter Structures	360	e) Sloping top mounted
C18	Flow Splitter Structures	364	Horizontal
C18	Flow Splitter Structures	365	Sloping (measured on slope)
C18	Flow Splitter Structures	369	Horizontal
C19	Return Flow Pump Station	1	Return Flow Pump Station (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C20	Ancillary Structures	1	Isolator Transformer (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layer
C20	Ancillary Structures	13	Raw sewage collection chamber (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C20	Ancillary Structures	168	a) Horizontal top mounted
C20	Ancillary Structures	169	e) Sloping top mounted
C21	Primary and WAS Sludge Silos	1	Primary and WAS Sludge Silo (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C21	Primary and WAS Sludge Silos	70	a) Horizontal top mounted
C21	Primary and WAS Sludge Silos	71	e) Sloping top mounted
C22	Primary Sludge Circular Holding Tanks	1	Primary Sludge Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C22	Primary Sludge Circular Holding Tanks	57	a) Horizontal top mounted
C22	Primary Sludge Circular Holding Tanks	58	e) Sloping top mounted
C23	WAS Circular Holding Tanks	1	WAS Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C23	WAS Circular Holding Tanks	76	a) Horizontal top mounted
C23	WAS Circular Holding Tanks	77	e) Sloping top mounted
C24	Gas Holding Tanks	1	Gas Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C25	Anaerobic Digesters	1	Anaerobic Digesters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers
C25	Anaerobic Digesters	58	Horizontal
C25	Anaerobic Digesters	59	Sloping (measured on slope)
C28	TSE Pumpstation and Filter Building	66	a) Horizontal top mounted
C28	TSE Pumpstation and Filter Building	67	e) Sloping top mounted
C29	Service Water Pumpstation	86	Horizontal top mounted
C29	Service Water Pumpstation	87	Sloping side mounted flush (measured on slope)

Bill No.	Bill Description	Item Number	Line Item Description
C30	Main Sludge Transfer Pumpstation	82	Horizontal
C30	Main Sludge Transfer Pumpstation	83	Sloping (measured on slope)
C31	Dewatering Building	77	a) Horizontal top mounted
C35	MV Intake Substation	72	Sloping top mounted
C35	MV Intake Substation	71	Horizontal top mounted
C35	MV Intake Substation	72	Sloping top mounted
C40	Process Operations Building	69	Horizontal
C40	Process Operations Building	70	Sloping (measured on slope)
C40	Process Operations Building	71	Circular
C41	Workshop and Store Building	59	Horizontal
C41	Workshop and Store Building	60	Horizontal
C41	Workshop and Store Building	61	Sloping (measured on slope)
C43	Treated Effluent Outlet Structure	47	a) Horizontal top mounted
C43	Treated Effluent Outlet Structure	48	e) Sloping top mounted

Please submit your response as requested to [REDACTED] by no later than **Monday, 21 October 2024 at 16:00.**

[REDACTED]
Director: Supply Chain Management



26 September 2024

City of Cape Town

Finance

Supply Chain Management

TENDER NO: 203Q/2023/24 UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS.

Tender Clarification No 1

We refer to your letter dated 20 September 2024.

1. Schedule 9: Schedule of Work Experience of Tenderer

Please see attached updated Schedule 9 (Attachment 1), as well as the following Payment certificates:

Nooitgedagt – Attachment 2

Zulkerbosch – Attachment 3, as well as consortium value split – Attachment 3A

Zandvliet – Attachment 4

2. Schedule 9: Schedule of Work Experience of Tenderer

A. Zulkerbosch :

As per the attached Consortium Responsibility Matrix (Attachment 5), the work undertaken by Stefanutti Stocks JV (SAM) was for the Civil construction works. Further to this, as per the Value split (Attachment 6), the value of work for the Civil Construction works is R 231 175 957.19 excluding CPA.

When considering joint venture agreement as a whole, the following terms to the joint venture agreement are of importance:

- a. The nature of the joint venture agreement is not akin to the commercial vehicle referred to under the clarification and/or returnable schedule.
- b. The nature of a joint venture agreement was to share in the profit, losses, etc. in the proportions stated in the agreement. The proportions are unrelated to the execution of the works or any financial contribution.
- c. The joint venture agreement in question was not intended, and it does not specify, any split in scope or financial contribution to be made by either party.

- d. The purpose of the joint venture was to work collectively in the execution of the entire scope of works and then, at the end, share in the profit and/or losses.
- e. There was no fixed split of the works or separate financial contribution as the works were ultimately executed as a single entity collectively.

On a clear reading of the joint venture agreement, the extent of the detail sought under the clarification does not exist due to the nature of the joint venture terms and conditions.

In addition to the above, the civil construction work that was undertaken by the SAM Joint Venture requires all parties to be equally liable towards the Employer for the execution of the Zuikerbosch project. In other words, joint and several liability which dictates that any of the parties (employer's choice) takes the liability for the whole of the works. What this means is that all members individually took full responsibility for the works and the financial consequences thereof. There was no "split" in the works, or individual (contractually required) financial contribution made to the extent and in the nature sought in the clarification.

In summary, the joint venture is an agreement to work together (no split in works or finances) and share in the spoils/losses at the end of the day.

B. Palapye :

In terms of the Palapye Water Treatment Works Contract ("PWTW contract"), we were obligated to subcontract 30% of the works to a local contractor, which was a requirement under local laws. Instead of subcontracting 30% of the works to a local subcontractor, we proposed to conclude a joint venture with a 100% local contractor, Heinsite Construction (Pty) Ltd ("Heinsite") to collectively execute the works.

The employer accepted this approach and Heinsite was granted 30% share in the proposed joint venture. A copy of the joint venture agreement is annexed hereto for consideration (Attachment 7) and an extract of the PWTW contract dictating the 30% requirement (Attachment 8).

When considering joint venture agreement as a whole, the following terms to the joint venture agreement are of importance:

- a. The nature of the joint venture agreement is not akin to the commercial vehicle referred to under the clarification and/or returnable schedule.
- b. The nature of a joint venture agreement was to share in the profit, losses, etc. in the proportions stated in the agreement (see clause 1.8 thereof). The proportions under clause 1.8 are unrelated to the execution of the works or any financial contribution.
- c. The joint venture agreement in question was not intended, and it does not specify, any split in scope or financial contribution to be made by either party.
- d. The purpose of the joint venture was to work collectively in the execution of the entire scope of works and then, at the end, share 70/30 in the profit and/or losses. The 70/30 split flowing from the requirement to allocate 30% to a local subcontractor.
- e. There was no fixed split of the works or separate financial contribution as the works were ultimately executed as a single entity collectively.

On a clear reading of the joint venture agreement, the extent of the detail sought under the clarification does not exist due to the nature of the joint venture terms and conditions.

In addition to the above, cognisance must be had to clause 1.12 of the JVA, which requires both parties to be equally liable towards the Employer for the execution of the PWTW project. In other words, joint and several liability which dictates that either of the parties (employer's choice) takes the liability for the whole of the works. What this means is that both parties individually took full responsibility for the works and the financial consequences thereof. There was no "split" in the works, or individual (contractually required) financial contribution made to the extent and in the nature sought in the clarification.

Hence, both members to the joint venture are entitled to list the PWTW contract respectively as a part of past projects executed and allocated the full risk, scope and value associated therewith to either of them or both.

In summary, the joint venture is an agreement to work together (no split in works or finances) and share in the spoils/losses at the end of the day.

3. Schedule 28: Technical Data Sheets

Please see attached response (Attachment 9)

In addition to the above attachment, please see further detailed comments below.

DS – EL-0006

See attached Data Sheet DS-EL-0006 (Attachment 10)

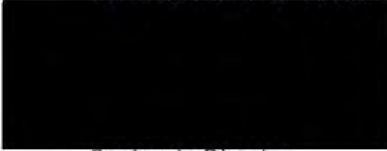
DS – EL - 0009

See attached Data Sheet DS-EL-0009 (Attachment 11)

DS-EL-0004

See attached Data Sheet DS-EL-0004 (Attachment 12)

Please do not hesitate to contact me should you require any further information.


Contracts Director



CITY OF CAPE TOWN
DIRECTORATE WATER AND SANITATION CONTRACT NO. 203Q/2023/24
UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS
SCHEDULE 9: SCHEDULE OF WORK EXPERIENCE OF TENDERER

The tenderer shall insert in the tables provided below a list of similar completed contracts awarded to it and those currently being undertaken (i.e., ongoing) for works of a similar nature. The following is noted:

1. A copy of the Practical Completion Certificate, or Completion Certificate must be submitted for each completed project put forward in the table below.
2. The value of work must align with the value stated on the practical completion certificate or completion certificate. The values will be escalated to date of closure of this Tender process by the Employer/Employer's Representative using an escalation factor of 7.5% per annum.
3. In the case of a joint venture, the nature of work and financial contribution must also be listed for the participating firms. The value of work of the participating firms must align with the value stated on the practical completion certificate or completion certificate. The values will be escalated to date of closure of this Tender process by the Employer/Employer's Representative using an escalation factor of 7.5% per annum.

EMPLOYER (NAME AND TEL No.)	CONSULTING ENGINEER (NAME AND TEL No.)	PROJECT NAME	NATURE OF WORK (WATER/WASTEWATER, NOTABLE PLANT COMPONENTS, INCLUDING AVERAGE CAPACITY OF PLANT Ml/day)	VALUE OF WORK R(m)	COMPLETION DATE (ISSUE OF PRACTICAL COMPLETION CERTIFICATE OR COMPLETION CERTIFICATE)
COMPLETED CONTRACTS					
[REDACTED]	[REDACTED]	[REDACTED]	Civil works (construction) for Water treatment at [REDACTED] [REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]



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[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED]	[REDACTED]
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AMATOLA WATER
NOOITGEDAGT/COEGA LOW LEVEL SCHEME
PHASE 3: CONSTRUCTION OF CIVIL, MECHANICAL & ELECTRICAL WORKS, 45ML RESERVOIR AT OLIFANTSKOP, CATHODIC PROTECTION
& AC MITIGATION OF STEEL PIPELINE REHABILITATION

To: [REDACTED] Date: 13 March 2023

Attention: [REDACTED]

Contract Number: AW2015/16/32

Contract Name: Nootgedagt Low Level Scheme Phase 3: Construction of WTW, 45ML Reservoir, Cathodic Protection and AC Mitigation of Steel Pipelines and Pipeline Rehabilitation

Payment Certificate No: 179 (Water Treatment Works)

Contractor: Stefanutti Stocks Civils KZN

Address: 14 Circuit Road, Westmead, Pinetown 3610

VAT Reg. No: 4560254247

Defects liability period of: 12 months Completion Date: 30 September 2022

Payment due date: 17 April 2023

Total Valuation of Scheduled Works Certified to Date (From Summary)	R	214 574 945.56
Total of Claims Certified to Date (From Summary)	R	28 103 204.02
Total Valuation of Additional Work	R	8 708 175.45
Total of Variation Orders to Date	R	27 761 952.65
Sub - Total	R	279 138 278.69
Add Escalation	R	25 846 702.21
Add Rise & Fall	R	1 357 872.97
Add ROE	R	328 561.19
Sub - Total	R	306 669 415.06
Deduct Retention - 10%	R	0.00
Sub-Total	R	306 669 415.06
Add Material Onsite	R	0.00
Cumulative Amount Due to Date (Excluding VAT)	0	306 669 415.06
Less Previous Payments	R	305 475 525.05
Amount Due for this Payment Certificate (Excluding VAT)	R	1 193 890.01
Less Penalties Payable	R	0.00
Amount Due for this Payment Certificate (Excluding VAT)	R	1 193 890.01
Add VAT at 15%	R	179 083.50
Interest on Late Payment	R	895 049.76
Less Previous Payments	R	895 049.76
TOTAL AMOUNT DUE FOR THIS CERTIFICATE	R	1 372 973.51

Engineer: [REDACTED] Date: 13 March 2023

CONTRACT SUMMARY	
Original Approved Contract Value Including 15% Contingencies (excl. VAT)	R 279 231 504.21
Extended Contract Amount (excl VAT)	R -
Escalation to date	R 25 846 702.21
Claims approved to date	R 13 186 211.22
Estimated Final Value of Contract (excl. VAT)	R 318 264 417.64

AMATOLA WATER

**NOOITGEDAGT/COEGA LOW LEVEL SCHEME PHASE 3:
CONSTRUCTION OF CIVIL, MECHANICAL & ELECTRICAL WORKS, 45ML RESERVOIR AT OLIFANTSKOP, CATHODIC PROTECTION & AC
MITIGATION OF STEEL PIPELINE REHABILITATION**

VOLUME 2: WTW CIVIL WORKS - SUMMARY	PHASE 3 SUMMARY	PHASE 4 SUMMARY	FINAL SUMMARY
SECTION A: PRELIMINARY & GENERAL	R 70 168 383.86	R 14 038 078.91	R 84 204 462.77
SECTION B: PIPE WORK AND TRENCHES	R 14 957 172.12	R 8 193 073.18	R 23 150 245.30
SECTION C: FLASH MIXER	R 2 948 907.20	R 866 838.92	R 3 815 746.12
SECTION D: CLARIFIERS	R 9 565 462.26	R 1 332 301.47	R 10 897 763.74
SECTION E: FILTERS	R 15 578 250.70	R 1 310 490.11	R 16 888 740.81
SECTION F: BACKWASH BALANCING TANK & PUMP BUILDING	R 2 606 768.85	R 4 043 379.28	R 6 650 148.14
SECTION G: GENERAL WORK	R 1 195 104.79	R -	R 1 195 104.79
SECTION H: SLUDGE PUMP STATION	R 705 988.74	R 785 322.48	R 1 491 311.20
SECTION I: ELECTRICAL RETICULATION	R -	R -	R -
SECTION J: BUILDING WORK	R 3 935 136.18	R 1 266 743.87	R 5 251 880.05
SECTION I : PIPELINES	R 192 904.49	R -	R 192 904.49
SECTION J : CHLORINATION SYSTEM	R 3 699 871.00	R 159 383.97	R 3 858 934.97
SECTION K : FERRIC CHLORIDE DOSING SYSTEM	R 1 058 817.38	R 68 670.83	R 1 127 488.21
SECTION L : PAC DOSING SYSTEM	R 675 495.72	R 27 813.10	R 703 308.82
SECTION M : SETTLING TANKS	R 5 595 390.12	R 163 637.99	R 5 759 028.11
SECTION N : FILTERS	R 19 703 162.23	R 248 223.14	R 19 951 385.37
SECTION O : ELECTRICAL AND INSTRUMENTATION	R 8 692 777.52	R 3 890 382.43	R 12 583 159.95
SECTION P : ELECTRICAL RETICULATION	R 1 474 515.83	R 2 694 018.56	R 4 168 534.39
SUBTOTAL	R 162 801 808.99	R 39 088 338.23	R 201 890 147.23
Add Contractor's markup on EME work	R 12 417 073.80	R 267 725.53	R 12 684 799.33
TOTAL OF SECTIONS CARRIED TO FINAL SUMMARY	R 175 218 882.79	R 39 356 063.76	R 214 574 946.56
TOTAL ADDITIONAL WORK	R 1 204 324.84	R 7 503 850.62	R 8 708 175.45
TOTAL CLAIMS	R 26 831 685.04	R 1 271 518.98	R 28 103 204.02
TOTAL VO's	R 27 342 963.47	R -	R 27 342 963.47
SPARES		R 408 989.18	R 408 989.18
LATE PAYMENT INTEREST	R 895 049.76	R -	R 895 049.76
CPA	R 23 761 032.16	R 2 085 670.05	R 25 846 702.21
RISE & FALL	R 1 357 872.97		R 1 357 872.97
ROE	R 326 561.19		R 326 561.19
TOTAL	R 256 938 372.23	R 50 626 092.59	R 307 564 464.82

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THE DESIGN AND CONSTRUCTION OF THE SEDIMENTATION PLANT OF THE NEW STATION 6 AT ZUikerbosch Pumping Station					
DESCRIPTION	CONTRACT VALUES (exc. Vat)		AMOUNT TO DATE	LESS PREVIOUS	PRESENT VALUE
	Tendered	Remaining			
A VALUE OF WORK					
1 PRELIMINARIES AND GENERAL	134 512 691,64	951 312,18	133 561 379,46	133 550 767,44	10 611,97
2 PROVISIONAL SUMS	785 000,00	321 561,50	463 438,50	463 438,50	0,00
3 DAYWORKS	1 414 479,00	600 547,57	813 931,43	813 931,43	0,00
4 DESIGN	16 743 293,66	0,00	16 743 293,66	16 743 293,66	0,00
5 CONSTRUCTION	239 303 279,39	-40,66	239 303 320,05	239 303 320,05	0,00
6 TESTING, COMMISSIONING AND PROVING	1 441 785,00	221 486,70	1 220 298,30	926 474,30	293 824,00
TOTAL CONTRACTED VALUE	394 200 528,69	2 094 867,29	392 105 661,40	191 801 225,38	301 435,97
7.1 PRICE ADJUSTMENT	8% 32 677 553,31	0,00	32 677 553,31	32 587 350,45	90 202,86
	0% 0,00		0,00	0,00	0,00
TOTAL CONTRACTED VALUE INCLUDING CPA	426 878 082,00	2 094 867,29	424 783 214,71	424 388 575,83	394 638,88
8.1 VARIATION ORDERS SAM JV			2 182 191,86	2 182 191,86	0,00
8.2.1 V.O 7 ZBG DESIGN AND CONSTRUCTION OF SLUDGE PUMP STATION	15 978 067,59	-0,00	15 978 067,59	15 978 067,59	0,00
8.2.2 V.O 7 PRICE ADJUSTMENT SLUDGE PUMP STATION	3 749 616,00	0,00	3 749 616,00	3 749 616,00	0,00
8.2.3 V.O 8 CARBONATION BAY PUDDLE PIPE			852 326,13	852 326,13	0,00
8.2.4 VALUE ENGINEERING					
8.3 VARIATION ORDERS MEIP JV			1 540 222,06	1 540 222,06	0,00
8.4 V.O 9 CARBONATION BAY DESIGN LE SHAPE	764 065,50	400 763,00	363 302,50	363 302,50	0,00
8.5 V.O 10 WORKFORCE - RE LE SHAPE	1 219 208,98	0,00	1 219 208,98	1 071 665,72	147 543,26
9 MATERIAL ON SITE	0,00	0,00	0,00	0,00	0,00
SUB TOTAL A:	448 589 040,07	2 495 630,29	450 608 149,83	450 125 967,69	542 182,14
B RETENTION					
1 WORK COMPLETED			11 658 631,61	11 658 631,61	0,00
2 MATERIAL ON SITE: (Advance)			0,00	0,00	0,00
3 VARIATION ORDERS			0,00	0,00	0,00
4 MATERIAL ON SITE			98 927,40	98 927,40	0,00
5 PRICE ADJUSTMENT			1 096 987,25	1 096 987,25	0,00
SUB TOTAL B:	19 710 026,43	3,26%	12 854 548,26	12 854 548,26	0,00
C PENALTIES					
1 SAFETY VIOLATION/PENALTIES			200 000,00	200 000,00	0,00
SUB TOTAL C:			200 000,00	200 000,00	0,00
SUBTOTAL C: (A - B - C)			437 613 603,56	437 071 421,42	542 182,14
VALUE ADDED TAX					
			60 843 916,77	60 762 589,44	81 327,32
			498 457 520,33	497 834 010,87	623 509,47
TOTAL VALUE OF WORK INC. VAT			498 457 520,33	497 834 010,87	623 509,47
AMOUNT PAYABLE THIS CERTIFICATE					623 509,47
00-Jan-00 Rand Water QS DATE: DATE Rand Water Project Manager DATE					

Consortium Agreement

The Zuikerbosch Consortium

Amendment 03 – Modifications to Consortium Values

08 June 2020

[REDACTED]

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		FOR USE BY CLIENT
CONTRACTOR	ENGINEER'S REPRESENTATIVE	
Date: 11 July 2024	Date: 11 July 2024	
ENGINEER	EMPLOYER	
Date:	Date:	Aurecon (RS)/A/ME Reference: 110585/PC



Item No	Item	SS/Asstys/MT	Veolia/Cerac ure/Moretan	WP
1	Signing of the JV/ Consortium Agreement	R	R	
2	Accept and Approve Programme	R	R	R*
3	Risk Analysis	R	R	R
3.1	Quantity Risk			R
3.2	Engineering and specification risk			R
3.2.1	Soil and Geotechnical			R
3.2.2	Structural			R
3.2.3	Infrastructure			R
3.2.4	Electrical and Mechanical Equipment			R
3.2.5	Scada and Automation			R
3.2.6	Process			R
3.2.7	Postulated Design Conforms to Rand Waters Specifications as per RFC			R
3.3	General Risk	R	R	I
4	Approvals and Permits			
4.1	Import permits and customs clearance		R	
5	Interface with Consultants			
5.1	PI Insurance (Standard PI Insurance: Consortium; Project Specific PI Insurance)	R	R	R
5.2	Design fees included in price/Success Fee Structure			R
6	Qualifications and Clarifications			
6.1	Drafting	R		
6.2	Provide discipline specific	A	A	A
6.3	Accept and Approve	R	R	R
6.4	Performance security, bank guarantee	R	R	
6.5	Additional Guarantees if Required	R	R	
6.6	Liquidated damages - Qualify amount and limit (Civils to draft partners to accept)	R	R	
6.7	Performance guarantees bond	R	R	
6.10	Geotechnical conditions- Qualify amount and limit (Civils to draft, partners to accept)	R		A
6.11	Overall Risk allowance Detailed per Scope Section	R	R	
7	Commercial			
7.1	Confirm FOREX Input		R	
7.2	Confirm receipt of Addendums	R	R	I
7.3	Letter of Intent: Performance Security	R	R	
7.4	Price validity to meet 90 days	R	R	
7.5	Acceptance of Warranty Period	R	R	
7.6	VO's, Re-Measurement - Qualify	R	R	I
7.7	FIDIC Yellow Book - Qualifications	R	R	I
7.8	Confirm price is Lump Sum Escalation Formula to be Submitted	R	R	
7.9	Advanced payment proposal agreement (if Required)	R	R	
7.10	Payment method	R	R	
7.11	Design review period in program	R	R	A
7.12	Commissioning requirements accepted PROCESS		A	R
7.13	Commissioning requirements accepted equipments		R	A
7.14	Warranties to be provided	R	R	
7.15	Insurance			
7.15.1	CAR	A	A	
7.15.2	Public liability	A	A	
7.15.3	WCA	A	A	
7.15.4	COIDA	A	A	
7.15.5	Plant and Equipment	A	A	
7.15.6	Deductible - Nothing Confirmed	A	A	
7.15.7	PI	R	R	R
7.16	Delay costs - Qualify	R	R	
7.17	Generate BOQs, P&IDs, Tender Drawings	I	I	R
8	Consortium Management Interfaces and Responsibilities			
8.1	Returnables (As per responsibility matrix)			
8.2	Labour Accommodation			
8.3	Staff Accommodation			
8.4	Labour Transport			
8.5	Staff Transport			
8.6	Project Labour Agreement (PLA) (Civils standard HR/IR Policies to be adopted throughout the Consortium)			

8.6.1	Feeding: Provide lunch packs (and dinner for core)	R	R	
8.6.2	Working days and off days	R	R	
8.6.3	Shutdown	R	R	
8.6.4	Notes	R	R	
8.6.5	Conditions of Contract	R	R	
8.6.6	Medicals	R	R	
8.7	Environmental Management			
8.7.1	Environmental Execution Plan	R	R	
8.7.2	Environmental Officer	R	R	
8.8	Health and Safety System	R	R	
8.9	Quality System	R	R	
8.10	Project Staff and Organogram	R	R	
8.11	P&G Facilities			
8.11.1	Offices	R	R	
8.11.2	Internet Connection	R	R	
8.11.3	Communication	R	R	
8.11.4	Establishment and disestablishment	R	R	
8.11.5	Batch plant	R		
8.11.6	Water storage - (Concrete and drinking water)	R	I	
8.11.7	Security	R	I	
8.11.8	Workshop	R	I	
8.11.9	Laydown Areas	R	I	
8.11.10	Stores	R	I	
8.11.11	Laboratory	R	I	
8.11.12	Combined P&G (Staffing E.g. Environment and Safety)	R	I	
8.11.13	Consultant on Site Representation	R	I	
8.11.14	Price Finalisation	R	R	
8.12	Water			
8.12.1	Supply (Earthworks and potable water)	R		
8.12.2	Storage	R		
8.12.3	Requirements	R	R	
8.13	Electricity	R	R	
8.14	Sewerage	R		
8.15	General security during construction phase			
8.15.1	Fencing	R	I	
8.15.2	Security	R	I	
8.15.3	Access Control	R	I	
8.16	Commercial Equity (UBBEE)			
8.16.1	Commercial Equity (UBBEE)	A	A	A
8.16.2	Local community involvement	A	A	
8.16.3	Subcontractors Equity	A	A	I
8.17	U&B Project Management			
8.18	Construction Permits as per Regulations	R	R	
8.19	Training (to operate and maintain the facility - no other training allowance has been made)		R	
9	Design Information			
9.1	Adhere to design specifications	A	A	R
9.2	Compilation of design program			R
9.3	Compilation of Combined Plant Construction Program	R	A	
9.4	Compilation of Discipline Specific Programme	A	A	
9.5	Detailed geotechnical study	A		R
9.6	Detailed topographical survey	A		R
9.7	Soil resistivity study		A	R
9.8	General Design Obligation CI 5.1 FIDIC Review and Scrutiny of Employers Requirements . Note 14 Day Window from Date of Award	R	R	R
10	Detail Design - (Drawings , BoQs, P&IDs, PFD's)			
10.1	Civils			R
10.2	Earthworks			R
10.3	Sewerage and Plumbing			R
10.4	Architectural			R
10.5	Structural			R
10.6	Stormwater Drainage			R
10.7	Access Roads			R
10.8	Electrical			R
10.9	Mechanical			R
10.10	Piping and Valves			R
10.11	Scada and Instrumentation			R
10.12	Automation			R
10.13	Fire Detection			R
10.14	Filtration System			R
10.15	HVAC			R
10.16	Telecoms			
10.17	Security Systems (CCTV , Access, etc)			

10.18	Communications			R
10.19	Earthing and Lightning Protection			R
11	<i>Additional Items</i>			
11.1	Interface Management	R	R	
11.2	Inception			R
11.3	Preliminary design			R
11.4	PFD's			R
11.5	P&ID's			R
11.6	HAZOP	A (Participate in HAZOP)	A (Participate in HAZOP)	R
12	<i>Site Establishment</i>			
12.1	Connection to Sewerage	R	I	
12.2	Connection to Power	R	I	
12.3	Prepare Lay down Areas and Stores	R	I	
12.4	Fencing of Offices and Stores Areas	R	I	
12.5	Environment			
12.5.1	Waste Management	R	I	
12.5.2	Dust suppression	R		
12.5.3	Rehabilitation	R		
12.6	<i>Security and access control</i>			
12.6.1	Perimeter fence	R	I	
12.6.2	Security cost during construction	R	I	
12.7	Safety	R	R	
12.8	Quality	R	R	
12.9	<i>Site Offices</i>			
12.9.1	Civil Offices	R		
12.9.2	Mech Offices		R	
12.9.3	Combined Facilities (Boardrooms, Ablutions etc)	R	I	
13	<i>Construction</i>			
	Consulting Project Administration			R
13.1	<i>Civil Structures (Material Plant and Equipment Supply)</i>			
13.2	Excavation to founding level	R		
13.3	Foundations	R		
13.3.1	Electrical conduits and earthing (Mech to supply, Chills to install)	R		
13.3.2	Cast-In Items / Puddle pipes: Supply and positioning of metallic pieces concrete works: VWS Concrete / mortar Casting to ensure proper sealing: SS	R	R	X
13.3.3	Concrete and Formwork	R		
13.3.4	Backfill	R		
13.3.5	Finishing works	R		
a	Water tightness, water drainage on roofs	R		X
b	Metal works: Hand rolling, grating, trapdoor, inspection manhole, ladders, metallic staircases	R		
c	Joinery: doors, window, rolling shutter,...	R		
d	plumbing, sanitary equipment,...	R		
e	Floors, walls and ceiling coating	R		
f	Sound insulation panelling	R		
g	Other Finishing: False floor, false ceilings, thermal insulation,	R		
f	Other finishing imposed by architectural description	R		
13.4	<i>Roads and Hardstands</i>	R		
13.4.1	Clear and Grub	R		
13.4.2	Excavate	R		
13.4.3	Import and fill	R		
13.4.4	Layer work	R		
13.4.5	V-Drains and drainage structures	R		
13.5	<i>Potable Water</i>	R		
13.6	<i>Sewerage Reticalation</i>	R		
13.7	<i>Trenching for Civils Items</i>	R		
13.8	<i>Building work</i>	R		
13.8.1	Excavation, Foundations	R		
13.8.2	Brickwork	R		
13.8.3	Domestic Electrical Works	R		
13.8.4	Roofing	R		
13.8.5	bathrooms and associated networks (potable, sewerage)	R		
13.8.6	fire suppression equipment and associated network			
13.8.7	Finishing works			
a	Water tightness, water drainage on roofs			
b	Metal works: Hand rolling, grating, trapdoor, inspection manhole, ladders, metallic staircases			
c	Joinery: doors, window, rolling shutter,...			

	d	plumbing, sanitary equipment,...	R		
	e	Floors,walls and ceiling coating	R		
	f	Sound Insulation panelling	R		
	g	Other Finishing: False floor, false ceilings, thermal insulation,	R		
	f	Other finishing imposed by architectural description	R		
	14	Mechanical Works (Material Plant and Equipment Supply)			
	14.1	Structural Steel (Including Shop Drawings)		R	
	14.1.1	Shop Drawings		R	
	14.1.2	Supply and Erection		R	
	14.2	Mechanical Equipment		R	
	14.2.1	Scada and Instrumentation		R	
	14.2.2	Automation		R	
	14.2.3	Process		R	
	14.3	Supply and Installation of Handling Equipment; Cranes, monorails SS responsible for embedding supports or rails in the concrete structure	R	R	
	14.4	Electrical Instalations	I	R	
	14.5	Electrical Instalations -Trenching, Backfill , cable sleeves and earth cable installation	R	I	
	14.6	Electrical Instalations - cable draw box	R	I	
	14.7	Fire Detection		R	
	14.8	Earthing and Lightning Protection		R	
	14.9	Piping and Valves		R	
	14.10	Trenches and backfilling for buried piping and Valves	R		
Commissioning and testing	15	Commissioning and testing			
	15.1	Security during commissioning		R	
	15.2	Electrical loop		R	
	15.3	Substation and related equipment		R	
	15.4	SCADA and Control Systems		R	
	15.5	Mechanical Equipment		R	
	15.6			R (Operate plant / equipment)	R (Overall Input & guidance)
		Performance testing PROCESS			
	15.7	Performance testing EQUIPEMENTS		R	
	15.7.1	Performance of Civils Scope	R		
	15.8	Training of staff to operate and maintain plant		R	
	15.8.1	Balance of Plant		R	
	15.8.2	Main plant Installation, including all mechanical, electrical, instrumentation and control equipment		R	R
	15.9	Spare Parts		R	
	15.9.1	Commissioning period		R	
	15.9.2	Ubiility period		R	

Consortium Agreement

The Zuikerbosch Consortium

[REDACTED]

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[REDACTED] Enterprise

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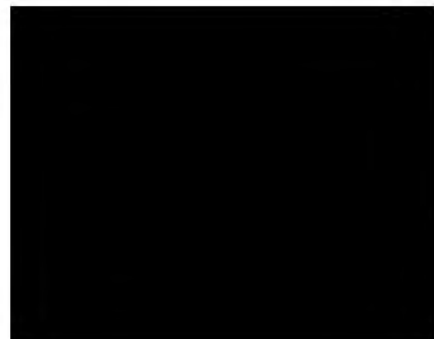
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JV Agreement

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JV Agreement - 2 Parties



K. I. P. K. H.

[Redacted]

Signature: [Redacted]

city: DIRECTOR

[Redacted]

[Redacted]

Signature

11 Dec this 24th day of June 1 20 19

[Redacted]

Signature: [Redacted]

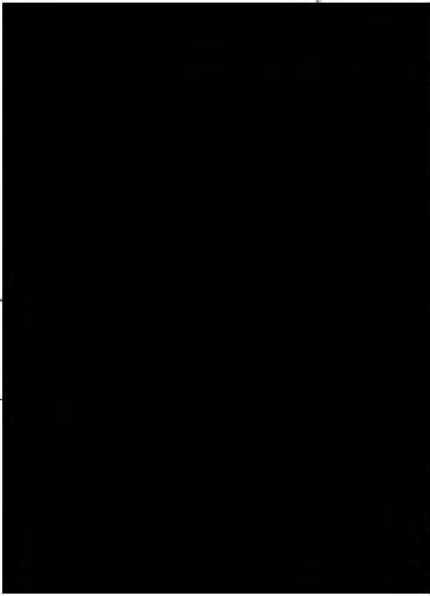
MANAGER

[Redacted]

[Redacted]

Full Name Signature

[Redacted]	[Redacted]	[Redacted]
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JV Agreement - 2 Parties

ANNEXURE A

STAFF CHARGE OUTS

1. To be mutually agreed.

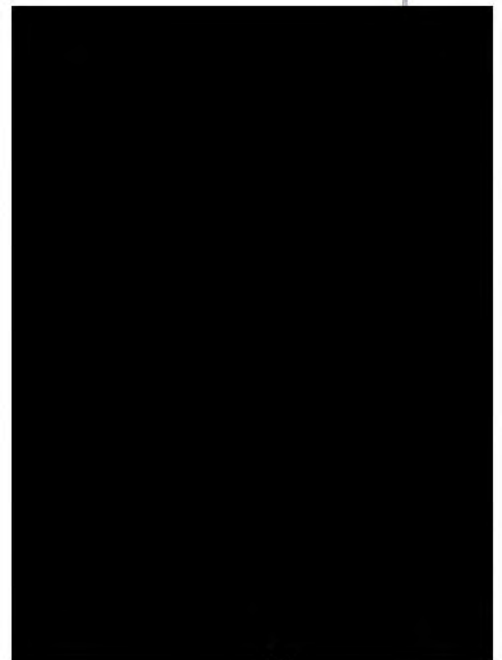


JV Agreement - 2 Parties

ANNEXURE B
ANNEXURE B

PLANT HIRE RATES AND CONDITIONS

1. To be mutually agreed.



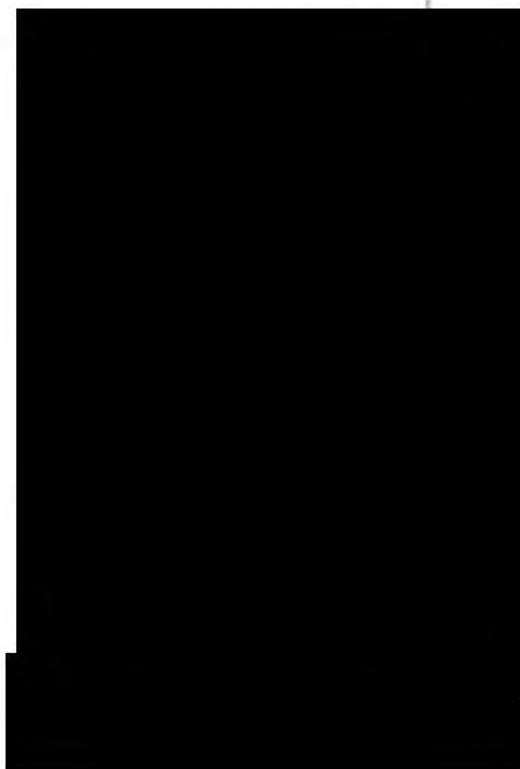


JV Agreement - 2 Parties

ANNEXURE C

YARD HIRE RATES AND CONDITIONS

1. To be mutually agreed.



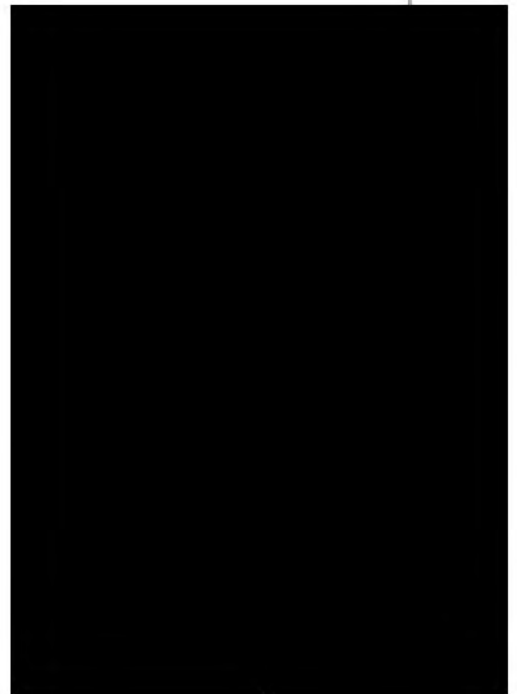


JV Agreement - 2 Parties

ANNEXURE D

SUMMARY OF GENERAL CHARGE OUTS

1. To be mutually agreed.





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

0006: Building S

UPGRADE AND EXTENSION OF THE
MACASSAR WASTEWATER TREATMENT
WORKS: CIVIL WORKS

25/09/2023/24

CLIENT N°
2020/2023/24

PAGE

CLIENT N°
101160

REV

TO

By	CA2	APP.	Aut.	Date
RG	UE	ES		11-21

Ref.	TI	Description	By	CA2	APP.	Aut.	Date
10	D	DATA SHEET FOR US EL 0006: Building Services Network	RG	UE	ES		11-21

DESCRIPTION	UNIT	SPECIFIED	OFFERED
1 NETWORK SWITCH (TYPE 1,2 & 3)			
1.01 Manufacturer		Cisco or equivalent	Cisco or equivalent
1.02 Model		As per drawing	As per drawing
1.03 Minimum number of fibre optic (SFP) ports	No	2	2
1.04 Number of Ethernet ports	No	As per drawing	As per drawing
1.05 Minimum uplink/backbone network speed	Gbps	1	1
1.06 PoE+ Capability	Yes/No	Yes	Yes
2 NETWORK ACCESS POINT			
2.01 Manufacturer		Cisco or equivalent	Cisco or equivalent
2.02 Model		As per drawing	As per drawing
2.03 VLF10 (502.11ax)	Yes/No	Yes	Yes
2.04 Installation		Ceiling	Ceiling
2.05 Minimum uplink network speed	Gbps	1	1
2.06 PoE+ Capability	Yes/No	Yes	Yes
3 SMALL FORM FACTOR PLUGGABLE (SFP)			
3.01 Manufacturer		Cisco or equivalent	Cisco or equivalent
3.02 Transceiver Type		Single mode	Single mode
3.03 Connector Type		LC	LC
3.04 Termination Type		Duplex	Duplex
3.05 Splice Type		APC	APC
3.06 Typical wavelength	nm	1310	1310
3.07 Minimum network speed	Gbps	1	1
4 CAT CABLES			
4.01 Manufacturer			Unbranded
4.02 Type		CAT6	CAT6
4.03 Shielding		U/UTP	U/UTP
5 CAT PATCH PANEL			
5.01 Manufacturer			Unbranded
5.02 Model			A 6255 600x60
5.03 Type		CAT6	CAT6
5.04 Number of ports	No	24	24
5.05 Casing		Rack mounted	Rack mounted
5.06 Size		1U	1U
5.07 Material		Electroplated powder-coated steel	Electroplated powder-coated steel
5.08 Colour		Black	Black
6 CABLE MANAGEMENT PANEL			
6.01 Manufacturer			Unbranded
6.02 Model			Unbranded
6.03 Number of rings	No	24	24
6.04 Casing		19" Rack mountable	19" Rack mountable
6.05 Size		1U	1U
6.06 Colour		Black	Black
7 SERVER ROOM NETWORK ENCLOSURE			
7.01 Manufacturer			EDS
7.02 Type		19" Rack	19" Rack
7.03 Size	U	43	42
7.04 Depth	mm	1000	1000
7.05 Installation		Floor standing	Floor standing
7.06 Loading Capacity	kg	800	800
7.07 IP rating		IP10	IP10
7.08 Forced ventilation (fans)	No/Yes	Yes	Yes
7.09 Material		Cold-rolled steel	Cold-rolled steel
7.10 Coating		Powder coated	Powder coated
7.11 Colour		Black	Black
7.12 Locking, removable, reversible front and rear doors	Yes/No	Yes	Yes
7.13 Locking, removable side panels	Yes/No	Yes	Yes
7.14 DIN rail mount kit	Yes/No	Yes	Yes
7.15 Internal Power Rail	Yes/No	Yes	Yes
8 BUILDING NETWORK ENCLOSURE			
8.01 Manufacturer			EDS
8.02 Type		19" Rack	19" Rack
8.03 Size	U	15U	15U
8.04 Depth	mm	550	550
8.05 Installation		Wall mounted	Wall mounted
8.06 Frame type		90° Swing frame	90° Swing frame
8.07 Loading Capacity	kg	60	60
8.08 IP rating	No	IP20	IP20
8.09 Forced ventilation (fans)	No/Yes	Yes	Yes
8.10 Material		Cold-rolled steel	Cold-rolled steel
8.11 Coating		Powder coated	Powder coated
8.12 Colour		Black	Black
8.13 Lockable	Yes/No	Yes	Yes
8.14 DIN rail mount kit	Yes/No	Yes	Yes
8.15 Internal Power Rail	Yes/No	Yes	Yes
9 INDUSTRIAL NETWORK ENCLOSURE			

8.01	Manufacturer			19" Rack	EOS
8.02	Type	U		12U	19" Rack
8.03	Size	mm		550	12U
8.04	Depth			Wall mounted	550
8.05	Installation			Yes	Wall mounted
8.06	Loading Capacity	kg		40	40
8.07	IP rating	No		IP53	IP53
8.08	Forced ventilation (fans)	No/Yes		Yes	Yes
8.09	Dust filters	No/Yes		Yes	Yes
8.10	Material			304/316 Stainless steel	304/316 Stainless steel
8.11	Coating			Powder Coated	Powder Coated
8.12	Colour			Orange	Orange
8.13	Lockable	Yes/No		Yes	Yes
8.14	Diff rail mount kit	Yes/No		Yes	Yes
8.15	Internal Power Rail	Yes/No		Yes	Yes
9	OUTDOOR NETWORK ENCLOSURE				
9.01	Manufacturer				EOS
9.02	Type	U		19" Rack	19" Rack
9.03	Size	mm		12U	12U
9.04	Minimum Depth			550	550
9.05	Installation			Wall mounted	Wall mounted
9.06	IP rating	No		IP53	IP53
9.07	Forced ventilation (fans)	No/Yes		Yes	Yes
9.08	Dust filters	No/Yes		Yes	Yes
9.09	Material			316 Stainless steel	316 Stainless steel
9.10	Coating			Powder Coated	Powder Coated
9.11	Colour			Orange	Orange
9.12	Lockable	Yes/No		Yes	Yes
9.13	Diff rail mount kit	Yes/No		Yes	Yes
9.14	Internal Power Rail	Yes/No		Yes	Yes
10	UPS1				
10.01	Manufacturer			APC or equivalent	APC
10.02	Model			SR111000RMXL11G	SR111000RMXL11G
10.03	Type			Double conversion	Double conversion
10.04	Casing Mounting			19" Rack mounted	19" Rack mounted
10.05	Input Voltage	Vac		230	230
10.06	Rated Power	VA		1000	1000
10.07	Battery Type			Lithium Ion	Lithium Ion
10.08	Minimum Battery Capacity	VAh		600	600
10.09	Extension Battery	Yes/No		Yes	Yes
10.10	Minimum Back-up Time	Minutes		30	30
10.11	Network Card	Yes/No		Yes	Yes
10.12	Service Bypass Panel	Yes/No		Yes	Yes
11	UPS2				
11.01	Manufacturer			APC or equivalent	APC
11.02	Model			SR112000RM4U11G	SR112000RM4U11G
11.03	Type			Double conversion	Double conversion
11.04	Casing Mounting			19" Rack mounted	19" Rack mounted
11.05	Input Voltage	Vac		230	230
11.06	Rated Power	VA		2200	2200
11.07	Battery Type			Lithium Ion	Lithium Ion
11.08	Minimum Battery Capacity	VAh		2400	2400
11.09	Extension Battery	Yes/No		Yes	Yes
11.10	Minimum Back-up Time	Minutes		30	30
11.11	Network Card	Yes/No		Yes	Yes
11.12	Service Bypass Panel	Yes/No		Yes	Yes
12	MEETING ROOM TEAMS SYSTEM				
12.01	Manufacturer			Yealink or equivalent	Yealink
12.02	Model			MVC840	MVC840
12.03	Type			Double	Double
12.04	Camera	Resolution		4K	4K
12.05	Microphones	No		2	2
12.06	Speaker	Yes/No		Yes	Yes
12.07	Touch Screen User Interface	Yes/No		Yes	Yes
12.08	Streaming Capabilities	Yes/No		Yes	Yes
13	DISPLAYS				
13.01	Manufacturer				Motor
13.02	Model				6597BU
13.03	Type			LED	
13.04	Size			65"	
13.05	Wall mounting brackets included	Yes/No		Yes	
14	SUPPLEMENTARY DETAILS				

Regardless of any information provided in this technical data sheet, the equipment to be provided will comply with the specified requirements

Name (Print)



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible, together.

3-EL-0009

UPGRADE AND EXTENSION OF THE MACASSAR
ASTLEWATER TREATMENT WORKS: CIVIL
WORKS

30/02/2024

REVISION

DATE

PAGE

REV

ID

Rev.	By	Description	By	Chd	APP.	Aut.	Date
10	D	DATA SHEET FOR 05 EL 0009 Access Control	KS	DR	LU		12/01/24

	DESCRIPTION	UNIT	SPECIFIED	OFFERED
1	MAIN CONTROLLER			
1.01	Manufacturer		Paxton or equivalent	Paxton
1.02	Type		Net2 Plus	Net2 Plus
1.03	Model		TDS-1042-AE	TDS-1042-AE
1.04	Capacity	Events	50000	50000
1.05	Number of events that can be retained	No	2500+	2500+
1.06	Monitoring and alert	Yes/No	Yes	Yes
1.07	Readers	No		
1.08	Power supply type		PoE+ AT Type 2	PoE+ AT Type 2
1.09	Backup power	Yes/No	Yes, via switch UPS	Yes, via switch UPS
1.10	Standalone logic operation	Yes/No	Yes	Yes
1.11	Cabinet material		Plastic	Plastic
2	SOFTWARE			
2.01	Flame		Paxton or equivalent	Paxton
2.02	Model		Net2 Lite	Net2 Lite
3	TAG READER			
3.01	Manufacturer		Paxton or equivalent	Paxton
3.02	Type		P60	P60
3.03	Ingress protection (IP rating)	IP	IP67	IP67
3.04	Vandal resistance		Medium	Medium
3.05	Mounting		Surface	Surface
4	EXIT BUTTON			
4.01	Manufacturer		Paxton or equivalent	Paxton
4.02	Type		Marine exit button	Marine exit button
4.03	Model		TDS-1033 ZA	TDS-1033 ZA
5	ACCESS TAG			
5.01	Manufacturer		Paxton or equivalent	Paxton
5.02	Type		Net2 proximity keyfobs	Net2 proximity keyfobs
5.03	Model		TDS-1077 AE	TDS-1077 AE
6	HANDS FREE ACCESS TAG			
6.01	Manufacturer		Paxton or equivalent	Paxton
6.02	Type		Net2 handsfree keyfobs	Net2 handsfree keyfobs
6.03	Model		TDS-1070 ZA	TDS-1070 ZA
7	DESKTOP TAG READER			
7.01	Manufacturer		Paxton or equivalent	Paxton
7.02	Type		USB	USB
7.03	Model		TDS1024-AE	TDS1024-AE
8	ACCESS MANAGEMENT COMPUTER WORKSTATION			
8.01	Manufacturer			Redlion
8.02	Model			IS
8.03	Type		All in One PC	All in One PC
8.04	CPU		Intel® Core™ i5, Core i5-13500T	Intel® Core™ i5, Core i5-13500T
8.05	Operating system		Windows 11 Pro	Windows 11 Pro
8.06	RAM	GB	16 GB DDR4 SDRAM	16 GB DDR4 SDRAM
8.07	Hard drive storage	GB	512 GB	512 GB
8.08	Display type		Non touch	Non touch
8.09	Minimum number of RJ45 ethernet ports	No	1	1
8.10	Colour		Black	Black
8.11	Minimum number HDMI ports	No	1	1
8.12	Wall mounting frame included	Yes/No	No	No
9	EMERGENCY BREAKGLASS UNIT			
9.01	Manufacturer		Zicon or equivalent	Zicon
9.02	Model		DUN7000	DUN7000
9.03	Colour		Green	Green
9.04	Mounting		Surface	Surface
9.05	IP rating		IP24	IP21
10	PUSH/PULL STRIKER LOCK			
10.01	Manufacturer		Ablay or equivalent	CPSA
10.02	Type		EL 404	EL 404
10.03	Fail unlock operation	Yes/No	Yes	Yes
10.04	Compatible with all access control systems	Yes/No	Yes	Yes
0.01	Magnetic Lock			
1	Manufacturer		Paxton or equivalent	Securprod
1.05	Fail unlock operation	Yes/No	Yes	Yes
1.06	Minimum holding force	kg	500	500
1.07	Installation type (door compatibility)		As per drawing	As per drawing
11	LONG RANGE HANDS FREE RECEIVER			
11.01	Manufacturer		Paxton or equivalent	Paxton
11.02	Type		Net2 Proximity Long Range Receiver 313-110	Net2 Proximity Long Range Receiver 313-110
11.03	Model		TDS-1010	TDS-1010
12	VISITOR SYSTEM			
12.01	Manufacturer			CipherLab

12.02	Model				6.000
12.03	Web communication	Yes/No		Yes	
12.04	Minimum number of local records	No		30 000	
13	SUPPLEMENTARY DETAILS				
Reproducts of 					
Name (Print) 					





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible together.

ZUTARI

No. DS-EL-0004: ROOFTOP SOLAR PV

UPGRADE AND EXTENSION OF THE
MACASSAR WASTEWATER TREATMENT
WORKS: CIVIL WORKS

20K0202324

CLIENT No.
20K0202324

ZUTARI No.
051200

PAGE
-

REV
T1

Rev.	TI	Description	By	Chd	APP.	Aut.	Date
10	D	DATA SHEET No. 05-EL-0001 Rooftop Solar PV	KS	DR	EB		17 Jun 24
11	D	DATA SHEET No. 05-EL-0001 Rooftop Solar PV	KS	DR	EB		Jun 24

DESCRIPTION	UNIT	SPECIFIED	OFFERED
1 ELECTRICAL OPERATING CONDITIONS			
1.01 AC voltage (nominal)	V	400	400
1.02 AC Number of phases		3	3
1.03 Frequency	Hz	50	50
1.04 AC voltage harmonics limits		8% THDv	8%
1.05 DC voltage	V	As per Contractor's design	As per design
1.06 Grid tie in voltage (nominal)	V	400	400
2 PV MODULES			
2.01 Manufacturer			JA Solar
2.02 Tier Rating per Bloomberg ranking		1	1
2.03 Model			JAM2030-55S1B
2.04 Cell type			Monocrystalline
2.05 Country of origin			China
2.06 Rated output (at STC)	W	As per Contractor's design	As per design
2.07 Output voltage (maximum)	VDC		42.42
2.08 Open circuit voltage (Voc)	V		22.1
2.09 Short circuit current (Isc)	A		14.56
2.10 STC open circuit voltage (Voc)	V		51.33
2.11 Operating temperature range	°C	-20°C to 80°C	-15°C
2.12 Maximum cell temperature coefficient	1/°C	-0.15/°C	-0.15/°C
2.13 Cable lead size		min. 4mm²	4mm²
2.14 Cable UV protected	Yes/No	Yes	Yes
2.15 Cable lead length	m		1.4m
2.16 Cable connector type		IP65 pin base Multi Contact (BSC)	QC4 10351054 FV03A
2.17 Cable connector polarity indication	Yes/No	Yes	Yes
2.18 Minimum number of junction box bypass diodes	No	3	3
2.19 Operating temperature range	°C	-20 to 80	-15 to 80
2.20 Weight	kg		2.0kg
2.21 Dimensions	mm (HxWxD)		233x113x30
2.22 Frame material		Anodized aluminium alloy	Anodized aluminium alloy
2.23 Glass material			3.2mm Safety Glass Class II
2.24 Junction box IP rating		IP67	IP68
2.25 Fixed / tracking		Fixed	Fixed
2.26 Mounting system		Flat on steel roof, angled on brackets on concrete roof	Flat
2.27 IEC 61701 certification	Yes/No	Yes	Yes
2.28 IEC 62716 certification	Yes/No	Yes	Yes
2.29 Guaranteed performance after 10 years	%	>90	>90
2.30 Guaranteed performance after 25 years	%	>80	>80
2.31 Datasheet included with tender	Yes/No	Yes	Yes
3 PV ARRAY DC CABLING			
3.01 Manufacturer		111/222 K or equivalent	111/222 K
3.02 Cable Type		Single-core, unshielded flexible	Single-core, unshielded flexible
3.03 Cable Type		Flame retardant, low halogen, UV and abrasion resistant	Flame retardant, low halogen, UV and abrasion resistant
3.04 Protection		0.6/1 kV	0.6/1 kV
3.05 Nominal Voltage	VDC	60	60
3.06 Temperature rating	°C	Cu	Cu
3.07 Conductor Type	Cu/Al	4mm²	4mm²
3.08 Size	mm²	4mm²	4mm²
3.09 Compliance		EN 50519	EN 50519
3.10 Armoured	Yes/No	No	No
3.11 Datasheet included with tender	Yes/No	Yes	Yes
4 DC CABLE CONNECTORS			
4.01 Manufacturer			
4.02 Connector Type			
4.03 Maximum Voltage	VDC		1000
4.04 Maximum Current	A		
4.05 Temperature range	°C		65
4.06 Enclosure degree of protection	IP	67	65
5 DC FUSES			
5.01 Manufacturer			
5.02 Type		On load	On load
5.03 Class		gPV to IEC 60269-6	gPV to IEC 60269-6
5.04 Finger safe	Yes/No	Yes	Yes
6 PV - BESS INVERTER			
6.01 Manufacturer			
6.02 Model			
6.03 Type	Grid-tied/Stand-alone	Hybrid	Hybrid
6.04 Nominal output rating	kVA	As per Engineer's concept design	As per design
6.05 Maximum input voltage	VDC	<1000	1000
6.06 Electrical output (VAC, frequency, number of phases)	VAC, Hz, ph	400, 50, 3	400, 50, 3
6.07 Overweighted efficiency	%	>95	97.6
6.08 Strings and input switches (internal/external)	No		
6.09 Country of origin			
6.10 Weight	kg		65
6.11 Dimensions	mm (HxWxD)		525x294x294
6.12 Enclosure degree of protection	IP	54	IP65
6.13 Cooling Method		Forced Ventilation	Intelligent air cooling
6.14 Anti-islanding	Yes/No	Yes	Yes
6.15 Output power control	Yes/No	Yes	Yes
6.16 Zero power export control	Yes/No	Yes	Yes
6.17 Internal MPPT	Yes/No	Yes	Yes
6.18 Ambient operating temperature range	°C	-10 to 40	-100

Section 1: General Information		Section 2: Power Options	
1.01	Manufacturer	1.01	Manufacturer
1.02	Model	1.02	Model
1.03	Rated output	1.03	Rated output
1.04	Rated output (with load)	1.04	Rated output (with load)
2. POWER OPTIONS (for power options only)		3. TEMPERATURE SENSOR (for temperature only)	
2.01	Manufacturer	3.01	Manufacturer
2.02	Model	3.02	Model
2.03	Rated output	3.03	Rated output
2.04	Rated output (with load)	3.04	Rated output (with load)
3. TEMPERATURE SENSOR (for temperature only)		4. AIR STATIONING (for air stationing only)	
3.01	Manufacturer	4.01	Manufacturer
3.02	Model	4.02	Model
3.03	Rated output	4.03	Rated output
3.04	Rated output (with load)	4.04	Rated output (with load)
4. AIR STATIONING (for air stationing only)		5. BATTERY	
4.01	Manufacturer	5.01	Manufacturer
4.02	Model	5.02	Model
4.03	Rated output	5.03	Rated output
4.04	Rated output (with load)	5.04	Rated output (with load)
5. BATTERY		6. POWER INVERTER	
5.01	Manufacturer	6.01	Manufacturer
5.02	Model	6.02	Model
5.03	Rated output	6.03	Rated output
5.04	Rated output (with load)	6.04	Rated output (with load)
6. POWER INVERTER		7. PV INTEGRATION (for PV integration only)	
6.01	Manufacturer	7.01	Manufacturer
6.02	Model	7.02	Model
6.03	Rated output	7.03	Rated output
6.04	Rated output (with load)	7.04	Rated output (with load)
7. PV INTEGRATION (for PV integration only)		8. POWER METER	
7.01	Manufacturer	8.01	Manufacturer
7.02	Model	8.02	Model
7.03	Rated output	8.03	Rated output
7.04	Rated output (with load)	8.04	Rated output (with load)
8. POWER METER		9. PANEL MOUNTING BRACKET	
8.01	Manufacturer	9.01	Manufacturer
8.02	Model	9.02	Model
8.03	Rated output	9.03	Rated output
8.04	Rated output (with load)	9.04	Rated output (with load)
9. PANEL MOUNTING BRACKET		10. PV INTEGRATION (for PV integration only)	
9.01	Manufacturer	10.01	Manufacturer
9.02	Model	10.02	Model
9.03	Rated output	10.03	Rated output
9.04	Rated output (with load)	10.04	Rated output (with load)

Regardless of any information provided in this technical data sheet, the equipment to be provided shall comply with the specifications.

Notes:



18 October 2024

City of Cape Town

Finance

Supply Chain Management

TENDER NO: 203Q/2023/24 UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS.

Tender Clarification No 2

We refer to your letter dated 16 October 2024.

1. Zero Tendered Rates

Please see attached response (Table 1).

2. Rate Included elsewhere

Please see attached response (Table 2).

3. Unbalanced Rates (excessively low)

Please see attached response (Table 3), as well as details below.

a.) Bulk Earthworks

Please see attached; 1) Detailed Load and Haul calculation; and 2) Detailed Bulk Sand Compact 100% calculation sheets.

These calculations are based on ACTUAL productions achieved and conditions encountered at the Zandvliet WWTW (Contract No 84Q), which is adjacent to the Macassar site and has the exact same soil conditions which was recently completed by Stefanutti Stocks.

Furthermore, these activities were priced in accordance with Clause PSD 8.3.2a and PSD 8.3.3 of the Project Specification.

b.) Handrails

This rate is based on rates received by numerous sub-contractors. The sub-contract price is based on Drawing No 1001780-0000-DRG-0216-T1 as per Addendum No 3. This rate includes all material. Costs for supervision and installation are included under Item C1.4.

Please do not hesitate to contact me should you require any further information.

CITY OF CAPE TOWN
DIRECTORATE: WATER AND SANITATION
CONTRACT NO. 203Q/2023/24
UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.2 Contract Data

Data provided by the Contractor

The name of the Contractor is

The address of the Contractor is

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

Telephone : Fax:

email :

CONTRACTOR'S ANNUAL HOLIDAY PERIODS DURING CONSTRUCTION PERIOD

Year 1 contractor's annual holiday period	Start date	End date
Year 2 contractor's annual holiday period	Start date	End date
Year 3 contractor's annual holiday period	Start date	End date
Year 4 contractor's annual holiday period	Start date	End date
Year 5 contractor's annual holiday period	Start date	End date



CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

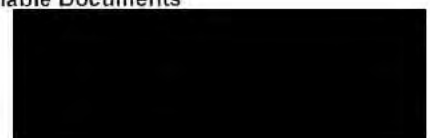
UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C2.2 Bills of Quantities

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

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

CONTENTS	PAGES
BILL NO. C1	PRELIMINARY AND GENERAL
BILL NO. C2	SITE CLEARANCE
BILL NO. C3	BULK EARTHWORKS
BILL NO. C4	FLOW DIVERSIONS AND DEMOLITION
BILL NO. C5	INLET WORKS
BILL NO. C6	PRIMARY SETTLING TANKS
BILL NO. C7	BIOLOGICAL REACTOR
BILL NO. C8	SECONDARY SETTLING TANKS
BILL NO. C9	MAIN EFFLUENT CHANNEL
BILL NO. C10	UV CHANNELS AND BUILDING
BILL NO. C11	CHLORINE CONTACT TANK
BILL NO. C12	BALANCING TANK (MODIFICATION TO EXISTING REACTOR)
BILL NO. C13	MATURATION PONDS
BILL NO. C14	GRAVITY THICKENERS
BILL NO. C15	RAS RETURN CHANNEL
BILL NO. C16	TREATED EFFLUENT OUTLET STRUCTURE
BILL NO. C17	BYPASS EFFLUENT CHANNEL
BILL NO. C18	FLOW SPLITTER STRUCTURES
BILL NO. C19	RETURN FLOW PUMP STATION
BILL NO. C20	ANCILLIARY STRUCTURES
BILL NO. C21	PRIMARY AND WAS SLUDGE SILOS
BILL NO. C22	PRIMARY SLUDGE CIRCULAR HOLDING TANKS



BILL NO. C23	WAS CIRCULAR HOLDING TANKS
BILL NO. C24	GAS HOLDING TANKS
BILL NO. C25	ANAEROBIC DIGESTERS
BILL NO. C26	BLOWER BUILDING
BILL NO. C27	CHLORINATION BUILDING
BILL NO. C28	TSE PUMPSTATION AND FILTER BUILDING
BILL NO. C29	SERVICE WATER PUMPSTATION
BILL NO. C30	MAIN SLUDGE TRANSFER PUMPSTATION
BILL NO. C31	DEWATERING BUILDING
BILL NO. C32	BOILER HOUSE
BILL NO. C33	COMBINED HEAT AND POWER BUILDING
BILL NO. C34	CENTRALISED GENERATOR BUILDING
BILL NO. C35	MV INTAKE SUBSTATION
BILL NO. C36	INLET WORKS ELECTRICAL BUILDING
BILL NO. C37	REACTOR ELECTRICAL BUILDING
BILL NO. C38	SERVICE WATER ELECTRICAL BUILDING
BILL NO. C39	UV, SST AND FLOW BALANCING TANK ELECTRICAL BUILDING
BILL NO. C40	PROCESS OPERATIONS BUILDING
BILL NO. C41	WORKSHOP AND STORE BUILDING
BILL NO. C42	GUARD HOUSE
BILL NO. C43	WEIGHBRIDGE AND BUILDING
BILL NO. C44	INTERCONNECTING PIPEWORK - LIQUID STREAM
BILL NO. C45	INTERCONNECTING PIPEWORK - SLUDGE STREAM
BILL NO. C46	POTABLE WATER RETICULATION
BILL NO. C47	SERVICE WATER RETICULATION
BILL NO. C48	ON-SITE SEWAGE RETICULATION
BILL NO. C49	STORMWATER DRAINAGE
BILL NO. C50	ROADWORKS
BILL NO. C51	SLEEVES
BILL NO. C52	BLOCK RETAINING WALLS
BILL NO. C53	FENCING
BILL NO. C54	BUILDING ELECTRICAL
BILL NO. C55	BUILDING ELECTRONICS AND SECURITY
BILL NO. C56	FIRE DETECTION AND ALARM SYSTEM (FDAS)

BILL NO. C57 ROOFTOP SOLAR
BILL NO. C58 SECURITY HUT
BILL NO. C59 FIRE PROTECTION SERVICES
BILL NO. C60 WORKSHOP AND STORE HVAC
BILL NO. C61 PROCESS OPERATIONS BUILDING HVAC
BILL NO. C62 SITE WIDE SUB-SOIL DRAINAGE
SUMMARY
DECLARATION

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C1 PRELIMINARY AND GENERAL				
	SANS 1200 A	GENERAL				
		as specified in SANS 1200A and in project specification				
	PSA 8.3	Fixed charges and value related items:				
1	PSA 8.3.1	Fixed preliminary and general charges	Sum	1.00	20,165,233.77	R 20,165,233.77
2	PSA 8.3.2	Value-related preliminary and general charges	Sum	1.00		
		Cost of survey in terms of Land Survey Act:				
3	PSA 8.3.5	Locate, record, protect and reinstate pegs	Sum	1.00		
	PSA 8.4	Scheduled time related items:				
4	PSA 8.4.1	Time-related preliminary and general charges	Sum	1.00	228,021,889.29	R 228,021,889.29
	PSA 8.5	Sums stated provisionally by Engineer:				
5		1(a) Removal of unknown existing services not indicated on drawings	Prov Sum	1.00	5,000,000.00	R 5,000,000.00
6		(b) Charge required by Contractor on sub-item (a) above	x100%	5,000,000.00	10%	R 500,000.00
7		2(a) Relocation of existing services not indicated on drawings	Prov Sum	1.00	5,000,000.00	R 5,000,000.00
8		(b) Charge required by Contractor on sub-item (a) above	x100%	5,000,000.00	10%	R 500,000.00
9		3(a) Maintenance and Office Equipment	Prov Sum	1.00	1,000,000.00	R 1,000,000.00
10		(b) Charge required by Contractor on sub-item (a) above	x100%	1,000,000.00	5%	R 50,000.00
11		4(a) Waterproofing and strengthening to existing and specific chambers or sumps where structural conditions have to be repaired for normal functional purposes	Prov Sum	1.00	1,000,000.00	R 1,000,000.00
12		(b) Charge required by Contractor on sub-item (a) above	x100%	1,000,000.00	10%	R 100,000.00
13		5(a) Widening of existing roads	Prov Sum	1.00	1,500,000.00	R 1,500,000.00
14		(b) Charge required by Contractor on sub-item (a) above	x100%	1,500,000.00	10.00%	R 150,000.00
15		6(a) Temporary Offices for Municipal Staff	Prov Sum	1.00	2,400,000.00	R 2,400,000.00
16		(b) Charge required by Contractor on sub-item (a) above	x100%	2,400,000.00	5%	R 120,000.00
Carried forward /...						R 265,507,123.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...							R 265,507,123.06
17	PSA 8.6	7(a) Biodiversity Offset	Prov Sum	1.00	10,000,000.00	R	10,000,000.00
18		(b) Charge required by Contractor on sub-item (a) above	x100%	10,000,000.00	5%	R	500,000.00
19		8(a) Weighbridge Unit	Prov Sum	1.00	750,000.00	R	750,000.00
20		(b) Charge required by Contractor on sub-item (a) above	x100%	750,000.00	10%	R	75,000.00
		Prime cost sums:					
		(1) Communication allowances:					
21		(a) The cost of calls in connection with contract	PCSum	1.00	300,000.00	R	300,000.00
22		(b) Charge required by Contractor on sub-item (a) above	x100%	300,000.00	5%	R	15,000.00
		(2) Additional testing of materials and workmanship required by the Engineer:					
23		(a) Cost of testing	PCSum	1.00	1,500,000.00	R	1,500,000.00
24		(b) Charge required by Contractor on sub-item (a) above	x100%	1,500,000.00	5%	R	75,000.00
		(3) Relocation of services:					
25		(a) Telkom and electrical cables	PCSum	1.00	750,000.00	R	750,000.00
26		(b) Charge required by Contractor on sub-item (a) above	x100%	750,000.00	5%	R	37,500.00
		(4) Additional surveys:					
27		(a) Cost of additional surveys	PCSum	1.00	1,000,000.00	R	1,000,000.00
28		(b) Charge required by Contractor on sub-item (a) above	x100%	1,000,000.00	5%	R	50,000.00
		(5) Landscaping:					
29		(a) Cost of landscaping	PCSum	1.00	12,500,000.00	R	12,500,000.00
30		(b) Charge required by Contractor on sub-item (a) above	x100%	12,500,000.00	5%	R	625,000.00
Carried forward /...							R 293,684,623.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	293,684,623.06
		(6) Medical cost allowances:					
31		(a) Cost of inoculations required by the Engineer	PCSum	1.00	120,000.00	R	120,000.00
32		(b) Charge required by Contractor on sub-item (a) above	x100%	120,000.00	10%	R	12,000.00
		(7) Provision of surveyed record drawing information					
33		(a) Cost of survey drawing	PCSum	1.00	500,000.00	R	500,000.00
34		(b) Charges required by Contractor on sub-item (a) above	x100%	500,000.00	5%	R	25,000.00
		(8) Provision of laboratory equipment					
35		(a) Cost of laboratory equipment	PCSum	1.00	2,600,000.00	R	2,600,000.00
36		(b) Charges required by Contractor on sub-item (a) above	x100%	2,600,000.00	5%	R	130,000.00
		(9) Provision of Inspection of corrosion protection of structural steel by independent inspector					
37		(a) Cost of inspection	PCSum	1.00	100,000.00	R	100,000.00
38		(b) Charges required by Contractor on sub-item (a) above	x100%	100,000.00	5%	R	5,000.00
		(10) Provision of signage					
39		(a) Cost of signage	PCSum	1.00	300,000.00	R	300,000.00
40		(b) Charges required by Contractor on sub-item (a) above	x100%	300,000.00	5%	R	15,000.00
	PSA 8.7	Daywork:					
		(a) Vehicles, plant and equipment: (Rates to include overheads, fuel, operators costs,					
		(1) Motor graders:					
41		(i) Up to 100 kW and 12 ton mass	h	432.00	1,224.28	R	528,888.96
		(2) Loaders:					
42		(i) Rubber tyred up to 60 kW and 8 ton mass	h	884.00	1,025.27	R	885,833.28
43		(ii) Trench excavator, more than 75 kW	h	576.00	1,035.21	R	596,280.96
Carried forward /...						R	299,502,626.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	299,502,626.26
		(3) Cranes:					
44		(i) Mobile Crane up to 20 tonnes lifting capacity	h	230.40	713.18	R	164,316.67
45		(i) Mobile Crane up to 20 - 50 tonnes lifting capacity	h	230.40	859.85	R	198,109.44
46		(ii) Mobile Crane up to 50 - 70 tonnes lifting capacity	h	86.40	1,287.94	R	111,278.02
		(4) Rollers:					
47		(i) Vibrating roller more than 80 kW and 6 ton mass	h	864.00	560.23	R	484,038.72
48		(4) Tipper truck, more than 5m ³ capacity (incl. ADT)	h	864.00	760.15	R	656,769.60
		(5) Water trucks:					
49		(i) Up to 10 kl capacity	h	432.00	386.73	R	167,067.36
50		(6) Concrete mixer, more than 400 kl capacity	h	576.00	175.76	R	101,237.76
51		(7) Water pump, less than 1000 l/minute capacity	h	960.00	91.65	R	87,984.00
52		(8) Water pump, more than 1000 l/minute capacity	h	1152.00	124.53	R	143,458.56
53		(9) Bulldozer with flywheel power greater than 220	h	216.00	947.99	R	204,765.84
		Labour: (Rates to include overheads, on cost charges and profit)					
		(a) Labour:					
54		(1) Labourer	h	5760.00	78.21	R	450,489.60
55		(2) Artisan	h	2880.00	119.29	R	343,555.20
56		(3) Gang boss	h	1440.00	222.63	R	320,587.20
57		(4) Surveyor	h	960.00	453.17	R	435,043.20
58		(5) Foreman	h	576.00	689.46	R	397,128.96
		Materials:					
59		(a) Materials	PCSum	1.00	500,000.00	R	500,000.00
60		(b) Percentage on nett cost of materials	%	500,000.00	5.00%	R	25,000.00
	PSA 8.8	Temporary works:					
61	PSA 8.8.1	Dealing with access	Sum	1.00	1,450,208.76	R	1,450,208.76
62	PSA 8.8.2	Dealing with traffic	Sum	1.00			
	8.8.3	Protection of existing structures until construction in vicinity is complete:					
Carried forward /...						R	305,743,665.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	305,743,665.15
63		(a) Existing Inlet Works	Sum	1.00			
64		(b) Existing Biological Reactors	Sum	1.00			
65		(c) Existing RAS / WAS and Final Effluent Pump Stations	Sum	1.00			
66		(d) Existing Secondary Settling Tanks	Sum	1.00			
67		(e) Existing Chlorine Contact Tank	Sum	1.00			
68		(f) Existing Sludge Dewatering Building and surrounding structures	Sum	1.00			
69		(g) Existing Filter and Chlorine Buildings	Sum	1.00			
70		(h) Existing Admin and Workshop Buildings	Sum	1.00			
71		(i) All other existing ancillary structures	Sum	1.00			
	PSA 8.8.4	Location and protection of existing services					
	PSA 8.8.4.1	Provision of detecting devices for:					
72		(a) Water and sewer pipes	Sum	1.00	32,430.00	R	32,430.00
73		(b) Electrical and other cables	Sum	1.00	32,430.00	R	32,430.00
	PSA 8.8.4.2	Hand excavation necessary for locating and exposing existing services in all materials:					
74		(a) In roadways	m ³	1000.00	5.32	R	5,320.00
75		(b) Electrical cable locations	m ³	800.00	5.32	R	4,256.00
76		(c) Water and sewer pipe locations	m ³	500.00	5.32	R	2,660.00
77		(d) Near existing structures	m ³	500.00	5.32	R	2,660.00
78		(e) in all other areas	m ³	200.00	5.32	R	1,064.00
	PSA 8.8.7	Dealing with water:					
79		(a) Dealing with subsurface water	Sum	1.00	3,513,148.04	R	3,513,148.04
80		(b) Dealing with surface water	Sum	1.00			
81	PSA 8.9	Insurance to be effected by the Contractor	Sum	1.00			
82	PSA 8.10	Accommodating other Contractors	Sum	1.00			
83	PSA 8.11	Adhering to Environmental Management Plan	Sum	1.00			
84	PSA 8.12	Complying with the Health and Safety	Sum	1.00			
85	PSA 8.17	Community Liaison Officer	Month	54.00	18,979.75	R	1,024,906.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	310,362,539.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Section		Description				Amount
SANS 1200 A		GENERAL				R 310,362,539.69
TOTAL OF BILL C1 CARRIED TO SUMMARY						R 310,362,539.69



Item No	Chief Reference	Short Description	Unit		Rate	Amount	
						R	c
		BILL C2 SITE CLEARANCE					
	SABS 1200C	SITE CLEARANCE:					
		as specified in SABS 1200 C and in the project specification					
	PSC 8.2.1	Clear and grub:					
1		(i) Grassed Areas (Platform & Vegetated Areas)	m²	45000.00			
2		(ii) Asphalt Surfaces	m²	7500.00			
3		(iii) Gravel Surfaces	m²	7500.00			
4		(vi) Stone Pitching	m²	1500.00			
5		(v) Pipeline routes (3.0m wide)	m²	5000.00			
6		(vi) Undeveloped Area within existing fence boundary	m²	180000.00	18.30	R	3,294,000.00
	PSC 8.2.2	Remove and grub large trees and tree stumps of girth:					
7		(i) Up to and including 1.0 m	No	20.00	522.54	R	10,450.80
8		(ii) Over 1.0 m and up to and including 2.0 m	No	15.00	746.48	R	11,197.20
9		(iii) Over 2.0 m and up to and including 3.0 m	No	5.00	1306.34	R	6,531.70
10		(iv) Over 3.0 m	No	5.00	2612.69	R	13,063.45
	PSC 8.2.5	Take down and dispose of existing fences					
11		(i) Take down and dispose of existing wire fences	m	3400.00	92.97	R	316,098.00
	PSC 8.2.7	Dismantle, remove and reinstate pipelines, electricity transmission lines, cables, etc.:					
		(i) Pipelines not encased in concrete:					
12		(a) Up to 100mm dia	m	800.00	50.95	R	40,760.00
13		(b) Over 100mm dia up to 300mm dia	m	1100.00	58.65	R	64,515.00
14		(c) Over 300mm dia up to 500mm dia	m	1400.00	71.68	R	100,352.00
15		(d) Over 500mm dia up to 700mm dia	m	1100.00	80.64	R	88,704.00
16		(e) Over 700mm dia up to 900mm dia	m	600.00	102.63	R	61,578.00
17		(f) Over 900mm dia up to 1100mm dia	m	600.00	112.76	R	67,656.00
Carried forward /						R	4,074,906.15

Item No	Chief Reference	Short Description	Unit		Rate	Amount R c
Brought forward /...						R 4,074,908.15
		(ii) Pipelines encased in concrete:				
18		(a) Up to 100mm dia	m	250.00	503.60	R 125,900.00
19		(b) Over 100mm dia up to 300mm dia	m	250.00	585.02	R 148,755.00
20		(c) Over 300mm dia up to 500mm dia	m	300.00	733.21	R 219,963.00
21		(d) Over 500mm dia up to 700mm dia	m	400.00	861.59	R 344,636.00
	PSC 8.2.8	Demolish and remove structures/buildings and dismantle and remove steelwork:				
22		(i) Stormwater & Foul Sewer manholes	No	40.00	1712.80	R 68,512.00
23		(ii) Stormwater catchpits and grid inlets	No	50.00	1712.80	R 85,640.00
24		(iii) Stormwater Inlet / Outlet structures	No	30.00	1712.80	R 51,384.00
25		(iv) Valves and Fire Hydrants	No	30.00	810.75	R 24,322.50
26		(v) Water taps	No	20.00	275.66	R 5,513.20
	PSC 8.2.10	Remove topsoil, maintain and stockpile/ spoil for depths:				
27		(i) Depth up to 150mm	m ³	19000.00	49.07	R 932,330.00
28		(ii) Depth exceeding 150mm	m ³	27000.00	49.07	R 1,324,890.00
	PSC 8.2.11	Remove and dispose kerbing:				
29		(i) Barrier kerb only	m	1550.00	1.81	R 2,805.50
30		(ii) Barrier kerb and channel	m	1550.00	1.81	R 2,805.50
31		(iii) Edging	m	350.00	1.81	R 633.50
32		(iv) Mountable Kerb	m	200.00	1.81	R 362.00
33		(v) Mountable kerb and channel	m	200.00	1.81	R 362.00
	PSC 8.2.12	Remove and reinstate existing:				
34		(a) Kerbs	m	100.00	351.33	R 35,133.00
35		(b) Edging	m	100.00	243.23	R 24,323.00
36		(c) Road Layers	m ²	50.00	297.28	R 14,864.00
Carried forward /...						R 7,488,040.35

Item No	Chief Reference	Short Description	Unit		Rate	Amount	
						R	c
Brought forward /...						R	7,488,040.35
	PSC 8.2.13	Demolish and remove existing concrete up to 250mm thick:					
		(a) Plain concrete:					
37		(i) Up to and including 10m²	m²	900.00	243.23	R	218,907.00
38		(ii) Over 10m²	m²	1800.00	243.23	R	437,814.00
		(b) Reinforced concrete:					
39		(i) Up to and including 10m²	m²	900.00	271.60	R	244,440.00
40		(ii) Over 10m²	m²	2500.00	243.23	R	608,075.00
41	PSC 8.2.14	Saw cutting of existing concrete up to 250mm thick:	m	450.00	264.30	R	118,935.00
	PSC 8.2.15	Saw cutting of existing asphalt:					
42		(i) Up to 50mm thick	m	200.00	57.63	R	11,526.00
43	PSC 8.2.16	Remove and dispose of asphalt surfacing	m²	5600.00	10.81	R	60,536.00
44	PSC 8.2.17	Take down and re-erect existing fences	m	400.00	739.40	R	295,760.00
45	PSC 8.2.18	Final finishing and cleaning up of site	Sum	1.00	90979.40	R	90,979.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	9,575,012.75

Item No	Chief Reference	Short Description	Unit		Rate	Amount	
						R	c
	PDP	PARTICULAR SPECIFICATION: SEWAGE as specified in project specification PDP					
	PDP 7.1.6(a)	Draining of supernatant from ponds to start of existing Inlet Works (maximum permissible pump rate into inlet works of 120 m3/hr)					
46		(i) Sludge Lagoon No.1	m ³	6256.60	4.62	R	28,905.49
47		(ii) Sludge Lagoon No.2	m ³	32088.94	4.62	R	148,250.90
48		(iii) Sludge Lagoon No.3	m ³	7234.40	4.62	R	33,422.93
	PDP 7.1.6(b)	Removal of liquid sludge from existing pond which shall be pumped to Inlet Works (maximum permissible pump rate into inlet works of 80 m3/hr for a maximum of 12 hours per day)					
49		(i) Sludge Lagoon No.1	m ³	7820.75	22.83	R	178,547.72
50		(ii) Sludge Lagoon No.2	m ³	42785.25	22.83	R	976,787.26
51		(iii) Sludge Lagoon No.3	m ³	9043.00	22.83	R	206,451.69
	PDP 7.1.6(c)	Removal of liquid sludge from existing pond which shall be pumped into geotextile dewatering bags (provided by the Contractor) to a spoil site area within the construction footprint. Return of supernatant to start of Inlet Works.					
52		(i) Sludge Lagoon No.1	m ³	11731.13	98.14	R	1,151,293.10
53		(ii) Sludge Lagoon No.2	m ³	96266.81	98.14	R	9,447,624.73
54		(iii) Sludge Lagoon No.3	m ³	13564.50	98.14	R	1,331,220.03
	PDP 7.1.6(d)	Removal of settled sludge from bottom of pond and stockpile on site as instructed by Engineer					
55		(i) Sludge Lagoon No.1	m ³	1564.15	72.92	R	114,057.82
56		(ii) Sludge Lagoon No.2	m ³	16044.47	72.92	R	1,169,962.75
57		(iii) Sludge Lagoon No.3	m ³	1808.60	72.92	R	131,883.11
	PDP 7.1.6(e)	Removal of organically contaminated sand from pond bottom and spoiling to stockpile on site					
58		(i) Sludge Lagoon No.1	m ³	391.04	45.96	R	17,972.20
59		(ii) Sludge Lagoon No.2	m ³	2674.08	45.96	R	122,900.72
60		(iii) Sludge Lagoon No.3	m ³	452.15	45.96	R	20,780.81
Carried forward /...						R	15,080,061.27

Item No	Chief Reference	Short Description	Unit		Rate	Amount R c
Brought forward /...						R 15,080,061.27
61	PDP 7.1.6(f)	Removal of organically contaminated earth and disposal at landfill site (i) Load, transport and dispose of contaminated earth stockpiled on site	m³	3517.27	99.63	R 350,425.61
62	PDP 7.1.6(g)	Remove sludge from site and dispose of at a landfill site (i) Load, transport and dispose of sludge stockpiled on site	m³	78501.48	79.53	R 6,243,222.70
63	PDP 7.1.6(h)	Remove sludge from site and dispose of at a hazardous Landfill site (i) Load, transport and dispose of sludge stockpiled on site	m³	13853.20	169.18	R 2,343,684.38
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 24,017,393.96

Item No	Chief Reference	Short Description	Unit	Rate	Amount
Section		Description	Amount		
SANS 1200 C		SITE CLEARANCE	R		9,575,012.75
PDP		PARTICULAR SPECIFICATION PDP: SEWAGE PONDS	R		24,017,393.96
TOTAL OF BILL C2 CARRIED TO SUMMARY					R 33,592,406.71

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C3 BULK EARTHWORKS					
	SANS 1200 D	EARTHWORKS					
		as specified in SABS 1200 D and in the project specification					
	8.3.2	Bulk excavation					
		Stage 1: (Refer to drawings 1001780-0000-DRG-CC-0100)					
	PSD 8.3.2 (a)	(a) Excavate in all materials and use for berm, embankment or backfill, as ordered, from:					
1		(i) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	104700.00	62.34	R	6,526,998.00
2	PSD 8.3.2 (b)	Excavate in all materials and dispose of:	m³	12350.00	42.51	R	524,998.50
	PSD 8.3.2 (c)	Excavate in all materials and dispose of, and backfill with material from commercial sources					
3		Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa	m³	49400.00	62.34	R	3,079,596.00
	PSD 8.3.2 (d)	Extra over item PSD 8.3.2 above for:					
4		(1) Hard rock excavation	m³	11200.00			
		Stage 2: (Refer to drawings 1001780-0000-DRG-CC-0105)					
	PSD 8.3.2 (a)	(a) Excavate in all materials and use for berm, embankment or backfill, as ordered, from:					
5		(i) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	84800.00	62.34	R	5,286,432.00
6	PSD 8.3.2 (b)	Excavate in all materials and dispose of	m³	50.00	52.31	R	2,615.50
	PSD 8.3.2 (c)	Excavate in all materials and dispose of, and backfill with material from commercial sources					
7		Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa	m³	100.00	62.34	R	6,234.00
Carried forward /...						R	15,426,874.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 15,426,874.00
8	PSD 8.3.2 (d)	Extra over item PSD 8.3.2 above for: (1) Hard rock excavation	m³	50.00		
		Stage 3: (Refer to drawings 1001780-0000-DRG-CC-0113)				
9	PSD 8.3.2 (a)	(a) Excavate in all materials and use for berm, embankment or backfill, as ordered, from: (i) Necessary excavations (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	223250.00	62.34	R 13,917,405.00
10	PSD 8.3.2 (b)	Excavate in all materials and dispose of	m³	6400.00	52.31	R 334,784.00
11	PSD 8.3.2 (c)	Excavate in all materials and dispose of, and backfill with material from commercial sources Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa	m³	2500.00	62.34	R 155,850.00
12	PSD 8.3.2 (d)	Extra over item PSD 8.3.2 above for: (1) Hard rock excavation	m³	2140.00		
13	PSD 8.3.3	Restricted excavation: (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Employer's Agent: (b) Extra over item 8.3.3 above for:	m³	3500.00	0.98	R 3,430.00
14		(2) Hard rock excavation	m³	180.00		
15		(3) Hand excavation and backfill by hand where ordered by the Employer's Agent	m³	200.00	5.32	R 1,064.00
16		(4) Backfill stabilised with 5% cement where directed by the Employer's Agent	m³	2750.00	304.93	R 838,557.50
17	PSD 8.3.4	Importing of materials From Commercial Sources - G7 quality fill material to be compacted to 98% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m³	11200.00	143.04	R 1,602,048.00
18		From Commercial Sources - G8 quality fill material to be compacted to 95% MOD AASHTO DENSITY (100% FOR SAND) in layers not exceeding 150mm	m³	31700.00	62.34	R 1,976,178.00
19		From Commercial Sources - Clean sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa in layers not exceeding 150mm	m³	31700.00	62.34	R 1,976,178.00
Carried forward /...						R 36,232,368.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 36,232,368.50
20	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	7000.00		
	PSD 8.3.7 Additional Lateral Support					
21		(a) Ensuring the stability of a particular structure or any service or other part of the Works	Prov Sum	1.00	10,000,000.00	R 10,000,000.00
22		(a) Charges required by Contractor on sub-item (a)	x100%	10000000.00	5%	R 500,000.00
23		(c) Lateral Support ordered by the Engineer	Prov Sum	1.00	5,000,000.00	R 5,000,000.00
24		(d) Charges required by Contractor on sub-item (a)	x100%	5000000.00	5%	R 250,000.00
	PSD 8.3.8 Existing services:					
	PSD 8.3.8.1 Hand excavation for locating and exposing existing services:					
25		(a) In roadways	m ³	175.00	5.32	R 931.00
26		(b) In all other areas	m ³	350.00	5.32	R 1,862.00
	PSD 8.3.10 Topsoiling:					
27		(i) Topsoiling 100 mm thick with material from stockpile in areas on site as directed	m ²	45000.00	16.02	R 720,900.00
	PSD 8.3.11 Grassing or other vegetation cover:					
28	PSD 8.3.11.1	(i) Planting of grass cuttings	m ²	1000.00	23.24	R 23,240.00
29	PSD 8.3.11.2	(ii) Planting of grass sods	m ²	35000.00	56.21	R 1,967,350.00
30	PSD 8.3.11.3	(iii) Hydroseeding	m ²	10000.00	3.89	R 38,900.00
31	PSD 8.3.11.4	(iv) Straw Stabilization	m ²	15000.00	11.35	R 170,250.00
32	PSD 8.3.14	Extra over item 8.3.2 (a) for temporary stockpiling at Macassar Wastewater Treatment works	m ³	85430.00	36.23	R 3,095,128.90
33	PSD 8.3.14	Extra over item 8.3.2 (a) for temporary stockpiling at Zandvliet Wastewater Treatment Works	m ³	21360.00	52.31	R 1,117,341.60
34	PSD 8.3.15	Extra over item PSD 8.3.2 and PSD 8.3.3 (a) for disposing of spoil material on a site provided by the Contractor	m ³	74300.00		
	PSD 8.3.16 Importing of materials for fill under floors and foundations					
35		(b) G5 compacted to 97% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	2500.00	518.10	R 1,295,250.00
36		(c) G6 compacted to 95% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1500.00	508.46	R 762,690.00
37		(g) G7 compacted to 95% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1000.00	271.80	R 271,800.00
Carried forward /...						R 61,448,012.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 61,448,012.00
38		(h) G9 compacted to 93% Modified AASHTO (unless otherwise stated) in 150 mm thick layers	m ³	1000.00	62.34	R 62,340.00
39		(e) Backfill stabilised with 5% cement where directed by the Employer's Agent	m ³	5500.00	289.93	R 1,594,615.00
40		(f) Soilcrete backfill where directed by the Employer's Agent	m ³	1000.00	1381.78	R 1,381,780.00
	PSD 8.3.17	Excavate and dispose of unsuitable material from sides of bottom of restricted foundations as well as open drains and cut-off drains footings, trenches and where ordered and replace with:				
41		(a) Selected material complying with subclause 3.2.2 of SABS 1200 ME compacted to 90% of modified AASHTO maximum density	m ³	100.00	62.34	R 6,234.00
42		(b) Selected material complying with subclause 3.2.2 of SABS 1200 ME compacted to 93% of modified AASHTO maximum density	m ³	100.00	62.34	R 6,234.00
43		c) 15MPa/20 concrete	m ³	20.00	1751.59	R 35,031.80
44	PSD 8.3.18	Trim and compact internal wall and floor surface areas to 90% of modified AASHTO maximum density	m ²	100.00	209.00	R 20,900.00
	PSD 8.3.20	Compaction of In-situ material to 98% modified AASHTO maximum density:				
45		Underneath structure foundation to a depth of 1000 mm	m ²	78300.00	26.10	R 2,043,630.00
	SABS 1200DM	EARTHWORKS (ROAD SUBGRADE)				
		as specified in SABS 1200 DM and in the project specification				
	PSDM 8.3.3	Preparation of site:				
		Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
46		(i) Minimum 90% of modified AASHTO density (100% for sand) for roads, 150mm thick	m ³	100.00	26.10	R 2,610.00
47		(ii) Minimum 98% of modified AASHTO density (100% for sand) for roads, 150mm thick	m ³	25770.00	26.10	R 672,597.00
48		(iii) Minimum 93% of modified AASHTO density (100% for sand) for roads, 150mm thick	m ³	100.00	26.10	R 2,610.00
Carried forward /...						R 67,276,593.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 67,276,593.80
49	PSDM 8.3.3	(b) In-place treatment of roadbed in hard rock material by: (i) Ripping	m ³	1900.00	0.23	R 437.00
50	PSDM 8.3.3	(c) Three-pass roller compaction; (i) Grid Roller	m ³	500.00	54.98	R 27,490.00
51		(ii) Vibratory Roller	m ³	500.00	66.98	R 33,490.00
MISCELLANEOUS						
Supply and Install Enviromat (Or Equivalent)						
52		Supply and Install Enviromat (or equivalent) biodegradable erosion control blanket on cut embankments complete as specified by the Employer's Agent	m ²	17500.00	76.17	R 1,332,975.00
Concrete pitching and block paving:						
53		Prefabricated concrete grass blocks (600mm x 400mm x 100mm thick) 28kg	m ²	3000.00	627.07	R 1,881,210.00
SANS 1200 A Sums stated provisionally by the Engineer:						
54		(a) Reinforced Concrete Retaining Walls	Prov Sum	1.00	7,500,000.00	R 7,500,000.00
55		(b) Charges required by Contractor on sub-item (a) above	x100%	7500000.00	10%	R 750,000.00
56	PSD 8.3.20	Compaction of In-situ material to 98% modified AASHTO maximum density: Underneath structure foundation to a depth of 1000	m ²	78300.00		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 78,802,195.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R Amount c
SANS 1200 D		EARTHWORKS				R 78,802,195.80
TOTAL OF BILL C3 CARRIED TO SUMMARY						R 78,802,195.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C4 FLOW DIVERSION AND DEMOLITION					
	SANS 1200 A	GENERAL					
		as specified in SANS 1200A and in the project specifications					
	PSA 8.13	Accommodation of existing flows and live interconnections for temporary or permanent connections or construction of new structures and pipelines					
1		1(a) Diversion of existing SST treated effluent pipes to existing Maturation Ponds. (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	3000000.00	R	3,000,000.00
2		(b) Charge required by Contractor on sub-item (a) above	x100%	3,000,000.00	10%	R	300,000.00
3		2(a) Diversion of existing Outfall pipeline to the Eerste River. (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	1000000.00	R	1,000,000.00
4		(b) Charge required by Contractor on sub-item (a) above	x100%	1,000,000.00	10%	R	100,000.00
5		3(a) Diversion of existing treated effluent rising main from existing treated effluent pump station to Macassar industrial area (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	400000.00	R	400,000.00
6		(b) Charge required by Contractor on sub-item (a) above	x100%	400,000.00	10%	R	40,000.00
7		4(a) Diversion of existing on-site sewerage from temporary municipal offices to existing Inlet Works or nearest bulk sewer manhole (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	250000.00	R	250,000.00
8		(b) Charge required by Contractor on sub-item (a) above	x100%	250,000.00	10%	R	25,000.00
9		5(a) Diversion of existing rising mains from Helderberg Pump Station and Macassar Pump Station prior to construction of new process units (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	4000000.00	R	4,000,000.00
10		(b) Charge required by Contractor on sub-item (a) above	x100%	4,000,000.00	10%	R	400,000.00
		6(a) Diversion of existing potable water network (largest pipe = 200mm dia.) to outside of construction footprint in areas as required (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	300000.00	R	300,000.00
11		(b) Charge required by Contractor on sub-item (a) above	x100%	300,000.00	10%	R	30,000.00
Carried forward /...						R	9,845,000.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	9,845,000.00
12		7(a) Diversion of incoming raw sewage pipes to new Inlet Works (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	5000000.00	R	5,000,000.00
13		(b) Charge required by Contractor on sub-item (a) above	x100%	5,000,000.00	10%	R	500,000.00
14		8(a) Diversion of unforeseen existing pipelines as required (refer to clause C3.4.13.2, Part C3.4: Construction)	Prov Sum	1.00	4000000.00	R	4,000,000.00
15		(b) Charge required by Contractor on sub-item (a) above	x100%	4,000,000.00	10%	R	400,000.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	19,745,000.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 C	SITE CLEARANCE as specified in SANS 1200 C and in the project specifications				
	PSC 8.2.8	Demolish and remove structures/buildings and dismantle steelwork (refer to Part C3.4: Construction, clause C3.4.13.1) and Dwg. No. 1001780-0000-DRG-CC-009:				
16		a) Existing sludge ponds and associated ancillary infrastructure (remaining)	Sum	1.00	98154.80	R 98,154.80
17		b) Existing chlorine contact tank	Sum	1.00	539851.40	R 539,851.40
18		c) Ancillary stormwater and overflow structures	Sum	1.00	22575.60	R 22,575.60
19		d) Road infrastructure (remaining as required)	Sum	1.00	147232.20	R 147,232.20
20		e) Existing six (6) SST's and associated infrastructure (splitters and collection chambers)	Sum	1.00	3435418.00	R 3,435,418.00
21		f) Existing guard house	Sum	1.00	17667.86	R 17,667.86
22		g) Existing workshop, store and laboratory building	Sum	1.00	98154.80	R 98,154.80
23		h) Existing administration building	Sum	1.00	98154.80	R 98,154.80
24		i) Existing chlorine building	Sum	1.00	129564.34	R 129,564.34
25		j) Existing irrigation and wash water pumpstation building	Sum	1.00	103062.54	R 103,062.54
26		k) Existing Carousel Aeration Tank and associated infrastructure, including MCC and screw lift pump station 1	Sum	1.00	3533572.80	R 3,533,572.80
27		l) Existing screw lift pump station 2 and MCC	Sum	1.00	343541.80	R 343,541.80
28		m) Existing generator building and Fuel Room	Sum	1.00	36317.28	R 36,317.28
29		n) Existing inlet works and associated infrastructure	Sum	1.00	736161.00	R 736,161.00
30		o) Existing inlet works MCC building	Sum	1.00	75579.20	R 75,579.20
31		p) Existing dewatering building and sludge silos	Sum	1.00	343541.80	R 343,541.80
32		q) Existing river outlet	Sum	1.00	245387.00	R 245,387.00
33		r) Existing filter pump sump and poly room storage	Sum	1.00	174715.54	R 174,715.54
34		s) Existing filter building	Sum	1.00	150176.84	R 150,176.84
35		t) Final effluent Pump Station	Sum	1.00	97173.25	R 97,173.25
36		u) Existing MV Substation	Sum	1.00	24538.70	R 24,538.70
37		v) Miscellaneous small buildings or structure with largest footprint being 100m²	No	6.00	40243.47	R 241,460.82
Carried forward /...						R 10,692,002.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,692,002.37
	PSC 8.2.8 (a).	Extra over item PSC 8.2.8 for removing hazardous materials off-site				
38		(a) Asbestos cement	m ³	580.00	908.04	R 526,663.20
39		(b) Other hazardous material	m ³	250.00	908.04	R 227,010.00
		Asbestos cement pipes (up to Class 25):				
40		(i) Up to 350mm dia.	m	1327.00	286.47	R 380,145.69
41		(ii) Over 350mm dia. and up to 700mm dia.	m	747.00	702.65	R 524,879.55
42		(iii) Over 700mm dia.	m	1155.00	729.68	R 842,780.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 13,193,481.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description					
SANS 1200 A		GENERAL				R	19,745,000.00
SANS 1200 C		SITE CLEARANCE				R	13,193,481.21
TOTAL OF BILL C4 CARRIED TO SUMMARY						R	32,938,481.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C5 INLET WORKS				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:				
1		Inlet Works (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	5120.00	62.34	R 319,180.80
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m³	512.00		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	512.00	5.32	R 2,723.84
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	512.00	158.17	R 80,983.04
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	256.00	36.23	R 9,274.88
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	1230.00	62.34	R 76,678.20
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m³	256.00	373.18	R 95,534.08
	PSD 8.3.19	Deep Compaction				
8		(a) Deep compaction to be undertaken at the Inlet Works to a required depth of 2.5m	m²	3822.00	57.29	R 218,962.38
9		(b) Deep Compaction Testing to confirm E-Modulus at Inlet Works	Sum	1.00	21620.00	R 21,620.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 824,957.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		(a) First Lift Screw Pump Station (incl. Inlet Sump)				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
10		Sides of inlet sump foundation slab	m ²	33.22	419.55	R 13,937.45
11		Sides of pad footings and raft slab	m ²	65.07	419.55	R 27,300.12
12		Sides of columns and support walls	m ²	261.45	419.55	R 109,691.35
	8.2.2	Smooth				
		Vertical formwork to:				
13		Sides of inlet sump walls	m ²	250.90	419.55	R 105,265.10
14		Sides of screw pump chamber walls	m ²	1013.76	419.55	R 425,323.01
15		Sides of inlet sump internal walls	m ²	35.10	457.46	R 16,056.85
16		Sides of columns and support walls	m ²	363.33	457.46	R 166,208.94
17		Sides of beams	m ²	107.67	488.79	R 52,628.02
18		Sides of staircases and landing	m ²	10.00	419.55	R 4,195.50
19		Sides of screw pump motor plinths	m ²	43.95	419.55	R 18,439.22
		Horizontal formwork to:				
20		Soffits of inlet sump roof and cover slab	m ²	102.27	737.97	R 75,472.19
21		Soffits of discharge area floor slab	m ²	146.41	737.97	R 108,046.19
22		Soffits of pump station floor slab	m ²	64.15	737.97	R 47,340.78
23		Soffits of beams	m ²	28.21	737.97	R 20,818.13
24		Soffits of staircase landings	m ²	9.00	737.97	R 6,641.73
Carried forward /...						R 1,197,364.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,197,364.57
		Sloping formwork to:					
25		Inclined soffit of screw pump floor slab (30 degrees to horizontal)	m²	127.58	853.53	R	108,893.36
26		Inclined soffit of screw pump station floor slab (60 degrees to horizontal)	m²	65.34	853.53	R	55,769.65
27		Inclined sides of chute point (60 degrees to horizontal)	m²	13.21	853.53	R	11,275.13
28		Inclined soffit of staircases (approx. 35 degrees to horizontal)	m²	16.40	853.53	R	13,997.89
29		Inclined cover of motor plinth (approx. 38 degrees to horizontal)	m²	17.64	853.53	R	15,056.27
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 200 mm					
30		Sides of opening in Screw Pump Station inlet floor	m	41.88	91.49	R	3,831.60
31		Sides of opening in Screw Pump Station floor	m	65.50	91.49	R	5,992.60
		(b) Up to 250 mm					
32		Sides of cover slab	m	11.30	114.37	R	1,292.38
		(c) Up to 300 mm					
33		Sides of 900 x 300 mm staircase footing	m	3.80	137.24	R	521.51
34		Sides of screw pump chamber walls	m	7.50	137.24	R	1,029.30
		Grooves, chases and plays in the following					
35		100x250 mm recess in concrete walls and floors for sluice gates	m	40.80	358.69	R	14,634.55
36		50x50 mm recess in cover slab for grating	m	6.00	68.98	R	413.88
	PSG 8.2.6	Box out holes/Form voids					
		g) Larger, other than circular, of area over 1.5m² up to and including 2.5 m²					
37		0 m to 0.5 m deep	No	5.00	795.05	R	3,975.25
Carried forward /...						R	1,434,047.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,434,047.94
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
38		8 mm dia	t	3.39	18085.37	R	61,309.40
39		10 mm dia	t	5.08	18085.37	R	91,873.68
		(b) High tensile steel bars					
40		10 mm dia	t	8.47	18085.37	R	153,183.08
41		12 mm dia	t	25.42	18085.37	R	459,730.11
42		16 mm dia	t	33.90	18085.37	R	613,094.04
43		20 mm dia	t	50.85	18085.37	R	919,641.06
44		25 mm dia	t	25.42	18085.37	R	459,730.11
45		32 mm dia	t	16.95	18085.37	R	306,547.02
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
46		75 mm minimum thickness	m ²	343.87	165.98	R	57,075.54
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
47		Benching inside inlet sump	m ³	21.95	1944.68	R	42,685.73
48		Benching of screw troughs	m ³	98.48	1944.68	R	191,512.09
49		Screw pump motor plinths	m ³	14.43	1944.68	R	28,061.73
50		Benching inside discharge area	m ³	16.84	1944.68	R	32,748.41
		30 MPa/19 mm					
51		Staircase	m ³	5.94	1944.68	R	11,551.40
52		Staircase landings	m ³	10.87	1944.68	R	21,138.67
		35 MPa/19 mm (watertight concrete)					
53		Floor slabs	m ³	99.52	2200.77	R	219,020.63
54		Walls	m ³	90.67	2200.77	R	199,543.82
55		Beams	m ³	5.04	2200.77	R	11,091.88
56		Pump station floor slab	m ³	11.30	2200.77	R	24,868.70
57		Columns and support walls	m ³	36.92	2200.77	R	81,252.43
58		Footings	m ³	26.05	2200.77	R	57,330.06
Carried forward /...						R	5,477,037.53

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	5,477,037.53
		35 Mpa/26 mm (watertight concrete)					
59		Floor slabs	m ³	232.20	2195.20	R	509,725.44
60		Walls	m ³	211.55	2195.20	R	464,394.56
61		Beams	m ³	11.77	2195.20	R	25,837.50
62		Pump station floor slab	m ³	26.39	2195.20	R	57,931.33
63		Columns and support walls	m ³	86.16	2195.20	R	189,138.43
64		Footings	m ³	60.79	2195.20	R	133,446.21
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
65		Top of footings	m ²	342.09	37.33	R	12,770.22
66		Top of channel slabs	m ²	363.29	37.33	R	13,561.62
		(b) Steel-floated finish:					
67		Top of walls	m ²	51.64	44.21	R	2,283.00
68		Top of staircases and landing	m ²	47.40	44.21	R	2,095.55
69		Top of motor plinths	m ²	9.85	44.21	R	435.47
70		Top of floors	m ²	115.28	44.21	R	5,096.53
71		Top of beams	m ²	16.41	44.21	R	725.49
	PSG 8.5	Joints					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		(1) Joint type H with 10 mm joint filler, polyurethane sealant (horizontal) and Teflon Bearing Pad or equivalent:					
72		Through 400 mm thick slab	m	12.10	653.37	R	7,905.78
		(2) Joint Type F:					
73		Through walls	m	196.59	305.16	R	59,991.40
	PSG 8.13	Casting items in concrete					
		(a) Over 300 mm up to 600 mm nominal bore:					
74		Through 600 mm thick wall	No	2.00	1851.01	R	3,702.02
		(b) Over 900 mm up to 1200 mm nominal bore:					
75		Through 600 mm thick wall	No	2.00	4686.13	R	9,372.26
Carried forward /...						R	6,975,450.34

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	6,975,450.34
76		(c) Over 1200 mm up to 1800 mm nominal bore: Through 600 mm thick wall	No	2.00	6738.40	R	13,476.80
		(b) Screen Channels					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
77		Sides of pad footings	m²	76.00	419.55	R	31,885.80
78		Sides of columns and support walls	m²	199.03	419.55	R	83,503.04
	8.2.2	Smooth					
		Vertical formwork to:					
79		Sides of exterior walls	m²	361.22	419.55	R	151,549.85
80		Sides of screen channel walls	m²	134.00	419.55	R	56,219.70
81		Sides of columns and support walls	m²	246.79	419.55	R	103,540.74
82		Sides of downstand beams	m²	92.52	419.55	R	38,816.77
83		Sides of staircases and landing	m²	10.00	419.55	R	4,195.50
84		Sides of flow plinths	m²	25.20	419.55	R	10,572.66
85		Sides of floor step	m²	10.00	419.55	R	4,195.50
		Horizontal formwork to:					
86		Soffits of channel floor slab and cover slab	m²	709.83	737.97	R	523,833.25
87		Soffits of beams	m²	38.56	737.97	R	28,456.12
88		Soffits of staircase landings	m²	11.00	737.97	R	8,117.67
		Sloping formwork to:					
89		Inclined soffit of staircases (approx. 45 degrees to horizontal)	m²	15.00	853.53	R	12,802.95
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 250 mm					
90		Sides of cover slab	m	21.50	114.37	R	2,458.96
Carried forward /...						R	8,049,075.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	8,049,075.64
		(b) Up to 300 mm					
91		Sides of screen channel walls	m	20.00	137.24	R	2,744.80
92		Step in exterior walls	m	2.40	137.24	R	329.38
		Groove chases and splays in the following					
93		100x250 mm recess in concrete walls and floors for sluice gates	m	70.50	358.69	R	25,287.65
94		50x50 mm recess in cover slab for grating	m	30.50	68.98	R	2,103.89
	PSG 8.2.6	Box out holes/Form voids					
		g) Larger, other than circular, of area over 1.5m² up to and including 2.5 m²					
95		0 m to 0.5 m deep	No	10.00	795.05	R	7,950.50
	PSG 8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
96		8 mm dia	l	1.79	18085.37	R	32,372.81
97		10 mm dia	t	2.69	18085.37	R	48,649.65
		(b) High tensile steel bars					
98		10 mm dia	t	4.48	18085.37	R	81,022.46
99		12 mm dia	t	13.45	18085.37	R	243,248.23
100		16 mm dia	t	17.94	18085.37	R	324,451.54
101		20 mm dia	t	26.90	18085.37	R	486,496.45
102		25 mm dia	t	13.45	18085.37	R	243,248.23
103		32 mm dia	t	8.97	18085.37	R	162,225.77
	PSG 8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
104		75 mm minimum thickness	m ²	130.00	165.98	R	21,577.40
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
105		Benching in screen channel	m ³	3.02	1944.68	R	5,872.93
		30 Mpa/19 mm					
106		Staircase	m ³	5.94	1944.68	R	11,551.40
Carried forward /...						R	9,748,208.72

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	9,748,208.72
107		Staircase landings 35 Mpa/19 mm (watertight concrete)	m³	11.00	1944.68	R	21,391.48
108		Channel floors and cover slab	m³	75.00	2200.77	R	165,057.75
109		Walls	m³	25.15	2200.77	R	55,349.37
110		Downstand Beams	m³	6.86	2200.77	R	15,097.28
111		Columns	m³	33.11	2200.77	R	72,867.49
112		Footings 35 Mpa/26 mm (watertight concrete)	m³	25.58	2200.77	R	56,295.70
113		Channel floors and cover slab	m³	175.01	2195.20	R	384,181.95
114		Walls	m³	58.68	2195.20	R	128,814.34
115		Downstand Beams	m³	16.01	2195.20	R	35,145.15
116		Columns	m³	77.26	2195.20	R	169,601.15
117		Footings	m³	59.68	2195.20	R	131,009.54
	PSG 8.4.4	Unformed surface finishes: (a) Wood-floated finish:					
118		Top of footings	m²	130.00	37.33	R	4,852.90
119		Top of slabs (b) Steel-floated finish:	m²	321.49	37.33	R	12,001.22
120		Top of walls	m²	28.30	44.21	R	1,251.14
121		Top of staircases and landing	m²	47.40	44.21	R	2,095.55
122		Top of cover slab	m²	100.00	44.21	R	4,421.00
123		Top of flow plinths	m²	3.46	44.21	R	152.97
Carried forward /...						R	11,007,794.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	11,007,794.70
	PSG 8.5	Joints					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the					
		(1) Joint type H with 10 mm joint filler, polyurethane sealant (horizontal) and Teflon Bearing Pad or equivalent:					
124		Through 400 mm thick slab	m	10.00	653.37	R	6,533.70
		(2) Joint Type F:					
125		Through 300 mm thick walls	m	96.80	305.16	R	29,539.49
	8.8	HD Bolts & Miscellaneous metal work:					
		Supply and install as specified as specified on drawing the following:					
126		(a) Grade 304 stainless steel channel drainage	Prov Sum	1.00	250000.00	R	250,000.00
127		(b) Charge required by Contractor on sub-item (a)	x100%	250000.00	10%	R	25,000.00
	PSG 8.13	Casting items in concrete					
		(c) Over 1200 mm up to 1800 mm nominal bore:					
128		Through 300 mm thick wall	No	1.00	5000.70	R	5,000.70
Carried forward /...						R	11,323,868.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	11,323,868.59
		(c) Vortex Degritters					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
129		Sides of pad footings	m ²	146.42	457.46	R	66,981.29
130		Sides of columns and walls	m ²	206.15	457.46	R	94,305.38
	8.2.2	Smooth					
		Vertical formwork to:					
131		Degritter columns curved to 750 mm radius	m ²	136.64	744.79	R	101,768.11
132		Degritter columns curved to 1050 mm radius	m ²	255.17	744.79	R	190,048.06
133		Degritter walls curved to 2750 mm radius	m ²	230.04	578.05	R	132,974.62
134		Degritter walls curved to 3050 mm radius	m ²	330.62	578.05	R	191,114.89
135		Sides of inlet and outlet channel walls (straight)	m ²	769.44	526.70	R	405,264.05
136		Sides of floor step	m ²	54.43	526.70	R	28,668.28
137		Sides of beams	m ²	41.92	595.93	R	24,981.39
138		Sides of columns and support walls	m ²	240.92	457.46	R	110,211.26
		Horizontal formwork to:					
139		Soffits of channel floor slab and baffle	m ²	309.99	737.97	R	228,763.32
140		Soffits of degritter floor slabs	m ²	165.19	737.97	R	121,905.26
141		Soffits of cover slab	m ²	344.22	737.97	R	254,024.03
142		Soffits of beams	m ²	9.86	737.97	R	7,276.38
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 250 mm					
143		Curved to 2750 mm radius (smooth)	m	53.64	114.37	R	6,134.81
		(b) Up to 300 mm					
144		Sides of degritter channels	m	8.00	137.24	R	1,097.92
145		Curved to 2750 mm radius (smooth)	m	30.60	137.24	R	4,199.54
Carried forward /...						R	13,293,587.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c	
Brought forward /...						R	13,293,587.19	
146	PSG 8.2.6	Groove chases and splays in the following 100x250 mm recess in concrete walls and floors for sluice gates	m	30.29	358.69	R	10,864.72	
147		50x50 mm recess in cover slab for grating	m	74.25	68.98	R	5,121.77	
Box out holes/Form voids								
148		a) Small, circular, of diameter up to and including 0.35m 0 m to 0.5 m deep	No	12.00	795.05	R	9,540.60	
		e) Larger, circular, of diameter over 0.7m up to and including 1.5m 0 m to 0.5 m deep	No	6.00	795.05	R	4,770.30	
149	PSG 8.3	Reinforcement:						
	8.3.1	(a) Mild steel bars:						
150		8 mm dia	t	2.24	18085.37	R	40,511.23	
151		10 mm dia	t	3.36	18085.37	R	60,766.84	
(b) High tensile steel bars								
152		10 mm dia	t	5.61	18085.37	R	101,458.93	
153		12 mm dia	t	16.82	18085.37	R	304,195.92	
154		16 mm dia	t	22.42	18085.37	R	405,474.00	
155		20 mm dia	t	33.63	18085.37	R	608,210.99	
156		25 mm dia	t	16.82	18085.37	R	304,195.92	
157		32 mm dia	t	11.21	18085.37	R	202,737.00	
		PSG 8.4	Concrete					
		8.4.2	Blinding layer in 15 MPa/19 mm concrete					
158	PSG 8.4.3	75 mm minimum thickness	m²	321.32	165.98	R	53,332.69	
Strength concrete								
25 MPa/19 mm								
159		Benching including any necessary formwork or unformed surfaces to slopes, channels, etc.	m³	1.87	1944.68	R	3,636.55	
Carried forward /...						R	15,408,404.65	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward / ...						R 15,408,404.65
		35 Mpa/19 mm (watertight concrete)				
160		Channel floors and cover slab	m³	89.45	2200.77	R 196,858.88
161		Walls	m³	47.65	2200.77	R 104,866.69
162		Downstand Beams	m³	2.55	2200.77	R 5,611.96
163		Columns	m³	29.36	2200.77	R 64,614.61
164		Footings	m³	53.02	2200.77	R 116,684.83
		35 Mpa/26 mm (watertight concrete)				
165		Channel floors and cover slab	m³	208.71	2195.20	R 458,160.19
166		Walls	m³	111.19	2195.20	R 244,084.29
167		Downstand Beams	m³	5.94	2195.20	R 13,039.49
168		Columns	m³	68.50	2195.20	R 150,371.20
169		Footings	m³	123.71	2195.20	R 271,568.19
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
170		Top of footings	m²	321.32	37.33	R 11,994.88
171		Top of slabs	m²	319.42	37.33	R 11,923.95
172		Inside of degritter cones	m²	175.36	37.33	R 6,546.19
		(b) Steel-floated finish:				
173		Top of walls	m²	47.84	44.21	R 2,115.01
174		Top of cover slab	m²	344.22	44.21	R 15,217.97
	PSG 8.5	Joints				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint type H with 10 mm joint filler, polyurethane sealant (horizontal) and Teflon Bearing Pad or equivalent:				
175		Through 400 mm thick slab	m	12.20	653.37	R 7,971.11
		(2) Joint Type F:				
176		Through 300 mm thick walls	m	346.89	305.16	R 105,856.95
Carried forward / ...						R 17,195,891.03



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 17,195,891.03
		(d) Second Lift Screw Pump Station				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
177		Sides of pad footings	m ²	71.32	419.55	R 29,922.31
178		Sides of columns and support walls	m ²	305.00	385.43	R 117,556.15
	8.2.2	Smooth				
		Vertical formwork to:				
179		Sides of inlet walls	m ²	136.57	457.46	R 62,475.31
180		Sides of screw pump chamber walls	m ²	984.43	457.46	R 450,337.35
181		Sides of columns and support walls	m ²	848.96	457.46	R 388,365.24
182		Sides of beams	m ²	107.41	457.46	R 49,135.78
183		Sides of staircases and landing	m ²	20.00	457.46	R 9,149.20
184		Sides of screw pump motor plinths	m ²	43.95	457.46	R 20,105.37
185		Sides of floor step	m ²	75.46	457.46	R 34,519.93
		Horizontal formwork to:				
186		Soffits of inlet sump roof and cover slab	m ²	314.07	737.97	R 231,774.24
187		Soffits of discharge area floor slab	m ²	172.02	737.97	R 126,945.60
188		Soffits of pump station floor slab	m ²	64.15	737.97	R 47,340.78
189		Soffits of beams	m ²	38.16	737.97	R 28,160.94
190		Soffits of staircase landings	m ²	8.00	737.97	R 5,903.76
		Sloping formwork to:				
191		Inclined soffit of screw pump floor slab (30 degrees to horizontal)	m ²	102.85	853.53	R 87,785.56
192		Inclined soffit of screw pump station floor slab (60 degrees to horizontal)	m ²	65.34	853.53	R 55,769.65
		Inclined sides of chute point (60 degrees to horizontal)	m ²	13.21	853.53	R 11,275.13
193		Inclined soffit of staircases (approx. 35 degrees to horizontal)	m ²	25.00	853.53	R 21,338.25
194		Inclined cover of motor plinth (approx. 38 degrees to horizontal)	m ²	17.64	853.53	R 15,056.27
Carried forward /...						R 18,988,807.83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 18,988,807.83
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 200 mm				
195		Sides of opening in Screw Pump Station inlet floor	m	41.88	91.49	R 3,831.60
196		Sides of opening in Screw Pump Station floor	m	7.50	91.49	R 686.18
		(b) Up to 250 mm				
		Sides of cover slab	m	22.90	114.37	R 2,619.07
		(c) Up to 300 mm				
197		Sides of staircase footing	m	3.80	137.24	R 521.51
198		Sides of screw pump chamber walls	m	7.50	137.24	R 1,029.30
		Grooves, chases and splays in the following				
199		100x250 mm recess in concrete walls and floors for sluice gates	m	40.80	358.69	R 14,634.55
200		50x50 mm recess in cover slab for grating	m	12.00	68.98	R 827.76
	PSG 8.2.6	Box out holes/Form voids				
		g) Larger, other than circular, of area over 1.5m ² up to and including 2.5 m ²				
201		0 m to 0.5 m deep	No	6.00	795.05	R 4,770.30
	PSG 8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
202		8 mm dia	t	3.15	18085.37	R 56,968.92
203		10 mm dia	t	4.72	18085.37	R 85,362.95
		(b) High tensile steel bars				
204		10 mm dia	t	7.87	18085.37	R 142,331.86
205		12 mm dia	t	23.60	18085.37	R 426,814.73
206		16 mm dia	t	31.47	18085.37	R 569,146.59
207		20 mm dia	t	47.21	18085.37	R 853,810.32
208		25 mm dia	t	23.60	18085.37	R 426,814.73
209		32 mm dia	t	15.74	18085.37	R 284,663.72
Carried forward /...						R 21,863,641.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	21,863,641.93
210	PSG 8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
		75 mm minimum thickness	m²	254.05	165.98	R	42,167.22
211	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
211		Benching of screw troughs	m³	98.48	1944.68	R	191,512.09
212		Screw pump motor plinths	m³	14.43	1944.68	R	28,061.73
213		Benching inside discharge area	m³	16.84	1944.68	R	32,748.41
214		30 Mpa/19 mm					
		Staircase	m³	14.30	1944.68	R	27,808.92
215		Staircase landings	m³	16.50	1944.68	R	32,087.22
216		35 Mpa/19 mm (watertight concrete)					
		Floor slabs	m³	87.53	2200.77	R	192,633.40
217		Walls	m³	64.93	2200.77	R	142,896.00
218		Beams	m³	6.98	2200.77	R	15,361.37
219		Pump station floor slab	m³	11.40	2200.77	R	25,088.78
220		Columns and support walls	m³	79.71	2200.77	R	175,423.38
221		Footings	m³	41.92	2200.77	R	92,256.28
222		35 Mpa/26 mm (watertight concrete)					
		Floor slabs	m³	204.23	2195.20	R	448,325.70
223		Walls	m³	151.51	2195.20	R	332,594.75
224		Beams	m³	16.28	2195.20	R	35,737.86
225		Pump station floor slab	m³	26.60	2195.20	R	58,392.32
226		Columns and support walls	m³	185.98	2195.20	R	408,263.30
227		Footings	m³	97.81	2195.20	R	214,712.51
Carried forward /...						R	24,359,713.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	24,359,713.15
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
228		Top of footings	m ²	254.05	37.33	R	9,483.69
229		Top of channel slabs	m ²	375.09	37.33	R	14,002.11
		(b) Steel-floated finish:					
230		Top of walls	m ²	42.27	44.21	R	1,868.76
231		Top of staircases and landing	m ²	63.20	44.21	R	2,794.07
232		Top of motor plinths	m ²	9.85	44.21	R	435.47
233		Top of floors	m ²	165.44	44.21	R	7,314.10
234		Top of beams	m ²	16.41	44.21	R	725.49
	PSG 8.5	Joints					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		(1) Joint type H with 10 mm joint filler, polyurethane sealant (horizontal) and Teflon Bearing Pad or equivalent:					
235		Through 400 mm thick slab	m	12.10	653.37	R	7,905.78
		(2) Joint Type F:					
236		Through walls	m	158.84	305.16	R	48,471.61
	PSG 8.13	Casting items in concrete					
		(c) Over 1200 mm up to 1800 mm nominal bore:					
237		Through 600 mm thick wall	No	1.00	5927.68	R	5,927.68
		(e) Outlet Channel					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
238		Sides of pad footings	m ²	15.25	457.46	R	6,976.27
239		Sides of columns and support walls	m ²	34.00	457.46	R	15,553.64
Carried forward /...						R	24,481,171.81

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	24,481,171.81
	8.2.2	Smooth					
		Vertical formwork to:					
240		Sides of channel walls	m ²	144.90	457.46	R	66,285.95
241		Sides of columns and support walls	m ²	70.04	457.46	R	32,040.50
242		Sides of beams	m ²	8.02	457.46	R	3,668.83
		Horizontal formwork to:					
243		Soffits of channel slab	m ²	75.38	737.97	R	55,628.18
244		Soffits of beams	m ²	11.45	737.97	R	8,449.76
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(b) Up to 250 mm					
245		Sides of cover slab	m	50.00	114.37	R	5,718.50
		Grooves, chases and splays in the following					
246		50x50 mm recess in cover slab for grating	m	24.00	68.98	R	1,655.52
	PSG 8.2.6	Box out holes/Form voids					
		g) Larger, other than circular, of area over 1.5m ² up to and including 2.5 m ²					
247		0 m to 0.5 m deep	No	1.00	795.05	R	795.05
	PSG 8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
248		8 mm dia	t	0.30	18085.37	R	5,425.61
249		10 mm dia	t	0.45	18085.37	R	8,138.42
		(b) High tensile steel bars					
250		10 mm dia	t	0.75	18085.37	R	13,564.03
251		12 mm dia	t	2.25	18085.37	R	40,692.08
252		16 mm dia	t	2.99	18085.37	R	54,075.26
253		20 mm dia	t	4.49	18085.37	R	81,203.31
254		25 mm dia	t	2.25	18085.37	R	40,692.08
255		32 mm dia	t	1.50	18085.37	R	27,128.06
Carried forward /...						R	24,926,332.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 24,926,332.94
	PSG 8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
256		75 mm minimum thickness	m ²	30.00	165.98	R 4,979.40
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
257		Mass concrete for Parshall flume including any necessary formwork or unformed surfaces to slopes, channels, etc.	Sum	1.00	29170.23	R 29,170.23
258		Benching including any necessary formwork or unformed surfaces to slopes, channels, etc.	m ²	3.39	583.40	R 1,977.73
		35 Mpa/19 mm (watertight concrete)				
259		Channel floors	m ³	11.40	2200.77	R 25,088.78
260		Walls	m ³	5.61	2200.77	R 12,346.32
261		Beams	m ³	1.32	2200.77	R 2,905.02
262		Columns and support walls	m ³	5.52	2200.77	R 12,148.25
263		Footings	m ³	4.32	2200.77	R 9,507.33
		35 Mpa/19 mm (watertight concrete)				
264		Channel floors	m ³	26.60	2200.77	R 58,540.48
265		Walls	m ³	13.09	2200.77	R 28,808.08
266		Beams	m ³	3.08	2200.77	R 6,778.37
267		Columns and support walls	m ³	12.88	2200.77	R 28,345.92
268		Footings	m ³	10.08	2200.77	R 22,183.76
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
269		Top of footings	m ²	32.00	37.33	R 1,194.56
270		Top of channel floors	m ²	130.30	37.33	R 4,864.10
		(b) Steel-floated finish:				
271		Top of walls	m ²	15.00	44.21	R 663.15
	PSG 8.5	Joints				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
Carried forward /...						R 25,175,834.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	25,175,834.41
272	PSG 8.13	(2) Joint Type F: Through walls	m	55.00	305.16	R	16,783.80
		Casting items in concrete					
		(a) Over 600 mm up to 900 mm nominal bore:					
273		Through 300 mm thick wall	No	1.00	1996.68	R	1,996.68
		(f) Skip Dolly Platforms and Apron					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
274		Skip Dolly Slabs	m²	62.05	457.46	R	28,385.39
275		Collection manhole floor slab	m²	1.62	457.46	R	741.09
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(b) Up to 250 mm					
276		Sides of Apron	m	293.00	114.37	R	33,510.41
		Grooves, chases and splays in the following					
277		300x100 mm recess in skip dolly slab	m	301.20	526.29	R	158,518.55
	PSG 8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
278		8 mm dia	t	0.14	18085.37	R	2,531.95
279		10 mm dia	t	0.21	18085.37	R	3,797.93
		(b) High tensile steel bars					
280		10 mm dia	t	0.35	18085.37	R	6,329.88
281		12 mm dia	t	1.05	18085.37	R	18,989.64
282		16 mm dia	t	1.40	18085.37	R	25,319.52
283		20 mm dia	t	2.11	18085.37	R	38,160.13
284		25 mm dia	t	1.05	18085.37	R	18,989.64
285		32 mm dia	t	0.70	18085.37	R	12,659.76
Carried forward /...						R	25,542,548.77

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 25,542,548.77
286	8.3.2	(c) High-tensile welded mesh: Ref 617 with minimum laps of 300 mm in apron slab	m ²	2641.07	26.24	R 69,301.68
	PSG 8.4	Concrete				
287	8.4.2	Blinding layer in 15 MPa/19 mm concrete 75 mm minimum thickness	m ²	193.33	165.98	R 32,088.91
	PSG 8.4.3	Strength concrete 30 Mpa/19 mm				
288		Apron Slab	m ³	396.16	1944.68	R 770,404.43
289		Stormwater Drainage Sump	m ²	2.20	972.34	R 2,139.15
290		Skip dolly platforms	m ³	67.98	1944.68	R 132,199.35
	PSG 8.4.4	Unformed surface finishes: (b) Steel-floated finish:				
291		Apron Slab	m ²	2641.07	44.21	R 116,761.70
292		Skip dolly Platforms	m ²	192.00	44.21	R 8,488.32
	PSG 8.5	Joints Expansion/contraction joints as detailed on the				
293		Saw cut joint	m	969.00	88.10	R 85,368.90
294		Isolation joint	m	155.12	653.37	R 101,350.75
	PSG 8.28	Miscellaneous work:				
295		355 mm dia Class 51 uPVC pipes	m	300.00	511.20	R 153,360.00
296		355 mm dia 45 deg uPVC bend	No	4.00	6816.79	R 27,267.16
297		355 mm dia 90 deg uPVC bend	No	8.00	7761.58	R 62,092.64
298		355 mm dia uPVC equal Y-junction	No	6.00	2880.87	R 17,285.22
299		355 mm dia uPVC gully head	No	6.00	2972.75	R 17,836.50
300		Cast iron gate for 355 mm dia uPVC gully head	No	4.00	3513.25	R 14,053.00
301		355 mm dia uPVC rodding eye	No	4.00	3776.06	R 15,104.24
Carried forward /...						R 27,167,650.72

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 27,167,650.72
302	PSG 8.21	Testing for water tightness: Complete Inlet Works structure	Sum	1.00	93603.18	R 93,603.18
303	8.8	Other Miscellaneous Work Casting of mono-rail for skip dolly system	Sum	150.00	3159.01	R 473,851.50
304	PSG 8.13	Casting Items in Concrete Through walls and slabs (all sizes) 1100mm diameter GRP pipes	No	2.00	7187.42	R 14,374.84
305		355mm diameter GRP pipe	No	1.00	1397.50	R 1,397.50
306	PSG 8.23	Concrete Protection and Proprietary Floor Finishes HDPE anchor-knob sheeting (3.0mm thick with anchor-knobs cast into concrete with formwork) Inside wall surfaces of inlet sump	m²	147.72	559.56	R 82,658.20
307		Inside wall surfaces of first lift screw pump station	m²	656.50	559.56	R 367,351.14
308		Inside wall surfaces of screen channels	m²	300.78	559.56	R 168,304.46
309		Inside wall surfaces of vortex degritters	m²	717.12	559.56	R 401,271.67
310		Inside wall surfaces of second lift screw pump	m²	761.47	559.56	R 426,088.15
311		Inside wall surfaces outlet channels	m²	149.99	559.56	R 83,928.40
312		Soffits of all walkways and roof slabs	m²	1220.00	559.56	R 682,663.20
313	PSG 8.24	Preparation of Base Concrete to Receive Benching Benched areas	m²	428.94	23.51	R 10,084.38
314	PSG 8.28	Stormwater collection chambers Construct stormwater collection chambers complete including covers, grating and frames, where required: Stormwater Collection Chamber	No	4.00	25226.72	R 100,906.88
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 30,074,134.23

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.1	Structural steel:				
		(a) Screen Channels				
315		Steel roof structure	t	12.00	57293.00	R 687,516.00
316		Crawl beams x 2 over screens	t	6.00	62698.00	R 376,188.00
		(b) First Lift Screw Pump Station				
317		Steel roof structure	t	3.00	57293.00	R 171,879.00
		(c) Second Lift Screw Pump Station				
318		Steel roof structure	t	3.00	57293.00	R 171,879.00
	PSH 8.3.7	Handrails:				
		Supply all material and install SS316 handrails				
319		a) Horizontal top mounted	m	363.00	1320.44	R 479,319.72
320		e) Sloping top mounted	m	84.00	1320.44	R 110,916.96
321		j) Bends	No	44.70	178.37	R 7,973.14
322		k) End Closures	No	20.00	245.39	R 4,907.80
323		m) Kick Plates	m	447.00	924.26	R 413,144.22
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,423,723.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 HB	CLADDING AND SHEETING					
		as specified in SANS 1200HB and in the project specifications					
		(a) Screen Channels Roof Structure					
324	8.2.2	Supply and install fibre cement Big Six profile roof sheeting complete with all fixing	m²	415.57	407.05	R	169,157.77
325	8.2.2	Supply and install polycarbonate Big Six profile (1.25 mm thick) roof sheeting complete with all fixing	m²	103.89	545.54	R	56,676.15
326	8.2.2	Supply and install fibre cement Big Six profile cladding complete with all fixing	m²	209.15	445.19	R	93,111.49
327	8.2.2	Supply and install polycarbonate Big Six profile (1.25 mm thick) cladding complete with all fixing	m²	50.85	621.41	R	31,598.70
	8.2.3	Supply and install ancillaries:					
328		Ridge capping to suit	m	21.00	540.50	R	11,350.50
329		Barge boards to suit	m	16.00	247.03	R	3,952.48
330		Fascia boards to suit	m	45.00	199.11	R	8,959.95
331		Supply and install over purlin 30 mm thick insulation to roof sheeting (PSHB 3.2.4)	m²	500.00	237.61	R	118,805.00
	8.2.3	Rainwater Goods					
		Supply and install Aluminium:					
332		150 x 125 mm Rectangular profile gutter	m	80.00	430.59	R	34,447.20
333		Extra over gutter for stop ends	No	4.00	16.35	R	65.40
334		Extra over gutter for 150 x 125 mm outlet	No	10.00	81.76	R	817.60
335		150 x 125 mm dropdown pipe	m	26.20	757.62	R	19,849.64
336		Extra over dropdown pipe for offset bends	No	10.00	648.61	R	6,486.10
337		Extra over dropdown pipe for shoes	No	10.00	648.61	R	6,486.10
Carried forward /...						R	561,764.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	561,764.08
		(b) First and Second Lift Screw Pump Station					
338	8.2.2	Supply and install fibre cement Big Six profile roof sheeting complete with all fixing	m²	162.14	407.05	R	65,999.09
339	8.2.2	Supply and install polycarbonate Big Six profile (1.25 mm thick) roof sheeting complete with all	m²	40.54	545.54	R	22,116.19
340	8.2.2	Supply and install fibre cement Big Six profile cladding complete with all fixing	m²	81.60	445.19	R	36,327.50
341	8.2.2	Supply and install polycarbonate Big Six profile (1.25 mm thick) cladding complete with all fixing	m²	19.84	545.54	R	10,823.51
	8.2.3	Supply and install ancillaries:					
342		Ridge capping to suit	m	20.00	540.50	R	10,810.00
343		Barge boards to suit	m	15.00	247.03	R	3,705.45
344		Fascia boards to suit	m	38.00	199.11	R	7,566.18
345		Supply and install over purlin 30 mm thick insulation to roof sheeting (PSHB 3.2.4)	m²	450.00	237.61	R	106,924.50
	8.2.3	Rainwater Goods					
		Supply and install Aluminium:					
346		150 x 125 mm Rectangular profile gutter	m	49.00	430.59	R	21,098.91
347		Extra over gutter for stop ends	No	8.00	16.35	R	130.80
348		Extra over gutter for 150 x 125 mm outlet	No	10.00	81.76	R	817.60
349		150 x 125 mm dropdown pipe	m	53.00	757.62	R	40,153.86
350		Extra over dropdown pipe for offset bends	No	10.00	648.61	R	6,486.10
351		Extra over dropdown pipe for shoes	No	10.00	648.61	R	6,486.10
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	901,209.88

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK				
		as specified in PD in the project specifications				
	PD 10.1	Brickwork:				
		Construct brickwork complete with brickforce and ties, etc.				
		280mm thick cavity walls of two half brick				
352		Superstructure	m²	324.87	684.44	R 222,354.02
353		Closing 60mm wide cavity horizontally around	m	48.70	64.60	R 3,146.02
354		Closing 60mm cavity vertically around openings	m	47.98	64.60	R 3,099.51
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:				
355		Superstructure	m²	324.87	374.22	R 121,572.85
356		110 mm Wide brick-on-edge lintel	m	5.02	239.18	R 1,200.68
		Brickwork sundries				
357		Precast concrete window cill No. 095 by 'Modcon Precast' or equivalent	m	4.96	1186.57	R 5,885.39
358		110 x 75mm High lintels in lengths not exceeding 3m	m	2.00	71.55	R 143.10
359		170 x 75mm High lintels in lengths not exceeding 3m	m	4.00	93.97	R 375.88
360		30x1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	m	801.02	51.19	R 41,004.21
	PD 10.2	Plasterwork:				
361		15mm thick, one coat cement plaster to internal walls	m²	324.87	88.64	R 28,796.48
362		15mm thick, one coat cement plaster to sides of downstand beams	m²	76.32	194.58	R 14,850.35
Carried forward /						R 442,428.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	442,428.49
	PD 10.4	Doors and Windows:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
363		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	2.00	30651.76	R	61,303.52
364		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	2.00	55577.45	R	111,154.90
		WG66 "Winblock" or equivalent high density precast concrete window and frame, top hung with powder coated finish and 6.4mm laminated safety glass					
365		6 Winblocks Window size 1820 x 2730mm	No	48.00	7026.50	R	337,272.00
	PD 10.5	Ceilings and Bulkheads:					
		6 mm thick Everite Nutec ceiling boards fixed to 38 mm x 38 mm SA pine branderling at maximum 400 mm centres					
366		Nailed-up ceiling	m²	140.76	339.97	R	47,854.18
367		75 mm Everite Nucornice product code 605-730	m	70.40	51.52	R	3,627.01
368		600 mm x 600 mm Access ceiling hatch	No	2.00	505.09	R	1,010.18
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer					
369		Internal plastered walls	m²	324.87	48.65	R	15,804.93
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
370		Sides of concrete beams and columns	m²	76.32	48.65	R	3,712.97
	PD 10.8	Miscellaneous Items:					
		(b) Items measured by length:					
371		Type 5 - Epoxy Cove Skirting (refer to SANS 1200 G 5.5.21)	m	70.40	172.96	R	12,176.38
		Floor finishes					
372		Type 3 - Epoxy Floor Finish (refer to SANS 1200G) (F10)	m²	128.22	893.99	R	114,627.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,150,971.95

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING					
		as specified in PSGG in the project					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid					
373		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	30.00	1694.48	R	50,834.40
		(d) Miscellaneous Items					
374		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where	m	400.00	942.63	R	377,052.00
375		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00	475.64	R	23,782.00
376		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R	40,321.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	491,989.90



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 824,957.22
SANS 1200 DM		CONCRETE (STRUCTURAL)				R 30,074,134.23
SANS 1200 H		STRUCTURAL STEELWORK				R 2,423,723.84
SANS 1200 HB		CLADDING AND SHEETING				R 901,209.88
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 1,150,971.95
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 491,989.90
TOTAL OF BILL C5 CARRIED TO SUMMARY						R 35,866,987.01



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C6 PRIMARY SETTLING TANKS Quantities provided for four PSTs				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Primary Settling Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	1967.88	62.34	R 122,677.64
	8.3.3	(b) Extra-over item 8.3.3 (a) for:				
2		(2) Hard rock excavation	m ³	196.79	0.00	
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	196.79	5.32	R 1,046.92
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	270.68	158.17	R 42,813.46
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	885.55	36.23	R 32,083.48
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	1904.42	62.34	R 118,721.54
7		(e) Backfill stabilised with 5% cement directed by the Engineer	m ³	1798.57	373.18	R 671,190.35
8		(f) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	100.00	1381.78	R 138,178.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,126,711.39

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
9		Sides of PST footing curved to 17150 mm radius	m ²	172.41	264.85	R	45,662.79
10		Sides of sump footing curved to 2400 mm radius	m ²	24.13	264.85	R	6,390.83
11		Sump walls curved to 1900 mm radius	m ²	106.96	264.85	R	28,328.36
12		Sump walls curved to 1500 mm radius	m ²	95.76	448.87	R	42,983.79
13		Sides of pipe concrete encasement	m ²	290.43	264.85	R	76,920.39
14		Sides of 1700 x 1700 x 350 mm deep RC footing	m ²	9.52	448.87	R	4,273.24
15		Sides of 1200x 2400 x 350 mm deep RC footing	m ²	5.04	379.64	R	1,913.39
16		Sides of 1200x 2400 x 400 mm deep RC footing	m ²	5.76	379.64	R	2,186.73
17		Sides of 900 x 1450 mm staircase footing	m ²	3.71	448.87	R	1,665.31
	8.2.2	Smooth					
		Vertical formwork to:					
18		PST wall curved to 16000 mm radius	m ²	3176.78	304.76	R	968,155.47
19		PST wall curved to 16400 mm radius	m ²	3256.20	304.76	R	992,359.51
20		Walls of telescopic valve chamber	m ²	162.00	304.76	R	49,371.12
21		Walls of scum box	m ²	22.83	304.76	R	6,957.67
22		Sides of 300 x 300 mm columns	m ²	9.60	419.55	R	4,027.68
23		Sides of 350 x 350 mm columns	m ²	37.97	304.76	R	11,571.74
24		Sides of 450 x 400 mm columns	m ²	244.80	304.76	R	74,605.25
25		Sides of launder channel walls curved to 15150 mm radius	m ²	323.65	304.76	R	98,635.57
26		Sides of launder channel walls curved to 15400	m ²	232.23	304.76	R	70,774.41
27		Sides of bridge platform	m ²	25.36	558.02	R	14,151.39
28		Sides of 450 x 400mm deep ring beam curved to 16000 mm radius	m ²	160.85	540.13	R	86,879.91
29		Sides of 450 x 400mm deep ring beam curved to 16450 mm radius	m ²	165.37	540.13	R	89,321.30
Carried forward / ...						R	2,677,135.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,677,135.84
30		Horizontal formwork to: Soffit of staircase landings	m ²	8.64	737.97	R 6,376.06
31		Soffit of launder channel	m ²	332.72	737.97	R 245,537.38
32		Soffit of walkways	m ²	534.86	737.97	R 394,710.63
33		Soffit of effluent outlet box	m ²	5.10	737.97	R 3,763.65
34		Soffit of telescopic valve chamber	m ²	21.77	737.97	R 16,065.61
35		Sloping formwork to: Soffit of staircase (Approx. 34° to the horizontal)	m ²	28.71	853.53	R 24,504.85
	8.2.5	Narrow widths up to 300 mm wide Different widths in the following range: (a) Up to 200 mm				
36		Staircase risers	m	39.60	91.49	R 3,623.00
		(b) Up to 250 mm				
37		Sides of telescopic valve chamber slab	m	33.44	114.37	R 3,824.53
38		Sides of scum box slab	m	12.81	114.37	R 1,465.08
39		Sides of walkways	m	463.89	114.37	R 53,055.10
40		Sides of staircase landings	m	12.00	114.37	R 1,372.44
		(c) Up to 300 mm				
41		Sides of 900 x 1450 mm staircase footing	m	9.40	137.24	R 1,290.06
42		300 x 300 mm columns	m	56.60	137.24	R 7,767.78
		Groove chases and splays in the following				
43		100 x 100 mm chamfer (smooth, curved at 15300 - 15400 mm radius)	m	92.82	201.99	R 18,748.71
44		50 x 50 mm chamfer (smooth, curved at 16400 - 16450 mm radius)	m	103.36	86.94	R 8,986.12
	PSG 8.2.6	Box out holes/Form voids (c) Large, circular, of diameter over 0.35 m up to and including 0.7 m				
45		0 m to 0.5 m deep	No	4.00	795.05	R 3,180.20
	8.3	Reinforcement:				
Carried forward /...						R 3,471,407.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,471,407.04
	8.3.1	(a) Mild steel bars:					
46		8 mm dia	t	7.63	18085.37	R	137,991.37
47		10 mm dia	t	11.44	18085.37	R	206,896.63
		(b) High tensile steel bars					
48		10 mm dia	t	20.97	18085.37	R	379,250.21
49		12 mm dia	t	62.92	18085.37	R	1,137,931.48
50		16 mm dia	t	83.90	18085.37	R	1,517,362.54
51		20 mm dia	t	125.85	18085.37	R	2,276,043.81
52		25 mm dia	t	62.92	18085.37	R	1,137,931.48
53		32 mm dia	t	41.95	18085.37	R	758,681.27
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
54		75 mm minimum thickness	m ²	3602.62	165.98	R	597,962.87
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
55		Benching inside central sumps	m ³	43.59	1944.68	R	84,768.60
56		Benching inside telescopic valve chamber	m ³	1.24	1944.68	R	2,411.40
57		Pipe concrete encasement	m ³	145.22	1944.68	R	282,406.43
		35 Mpa/26 mm (watertight concrete)					
58		Sump floors	m ³	28.96	2195.20	R	63,572.99
59		Sump walls	m ³	37.80	2195.20	R	82,978.56
60		PST footing	m ³	437.74	2195.20	R	960,926.85
61		PST walls	m ³	1556.84	2195.20	R	3,417,575.17
		35 Mpa/19 mm (watertight concrete)					
62		PST floor	m ³	610.06	2200.77	R	1,342,601.75
63		Launder walls	m ³	55.66	2200.77	R	122,494.86
64		Launder floor	m ³	81.90	2200.77	R	180,243.06
65		Effluent outlet box walls	m ³	3.10	2200.77	R	6,822.39
66		Effluent outlet box slab	m ³	1.28	2200.77	R	2,816.99
Carried forward /...						R	18,171,077.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	18,171,077.75
67		Telescopic valve chamber walls	m³	20.12	2200.77	R	44,279.49
68		Telescopic valve chamber slab	m³	2.69	2200.77	R	5,920.07
		30 Mpa/19 mm					
69		Walkway slabs	m³	137.24	1944.68	R	266,887.88
70		Bridge platform	m³	7.88	1944.68	R	15,324.08
71		Beams	m³	73.29	1944.68	R	142,525.60
72		Columns	m³	34.26	1944.68	R	66,624.74
73		Staircase	m³	9.77	1944.68	R	18,999.52
74		Staircase landings	m³	2.25	1944.68	R	4,375.53
75		Footings	m³	14.26	1944.68	R	27,731.14
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
76		Top of floor slabs and footings	m²	3824.09	37.33	R	142,753.28
77		Top of stairs	m²	25.23	37.33	R	941.84
		(b) Steel-floated finish:					
78		Launder channel screed	m²	327.62	44.21	R	14,484.08
79		Top of walls	m²	286.53	44.21	R	12,667.49
80		Top of bridge platform	m²	14.67	44.21	R	648.56
81		Top of staircase landing	m²	9.00	44.21	R	397.89
82		Top of walkways	m²	133.15	44.21	R	5,886.56
		(c) Power-floated finish:					
83		Screed to conical shaped floors	m²	3280.34	46.93	R	153,946.36
	PSG 8.5	Joints:					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		(1) Joint Type B:					
84		In 200 mm thick floor slabs (14400mm radius)	m	361.90	686.12	R	248,306.83
		(2) Joint Type D:					
85		In 200mm thick floor slabs, straight	m	578.23	621.09	R	359,132.87
86		In 200mm thick floor slabs (2150mm radius)	m	54.04	621.09	R	33,563.70
Carried forward /...						R	19,736,475.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 19,736,475.26
87		In 200mm thick floor slabs (8175mm radius)	m	205.46	621.09	R 127,609.15
		(3) Joint Type F:				
88		In 250 mm thick walls	m	428.80	305.16	R 130,852.61
89		In 400 mm thick walls	m	1200.00	305.16	R 366,192.00
		(4) Joint Type R:				
90		Vertical joint where launder channel joins perimeter walls, curved on plan at radius 16000 mm	m	402.12	305.16	R 122,710.94
		(5) Joint Type R2:				
91		Vertical joint where PST walkway joins perimeter walls, curved on plan at radius 16450 mm	m	413.43	305.16	R 126,162.30
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
92		Under 200mm thick concrete slab	m²	2565.80	13.02	R 33,406.72
	PSG 8.12	Granolithic Screeding				
		35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:				
93		50 mm thick screed to conical shaped gravity PST floors at slope of 1 in 6	m²	3208.34	140.00	R 449,167.60
	PSG 8.13	Casting items in concrete				
		(a) Up to 300 mm nominal bore				
94		Through 450 mm slab (bridge platform)	No	4.00	837.41	R 3,349.64
95		Through 250 mm walls or sides (telescopic valve)	No	8.00	837.41	R 6,699.28
96		Through 300 mm walls or sides (perimeter)	No	4.00	837.41	R 3,349.64
97		Through 400 mm walls or sides of centre sump	No	4.00	837.41	R 3,349.64
	PSG 8.21	Watertightness testing:				
98		Primary Settling Tank	Sum	1.00	132665.44	R 132,665.44
	PSG 8.23	Concrete protection and proprietary floor				
99		Epoxy Type 1: Inside of launder walls including overflow concrete weir (all around)	m²	1234.20	642.87	R 793,430.15
100		Epoxy Type 2: Inside of launder walls including overflow concrete weir (all around)	m²	1234.20	678.75	R 837,713.25
Carried forward /...						R 22,873,133.62

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	22,873,133.62
	PSG 8.28	Miscellaneous work					
101		Drainage or service duct pipes cast into 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or equivalent type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	64.00	3364.44	R	215,324.16
102		75mm diameter kableflex flexible sleeve for electrical cables cast in concrete.	m	160.00	78.86	R	12,617.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	23,101,075.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
103		a) Horizontal top mounted	m	499.39	1320.44	R 659,414.53
104		e) Sloping top mounted	m	93.47	1320.44	R 123,421.53
105		j) Bends	No	10.00	178.37	R 1,783.70
106		k) End Closures	No	20.00	245.39	R 4,907.80
107		m) Kick Plates	m	592.86	924.26	R 547,956.78
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,337,484.34

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
108	SANS 1200 LE	DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300x600mm stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	4 10.92	393.50	R	161,697.02
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	161,697.02

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	1,126,711.39
SANS 1200 G		CONCRETE (STRUCTURAL)				R	23,101,075.38
SANS 1200 H		STRUCTURAL STEELWORK				R	1,337,484.34
SANS 1200 LE		STORMWATER DRAINAGE				R	161,697.02
TOTAL OF BILL C6 CARRIED TO SUMMARY						R	25,726,968.13



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C7 BIOLOGICAL REACTOR				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Biological Reactor (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	2888.03	62.34	R 180,039.79
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m³	288.80		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	288.80	5.32	R 1,536.42
4	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	1299.61	36.23	R 47,084.87
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
5		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	3128.94	62.34	R 195,058.12
6		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m³	577.61	373.18	R 215,552.50
7		(f) Soilcrete backfill under a-recycle sumps	m³	306.20	1381.78	R 423,101.04
	PSD 8.3.19	Deep Compaction				
		(a) Deep Compaction at Reactor				
8		(i) Deep compaction to be undertaken at the Reactor (beyond 50m of the Existing Infrastructure) to a required depth of 8m	m²	9582.00	167.56	R 1,605,559.92
9		(ii) Deep compaction to be undertaken at the Reactor (within 50m of the Existing Infrastructure) to a required depth of 8m	m²	3089.00	167.56	R 517,592.84
		(b) Deep Compaction Testing to confirm E-Modulus				
10		Deep Compaction Testing to confirm E-Modulus at Reactor	Sum	1.00	43240.00	R 43,240.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3,228,765.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
11		Walls of RAS return pumpstation	m ²	377.60	419.55	R 158,422.08
12		Sides of reactor base slab	m ²	429.69	379.64	R 163,127.51
13		Stiffener walls	m ²	76.50	419.55	R 32,095.58
	8.2.2	Smooth				
		Vertical formwork to:				
14		External walls of bioreactor (bottom to 2600mm	m ²	327.00	304.76	R 99,656.52
15		Outlet channel and chamber	m ²	1120.00	304.76	R 341,331.20
16		S-recycle channel and dropdown chamber	m ²	5367.97	304.76	R 1,635,942.54
17		Internal walls of bioreactor (including baffle walls)	m ²	11393.50	304.76	R 3,472,283.06
18		Walls of A-recycle pumpstation	m ²	741.20	304.76	R 225,888.11
19		Walls of R-recycle pumpstation	m ²	305.60	304.76	R 93,134.66
20		Walls of WAS collection chamber	m ²	179.00	304.76	R 54,552.04
21		Columns (oval and square)	m ²	2501.44	304.76	R 762,338.85
22		Walkways and beams (downstand beams at mixer platforms)	m ²	664.49	304.76	R 202,509.97
23		Anoxic and anaerobic zone weirs	m ²	5.59	342.67	R 1,915.53
Carried forward /...						R 7,243,197.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,243,197.64
		Horizontal formwork to:				
24		Soffit of outlet channel and chamber	m²	134.14	737.97	R 98,991.30
25		Soffit of A-recycle pumpstation slabs	m²	114.40	737.97	R 84,423.77
26		Soffit of R-recycle pumpstation slabs	m²	105.20	737.97	R 77,634.44
27		Soffit of WAS collection chamber slabs	m²	12.00	737.97	R 8,855.64
28		Soffit of walkways and beams (downstand beams at mixer platforms)	m²	1454.42	737.97	R 1,073,318.33
29		Soffit of staircase landing	m²	33.64	737.97	R 24,825.31
		Battered formwork to (not exceeding 10 degrees from vertical):				
30		External walls of bioreactor (2600mm high to top)	m²	2090.00	304.76	R 636,948.40
31		Internal walls of bioreactor (including baffle walls)	m²	11393.50	304.76	R 3,472,283.06
		Sloping formwork to:				
32		Soffit of s-recycle channel (Approx. 4.5° to the	m²	571.01	853.53	R 487,374.17
33		Soffit of staircase (Approx. 33° to the horizontal)	m²	58.08	853.53	R 49,573.02
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 200 mm				
34		Upstand beams (on walkways and mixer platforms)	m	2053.15	91.49	R 187,842.69
35		Staircase risers	m	42.32	91.49	R 3,871.86
		(c) Up to 300 mm				
36		Sides of 900 x 300 mm staircase footing	m	19.20	137.24	R 2,635.01
37		300 x 300 mm columns	m	96.00	137.24	R 13,175.04
38		Staircase landing	m	4.80	137.24	R 658.75
		(b) Groove chases and splays in the following ranges:				
		Chamfers and splays over 40 x 40 mm				
39		100 x 100 mm chamfer (bioreactor wall to outlet	m	24.00	201.99	R 4,847.76
40		100 x 100 mm chamfer (A & R-recycle channels)	m	40.00	201.99	R 8,079.60
41		100 x 100 mm chamfer (anoxic and anaerobic zone	m	80.00	201.99	R 16,159.20
Carried forward /...						R 13,494,694.99

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 13,494,694.99
	PSG 8.2.6	Box out holes/Form voids				
		(d) Large, other than circular, of area over 0.1m ² up to and including 0.5m ²				
42		0 m to 0.5 m deep (dropdown chamber opening)	No	8.00	795.05	R 6,360.40
		(f) Large, other than circular, of area over 0.5m ² up to and including 1.5m ²				
43		0 m to 0.5 m deep (RAS Return pumpstation and	No	16.00	795.05	R 12,720.80
		(g) Large, other than circular, of area over 1.5m ² up to and including 2.5m ²				
44		0 m to 0.5 m deep (WAS collection chamber)	No	4.00	795.05	R 3,180.20
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
45		8 mm dia	t	42.19	18085.37	R 763,021.76
46		10 mm dia	t	63.29	18085.37	R 1,144,623.07
		(b) High tensile steel bars				
47		10 mm dia	t	116.02	18085.37	R 2,098,264.63
48		12 mm dia	t	348.07	18085.37	R 6,294,974.74
49		16 mm dia	t	464.10	18085.37	R 8,393,420.22
50		20 mm dia	t	696.15	18085.37	R 12,590,130.33
51		25 mm dia	t	348.07	18085.37	R 6,294,974.74
52		32 mm dia	t	232.05	18085.37	R 4,196,710.11
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
53		75 mm minimum thickness	m ²	930.64	165.98	R 154,467.63
Carried forward /...						R 55,447,543.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 55,447,543.59
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
54		Benching inside RAS return pumpstations	m³	50.40	1944.68	R 98,011.87
55		Benching inside outlet channel	m³	21.64	1944.68	R 42,082.88
56		Benching inside A-recycle pumpstations	m³	35.47	1944.68	R 68,977.80
57		Benching inside WAS collection chamber	m³	3.20	1944.68	R 6,222.98
58		Benching inside s-recycle channels	m³	190.56	1944.68	R 370,578.22
59		Benching inside R-recycle pumpstation	m³	35.47	1944.68	R 68,977.80
60		Pipe concrete encasement for A-recycle pipe	m³	504.00	1944.68	R 980,118.72
61		Pipe concrete encasement for R-recycle pipe	m³	60.00	1944.68	R 116,680.80
62		Thrust blocks for pipe bend in anaerobic and anoxic zones	m³	12.00	1944.68	R 23,336.16
		35 Mpa/19 mm (watertight concrete)				
63		Pumpstation slabs (RAS return, A & R-recycle)	m³	103.82	2200.77	R 228,483.94
64		Chamber and channel slabs (WAS collection, s-recycle and outlet)	m³	255.94	2200.77	R 563,265.07
65		Columns	m³	330.05	2200.77	R 726,364.14
66		Mixer platform slabs	m³	162.00	2200.77	R 356,524.74
67		Walkways	m³	305.10	2200.77	R 671,454.93
68		Beams (up & downstand)	m³	121.64	2200.77	R 267,701.66
69		Pumpstation walls (RAS return, A & R-recycle)	m³	182.76	2200.77	R 402,212.73
70		Chamber and channel walls (WAS collection, s-recycle and outlet)	m³	535.42	2200.77	R 1,178,336.27
71		Stiffener walls	m³	26.40	2200.77	R 58,100.33
72		Reactor baffle walls	m³	196.00	2200.77	R 431,350.92
		35 Mpa/26 mm (watertight concrete)				
73		Reactor base slab	m³	8503.71	2195.20	R 18,667,344.19
74		Reactor external walls	m³	2515.70	2195.20	R 5,522,464.64
75		Reactor internal walls	m³	2806.10	2195.20	R 6,159,950.72
Carried forward /...						R 92,456,085.10

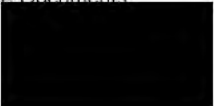
Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 92,456,085.10
		35 Mpa/19 mm				
76		Staircase	m³	12.84	2200.77	R 28,257.89
77		Staircase landings	m³	8.92	2200.77	R 19,630.87
78		Columns (at inlet or reactor)	m³	3.10	2200.77	R 6,822.39
79		Staircase footings	m³	1.62	2200.77	R 3,565.25
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
80		Top of footings outside of reactor	m²	806.50	37.33	R 30,106.65
81		Top of staircases	m²	46.80	37.33	R 1,747.04
82		Top of WAS collection chamber bottom slab	m²	9.00	37.33	R 335.97
83		Top of A & R-recycle interior slabs	m²	187.20	37.33	R 6,988.18
84		Top of RAS return pumpstation slabs	m²	94.08	37.33	R 3,512.01
85		Top of pipe encasement	m²	544.00	37.33	R 20,307.52
		(b) Steel-floated finish:				
86		Top of mixer platforms and walkways	m²	1829.40	44.21	R 80,877.77
87		Top of A & R-recycle pumpstations roof slab	m²	117.00	44.21	R 5,172.57
88		Top of walls	m²	300.87	44.21	R 13,301.46
89		Top of staircase landing	m²	33.40	44.21	R 1,476.61
90		Top of reactor base slab (inside of reactor)	m²	6305.10	44.21	R 278,748.47
91		Top of channel and chamber slabs (outlet, s-	m²	1087.39	44.21	R 48,073.51
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
Carried forward /...						R 93,005,009.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	93,005,009.25
		(1) Joint Type A:					
92		In reactor external walls (200mm - 950mm thick)	m	129.00	917.84	R	118,401.36
93		In reactor internal walls (200mm - 950mm thick)	m	141.10	917.84	R	129,507.22
		(2) Joint Type B:					
94		In Bioreactor slab (250mm - 950mm thick)	m	1738.50	686.12	R	1,192,819.62
		(3) Joint Type F:					
95		In reactor external walls (200mm - 950mm thick)	m	1299.90	305.16	R	396,677.48
96		In reactor internal walls (200mm - 950mm thick)	m	426.15	305.16	R	130,043.93
97		Channels and pumpstations	m	800.00	305.16	R	244,128.00
		(4) Joint Type H:					
98		In Baffle Walls (300mm Thick)	m	33.20	653.37	R	21,691.88
		(5) Joint Type R:					
99		In outlet channels (250mm thick)	m	54.10	305.16	R	16,509.16
100		In s-recycle channels (250mm thick)	m	523.40	305.16	R	159,720.74
101		In A-recycle pumpstation (250mm thick)	m	21.00	305.16	R	6,408.36
102		In RAS Return Pumpstation (250mm thick)	m	24.00	305.16	R	7,323.84
103		In WAS collection chamber	m	6.00	305.16	R	1,830.96
		(6) Joint Type WX:					
104		In reactor wall interfaces (varying thickness)	m	138.00	305.16	R	42,112.08
	PSG 8.10	No-fines concrete					
105		120mm thick Cast-in-situ no-fines concrete below reactor base slab	m²	13164.00	294.41	R	3,875,613.24
Carried forward /...						R	99,347,797.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 99,347,797.14
	PSG 8.13	Casting items in concrete				
		Over 300mm up to 600 mm nominal bore				
106		Through 300 mm slab (R-recycle pumpstation)	No	4.00	1263.10	R 5,052.40
		Over 600mm up to 900 mm nominal bore				
107		Through 300 mm wall (outlet chamber)	No	2.00	1791.29	R 3,582.58
108		Through reactor external wall (300mm - 950mm)	No	4.00	1791.29	R 7,165.16
		Over 900 mm up to 1200 mm nominal bore				
109		Through 300 mm slab (A-recycle pumpstation)	No	4.00	2765.23	R 11,060.92
	PSG 8.14	Creating Boxouts in concrete for others to cast items in				
		Small, circular, of diameter up to and including 0,35 m				
110		A-recycle pumpstation top slab	No	8.00	448.87	R 3,590.96
111		R-recycle pumpstation top slab	No	8.00	448.87	R 3,590.96
112		R-recycle pumpstation middle slab	No	8.00	448.87	R 3,590.96
113		Mixer Platform	No	36.00	448.87	R 16,159.32
		Large, circular, of diameter over 0,35 m up to and including 0.7 m				
114		A-recycle pumpstation middle slab	No	8.00	897.75	R 7,182.00
		Large, other than circular, of area over 0.5 m ² up to and including 1.5 m ²				
115		A-recycle pumpstation top slab	No	8.00	1449.32	R 11,594.56
116		R-recycle pumpstation top slab	No	8.00	1449.32	R 11,594.56
	PSG 8.20	Doweling				
117		Y10	No	100.00	103.51	R 10,351.00
118		Y12	No	200.00	134.68	R 26,936.00
119		Y16	No	200.00	166.96	R 33,392.00
120		Y20	No	50.00	200.34	R 10,017.00
121		Y25	No	50.00	208.70	R 10,435.00
Carried forward /...						R 99,523,092.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 99,523,092.52
122	PSG 8.21	Watertightness testing: Bioreactor	Sum	1.00	138806.80	R 138,806.80
123	PSG 8.23	Concrete protection and proprietary floor Epoxy Finish Type 1 Soffit of mixer platforms and walkway slabs	m ²	815.28	642.87	R 524,119.05
124		Un aerated zone columns (1000mm depth)	m ²	313.60	642.87	R 201,604.03
125		Inside walls of A & R-recycle pumpstations	m ²	523.40	642.87	R 336,478.16
126		Soffit of A & R-recycle pumpstation floor and roof	m ²	219.60	642.87	R 141,174.25
127		Outlet channel and chamber walls (inside faces)	m ²	724.00	642.87	R 465,437.88
128		Epoxy Finish Type 2 Soffit of mixer platforms and walkway slabs	m ²	815.28	678.75	R 553,371.30
129		Un aerated zone columns (1000mm depth)	m ²	313.60	678.75	R 212,856.00
130		Inside walls of A & R-recycle pumpstations	m ²	523.40	678.75	R 355,257.75
131		Soffit of A & R-recycle pumpstation floor and roof	m ²	219.60	678.75	R 149,053.50
132		Outlet channel and chamber walls (inside faces)	m ²	724.00	678.75	R 491,415.00
133	PSG 8.24	Preparation of base concrete to receive Floor slabs	m ²	250.00	114.94	R 28,735.00
134	PSG 8.28	Shear Load Connectors In bioreactor walkways	No	54.00	856.95	R 46,275.30
135	PSG 8.28	Miscellaneous work (1) Drainage or service duct pipes cast into 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or equivalent type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	88.00	3364.44	R 296,070.72
136		(2) Items measured by length: (a) 100 mm UPVC sleeves	m	500.00	108.40	R 54,200.00
137		(b) 160 mm UPVC sleeves	m	500.00	191.99	R 95,995.00
138	PSG 8.29	Temperature measurement and monitoring of concrete Biological Reactor	Sum	1.00	58374.00	R 58,374.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 103,672,316.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
139	SANS 1200 LE	DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300 x varying stone drain cross-section), including 19mm stone and 110mm UPVC perforated pipe wrapped in A3 Gectextile	m	1018.90	393.50	R	400,937.15
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	400,937.15



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings					
140		a) Horizontal top mounted	m	1815.93	1320.44	R	2,397,826.61
141		e) Sloping top mounted	m	84.00	1320.44	R	110,916.96
142		j) Bends	No	189.99	178.37	R	33,888.52
143		k) End Closures	No	100.00	245.39	R	24,539.00
144		m) Kick Plates	m	1899.93	924.26	R	1,756,029.30
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	4,323,200.39

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring					
		Flooring Detail 2, Flooring Type 7, Additional Support Type E					
145		(i) S-recycle channels	m ²	301.10	1694.48	R	510,207.93
146		(ii) RAS return pumpstation	m ²	85.44	1694.48	R	144,776.37
147		(iii) Outlet channel	m ²	94.80	1694.48	R	160,636.70
148		(iv) R-recycle pumpstation	m ²	8.00	1694.48	R	13,555.84
149		(v) WAS collection chamber	m ²	9.00	1694.48	R	15,250.32
150		(vi) A-recycle channel	m ²	39.50	1694.48	R	66,931.96
		(d) Miscellaneous Items					
151		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	50.00	942.63	R	47,131.50
152		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergate EZ Angle' or equivalent, with ribs as required)	m	50.00	475.64	R	23,782.00
153		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R	40,321.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,022,594.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R Amount c
SANS 1200 D		EARTHWORKS				R 3,228,765.49
SANS 1200 G		CONCRETE (STRUCTURAL)				R 103,672,316.26
SANS 1200 LE		STORMWATER DRAINAGE				R 400,937.15
SANS 1200 H		STRUCTURAL STEELWORK				R 4,323,200.39
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 1,022,594.12
TOTAL OF BILL C7 CARRIED TO SUMMARY						R 112,647,813.42

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
BILL C8 SECONDARY SETTLING TANKS Quantities provided for twelve SSTs						
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Secondary Settling Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	8434.53	62.34	R 525,808.60
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	(2) Hard rock excavation	m ³	65.46		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	65.46	5.32	R 348.25
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	213.12	158.17	R 33,709.19
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	3795.54	36.23	R 137,512.41
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	5790.16	62.34	R 360,958.57
7		(e) Backfill stabilised with 5% cement directed by the Engineer	m ³	310.86	373.18	R 116,006.73
8		(f) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	100.00	1381.78	R 138,178.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,312,521.76

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
9		Sides of SST footing curved to 18500 mm radius	m²	557.95	264.85	R 147,773.06
10		Sides of sump footing curved to 2400 mm radius	m²	81.43	264.85	R 21,566.74
11		Sump walls curved to 1900 mm radius	m²	371.03	518.11	R 192,234.35
12		Sump walls curved to 1500 mm radius	m²	326.85	518.11	R 169,344.25
13		Sides of pipe concrete encasement	m²	847.10	264.85	R 224,354.44
14		Sides of 1200 x 2650 x 400 mm deep RC footing	m²	36.95	264.85	R 9,788.86
15		Sides of 2400 x 2650 x 400 mm deep RC footing	m²	48.48	264.85	R 12,839.93
	8.2.2	Smooth				
		Vertical formwork to:				
16		SST wall curved to 17500 mm radius	m²	5409.82	304.76	R 1,648,696.74
17		SST wall curved to 17800 mm radius	m²	5502.56	304.76	R 1,676,960.19
18		Walls of telescopic valve chamber	m²	573.48	304.76	R 174,773.76
19		Walls of effluent outlet chamber	m²	430.08	304.76	R 131,071.18
20		Walls of scum and valve chamber	m²	182.28	304.76	R 55,551.65
21		Sides of 450 x 400 mm columns	m²	157.13	304.76	R 47,886.94
22		Sides of launder channel walls curved to 16550 mm radius	m²	935.88	304.76	R 285,218.79
21		Sides of launder channel walls curved to 16800 mm	m²	570.01	304.76	R 173,716.25
24		Sides of bridge platform	m²	25.36	304.76	R 7,728.71
25		Sides of 400 x 350mm deep ring beam curved to 17500 mm radius	m²	527.79	304.76	R 160,849.28
26		Sides of 400 x 350mm deep ring beam curved to 17850 mm radius	m²	538.34	304.76	R 164,064.50
Carried forward /...						R 5,304,419.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,304,419.61
		Horizontal formwork to:				
27		Soffit of bridge platform	m ²	44.03	737.97	R 32,492.82
28		Soffit of launder channel	m ²	1219.48	737.97	R 899,939.66
29		Soffit of scum and valve chamber	m ²	34.09	737.97	R 25,157.40
30		Soffit of telescopic valve chamber	m ²	95.18	737.97	R 70,239.98
31		Soffit of effluent outlet outlet chamber	m ²	43.80	737.97	R 32,323.09
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(b) Up to 250 mm				
32		Sides of telescopic valve chamber slab	m	158.45	114.37	R 18,121.93
33		Sides of scum and valve chamber slab	m	63.27	114.37	R 7,236.19
35		Sides of effluent outlet chamber slab	m	96.00	114.37	R 10,979.52
37		250 x 350 mm columns	m	102.48	114.37	R 11,720.64
		Groove chases and splays in the following				
38		50 x 50 mm chamfer (smooth, curved at 16750 - 16800mm radius)	m	1248.00	86.94	R 108,501.12
39		50 x 50 mm chamfer (smooth, curved at 17800 - 17850 mm radius)	m	1297.85	86.94	R 112,835.08
	PSG 8.2.6	Box out holes/Form voids				
		(c) Large, circular, of diameter over 0.35 m up to and including 0.7 m				
40		0 m to 0.5 m deep	No	12.00	795.05	R 9,540.60
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
41		8 mm dia	t	16.87	18085.37	R 305,100.19
42		10 mm dia	t	25.31	18085.37	R 457,740.71
		(b) High tensile steel bars				
43		10 mm dia	t	42.18	18085.37	R 762,840.91
44		12 mm dia	t	126.54	18085.37	R 2,288,522.72
Carried forward /...						R 10,457,712.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,457,712.16
45		16 mm dia	t	168.72	18085.37	R 3,051,363.63
46		20 mm dia	t	313.08	18085.37	R 5,662,167.64
47		25 mm dia	t	186.54	18085.37	R 3,373,644.92
48		32 mm dia	t	144.36	18085.37	R 2,610,804.01
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
49		75 mm minimum thickness	m ²	1563.26	165.98	R 259,469.89
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
50		Benching inside central sumps	m ³	172.02	1944.68	R 334,523.85
51		Benching inside effluent outlet chamber	m ³	9.35	1944.68	R 18,182.76
52		Pipe concrete encasement	m ³	163.67	1944.68	R 318,285.78
53		Sump walls	m ³	128.93	1944.68	R 250,727.59
		35 MPa/26 mm (watertight concrete)				
54		SST footing	m ³	1223.04	2195.20	R 2,684,817.41
		35 MPa/19 mm (watertight concrete)				
55		Sump floors	m ³	97.73	2200.77	R 215,081.25
56		SST floor	m ³	2037.97	2200.77	R 4,485,103.24
57		SST walls	m ³	1800.64	2200.77	R 3,962,794.49
58		Launder walls	m ³	139.85	2200.77	R 307,777.68
59		Launder floor	m ³	363.31	2200.77	R 799,561.75
60		Effluent outlet chamber walls	m ³	59.80	2200.77	R 131,606.05
61		Effluent outlet chamber RC floor	m ³	16.27	2200.77	R 35,806.53
62		Telescopic valve chamber walls	m ³	71.63	2200.77	R 157,641.16
63		Telescopic valve chamber slab	m ³	24.31	2200.77	R 53,500.72
64		Scum and valve chamber walls	m ³	22.75	2200.77	R 50,067.52
65		Scum and valve chamber slab	m ³	8.52	2200.77	R 18,750.56
Carried forward /...						R 39,239,390.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward f...						R 39,239,390.58
		30 MPa/19 mm				
66		Bridge platform	m³	19.81	1944.68	R 38,524.11
67		Beams	m³	211.82	1944.68	R 411,922.12
68		Columns	m³	58.68	1944.68	R 114,113.82
69		Footings	m³	45.79	1944.68	R 89,046.90
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
70		Top of floor slabs and footings	m²	13266.67	37.33	R 495,244.79
		(b) Steel-floated finish:				
71		Launder channel screed	m²	1210.97	44.21	R 53,536.98
72		Top of walls	m²	828.36	44.21	R 36,621.80
73		Top of bridge platform	m²	44.03	44.21	R 1,946.57
		(c) Power-floated finish:				
74		Screed to conical shaped floors	m²	11531.00	46.93	R 541,149.83
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint Type B:				
75		In 200 mm thick floor slabs (15900mm radius)	m	1200.00	686.12	R 823,344.00
		(2) Joint Type D:				
76		In 200mm thick floor slabs, straight	m	1973.49	621.09	R 1,225,714.90
77		In 200mm thick floor slabs (2200mm radius)	m	165.88	621.09	R 103,026.41
78		In 200mm thick floor slabs (9050mm radius)	m	682.35	621.09	R 423,800.76
		(3) Joint Type F:				
79		In 250 mm thick walls	m	82.20	305.16	R 25,084.15
80		In 300 mm thick walls	m	2664.00	305.16	R 812,946.24
81		In 400 mm thick walls	m	256.35	305.16	R 78,227.77
Carried forward f...						R 44,513,641.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 44,513,641.73
82		(4) Joint Type R: Vertical joint where launder channel joins perimeter walls, curved on plan at radius 17850 mm	m	1320.00	305.16	R 402,811.20
84		Vertical joints where the telescopic valve chamber slabs joins perimeter wall	m	34.80	305.16	R 10,619.57
85		Vertical joints where the effluent outlet chamber slabs joins perimeter wall	m	12.00	305.16	R 3,661.92
86		Vertical joints where the scum and valve chamber slabs joins perimeter wall	m	18.12	305.16	R 5,529.50
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
87		Under 200mm thick concrete slab	m²	9252.00	12.78	R 118,240.56
	PSG 8.10	No-fines concrete				
88		120mm thick Cast-in-situ no-fines concrete below base slab of SST	m²	12902.52	294.41	R 3,798,630.91
	PSG 8.12	Granolithic Screeding				
		35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:				
89		50 mm thick screed to conical shaped SST floors at slope of 1 in 6	m²	576.55	136.21	R 78,531.88
	PSG 8.13	Casting items in concrete				
		(a) Up to 300 mm nominal bore				
90		Through 450 mm slab (bridge platform)	No	12.00	1139.91	R 13,678.92
91		Through 250 mm walls or sides (telescopic valve chamber, effluent outlet chamber)	No	24.00	1139.91	R 27,357.84
92		Through 300 mm walls or sides (perimeter)	No	12.00	1139.91	R 13,678.92
93		Through 400 mm walls or sides of centre sump	No	24.00	1139.91	R 27,357.84
	PSG 8.21	Watertightness testing:				
94		Secondary Settling Tank	Sum	1.00	265330.89	R 265,330.89
	PSG 8.23	Concrete protection and proprietary floor finishes				
95		Epoxy Type 1: Inside of launder walls including overflow concrete weir (all around)	m²	3294.92	642.87	R 2,118,205.22
96		Epoxy Type 2: Inside of launder walls including overflow concrete weir (all around)	m²	3294.92	642.87	R 2,118,205.22
Carried forward /...						R 53,515,482.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	53,515,482.12
	PSG 8.28	Miscellaneous work					
97		Drainage or service duct pipes cast into 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or equivalent type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	192.00	3364.44	R	645,972.48
98		75mm diameter kableflex flexible sleeve for electrical cables cast in concrete.	m	480.00	78.86	R	37,852.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	54,199,307.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
99	SANS 1200 LE	DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	1308.08	393.50	R	514,729.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	514,729.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
Section		Description					R c
							Amount
SANS 1200 D		EARTHWORKS				R	1,312,521.76
SANS 1200 G		CONCRETE (STRUCTURAL)				R	54,199,307.40
SANS 1200 LE		STORMWATER DRAINAGE				R	514,729.48
TOTAL OF BILL C8 CARRIED TO SUMMARY							R 56,026,558.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C9 EFFLUENT COLLECTOR & CCT INLET				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
		(a) EFFLUENT COLLECTOR CHANNEL				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Effluent Collector Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	1169.55	62.34	R 72,909.75
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	Hard rock excavation	m³	128.65		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m³	128.65	5.32	R 684.42
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	526.30	158.17	R 83,244.87
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	526.30	36.23	R 19,067.85
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	259.63	62.34	R 16,185.33
7		(e) Backfill stabilised with 5% cement directed by the Engineer	m³	58.48	373.18	R 21,823.57
		(B) CCT INLET CHANNEL				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
8		CCT Inlet Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	1923.87	62.34	R 119,934.06
Carried forward /...						R 333,849.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 333,849.84
		(b) Extra-over item 8.3.3 (a) for:				
9	8.3.3	Hard rock excavation	m ³	211.63		
10	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	211.63	5.32	R 1,125.87
11	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	865.74	158.17	R 136,934.10
12	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	865.74	36.23	R 31,365.76
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
13		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	363.52	62.34	R 22,661.84
14		(e) Backfill stabilised with 5% cement directed by the Engineer	m ³	96.19	373.18	R 35,896.18
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 561,833.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in project specification				
		(a) EFFLUENT COLLECTOR CHANNEL				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
15		Sides of raft	m ²	143.41	264.85	R 37,982.14
	8.2.2	Smooth				
		Vertical formwork to:				
8		Side of channel walls	m ²	1957.20	342.67	R 670,673.72
9		Sides of elevated slab	m ²	36.32	342.67	R 12,445.77
		Horizontal formwork to:				
10		Soffit of elevated slab	m ²	126.79	737.97	R 93,567.22
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
16		8 mm dia	t	1.55	18085.37	R 28,032.32
17		10 mm dia	t	2.32	18085.37	R 41,958.06
		(b) High tensile steel bars				
18		10 mm dia	t	4.25	18085.37	R 76,862.82
19		12 mm dia	t	12.75	18085.37	R 230,588.47
20		16 mm dia	t	17.01	18085.37	R 307,632.14
21		20 mm dia	t	25.51	18085.37	R 461,357.79
22		25 mm dia	t	12.75	18085.37	R 230,588.47
23		32 mm dia	t	8.50	18085.37	R 153,725.65
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
24		75 mm minimum thickness	m ²	786.95	165.98	R 130,817.96
	PSG 8.4.3	Strength concrete				
		35 MPa/19 mm (watertight concrete)				
25		RC Slabs	m ³	271.51	2200.77	R 597,531.06
Carried forward /...						R 3,073,563.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,073,563.59
26		Elevated RC slabs	m ³	38.04	2200.77	R 83,717.29
27		RC walls	m ³	294.02	2200.77	R 647,070.40
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
28		Top of floor slabs	m ²	956.35	37.33	R 35,700.55
		(b) Steel-floated finish:				
29		Top of walls	m ²	114.04	44.21	R 5,041.71
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type A				
30		In walls (all thicknesses)	m	60.00	917.84	R 55,070.40
		Joint Type B				
31		In rafts (all thicknesses)	m	43.20	686.12	R 29,640.38
		Joint Type F				
32		In walls (all thicknesses)	m	432.87	305.16	R 132,094.61
	PSG 8.13	Casting items in concrete				
		Through walls and slabs (all sizes)				
33		1100mm diameter GRP pipes	No	2.00	3111.41	R 6,222.82
	PSG 8.21	Watertightness testing:				
34		Effluent Collector Channel	Sum	1.00	11055.45	R 11,055.45
Carried forward /...						R 4,079,177.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,079,177.20
		(b) CCT INLET CHANNEL				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
35		Sides of raft	m²	94.83	264.85	R 25,115.73
	8.2.2	Smooth				
		Vertical formwork to:				
36		Side of channel walls	m²	1942.78	342.67	R 665,732.42
	PSG 8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
37		8 mm dia	t	1.09	18085.37	R 19,713.05
38		10 mm dia	t	1.64	18085.37	R 29,660.01
		(b) High tensile steel bars				
39		10 mm dia	t	3.00	18085.37	R 54,256.11
40		12 mm dia	t	8.99	18085.37	R 162,587.48
41		16 mm dia	t	11.99	18085.37	R 216,843.59
42		20 mm dia	t	17.99	18085.37	R 325,355.81
43		25 mm dia	t	8.99	18085.37	R 162,587.48
44		32 mm dia	t	6.00	18085.37	R 108,512.22
Carried forward /...						R 5,849,541.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,849,541.08
	PSG 8.4	Concrete				
		Blinding layer in 15 MPa/19 mm concrete				
45		75 mm minimum thickness	m ²	489.12	165.98	R 81,184.14
	PSG 8.4.3	Strength concrete				
		35 Mpa/19 mm (watertight concrete)				
46		RC Slabs	m ³	188.31	2200.77	R 414,427.00
47		RC walls	m ³	240.01	2200.77	R 528,206.81
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
48		Top of floor slabs	m ²	489.12	37.33	R 18,258.85
		(b) Steel-floated finish:				
49		Top of walls	m ²	66.13	44.21	R 2,923.61
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type A				
50		In walls (all thicknesses)	m	39.60	917.84	R 36,346.46
		Joint Type B				
51		In rafts (all thicknesses)	m	21.60	686.12	R 14,820.19
		Joint Type F				
52		In walls (all thicknesses)	m	264.61	305.16	R 80,748.39
	PSG 8.21	Watertightness testing:				
53		CCT Inlet Channel	Sum	1.00	22110.91	R 22,110.91
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,048,567.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
		(a) EFFLUENT COLLECTOR CHANNEL				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings				
54		a) Horizontal top mounted	m	365.27	1320.44	R 482,317.12
55		e) Sloping top mounted	m	10.00	1320.44	R 13,204.40
56		j) Bends	No	12.00	178.37	R 2,140.44
57		k) End Closures	No	10.00	245.39	R 2,453.90
58		m) Kick Plates	m	375.27	924.26	R 346,847.05
		(b) CCT INLET CHANNEL				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings				
59		a) Horizontal top mounted	m	264.23	1320.44	R 348,899.86
60		e) Sloping top mounted	m	10.00	1320.44	R 13,204.40
61		j) Bends	No	8.00	178.37	R 1,426.96
62		k) End Closures	No	10.00	245.39	R 2,453.90
63		m) Kick Plates	m	274.23	924.26	R 253,459.82
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,466,407.85

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 LE	STORMWATER DRAINAGE				
		as specified in SANS 1200LE and in the project specifications				
		(a) EFFLUENT COLLECTOR CHANNEL				
	PSLE 8.2.14	Supply and install subsurface drains complete				
64		Supply and install subsurface drains complete (300x600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	177.37	430.27	R 76,316.99
		(b) CCT INLET CHANNEL				
	PSLE 8.2.14	Supply and install subsurface drains complete				
65		Supply and install subsurface drains complete (300x600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	118.03	430.27	R 50,784.77
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 127,101.76

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION) as specified in PSGG in the project specifications (a) EFFLUENT COLLECTOR CHANNEL				
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	476.89	1694.48	R 808,080.57
66		(d) Miscellaneous Items				
67		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00	475.64	R 23,782.00
68		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R 40,321.50
		(b) CCT INLET CHANNEL				
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	355.62	1694.48	R 602,590.98
69		(d) Miscellaneous Items				
70		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00	475.64	R 23,782.00
71		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R 40,321.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,538,878.54

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R Amount c
SANS 1200 D		EARTHWORKS				R 561,833.59
SANS 1200 G		CONCRETE (STRUCTURAL)				R 7,048,567.43
SANS 1200 H		STRUCTURAL STEELWORK				R 1,466,407.85
SANS1200 LE		STORMWATER DRAINAGE				R 127,101.76
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 1,538,878.54
TOTAL OF BILL C9 CARRIED TO SUMMARY						R 10,742,789.18

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
		BILL C10 UV CHANNELS AND BUILDING				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
		(a) Excavate in all materials and use for backfill or dispose as ordered by the engineer:				
	PSD 8.3.3	Restricted excavation				
1		UV Channels and Building (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	460.22	62.34	R 28,690.11
		Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	46.02		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	46.02	5.32	R 244.83
4	PSD 8.3.5	Extra excavation in all materials to provide working	m ³	175.09	158.17	R 27,693.99
5	PSD 8.3.14	Extra over item for temporary stockpiling	m ³	207.10	36.23	R 7,503.23
		as specified in SANS 1200D and in project				
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	482.97	62.34	R 30,108.35
7		(g) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	40.60	1381.78	R 56,100.27
	PSD 8.3.19	Deep Compaction				
8		(a) Deep compaction to be undertaken at the UV Channel and Building to a required depth of 7m	m ²	400.00	167.56	R 67,024.00
9		(b) Deep Compaction Testing to confirm E-Modulus at UV Channel and Building	Sum	1.00	43240.00	R 43,240.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 260,604.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
10		Sides of inlet sump footing	m ²	12.43	304.76	R 3,788.17
11		Sides of outlet sump footing	m ²	16.15	304.76	R 4,921.87
12		Sides of pad footings	m ²	10.08	304.76	R 3,071.98
13		Sides of channel floor	m ²	36.16	304.76	R 11,020.12
	8.2.2	Smooth				
		Vertical formwork to:				
14		Sumps and channel Walls	m ²	889.36	342.67	R 304,756.99
15		Columns	m ²	132.16	342.67	R 45,287.27
16		Beams	m ²	72.39	342.67	R 24,805.88
17		Sides of Slabs	m ²	46.07	342.67	R 15,786.81
18		Staircase	m ²	2.82	526.70	R 1,485.29
		Horizontal formwork to:				
19		Soffit of inlet channels and sump platform	m ²	152.00	737.97	R 112,171.44
20		Soffit of slab in the building	m ²	109.29	737.97	R 80,652.74
21		Soffit of landing	m ²	1.35	737.97	R 996.26
22		Soffit of ring beam 0.35mm thick	m ²	21.89	737.97	R 16,154.16
23		Soffit of Lintel	m ²	1.02	737.97	R 752.73
		Sloping formwork to:				
24		Soffit of Stairs	m ²	1.84	853.53	R 1,570.50
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 100 mm				
25		Sides of apron 100mm thick	m	112.40	45.75	R 5,142.30
26		Staircase risers 200mm thick	m	112.40	91.49	R 10,283.48
Carried forward /...						R 642,647.99

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	642,647.99
		(b) Groove chases and splays in the following ranges:					
27		50 x 50mm Recess for GRP	m	10.00	128.48	R	1,284.80
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
28		8 mm dia	t	1.34	18085.37	R	24,234.40
29		10 mm dia	t	2.01	18085.37	R	36,351.59
		(b) High tensile steel bars					
30		10 mm dia	t	3.69	18085.37	R	66,735.02
31		12 mm dia	t	11.06	18085.37	R	200,024.19
32		16 mm dia	t	14.74	18085.37	R	266,578.35
33		20 mm dia	t	22.11	18085.37	R	399,867.53
34		25 mm dia	t	11.06	18085.37	R	200,024.19
35		32 mm dia	t	7.37	18085.37	R	133,289.18
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
36		75 mm minimum thickness	m²	439.56	165.98	R	72,958.17
	PSG 8.4.3	35 MPa/19 mm (watertight concrete)					
37		Inlet Channel walls, floor sump and cover slab	m³	216.80	2200.77	R	477,126.94
38		Building channel walls, floor, cover slab and support beams	m³	203.55	2200.77	R	447,966.73
39		Outlet channel walls, floor and sump	m³	51.14	2200.77	R	112,547.38
		30 MPa/19 mm					
40		Floor slab inside building	m³	13.51	1944.68	R	26,272.63
41		Concrete Apron	m³	5.44	1944.68	R	10,579.06
42		Pad footings	m³	10.08	1944.68	R	19,602.37
43		Staircase and landing	m³	0.89	1944.68	R	1,730.77
44		Columns 300x300mm	m³	9.44	1944.68	R	18,357.78
45		Ring beam 350x550mm deep	m³	10.50	1944.68	R	20,419.14
46		Beam for roller shutter door	m³	0.50	1944.68	R	972.34
Carried forward /...						R	3,179,570.54

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 3,179,570.54
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
47		Top of slab inside the building	m²	166.83	37.33	R 6,227.76
44		Top of channel floor	m²	304.77	37.33	R 11,377.06
48		Top of sump floor	m²	128.70	37.33	R 4,804.37
49		Top of footings	m²	17.28	37.33	R 645.06
50		Top of stairs	m²	2.85	37.33	R 106.39
		(b) Steel-floated finish:				
51		Top of slab covering inlet channels	m²	137.83	44.21	R 6,093.46
52		Top of Channel walls	m²	54.36	44.21	R 2,403.26
53		Top of apron	m²	54.40	44.21	R 2,405.02
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint Type F:				
54		Inlet Sump Wall	m	34.30	305.16	R 10,466.99
55		Outlet Sump Wall	m	30.85	305.16	R 9,414.19
56		Flow Splitting Islands in channels	m	33.80	305.16	R 10,314.41
57		Walls of Inlet channels	m	159.40	305.16	R 48,642.50
58		Bypass channel wall	m	13.20	305.16	R 4,028.11
59		Walls of outlet channels	m	7.25	305.16	R 2,212.41
	PSG 8.12	Granolithic Screeding				
		35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:				
60		Top of slab inside the building	m²	166.83	164.95	R 27,518.61
	PSG 8.21	Watertightness testing:				
61		Inlet Channels	Sum	1.00	22110.91	R 22,110.91
62		Inlet Sump	Sum	1.00	11055.45	R 11,055.45
Carried forward /...						R 3,359,396.51

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,359,396.51
63		Channels in Building	Sum	1.00	22110.91	R	22,110.91
64		By Pass channel	Sum	1.00	11055.45	R	11,055.45
65		Outlet Sump	Sum	1.00	11055.45	R	11,055.45
		Floors Finishing:					
66		Top of Slab in building. Type 1 - Quartz-encapsulated resin finish (refer to SANS1200 G)	m²	166.83	897.23	R	149,684.88
		Skirtings:					
67		For building Slab: Type 2 - Quartz-encapsulated resin cove skirting (refer to SANS1200 G - 5.5.21)	m	60.00	176.20	R	10,572.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,563,875.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
68	PSH 8.3.1	Structural Steel Steel roof structure	t	7.00	57293.00	R 401,051.00
	PSH 8.3.7	Handrails Supply all material and install SS316 handrails				
69		a) Horizontal top mounted	m	45.00	1320.44	R 59,419.80
70		e) Sloping top mounted	m	2.80	1320.44	R 3,697.23
71		j) Bends	No	4.78	178.37	R 852.61
72		k) End Closures	No	6.00	245.39	R 1,472.34
73		m) Kick Plates	m	47.80	924.26	R 44,179.63
	PSH 8.3.14	Supply and fabrication of hot-dipped galvanised (a) Jointing by welding or bolting:				
74		50 x 50 x 5 Equal angle	t	0.04	52969.00	R 2,118.76
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 512,791.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 HB	CLADDING AND SHEETING				
		as specified in SANS 1200 HB and in the project specifications				
	PSHB 8.2.2	Supply and Install Cladding and Sheeting				
		a) 0.54mm Safintra SAFLOK 410 Bluescope Clean COLORBOND ULTRA AZ200 (or equivalent):				
75		Roof coverings with pitches not exceeding 25°, fixed to steel purlins	m²	266.00	429.96	R 114,369.36
76		Side cladding fixed to steel girts	m²	20.93	632.09	R 13,229.64
77		Gable Ends	m²	31.40	436.55	R 13,707.67
	PSHB 8.2.3	Supply and Install Ancillaries				
		Suitable for 0.54mm Safintra SAFLOK 410				
78		Poly closures	m	65.00	18.87	R 1,226.55
79		Gable flashing	m	30.00	216.51	R 6,495.30
80		Eave flashing	m	35.00	216.51	R 7,577.85
81		External corner side wall flashing	m	5.00	216.50	R 1,082.50
		Rainwater				
82		Aluminium, 150 mm x 150 mm gutter including stop ends, outlets, downpipes, etc.	m	41.40	430.59	R 17,826.43
83		Aluminium, 100mm x 100mm downpipes including elbows, shoes, etc.	m	84.00	327.03	R 27,470.52
	PSHB 8.2.6	Supply and install insulation				
84		Roof Sheeting Radiant Heat Barrier Insulation: Incorporate 4mm Alububble 1983 D10 both sides reflective foil insulation (OR EQUIVALENT) under sheeting, and above roof insulation boards.	m²	266.00	56.82	R 15,114.12
85		Pitched Roof Sheeting Insulation: LAMBDABOARD® laminated polyisocyanurate core board (OR EQUIVALENT) with a minimum core density of 34kg/m³, minimum thickness of 100mm; faced with white washable coated fiberglass tissue, laminated on both sides. Suppliers fixing details supplied in widths of 1220m, to be fixed above purlins in conjunction.	m²	266.00	625.94	R 166,500.04
86		Side cladding insulation: 40mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with vertical cladding:	m²	20.93	480.79	R 10,062.93
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 394,662.91

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING					
	PD 10	BUILDING WORK					
		as specified in the project specifications					
	PD 10.1	Brick Work:					
87		280 mm Cavity (50 mm) walls with facebrick exterior and non-facing engineering bricks interior in superstructures	m ²	232.30	891.83	R	207,172.11
		Brickwork sundries					
88		Form opening for standard louvre unit 1020 x 940mm high (installed by others)	No	6.00	60.54	R	363.24
	PD 10.2	Plaster Work:					
89		To internal walls. One coat cement plaster, to engineer's satisfaction. Prepare for painting to manufacturer's specification. Apply one coat Plascon plaster primer UC56 (OR EQUIVALENT) and 3 coats Plascon Cashmere acrylic emulsion (OR EQUIVALENT). All to be applied as per manufacturer's specifications and by an approved applicator. Substrate to conform to the product data sheet.	m ²	232.30	88.64	R	20,591.07
	PD 10.4	Doors, Windows, louvres, etc:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
90		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.00	63480.64	R	63,480.64
91		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.00	55577.45	R	55,577.45
		WG66 "Winblock" or equivalent high density precast concrete window with aluminium frame, top hung with powder coated finish and 6.4mm laminated safety glass					
92		WinBlocks 1800x600	No	10.00	7458.90	R	74,589.00
		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design					
93		Slatted roller shutter door for 3650 x 3050mm high opening	No	1.00	49578.98	R	49,578.98
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	471,352.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
94	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING					
		as specified in PSGG in the project					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring					
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	20.00	1694.48	R	33,889.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	33,889.60

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				R	Amount
SANS 1200 D		EARTHWORKS				R	260,604.78
SANS 1200 G		CONCRETE (STRUCTURAL)				R	3,563,875.20
SANS 1200 H		STRUCTURAL STEELWORK				R	512,791.37
SANS 1200 HB		CLADDING AND SHEETING				R	394,662.91
PD		PARTICULAR SPECIFICATION: BUILDING WORK				R	471,352.49
PSGG		PARTICULAR SPECIFICATION: GRP OPEN GRID FLOORING				R	33,889.60
TOTAL OF BILL C10 CARRIED TO SUMMARY						R	5,237,176.35

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C11 CHLORINE CONTACT TANK					
	SANS 1200 D	EARTHWORKS as specified in SANS 1200 D and in the project specifications					
	PSD 8.3.3	Restricted excavation: (a) Excavate in all materials and use for backfill					
1		Chlorine contact tank (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	636.63	62.34	R	39,687.51
		(b) Extra over item 8.3.3 for:					
2		Hard rock excavation	m ³	63.66			
3		(c) Extra over item PSD 8.3.3 (a) for hand	m ³	63.66	5.32	R	338.67
4		Extra excavation in all materials to provide working space around structure	m ³	262.72	158.17	R	41,554.42
5	PSD 8.3.14	Extra over item PSD 8.3.3(a) for temporary	m ³	286.49	36.23	R	10,379.53
6	PSD 8.3.15	Extra over item PSD 8.3.3(a) for disposing of spoil material on a site provided by the Contractor	m ³	286.49	52.31	R	14,986.29
7		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	257.36	62.34	R	16,043.82
8		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	31.83	387.08	R	12,320.76
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	135,311.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200 G and in the project specifications					
	8.2	Formwork:					
	8.2.2	(a) Smooth:					
		Vertical formwork to:					
9		Sump walls	m ²	19.01	342.67	R	6,514.16
10		Sides of external walls	m ²	2117.40	342.67	R	725,569.46
11		Sides of internal wall and baffle walls	m ²	4559.13	342.67	R	1,562,277.08
		Horizontal formwork to:					
12		Soffit of outlet and inlet culvert	m ²	57.24	784.30	R	44,893.33
	8.2.5	Narrow widths up to 300 mm wide (formwork for joints included elsewhere):					
		Different widths in the following ranges:					
		(c) Up to 300mm					
13		Sides of channel raft	m	152.27	137.24	R	20,897.53
13		Sides of tank channel raft	m	85.59	137.24	R	11,746.37
14		Sides of tank raft	m	285.27	137.24	R	39,150.45
15		Ends of baffle walls	m	103.70	137.24	R	14,231.79
16		Ends of channel walls	m	5.20	137.24	R	713.65
	8.2.6	Box out holes/Form voids:					
		(f) Large , other than circular, of area over 0.5m ² up to and including 1m ² (All)					
17		Sluice gates box outs	No	4.00	1263.10	R	5,052.40
18		Sump boxouts	No	2.00	1263.10	R	2,526.20
Carried forward /...						R	2,433,572.42

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,433,572.42
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
19		(i) 8 mm dia	t	5.86	18085.37	R	105,980.27
20		(ii) 10 mm dia	t	8.79	18085.37	R	158,970.40
		(b) High tensile steel bars:					
21		(i) 10 mm dia	t	16.12	18085.37	R	291,536.16
22		(ii) 12 mm dia	t	48.37	18085.37	R	874,789.35
23		(iii) 16 mm dia	t	64.49	18085.37	R	1,166,325.51
24		(iv) 20 mm dia	t	96.73	18085.37	R	1,749,397.84
25		(v) 25 mm dia	t	48.37	18085.37	R	874,789.35
26		(vi) 32 mm dia	t	32.24	18085.37	R	583,072.33
	8.4	Concrete:					
	8.4.2	Blinding layer in 15MPa/19 mm concrete:					
27		75 mm minimum thickness	m ²	279.64	165.98	R	46,414.65
	PSG 8.4.3	Strength concrete:					
		35MPa/19mm (watertight concrete):					
28		Channel floor	m ³	82.36	2200.77	R	181,255.42
29		Channel walls	m ³	92.33	2200.77	R	203,197.09
30		Tank channel walls	m ³	88.24	2200.77	R	194,195.94
31		Tank floor	m ³	918.34	2200.77	R	2,021,055.12
32		Sump floors	m ³	1.54	2200.77	R	3,389.19
33		Tank external walls	m ³	319.66	2200.77	R	703,498.14
34		Tank Internal walls	m ³	581.97	2200.77	R	1,280,782.12
35		Sump walls	m ³	2.16	2200.77	R	4,753.66
36		Culvert walls	m ³	71.02	2200.77	R	156,298.69
37		Support beams	m ³	0.72	2200.77	R	1,584.55
38		Culvert suspended slabs	m ³	21.14	2200.77	R	46,524.28
Carried forward /...						R	13,081,382.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	13,081,382.48
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
39		Top of raft and walls	m ²	3898.16	37.33	R	145,518.31
40		Top of suspended culvert slabs	m ²	70.47	37.33	R	2,630.65
		(b) Steel-floated finish:					
41		Mortar skim below tank	m ²	3349.77	44.21	R	148,093.33
	PSG 8.5	Joints:					
		(1) Joint Type A					
42		(i) In 250mm thick vertical walls	m	238.60	917.84	R	218,996.62
43		(ii) In 300mm thick vertical walls	m	62.00	917.84	R	56,906.08
		(2) Joint Type B					
44		(i) In 300mm thick vertical walls	m	687.60	686.12	R	471,776.11
		(3) Joint Type F					
45		(i) In 300mm thick vertical walls	m	368.77	305.16	R	112,533.85
	PSG 8.9	Miscellaneous works other than metal work:					
		Drainage or service duct pipes cast into concrete:					
		(a) 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or similar approved type "S" cast iron ground water pressure relief valve cast into top of concrete floors, including 475mm long x 110mm diameter perforated PVC-U sleeve	No	20.00	3364.44	R	67,288.80
	PSG 8.10	No-fines concrete					
47		Filter bed - 120 mm no-fines concrete layer including provision for 20 mm thick packed mortar skin	m ³	410.00	294.41	R	120,708.10
	PSG 8.21	Testing for water tightness:					
48		Chlorine Contact Tank & Service Water Pump Station Feed Channel	Sum	1.00	33166.36	R	33,166.36
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	14,459,000.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings					
49		a) Horizontal top mounted	m	465.50	1320.44	R	614,664.82
50		e) Sloping top mounted	m	10.00	1320.44	R	13,204.40
51		j) Bends	No	10.00	178.37	R	1,783.70
52		k) End Closures	No	10.00	245.39	R	2,453.90
53		m) Kick Plates	m	465.50	924.26	R	430,243.03
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,062,349.85

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
54	SANS 1200 LE	STORMWATER DRAINAGE					
		as specified in SANS 1200 LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (450 x varying stone drain cross-section), including 19mm stone and 110mm UPVC perforated pipes wrapped in A3 Geotextile	m	438.95	430.27	R	188,867.02
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	188,867.02



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
55	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid					
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	327.33	1694.48	R	554,654.14
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	554,654.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	135,311.01
SANS 1200 G		CONCRETE (STRUCTURAL)				R	14,459,000.70
SANS 1200 H		STRUCTURAL STEELWORK				R	1,062,349.85
SANS 1200 LE		STORMWATER DRAINAGE				R	188,867.02
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	554,654.14
TOTAL OF BILL C11 CARRIED TO SUMMARY						R	16,400,182.71

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C12 BALANCING TANK (MODIFICATION TO EXISTING REACTOR)				
	SANS 1200 C	SITE CLEARANCE as specified in SANS 1200 C and in the project specifications				
	PSC 8.2.8	EXISTING BIOLOGICAL REACTOR Demolish and remove structures/buildings and dismantle steelwork (refer to Part C3.4: Construction, clause C3.4.13.1): (a) Existing walkways, walls, outside structures and any structure extension which does not form part of the design of the balancing tank				
1			Sum	1.00	321597.50	R 321,597.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 321,597.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200 D and in the project specifications				
	PSD 8.3.3	Restricted excavation:				
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:				
2		Overflow Chamber Structure (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	166.14	62.34	R 10,357.17
		(b) Extra-over item 8.3.3 (a) for:				
3		Hard rock excavation	m³	16.61		
4		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	16.61	5.32	R 88.37
5	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	43.31	158.17	R 6,850.34
6	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	74.76	36.23	R 2,708.55
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
7		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	40.00	62.34	R 2,493.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 22,498.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	PSG 8.18	Emptying of existing structures:					
8		(a) Pumping of mixed liquor to inlet works	m ³	18900.00	24.41	R	461,349.00
9		(b) Manual removal of sludge/sand/grit, load, transport and dispose to landfill site (incl. disposal permit)	m ³	1194.00	398.36	R	475,641.84
	PSG 8.19	Cleaning of existing structures:					
10		Clean (with high pressure water-jet min. 250 bar) inside of walls to remove all dirt, grease, stains and other contaminants	m ²	4725.00	25.98	R	122,755.50
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
11		Sides of Outlet Chamber	m ²	5.00	457.46	R	2,287.30
	8.2.1	Smooth					
		Vertical formwork to:					
12		Sides of Platform Slab for Mixers	m ²	18.40	457.46	R	8,417.26
13		Sides of Footing for "bull nose" Columns	m ²	676.71	342.67	R	231,888.22
14		Sides of Footing for Wall Columns	m ²	88.56	342.67	R	30,346.86
15		Sides of Footing	m ²	64.58	342.67	R	22,129.63
16		Sides of Outlet Chamber	m ²	24.27	342.67	R	8,316.60
17		Outer Sides of Platform Thickener	m ²	111.74	342.67	R	38,289.95
18		Sides of wall	m ²	585.90	342.67	R	200,770.35
19		Sides of New Curved Walls with radius of 12.125m	m ²	1249.41	342.67	R	428,135.32
20		Sides of New Curved Walls with radius of 15.125m	m ²	1558.54	342.67	R	534,064.90
21		Outlet Chamber Structure walls	m ²	238.23	342.67	R	81,634.27
22		Sides of Staircase	m ²	16.00	342.67	R	5,482.72
		Horizontal Formwork To:					
23		Soffit of Outlet Chamber Structure	m ²	13.42	737.97	R	9,903.56
24		Soffit of staircase landing	m ²	3.75	737.97	R	2,767.39
25		Soffit of Walkway And Platforms	m ²	426.43	737.97	R	314,692.55
Carried forward /...						R	2,978,873.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,976,873.22
26	8.2.5	Slopping Formwork To: Soffit of Staircase (150° to the horizontal)	m²	6.68	853.53	R	5,701.58
		Narrow widths up to 300 mm wide (a) Up to 150 mm					
27		Sides of High kickers	m	1085.00	68.62	R	74,452.70
28		Stepping stairs Leading to platform (b) Up to 200 mm	m	7.00	68.62	R	480.34
29		Sides of Landing For Staircase (c) Up to 250 mm	m	16.00	91.49	R	1,463.84
30		Sides of Platforms and Walkway	m	332.30	114.37	R	38,005.15
30a	PSG 8.2.6	Grooves, chases and splays in the following 50x50 mm recess in cover slab for grating	m	15.00	68.98	R	1,034.70
		Box out holes/Form voids (c) Large, circular, of diameter over 0.35 m up to and including 0.7m and in the following depth ranges:					
31		0 m to 0.5 m deep	No	30.00	795.05	R	23,851.50
		(e) Larger, circular, of diameter over 0.7m up to and including 1.5m					
32	8.3	0 m to 0.5 m deep	No	2.00	795.05	R	1,590.10
		Reinforcement: (a) Mild steel bars:					
33	8.3.1	8 mm dia	t	1.53	18085.37	R	27,670.62
34		10 mm dia	t	2.29	18085.37	R	41,415.50
		(b) High tensile steel bars					
35		10 mm dia	t	3.81	18085.37	R	68,905.26
36		12 mm dia	t	11.44	18085.37	R	206,896.63
37		16 mm dia	t	15.25	18085.37	R	275,801.89
38		20 mm dia	t	22.88	18085.37	R	413,793.27
39		25 mm dia	t	11.44	18085.37	R	206,896.63
40		32 mm dia	t	7.63	18085.37	R	137,991.37
Carried forward /...						R	4,504,824.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,504,824.30
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
41		75 mm minimum thickness	m ²	33.58	165.98	R 5,573.61
	PSG 8.4.3	Strength concrete				
		30 MPa/19 mm				
42		Stairs	m ³	2.57	1944.68	R 4,997.83
		35 MPa/19 mm (watertight reinforced concrete)				
43		Walls	m ³	193.45	2200.77	R 425,738.96
44		Floor Slabs	m ³	46.81	2200.77	R 103,018.04
45		Columns	m ³	74.14	2200.77	R 163,165.09
46		High Kickers	m ³	18.16	2200.77	R 39,965.98
47		Walkway and Platforms	m ³	89.26	2200.77	R 196,440.73
48		Mixer Plinths	m ³	3.13	2200.77	R 6,888.41
49		Platform Beams	m ³	36.45	2200.77	R 80,218.07
50		Footings	m ³	128.88	2200.77	R 283,635.24
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
51		Top of floor slabs and footings	m ²	365.14	37.33	R 13,630.68
52		Top of stairs	m ²	6.86	37.33	R 256.08
		(b) Steel-floated finish:				
53		Top of mixer platforms	m ²	10.10	44.21	R 446.52
54		Top of platform and walkway	m ²	359.15	44.21	R 15,878.02
55		Top of staircase landing	m ²	3.75	44.21	R 165.79
56		Top of walls	m ²	37.95	44.21	R 1,677.77
57		Top of High Kickers	m ²	162.75	44.21	R 7,195.18
	PSG 8.5	Joints				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint type H with 10 mm joint filler,				
58		Through 250 mm thick slab	m	20.00	653.37	R 13,067.40
Carried forward /...						R 5,866,783.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward / _{1,234}						R	5,866,783.69
59	PSG 8.20	(2) Joint Type F: Through 300 mm thick walls	m	100.00	305.16	R	30,516.00
60		(3) Isolation Joint Between existing and new structures interface	m	20.00	337.08	R	6,741.60
61		(4) Joint Type J: Through 250 mm thick walls	m	20.00	819.95	R	16,399.00
		Dowels Doweling into existing structures					
62	PSG 8.13	(1) Y10	No	370.00	103.51	R	38,298.70
63		(2) Y12	No	1540.00	134.68	R	207,407.20
64		(3) Y16	No	340.00	166.96	R	56,766.40
		Casting items in concrete (a) Over 900 mm up to 1200 mm nominal bore:					
65	PSG 8.21	Through 300 mm walls or sides (perimeter)	No	3.00	3111.41	R	9,334.23
		(c) Over 1200 mm up to 1800 mm nominal bore:					
66		Through 500 mm walls or sides (perimeter)	No	2.00	7540.36	R	15,080.72
		Watertightness testing:					
67	PSG 8.23	Test conducted before refurbishment	Sum	1.00	28252.27	R	28,252.27
68		Test conducted after refurbishment	Sum	1.00	55277.27	R	55,277.27
		Concrete protection and proprietary floor Epoxy Type 1: Inside of launder walls including overflow concrete weir (all around)					
69		Soffit of mixer platforms and walkway slabs	m²	320.00	642.87	R	205,718.40
70	PSG 8.27	Sides of columns (as indicated)	m²	90.00	642.87	R	57,858.30
		Epoxy Type 2: Inside of launder walls including overflow concrete weir (all around)					
71		Soffit of mixer platforms and walkway slabs	m²	320.00	678.75	R	217,200.00
72		Sides of columns (as indicated)	m²	90.00	678.75	R	61,087.50
73	PSG 8.27	Shear Load Connectors					
74		In flow balancing tank walkways	No	10.00	3783.50	R	37,835.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	6,910,556.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails				
75		a) Horizontal top mounted	m	1085.00	1320.44	R 1,432,677.40
76		e) Sloping top mounted	m	30.00	1320.44	R 39,613.20
77		j) Bends	No	40.00	178.37	R 7,134.80
78		k) End Closures	No	100.00	245.39	R 24,539.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,503,964.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PZ	REPAIR WORK TO STRUCTURAL CONCRETE				
	PZ 8	REPAIR WORK				
		as specified in project specification PZ				
	PZ 8.3	Preparation of concrete surfaces for reprofiling:				
79		Internal walls and floors	m ²	500.00	103.59	R 51,795.00
	PZ 8.4	Preparation of exposed reinforcing:				
80		(1) Y10	m	50.00	68.02	R 3,401.00
81		(2) Y12	m	50.00	68.02	R 3,401.00
82		(3) Y16	m	50.00	68.02	R 3,401.00
83	PZ 8.5	Application of a bonding agent for repair	m ²	500.00	69.67	R 34,835.00
84	PZ 8.6	Application of migrating corrosion inhibitor	m ²	100.00	319.63	R 31,963.00
85	PZ 8.8	Epoxy resin repairs to concrete	Litre	70.00	351.33	R 24,593.10
86	PZ 8.9	Shallow localised repair to concrete	Litre	70.00	100.59	R 7,041.30
87	PZ 8.10	Micro-concrete repairs	Litre	100.00	103.80	R 10,380.00
88	PZ 8.11	Reprofiling of concrete surfaces (15mm)	m ²	500.00	1291.03	R 645,515.00
89	PZ 8.12	Installation of crack-injection epoxy	Litre	50.00	1240.00	R 62,000.00
	PZ 8.14	Installation of a CAC reprofiling lining to concrete:				
90		(1) SIKKA Monotop 4400 MIC (25mm)	m ²	500.00	4475.19	R 2,237,595.00
91		(2) IMERYS Sewpercoat (25mm)	m ²	500.00	4604.44	R 2,302,220.00
92	PZ 8.15	Sealing of active leaks in concrete tanks by means of specialist cementitious crystallising products	Litre/kg	20.00	2702.50	R 54,050.00
	PZ 8.16	Installation of joint-bridging flexible bandages				
93		Apply Sikadur CombiFlex SG to exposed joints in the existing reactor floor/walls as required	m	1815.81	1024.14	R 1,859,643.65
94	PZ 8.18	Perform pull-out testing to epoxied reinforcing	No	278.00	897.23	R 250,327.17
	PZ 8.19	Cut out of existing walls:				
95		Through 300mm thick walls	m	30.00	1832.60	R 54,978.00
	PZ 8.20	Block existing pipes inlet and outlet pipes and provide a water tight seal:				
96		(i) Up to 1000mm nominal diameter pipe	No	2.00	3104.02	R 6,208.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,643,347.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 C		SITE CLEARANCE				R 321,597.50
SANS 1200 D		EARTHWORKS				R 22,498.03
SANS 1200 G		CONCRETE (STRUCTURAL)				R 6,910,556.28
SANS 1200 H		STRUCTURAL STEELWORK				R 1,503,964.40
PZ		PARTICULAR SPECIFICATION PZ: REPAIR WORK TO STRUCTURAL CONCRETE				R 7,643,347.26
TOTAL OF BILL C12 CARRIED TO SUMMARY						R 16,401,963.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C13 MATURATION PONDS				
		Quantities provided for two Concrete Lined Maturation Ponds and one Earth Lined Maturation Pond				
	PDP	SEWAGE PONDS				
		as specified in project specification PDP				
	PDP 7.1.6(a)	Draining of supernatant from Maturation Ponds to start of existing inlet works (maximum permissible pump rate of 120 m ³ /hr)				
1		(i) Maturation Pond No. 1	m ³	80701.54	4.62	R 372,841.11
2		(ii) Maturation Pond No. 2	m ³	5062.50	4.62	R 23,388.75
	PDP 7.1.6(b)	Removal of liquid sludge from existing pond which shall be pumped to Inlet Works (maximum permissible pump rate into inlet works of 80 m ³ /hr for a maximum of 12 hours per day)				
3		(i) Maturation Pond No. 1	m ³	26900.51	22.83	R 614,138.64
4		(ii) Maturation Pond No. 2	m ³	1687.50	22.83	R 38,525.63
	PDP 7.1.6(c)	Removal of liquid sludge from existing pond which shall be pumped into geotextile dewatering bags (provided by the Contractor) to a spoil site area within the construction footprint. Return of supernatant to start of Inlet Works.				
5		(i) Maturation Pond No. 1	m ³	21520.41	98.14	R 2,112,013.04
6		(ii) Maturation Pond No. 2	m ³	1350.00	98.14	R 132,489.00
	PDP 7.1.6(d)	Removal of settled sludge from bottom to stockpile on site as Instructed by Engineer				
7		(i) Maturation Pond No. 1	m ³	8968.84	72.92	R 653,861.97
8		(ii) Maturation Pond No. 2	m ³	562.50	72.92	R 41,017.50
	PDP 7.1.6(e)	Removal of organically contaminated earth from pond bottom and spoiling to stockpile on site as instructed by Engineer				
9		(i) Maturation Pond No. 1	m ³	2241.71	45.96	R 103,028.99
10		(ii) Maturation Pond No. 2	m ³	140.63	45.96	R 6,463.35
Carried forward /...						R 4,097,767.99

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	4,097,767.99
11	PDP 7.1.6(f)	Removal of organically contaminated earth from pond bottom or stockpile and disposal at hazardous waste landfill site of the Contractors choice which shall accept wastewater sludge (i) Load, transport and dispose of contaminated earth stockpiled on site	m³	2382.33	199.26	R	474,703.08
12	PDP 7.1.6(g)	Remove sludge from site and dispose of at a landfill site (i) Load, transport and dispose of sludge stockpiled on site	m³	19763.85	159.05	R	3,143,440.34
13	PDP 7.1.6(h)	Remove sludge from site and dispose of at a hazardous landfill site (i) Load, transport and dispose of sludge stockpiled on site	m³	3487.74	338.36	R	1,180,111.71
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	8,896,023.11

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 C	SITE CLEARANCE					
		as specified in SANS 1200C and in project					
	PSC 8.2.1	Clear and grub (including trees up to 1m girth):					
14		(a) Pond Embankments not more than 2.0 m wide	m ²	7500.00	15.00	R	112,500.00
15	PSC 8.2.10	Remove topsoil to nominal depth of 150mm, stockpile and maintain	m ³	1 125.00	55.35	R	62,268.75
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS							R 174,768.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in project specification					
16	PSD 8.3.2.1	(a) Excavate in all materials and use for embankment or backfill as ordered, from:					
		(i) Necessary excavations and compacting in layers of 150mm thick to 95% MOD AASTHO	m ³	11526.60	62.34	R	718,568.24
	PSD 8.3.3	Restricted Excavation					
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:					
17		Maturation Ponds	m ³	1032.35	62.34	R	64,356.70
		(b) Extra-over item 8.3.3 (a) for:					
18		Extra-over item 8.3.3 (a) for hand excavation	m ³	103.24	5.32	R	549.24
19	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	464.56	36.23	R	16,831.01
20	PSD 8.3.15	Extra over item PSD 8.3.3 for disposing of spoil material on a site provided by the Contractor	m ³	929.12	52.31	R	48,602.27
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
21		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	18095.29	141.12	R	2,553,607.32
22		200mm thick Granular fill material compacted to 90% MOD AASHTO	m ³	2800.00	277.47	R	776,916.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	4,179,430.78



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.5	Narrow widths up to 300 mm wide Different widths in the following range: (a) Up to 150 mm					
23		Sides of surface bed	m	3085.00	68.62	R	211,892.70
	8.3.2	High - Tensile Welded Mesh					
24		(i) Ref 395 for concrete slab	m ²	15094.77	83.73	R	1,263,885.09
	PSG 8.4.3	Strength concrete 30 MPa/19 mm (concrete)					
25		Apron	m ³	192.48	1944.68	R	374,312.01
		35 MPa/19 mm (watertight concrete)					
26		Surface bed	m ³	2100.00	2200.77	R	4,621,617.00
	PSG 8.4.4	Unformed surface finishes: (a) Wood-floated finish:					
27		Top of surface bed	m ²	14000.00	37.33	R	522,620.00
		(b) Steel-floated finish:					
28		Apron	m ²	1094.77	44.21	R	48,399.78
	PSG 8.5	Joints Expansion/contraction joints as detailed and indicated on drawings and/or specified in the Project Specification:					
29		4 x 25 mm saw-cut joints	m	570.00	88.10	R	50,217.00
	PSG 8.9	Impervious DPC membrane under concrete slabs:					
30		Under concrete slab	m ²	14000.00	12.78	R	178,920.00
Carried forward /...						R	7,271,663.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	7,271,663.58
		INLET STRUCTURE 01, 02 AND DRAINAGE Quantities provided for two Inlet Structures and two Drainage Sumps					
	8.2	Formwork:					
	8.2.1	Rough:					
		Vertical formwork to:					
31		Sides of horizontal base slabs and internal sump	m ²	31.01	457.46	R	14,185.83
	8.2.2	Smooth:					
		Vertical formwork to:					
32		Sides of walls	m ²	176.85	457.46	R	80,901.80
		Horizontal formwork to:					
33		Soffits of inlet slab and cover slab	m ²	90.00	737.97	R	66,417.30
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 150 mm					
34		Sides of external sump walls	m	11.20	68.62	R	768.54
	PSG 8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
35		8 mm dia	t	0.50	18085.37	R	9,042.69
36		10 mm dia	t	0.75	18085.37	R	13,564.03
		(b) High tensile steel bars					
37		10 mm dia	t	0.29	18085.37	R	5,244.76
38		12 mm dia	t	0.44	18085.37	R	7,957.56
39		16 mm dia	t	0.73	18085.37	R	13,202.32
40		20 mm dia	t	2.18	18085.37	R	39,426.11
41		25 mm dia	t	2.18	18085.37	R	39,426.11
42		32 mm dia	t	1.45	18085.37	R	26,223.79
	8.4	Concrete					
	8.4.2	Blinding layer in 15MPa/19 mm concrete:					
43		75 mm minimum thickness	m ²	176.24	165.98	R	29,252.32
Carried forward /...						R	7,617,276.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,617,276.73
	PSG 8.4.3	Strength concrete : 35 Mpa/19 mm (watertight concrete)				
44		Cover slab	m ³	22.01	2200.77	R 48,438.95
45		Sump floor	m ³	0.90	2200.77	R 1,980.69
46		Inlet floor slabs	m ³	119.51	2200.77	R 263,014.02
48		Outlet structure Slab	m ³	65.32	2200.77	R 143,754.30
49		Sump walls	m ³	0.92	2200.77	R 2,024.71
50		Inlet walls	m ³	28.88	2200.77	R 63,558.24
51		Outlet structure walls	m ³	12.80	2200.77	R 28,169.86
	PSG 8.4.4	Unformed surface finishes: (a) Wood-floated finish:				
52		Top of base slabs and sump floor	m ²	230.35	37.33	R 8,598.97
		(b) Steel-floated finish:				
53		Top of outlet structure slab and walls	m ²	23.08	44.21	R 1,020.37
	PSG 8.5	Joints Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: (1) Joint Type F:				
54		Through walls	m	88.00	305.16	R 26,854.08
Carried forward /...						R 8,204,690.90

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,204,690.90
		OUTLET STRUCTURE 01 AND 02 Quantities provided for two Outlet Structures				
	8.2	Formwork:				
	8.2.1	Rough:				
		Vertical formwork to:				
55		Sides of outlet structure ground beam	m ²	36.54	457.46	R 16,715.59
	8.2.2	Smooth:				
		Vertical formwork to:				
56		Sides of walls	m ²	118.73	457.46	R 54,314.23
	PSG 8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
57		8 mm dia	t	0.50	18085.37	R 9,042.69
58		10 mm dia	t	0.75	18085.37	R 13,564.03
		(b) High tensile steel bars				
59		10 mm dia	t	1.38	18085.37	R 24,957.81
60		12 mm dia	t	4.14	18085.37	R 74,873.43
61		16 mm dia	t	5.53	18085.37	R 100,012.10
62		20 mm dia	t	8.29	18085.37	R 149,927.72
63		25 mm dia	t	4.14	18085.37	R 74,873.43
64		32 mm dia	t	2.76	18085.37	R 49,915.62
	8.4	Concrete				
	8.4.2	Blinding layer in 15MPa/19 mm concrete:				
65		75 mm minimum thickness	m ²	11.20	165.98	R 1,858.98
	PSG 8.4.3	Strength concrete :				
		35MPa/19mm (watertight reinforced concrete):				
66		Outlet structure Ground beams	m ³	3.36	2200.77	R 7,394.59
67		Outlet walls	m ³	12.80	2200.77	R 28,169.86
68		Outlet floor	m ³	65.32	2200.77	R 143,754.30
Carried forward /...						R 8,954,065.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,954,065.25
69	PSG 8.4.4	Unformed surface finishes: (b) Steel-floated finish: Top of slab and walls	m²	108.84	44.21	R 4,811.82
	PSG 8.5	Joints Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: (1) Joint Type F:				
70		Through walls	m	54.38	305.16	R 16,594.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 8,975,471.67

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
PDP		SEWAGE PONDS				R 8,896,023.11
SANS 1200 C		SITE CLEARANCE				R 174,768.75
SANS 1200 D		EARTHWORKS				R 4,179,430.78
SANS 1200 G		CONCRETE (STRUCTURAL)				R 8,975,471.67
TOTAL OF BILL C13 CARRIED TO SUMMARY						R 22,225,694.31



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
		BILL C14 GRAVITY THICKENERS				
		Quantities provided for two gravity thickeners				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Sludge Gravity Thickener (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa) in 150 mm thick layers	m ³	3151.15	62.34	R 196,442.69
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	Hard rock excavation	m ³	346.63		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	346.63	5.32	R 1,844.07
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	16.23	158.17	R 2,567.10
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	1418.02	36.23	R 51,374.86
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	547.99	62.34	R 34,161.70
7		(f) Backfill stabilised with 5% cement directed by the Engineer	m ³	78.78	373.18	R 29,399.12
8		(g) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	8.58	1381.78	R 11,855.67
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 327,645.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
9		Sides of thickener footing curved to 7650 mm	m ²	38.45	457.46	R 17,589.34
10		Sides of sump footing curved to 1650 mm radius	m ²	8.29	457.46	R 3,792.34
11		Sump walls curved to 1400 mm radius	m ²	13.19	457.46	R 6,033.90
12		Sump wall curved to 1000 mm radius	m ²	13.19	457.46	R 6,033.90
13		Walls of supernatant collection chamber	m ²	24.50	457.46	R 11,207.77
14		Sides of pipe concrete encasement	m ²	7.28	379.64	R 2,763.78
15		Sides of 1500 x 1500 x 350 mm deep RC footing	m ²	8.40	457.46	R 3,842.66
16		Sides of 1200 x 1200 x 350 mm deep RC footing	m ²	3.36	457.46	R 1,537.07
	8.2.2	Smooth				
		Vertical formwork to:				
17		Thickener wall curved to 6750 mm radius	m ²	559.83	342.67	R 191,836.95
18		Thickener wall curved to 7050 mm radius	m ²	584.71	342.67	R 200,362.58
19		Sides of 350 x 350 mm columns	m ²	31.08	342.67	R 10,650.18
20		Sides of 550 x 350 mm RC Beams	m ²	20.46	342.67	R 7,011.03
21		Sides of launder channel walls curved to 6050 mm	m ²	64.62	647.28	R 41,827.23
22		Sides of launder channel walls curved to 6250 mm	m ²	43.20	647.28	R 27,962.50
23		Sides of bridge platform including 300 x 1000 mm deep RC beam	m ²	59.20	526.70	R 31,180.64
		Horizontal formwork to:				
24		Soffit of staircase landing	m ²	22.81	853.53	R 19,469.02
25		Soffit of bridge platform	m ²	22.64	853.53	R 19,323.92
26		Soffit of 550 x 350 mm RC beam	m ²	6.02	853.53	R 5,138.25
		Sloping formwork to:				
27		Soffit of launder channel (Approx. 8° to the	m ²	56.30	922.77	R 51,951.95
28		Soffit of staircase (Approx. 34° to the horizontal)	m ²	12.86	922.77	R 11,866.82
Carried forward /...						R 671,381.82

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 671,381.82
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 200 mm				
29		Staircase risers	m	17.14	119.19	R 2,042.92
30		Sides of bridge platform	m	66.85	91.49	R 6,116.11
		(b) Up to 250 mm				
31		Sides of supernatant collection chamber slab	m	10.48	114.37	R 1,198.60
32		Sides of staircase landing	m	8.00	114.37	R 914.96
		(c) Up to 300 mm				
33		Sides of 900 x 300 mm staircase footing	m	4.80	137.24	R 658.75
34		300 x 300 mm columns	m	24.40	137.24	R 3,348.66
35		Bottom of 300 x 1000 mm deep RC beam	m	54.00	137.24	R 7,410.96
36		Sides of 300 x 300 mm ground beam supporting staircase	m	3.60	137.24	R 494.06
		Groove chases and splays in the following ranges:				
37		100 x 100 mm chamfer (smooth, curved at 6050 - 6250 mm radius)	m	38.64	201.99	R 7,804.89
	PSG 8.2.6	Box out holes/Form voids				
		(c) Large, circular, of diameter over 0.35 m up to and including 0.7 m				
38		0 m to 0.5 m deep	No	2.00	795.05	R 1,590.10
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
39		8 mm dia	t	1.10	18085.37	R 19,893.91
40		10 mm dia	t	1.64	18085.37	R 29,660.01
		(b) High tensile steel bars				
41		10 mm dia	t	3.01	18085.37	R 54,436.96
42		12 mm dia	t	9.03	18085.37	R 163,310.89
43		16 mm dia	t	12.05	18085.37	R 217,928.71
44		20 mm dia	t	18.07	18085.37	R 326,802.64
Carried forward /...						R 1,514,994.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,514,994.94
45		25 mm dia	l	9.03	18085.37	R	163,310.89
46		32 mm dia	t	6.02	18085.37	R	108,873.93
	8.4	Concrete					
		Blinding layer in 15 MPa/19 mm concrete					
47	8.4.2	75 mm minimum thickness	m ²	388.48	165.98	R	64,479.91
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
48		Benching inside central sumps	m ³	10.20	1944.68	R	19,835.74
49		Benching inside supernatant collection chambers	m ³	0.46	1944.68	R	894.55
50		Pipe concrete encasement	m ³	3.40	1944.68	R	6,611.91
		35 MPa/26 mm (watertight concrete)					
51		Gravity thickener footing	m ³	32.60	2195.20	R	71,563.52
		35 MPa/19 mm (watertight concrete)					
52		Sump floors	m ³	7.00	2200.77	R	15,405.39
53		Sump walls	m ³	5.20	2200.77	R	11,444.00
54		Gravity thickener floor	m ³	99.88	2200.77	R	219,812.91
55		Gravity thickener walls	m ³	172.04	2200.77	R	378,620.47
56		Laundry walls	m ³	9.66	2200.77	R	21,259.44
57		Laundry floor	m ³	11.26	2200.77	R	24,780.67
58		Supernatant collection chamber walls	m ³	3.06	2200.77	R	6,734.36
59		Supernatant collection chamber slab	m ³	1.60	2200.77	R	3,521.23
		30 MPa/19 mm					
60		Bridge platform	m ³	8.00	1944.68	R	15,557.44
61		Beams	m ³	15.97	1944.68	R	31,056.54
62		Columns	m ³	3.27	1944.68	R	6,359.10
63		Staircase	m ³	4.50	1944.68	R	8,751.06
64		Staircase landings	m ³	7.38	1944.68	R	14,351.74
65		Footings	m ³	4.57	1944.68	R	8,887.19
Carried forward /...						R	2,717,106.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 2,717,106.93
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
66		Top of floor slabs and footings	m ²	1853.30	37.33	R 69,183.69
67		Top of stairs	m ²	13.00	37.33	R 485.29
		(b) Steel-floated finish:				
68		Laundry channel screed	m ²	40.80	44.21	R 1,803.77
69		Top of walls	m ²	28.80	44.21	R 1,273.25
70		Top of bridge platform	m ²	40.20	44.21	R 1,777.24
71		Top of staircase landing	m ²	29.50	44.21	R 1,304.20
		(c) Power-floated finish:				
72		Screed to conical shaped floors	m ²	280.00	46.93	R 13,140.40
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint Type B:				
73		In 200 mm thick floor slabs (5750 mm radius)	m	72.00	686.12	R 49,400.64
		(2) Joint Type D:				
74		In 200 mm thick floor slabs, straight	m	65.60	621.09	R 40,743.50
75		In 200 mm thick floor slabs (1700 mm radius)	m	22.00	621.09	R 13,663.98
		(3) Joint Type F:				
76		In 300 mm thick walls, curved in plan to inside radius (6750 - 7050) mm	m	173.42	305.16	R 52,920.85
77		In 400 mm thick walls, curved in plan to inside radius (1000 - 1400) mm	m	30.16	305.16	R 9,203.63
		(4) Joint Type R:				
78		Vertical joint where laundry channel joins perimeter walls, curved on plan at radius 6810 mm	m	85.58	305.16	R 26,115.59
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
79		Under floor slab	m ²	1297.31	12.78	R 16,579.62
Carried forward /...						R 3,014,702.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,014,702.57
	PSG 8.12	Granolithic Screeding					
		35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:					
80		52.5 mm average thick screed to launder channel at slope of 1 in 500	m ²	40.00	165.26	R	6,610.40
81		50 mm average thick screed to conical shaped gravity thickener floors at slope of 1 in 6	m ²	230.00	165.26	R	38,009.80
	PSG 8.13	Casting items in concrete					
		(a) Up to 300 mm nominal bore					
82		Through 200 mm slab (bridge platform)	No	2.00	837.41	R	1,674.82
83		Through 250 mm walls or sides (collection)	No	2.00	837.41	R	1,674.82
84		Through 300 mm walls or sides (perimeter)	No	10.00	837.41	R	8,374.10
85		Through 400 mm walls or sides of centre sump	No	2.00	891.17	R	1,782.34
	PSG 8.21	Watertightness testing:					
86		Gravity thickener	Sum	1.00	44712.72	R	44,712.72
	PSG 8.23	Concrete protection and proprietary floor					
87		Epoxy Type 1: Inside of launder walls including overflow concrete weir (all around)	m ²	192.42	642.87	R	123,701.05
88		Epoxy Type 2: Inside of launder walls including overflow concrete weir (all around)	m ²	192.42	678.75	R	130,605.08
	PSG 8.28	Miscellaneous work					
		Drainage or service duct pipes cast into					
89		194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or equivalent type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	16.00	3364.44	R	53,831.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,425,678.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 LE	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
90	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	48.00	430.27	R	20,652.96
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	20,652.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
91		a) Horizontal top mounted	m	88.00	1320.44	R 116,198.72
92		e) Sloping top mounted	m	7.50	1320.44	R 9,903.30
93		j) Bends	No	8.00	178.37	R 1,426.96
94		k) End Closures	No	20.00	245.39	R 4,907.80
95		m) Kick Plates	m	95.50	924.26	R 88,266.83
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 220,703.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	327,645.22
SANS 1200 G		CONCRETE (STRUCTURAL)				R	3,425,678.73
SANS 1200 LE		STORMWATER DRAINAGE				R	20,652.96
SANS 1200 H		STRUCTURAL STEELWORK				R	220,703.61
TOTAL OF BILL C14 CARRIED TO SUMMARY						R	3,994,680.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C15 RAS RETURN CHANNEL				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		RAS return channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	1690.41	62.34	R 105,380.16
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	Hard rock excavation	m ³	185.94		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	185.94	5.32	R 989.20
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	760.68	158.17	R 120,316.76
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	760.68	36.23	R 27,559.44
	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)				
6			m ³	2961.39	62.34	R 184,613.05
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	338.08	379.61	R 128,338.55
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 567,197.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in project specification				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
8		Sides of raft	m ²	189.13	342.67	R 64,809.18
	8.2.2	Smooth				
		Vertical formwork to:				
9		Side of channel walls	m ²	5358.29	342.67	R 1,836,125.23
10		Sides of elevated slab	m ²	46.00	619.61	R 28,502.06
		Horizontal formwork to:				
11		Soffit of elevated slab	m ²	22.50	853.53	R 19,204.43
	8.2.5	Narrow widths up to 300 mm wide				
12		Benching inside channel	m	1249.10	137.24	R 171,426.48
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
13		8 mm dia	t	2.69	18085.37	R 48,649.65
14		10 mm dia	t	4.04	18085.37	R 73,064.89
		(b) High tensile steel bars				
15		10 mm dia	t	7.41	18085.37	R 134,012.59
16		12 mm dia	t	22.23	18085.37	R 402,037.78
17		16 mm dia	t	29.64	18085.37	R 536,050.37
18		20 mm dia	t	44.45	18085.37	R 803,894.70
19		25 mm dia	t	22.23	18085.37	R 402,037.78
20		32 mm dia	t	14.82	18085.37	R 268,025.18
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
21		75 mm minimum thickness	m ²	1121.72	165.98	R 186,183.09
Carried forward /...						R 4,974,023.39

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,974,023.39
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
22		Benching inside channel	m³	12.41	1944.68	R 24,133.48
		35 MPa/19 mm (watertight concrete)				
23		RC Slabs	m³	370.20	2200.77	R 814,725.05
24		Elevated RC slabs	m³	13.50	2200.77	R 29,710.40
25		RC walls	m³	673.37	2200.77	R 1,481,932.49
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
26		Top of floor slabs	m²	1166.82	37.33	R 43,557.39
		(b) Steel-floated finish:				
27		Top of walls	m²	156.39	44.21	R 6,914.00
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type A				
28		In walls (all thicknesses)	m	120.00	917.84	R 110,140.80
		Joint Type B				
29		In rafts (all thicknesses)	m	54.00	686.12	R 37,050.48
		Joint Type F				
30		In walls (all thicknesses)	m	1249.10	305.16	R 381,175.36
	PSG 8.13	Casting items in concrete				
		Through walls and slabs (all sizes)				
31		500mm diameter GRP pipes	No	10.00	1139.91	R 11,399.10
	PSG 8.21	Watertightness testing:				
32		RAS Return Channel	Sum	1.00	33411.81	R 33,411.81
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,948,173.76

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
33		a) Horizontal top mounted	m	584.05	1320.44	R 771,202.98
34		e) Sloping top mounted	m	10.00	1320.44	R 13,204.40
35		j) Bends	No	8.00	178.37	R 1,426.96
36		k) End Closures	No	20.00	245.39	R 4,907.80
37		m) Kick Plates	m	594.05	924.26	R 549,056.65
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,339,798.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
38	SANS 1200 LE	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	300.77	430.27	R	129,412.31
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	129,412.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				
		as specified in PSGG in the project specifications				
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring				
39		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	606.25	1694.48	R 1,027,278.50
		(d) Miscellaneous Items				
40		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	50.00	942.63	R 47,131.50
41		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergate EZ Angle' or equivalent, with ribs as required)	m	50.00	806.43	R 40,321.50
42		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R 40,321.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,155,053.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 567,197.15
SANS 1200 G		CONCRETE (STRUCTURAL)				R 7,948,173.76
SANS 1200 H		STRUCTURAL STEELWORK				R 1,339,798.80
SANS1200 LE		STORMWATER DRAINAGE				R 129,412.31
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 1,155,053.00
TOTAL OF BILL C15 CARRIED TO SUMMARY						R 11,139,635.01



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C16 TREATED EFFLUENT OUTLET CHANNEL				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Treated Effluent Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	911.68	62.34	R 56,834.13
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	Hard rock excavation	m ³	100.29		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	100.29	5.32	R 533.54
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	410.26	158.17	R 64,890.82
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	410.26	36.23	R 14,863.72
	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	334.97	62.34	R 20,882.03
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	45.68	379.61	R 17,302.62
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 175,306.87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in project specification				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
8		Sides of raft	m²	52.45	342.67	R 17,973.04
	8.2.2	Smooth				
		Vertical formwork to:				
8		Side of channel walls	m²	1023.58	342.67	R 350,750.16
9		Side of flume benching	m²	23.63	342.67	R 8,097.29
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
10		8 mm dia	t	0.57	18085.37	R 10,308.66
11		10 mm dia	t	0.86	18085.37	R 15,553.42
		(b) High tensile steel bars				
12		10 mm dia	t	1.58	18085.37	R 28,574.88
13		12 mm dia	t	4.74	18085.37	R 85,724.65
14		16 mm dia	t	6.32	18085.37	R 114,299.54
15		20 mm dia	t	9.49	18085.37	R 171,630.16
16		25 mm dia	t	4.74	18085.37	R 85,724.65
17		32 mm dia	t	3.16	18085.37	R 57,149.77
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
18		75 mm minimum thickness	m²	298.28	165.98	R 49,508.51
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
19		Flume benching	m³	8.14	1944.68	R 15,829.70
		35 MPa/19 mm (watertight concrete)				
20		RC Slabs	m³	98.36	2200.77	R 216,467.74
21		RC walls	m³	127.52	2200.77	R 280,642.19
Carried forward /						R 1,508,234.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,508,234.37
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
22		Top of floor slabs	m ²	298.28	37.33	R 11,134.79
		(b) Steel-floated finish:				
23		Top of walls	m ²	47.96	44.21	R 2,120.31
24		Top of flume	m ²	4.62	44.21	R 204.25
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type A				
25		In walls (all thicknesses)	m	19.20	917.84	R 17,622.53
		Joint Type B				
26		In rafts (all thicknesses)	m	14.40	686.12	R 9,880.13
		Joint Type F				
27		In walls (all thicknesses)	m	340.73	305.16	R 103,977.17
	PSG 8.21	Watertightness testing:				
28		Treated Effluent Outlet Channel	Sum	1.00	27761.36	R 27,761.36
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,680,934.91

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications				
	PSH 8.3.7	Handrails				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
29		a) Horizontal top mounted	m	187.22	1320.44	R 247,212.78
30		e) Sloping top mounted	m	10.00	1320.44	R 13,204.40
31		j) Bends	No	8.00	178.37	R 1,426.96
32		k) End Closures	No	20.00	245.39	R 4,907.80
33		m) Kick Plates	m	197.22	924.26	R 182,282.56
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 449,034.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
34	SANS 1200 LE	STORMWATER DRAINAGE				
		as specified in SANS 1200LE and in the project specifications				
	PSLE 8.2.14	Supply and install subsurface drains complete				
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile.	m	77.71	430.27	R 33,436.28
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 33,436.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring					
35		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	269.96	1694.48	R	457,441.82
		(d) Miscellaneous Items					
36		Flooring Detail 2 (6.4mm thick 38x51mm GRP 'Fibergrate EZ Angle' or equivalent, with ribs as required)	m	50.00	806.43	R	40,321.50
37		Flooring Detail 2 (40x40x5mm SS316)	m	50.00	806.43	R	40,321.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	538,084.82

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 D		EARTHWORKS			R	175,306.87
SANS 1200 G		CONCRETE (STRUCTURAL)			R	1,680,934.91
SANS 1200 H		STRUCTURAL STEELWORK			R	449,034.49
SANS1200 LE		STORMWATER DRAINAGE			R	33,436.28
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING			R	538,084.82
TOTAL OF BILL C16 CARRIED TO SUMMARY						R 2,876,797.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C17 BYPASS EFFLUENT CHANNEL				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Bypass Effluent Channel (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	3084.51	62.34	R 192,288.35
		(b) Extra-over item 8.3.3 (a) for:				
2	8.3.3	Hard rock excavation	m ³	339.30		
3	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	339.30	5.32	R 1,805.08
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	1388.03	158.17	R 219,544.71
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	1388.03	36.23	R 50,288.33
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	184.23	62.34	R 11,484.90
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	154.23	373.18	R 57,555.55
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 532,966.91

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in project specification				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
8		Sides of raft	m²	285.69	342.67	R 97,897.39
	8.2.2	Smooth				
		Vertical formwork to:				
9		Side of channel walls	m²	5301.78	342.67	R 1,816,760.95
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
10		8 mm dia	t	3.06	18085.37	R 55,341.23
11		10 mm dia	t	4.58	18085.37	R 82,830.99
		(b) High tensile steel bars				
12		10 mm dia	t	8.40	18085.37	R 151,917.11
13		12 mm dia	t	25.21	18085.37	R 455,932.18
14		16 mm dia	t	33.62	18085.37	R 608,030.14
15		20 mm dia	t	50.43	18085.37	R 912,045.21
16		25 mm dia	t	25.21	18085.37	R 455,932.18
17		32 mm dia	t	16.81	18085.37	R 304,015.07
	8.4	Concrete				
		Blinding layer in 15 MPa/19 mm concrete				
18	8.4.2	75 mm minimum thickness	m²	1971.84	165.98	R 327,286.00
	PSG 8.4.3	Strength concrete				
		35 MPa/19 mm (watertight concrete)				
19		RC Slabs	m³	544.01	2200.77	R 1,197,240.89
20		RC walls	m³	656.65	2200.77	R 1,445,135.62
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
21		Top of floor slabs	m²	1971.84	37.33	R 73,608.79
Carried forward /...						R 7,983,973.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,983,973.75
22	PSG 8.5	(b) Steel-floated finish: Top of walls	m²	269.54	44.21	R 11,916.36
		Joints: Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: Joint Type A				
23		In walls (all thicknesses)	m	64.26	917.84	R 58,980.40
	PSG 8.13	Joint Type B				
24		In rafts (all thicknesses)	m	104.40	686.12	R 71,630.93
		Joint Type F				
25	PSG 8.13	In walls (all thicknesses)	m	1077.92	305.16	R 328,938.07
		Casting items in concrete				
		Through walls and slabs (all sizes)				
26	PSG 8.21	1650mm diameter RC pipe	No	1.00	3720.41	R 3,720.41
		Watertightness testing:				
27		Bypass Effluent Channel	Sum	1.00	33166.36	R 33,166.36
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 8,492,326.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
28		a) Horizontal top mounted	m	107.59	1320.44	R	142,066.14
29		e) Sloping top mounted	m	10.00	1320.44	R	13,204.40
30		j) Bends	No	8.00	178.37	R	1,426.96
31		k) End Closures	No	20.00	245.39	R	4,907.80
32		m) Kick Plates	m	117.59	924.26	R	108,683.73
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	270,289.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount Rc
33	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				
		as specified in PSGG in the project specifications				
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid flooring				
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	71.53	1694.48	R 121,206.15
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 121,206.15

BILL C17
BYPASS EFFLUENT CHANNEL

Tender
Part T2: Returnable Documents
Reference No. 203Q/2023/24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C18 FLOW SPLITTER STRUCTURES				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
		(a) SST 6-WAY SPLITTERS Quantities provided for two SST 6-way splitters				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		SST 6-Way Splitters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	389.95	62.34	R 24,309.48
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	42.89		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	42.89	5.32	R 228.17
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	175.48	158.17	R 27,755.67
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	175.48	36.23	R 6,357.64
	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	136.50	62.34	R 8,509.41
7		(f) Backfill stabilised with 5% cement directed by the Engineer	m ³	38.99	373.18	R 14,550.29
		(b) REACTOR 6-WAY SPLITTER				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
8		Reactor 6-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	389.93	62.34	R 24,308.24
		(b) Extra-over item 8.3.3 (a) for:				
9		Hard rock excavation	m ³	42.89		
Carried forward /...						R 106,018.90

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	106,018.90
10		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	42.89	5.32	R	228.17
11	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	175.47	158.17	R	27,754.09
12	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	175.47	36.23	R	6,357.28
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
13		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	216.12	62.34	R	13,472.92
14		(f) Backfill stabilised with 5% cement directed by the Engineer	m ³	38.99	373.18	R	14,550.29
		(c) PST 6-WAY SPLITTER					
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:					
15		PST 6 Way Splitters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	18.96	62.34	R	1,181.97
		(b) Extra-over item 8.3.3 (a) for:					
16		Hard rock excavation	m ³	2.09			
17		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	2.09	5.32	R	11.12
18	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	8.53	158.17	R	1,349.19
19	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	8.53	36.23	R	309.04
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
20		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	668.30	62.34	R	41,661.82
21		(f) Backfill stabilised with 5% cement directed by the Engineer	m ³	338.87	373.18	R	126,459.51
	PSD 8.3.19	Deep Compaction					
22		(a) Deep compaction to be undertaken at the PST Splitter to a required depth of 2.5m	m ²	163.00	57.29	R	9,338.27
23		(b) Deep Compaction Testing to confirm E-Modulus at Inlet Works	Sum	1.00	43240.00	R	43,240.00
Carried forward /...						R	391,932.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 391,932.57
		(d) ANAEROBIC DIGESTERS SPLITTER BOX				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
24		Anaerobic Digesters Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick	m ³	73.43	62.34	R 4,577.63
		(b) Extra-over item 8.3.3 (a) for:				
25		Hard rock excavation	m ³	8.08		
26		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	8.08	5.32	R 42.99
27	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	33.04	158.17	R 5,225.94
28	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	33.04	36.23	R 1,197.04
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
29		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	36.42	62.34	R 2,270.42
30		(f) Backfill stabilised with 5% cement where directed by the Engineer	m ³	7.34	373.18	R 2,739.14
		(e) PRIMARY SLUDGE HOLDING TANKS 2-WAY SPLITTER				
	PSD 8.3.3	Restricted Excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
31		Primary Sludge Holding Tanks 2-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	210.54	62.34	R 13,125.06
		(b) Extra-over item 8.3.3 (a) for:				
29		Hard rock excavation	m ³	23.16		
30		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	23.16	5.32	R 123.21
32	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	94.74	158.17	R 14,985.03
33	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	94.74	36.23	R 3,432.43
Carried forward /...						R 439,651.45

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 439,651.45
34	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) (f) WAS HOLDING TANKS 4-WAY SPLITTER	m³	25.22	62.34	R 1,572.21
35	PSD 8.3.3	Restricted Excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer: WAS Holding Tanks 4-Way Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers (b) Extra-over item 8.3.3 (a) for:	m³	93.34	62.34	R 5,818.82
35		Hard rock excavation	m³	5.13		
36		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	10.27	5.32	R 54.64
37	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	42.00	158.17	R 6,643.14
38	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	42.00	36.23	R 1,521.66
39	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) (g) FLOW BALANCING TANK FLOW SPLITTER	m³	19.52	62.34	R 1,216.88
40	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer: Flow Balancing Tank Flow Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick (b) Extra-over item 8.3.3 (a) for:	m³	104.65	62.34	R 6,523.88
41	8.3.3	Hard rock excavation	m³	11.51		
42	PSD 8.3.3	(c) Extra-over item 8.3.3 (a) for hand excavation	m³	11.51	5.32	R 61.23
43	PSD 8.3.5	Extra excavation in all materials to provide working space	m²	47.09	158.17	R 7,448.23
44	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	47.09	36.23	R 1,706.07
Carried forward /...						R 472,218.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /.....						R 472,218.21
45	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated) (h) CONCRETE LINED MATURATION PONDS FLOW SPLITTER	m³	72.28	141.12	R 10,200.15
46	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer: Concrete Lined Maturation Ponds Flow Splitter (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	115.12	62.34	R 7,176.58
47		(b) Extra-over item 8.3.3 (a) for: Hard rock excavation	m³	12.66		
48		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	12.66	5.32	R 67.35
49	PSD 8.3.5	Extra excavation in all materials to provide working space	m²	51.80	158.17	R 8,193.21
50	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	51.80	36.23	R 1,876.71
51	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	72.28	141.12	R 10,200.15
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 509,932.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200G and in the project specifications (a) SST 6-WAY SPLITTERS Quantities provided for two SST 6-way splitters					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
52		Inlet Sump Slab	m ²	13.52	457.46	R	6,184.86
53		External Wall Inlet Sump Slab	m ²	33.66	457.46	R	15,398.10
54		External Wall 6 Way Splitter Sump Slab	m ²	16.24	457.46	R	7,429.15
		Horizontal formwork to:					
55		Soffit of 6 Way Splitter Sump Slab	m ²	38.52	853.53	R	32,877.98
	8.2.2	Smooth					
		Vertical formwork to:					
56		External walls	m ²	336.98	342.67	R	115,472.94
57		Splitter box partition walls	m ²	318.35	342.67	R	109,088.99
58		Staircase	m ²	34.11	457.46	R	15,603.96
		Horizontal formwork to:					
59		Apron slab	m ²	8.97	853.53	R	7,656.16
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 200 mm					
60		Staircase risers	m	9.90	91.49	R	905.75
		(b) Up to 250 mm					
61		Sides of staircase landing	m	2.70	114.37	R	308.60
		Groove chases and splays in the following					
62		125 x 125 mm chamfer	m	7.50	281.60	R	2,112.00
	8.3	Reinforcement:					
		(a) Mild steel bars:					
	8.3.1	8 mm dia					
63		8 mm dia	t	0.37	18085.37	R	6,691.59
64		10 mm dia	t	0.55	18085.37	R	9,946.95
Carried forward / ...						R	329,677.24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	329,677.24
		(b) High tensile steel bars					
65		10 mm dia	t	1.01	18085.37	R	18,266.22
66		12 mm dia	t	3.04	18085.37	R	54,979.52
67		16 mm dia	t	4.05	18085.37	R	73,245.75
68		20 mm dia	t	6.07	18085.37	R	109,778.20
69		25 mm dia	t	3.04	18085.37	R	54,979.52
70		32 mm dia	t	2.02	18085.37	R	36,532.45
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
71		75 mm minimum thickness	m ²	35.76	165.98	R	5,935.44
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
72		Pipe concrete encasement	m ³	8.50	1944.68	R	16,529.78
		35 MPa/26 mm (watertight concrete)					
73		Splitter floors	m ³	32.51	2195.20	R	71,365.95
		35 MPa/19 mm (watertight concrete)					
74		Splitter walls	m ³	93.24	2200.77	R	205,199.79
		30 Mpa/19 mm					
75		Staircase	m ³	3.23	1944.68	R	6,281.32
76		Beams	m ³	0.56	1944.68	R	1,089.02
77		Apron	m ³	8.32	1944.68	R	16,179.74
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
78		Top of floor slabs and footings	m ²	35.85	37.33	R	1,338.28
79		Top of stairs	m ²	2.48	37.33	R	92.58
		(b) Steel-floated finish:					
80		Top of walls	m ²	14.21	44.21	R	628.22
81		Top of staircase landing	m ²	2.04	44.21	R	90.19
Carried forward /...						R	1,002,189.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,002,189.22
	PSG 8.5	Joints: Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: (3) Joint Type F:					
82		In walls (all thicknesses)	m	48.40	305.16	R	14,769.74
	PSG 8.9	Impervious DPC membrane under concrete slabs:					
83		Under floor slab	m ²	10.00	16.35	R	163.50
	PSG 8.13	Casting items in concrete					
		(a) Over 300 mm up to 600 nominal bore					
84		Through 350 mm thick Splitter Wall	No	6.00	1139.91	R	6,839.46
		(b) Over 1500 mm up to 1800 mm nominal bore:					
85		Through 350 mm thick wall	No	1.00	3774.17	R	3,774.17
	PSG 8.21	Testing for water tightness:					
86		SST 6-Way Splitters	Sum	1.00	22110.91	R	22,110.91
		(b) REACTOR 6-WAY SPLITTER					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
87		Bottom slab	m ²	21.80	457.46	R	10,018.37
88		Inlet chamber wall	m ²	44.88	457.46	R	20,530.80
89		Inlet chamber top slab	m ²	4.64	457.46	R	2,122.61
		Horizontal formwork to:					
90		Sofit of Inlet Chamber slab	m ²	18.25	737.97	R	13,467.95
	8.2.2	Smooth					
		Vertical formwork to:					
91		External Walls Main Splitter box	m ²	437.30	342.67	R	149,849.59
92		Splitter Box Partition Wall	m ²	237.39	342.67	R	81,346.43
		Horizontal formwork to:					
93		Sofit of Staircase and Landing	m ²	13.33	853.53	R	11,377.55
94		Staircase Footing	m ²	0.81	853.53	R	691.36
Carried forward /...						R	1,339,251.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,339,251.68
	8.2.5	Narrow widths up to 300 mm wide Different widths in the following range: (a) Up to 200 mm				
95		Staircase risers	m	36.00	91.49	R 3,293.64
96		Apron (b) Up to 300 mm	m²	46.80	91.49	R 4,281.73
97		Sides of staircase and landing Groove chases and splays in the following	m	11.39	137.24	R 1,563.16
98		125 x 125 mm chamfer Reinforcement:	m	10.25	281.60	R 2,886.40
	8.3	(a) Mild steel bars:				
	8.3.1	8 mm dia	t	0.54	18085.37	R 9,766.10
100		10 mm dia	t	0.80	18085.37	R 14,468.30
		(b) High tensile steel bars				
101		10 mm dia	t	1.48	18085.37	R 26,766.35
102		12 mm dia	t	4.43	18085.37	R 80,118.19
103		16 mm dia	t	5.90	18085.37	R 106,703.68
104		20 mm dia	t	8.85	18085.37	R 160,055.52
105		25 mm dia	t	4.43	18085.37	R 80,118.19
106		32 mm dia	t	2.95	18085.37	R 53,351.84
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
107		75 mm minimum thickness	m²	89.20	165.98	R 14,805.42
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
108		Apron	m³	8.42	1944.68	R 16,374.21
109		Benching	m³	6.53	1944.68	R 12,698.76
		35 Mpa/26 mm (watertight concrete)				
110		Base slab	m³	48.81	2195.20	R 107,147.71
111		Bottom section of external wall	m³	13.40	2195.20	R 29,415.68
112		Inlet sump walls	m³	10.37	2195.20	R 22,764.22
Carried forward /...						R 2,085,830.79

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,085,830.79
		35 Mpa/19 mm (watertight concrete)				
113		Elevated slab	m ³	7.03	2200.77	R 15,471.41
114		External walls	m ³	91.20	2200.77	R 200,710.22
115		Internal walls	m ³	36.32	2200.77	R 79,931.97
		30 Mpa/19 mm				
116		Staircase	m ³	4.25	1944.68	R 8,264.89
117		Staircase beam	m ³	0.20	1944.68	R 388.94
118		Apron	m ³	8.42	1944.68	R 16,374.21
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
119		Top of floor slabs and footings	m ²	88.75	37.33	R 3,313.04
120		Top of elevated slab	m ²	18.25	37.33	R 681.27
121		Top of stair risers	m ²	2.48	37.33	R 92.58
122		Top of screed	m ²	19.54	37.33	R 729.43
		(b) Steel-floated finish:				
123		Top of walls	m ²	13.96	44.21	R 617.17
124		Top of staircase landing	m ²	2.04	44.21	R 90.19
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type F				
125		In walls (all thicknesses)	m	165.55	305.16	R 50,519.24
		Joint Type R				
126		In walls (all thicknesses)	m	3.45	305.16	R 1,052.80
		Isolation Joints				
127		10 mm "Jointex" between surfaces	m	31.41	337.08	R 10,587.68
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
128		Under floor slab	m ²	20.00	16.35	R 327.00
Carried forward /...						R 2,474,982.82

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,474,982.82
	PSG 8.13	Casting items in concrete				
		(a) Over 300 mm up to 600 nominal bore				
129		Through 300 mm thick Splitter Wall	No	8.00	1139.91	R 9,119.28
	PSG 8.21	Testing for water tightness:				
130		Reactor 6-Way Splitter	Sum	1.00	22110.91	R 22,110.91
		(c) PST 6-WAY SPLITTER				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
131		Sides of footings	m ²	62.33	342.67	R 21,358.62
132		Sides of channel walls under splitter	m ²	136.53	342.67	R 46,784.74
		Horizontal formwork to:				
133		Soffit of channel under splitter	m ²	29.30	853.53	R 25,008.43
	8.2.2	Smooth				
		Vertical formwork to:				
134		Sides of columns under inlet channel	m ²	86.40	457.46	R 39,524.54
135		Sides of columns under six outlet chambers	m ²	105.98	342.67	R 36,316.17
136		Sides of beams under channel	m ²	13.22	457.46	R 6,047.62
137		Sides of walls around inlet well	m ²	218.19	457.46	R 99,813.20
138		Sides of walls around outlet well	m ²	131.12	457.46	R 59,982.16
139		Sides of inlet channel	m ²	393.46	342.67	R 134,826.94
140		Sides of flume in inlet channel	m ²	27.43	457.46	R 12,548.13
141		Sides of six outlet chamber walls	m ²	141.12	457.46	R 64,556.76
142		Sides of partition walls in the splitter well	m ²	91.82	457.46	R 42,003.98
143		Sides of circular baffle wall in the splitter well	m ²	94.83	457.46	R 43,380.93
144		Sides of circular splitter wall	m ²	1288.78	342.67	R 441,626.24
145		Sides of splitter floor	m ²	13.08	457.46	R 5,983.58
146		Sides of splitter cover slab	m ²	50.59	457.46	R 23,142.90
Carried forward /						R 3,609,117.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,609,117.93
147		Horizontal formwork to: Soffit of inlet channel	m ²	132.90	853.53	R	113,434.14
148		Soffit of six outlet chamber floor	m ²	29.40	853.53	R	25,093.78
149		Soffit of splitter cover slab	m ²	86.60	853.53	R	73,915.70
	8.2.5	Narrow widths up to 300 mm wide					
		(b) Groove chases and splays in the following ranges:					
		Chamfers and splays over 40 x 40 mm					
150		100 x 100 mm chamfer	m	18.15	201.99	R	3,666.12
151		Chamfers 45x45 L-Channel support for Gratings	m	147.40	208.09	R	30,672.47
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
152		8 mm dia	t	0.76	18085.37	R	13,744.88
153		10 mm dia	t	1.15	18085.37	R	20,798.18
		(b) High tensile steel bars					
154		10 mm dia	t	2.10	18085.37	R	37,979.28
155		12 mm dia	t	6.30	18085.37	R	113,937.83
156		16 mm dia	t	8.40	18085.37	R	151,917.11
157		20 mm dia	t	12.60	18085.37	R	227,875.66
158		25 mm dia	t	6.30	18085.37	R	113,937.83
159		32 mm dia	t	4.20	18085.37	R	75,958.55
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
160		75 mm minimum thickness	m ²	113.20	165.98	R	18,788.94
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
161		Mass concrete for Parshall flume including any necessary formwork or unformed surfaces to slopes, channels, etc.	Sum	1.00	24123.13	R	24,123.13
162		Benching required on buried channel	m ²	1.52	1944.68	R	2,955.91
163		Benching required on main circular inlet chamber	m ²	9.58	1944.68	R	18,630.03
Carried forward /...						R	4,676,547.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,676,547.47
		35 Mpa/26 mm (watertight concrete)				
164		Floor Slabs	m³	42.19	2195.20	R 92,615.49
165		Sump walls	m³	99.57	2195.20	R 218,576.06
		35 Mpa/19 mm (watertight concrete)				
166		Floor Slabs	m³	108.43	2200.77	R 238,629.49
167		Sump walls	m³	144.26	2200.77	R 317,483.08
		30 Mpa/19 mm				
168		Columns	m³	11.83	1944.68	R 23,005.56
169		Beams	m³	4.63	1944.68	R 9,003.87
170		Footings	m³	25.80	1944.68	R 50,172.74
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
171		Top of footings	m²	57.00	37.33	R 2,127.81
172		Top of channel slabs	m²	218.37	37.33	R 8,151.75
173		Top of splitter chamber floors	m²	303.69	37.33	R 11,336.75
		(b) Steel-floated finish:				
174		Top of splitter cover slab	m²	86.53	44.21	R 3,825.49
175		Top of walls	m²	25.68	44.21	R 1,135.31
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type F:				
176		Placed at the joints of 6 Way Splitter Chamber Slabs and wall	m	39.60	305.16	R 12,084.34
177		Placed at the joints of main Splitter Chamber walls and suspended slab	m	47.75	305.16	R 14,571.39
178		Placed at the joints of Inlet channel walls and slab	m	240.90	305.16	R 73,513.04
		Joint Type R:				
179		Main Splitter Circular Chamber Internal Wall	m	35.22	305.16	R 10,747.74
180		6 Way Splitter slab to Wall	m	18.00	305.16	R 5,492.88
Carried forward /...						R 5,769,020.27

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,769,020.27
		Joint Type A:				
181		Main Splitter Circular Chamber Internal Wall	m	13.80	305.16	R 4,211.21
	PSG 8.13	Casting items in concrete				
		(a) Over 1500 mm up to 1800 mm nominal bore:				
182		Through 500 mm Splitter Wall	No	6.00	4314.00	R 25,884.00
	PSG 8.21	Testing for water tightness:				
183		PST 6-Way Splitter	Sum	1.00	27761.36	R 27,761.36
	PSG 8.28	Miscellaneous work other than metal				
184		Supply and install 1 No. Horizontal Throated Flume complete as specified and detailed	Sum	1.00	81075.00	R 81,075.00
		(d) ANAEROBIC DIGESTERS SPLITTER BOX				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
185		Sides of Raft	m ²	10.36	457.46	R 4,739.29
186		0.35x0.35 RC Columns	m ²	2.80	457.46	R 1,280.89
187		Staircase Support	m ²	3.80	457.46	R 1,738.35
187		3000 wide RC Wall	m ²	6.70	457.46	R 3,064.98
188		0.3x0.45 RC Columns	m ²	3.00	457.46	R 1,372.38
	8.2.2	Smooth				
		Vertical formwork to:				
189		0.35x0.35 RC Columns	m ²	35.14	457.46	R 16,075.14
190		3000 Wide RC Wall	m ²	42.14	457.46	R 19,277.36
191		0.3x0.45 RC Columns	m ²	38.25	457.46	R 17,497.85
192		230 THK RC Walls	m ²	87.06	457.46	R 39,826.47
192		Splitter Box walls	m ²	16.57	457.46	R 7,580.11
		Sloping formwork to:				
194		Staircase (39° to the horizontal)	m ²	38.52	853.53	R 32,877.98
		Horizontal formwork to:				
195		Staircase Landings	m ²	12.90	853.53	R 11,010.54
196		Staircase Platforms	m ²	8.00	853.53	R 6,828.24
Carried forward /...						R 6,071,121.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 6,071,121.41
197		Top Staircase Platform	m ²	4.29	853.53	R 3,661.64
198		Splitter Box Floor slab	m ²	4.73	853.53	R 4,037.20
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 200 mm				
199		200mm Staircase Risers	m	15.00	91.49	R 1,372.35
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
200		8 mm dia	t	0.32	18085.37	R 5,787.32
201		10 mm dia	t	0.47	18085.37	R 8,500.12
		(b) High tensile steel bars				
202		10 mm dia	t	0.87	18085.37	R 15,734.27
203		12 mm dia	t	2.61	18085.37	R 47,202.82
204		16 mm dia	t	3.48	18085.37	R 62,937.09
205		20 mm dia	t	5.21	18085.37	R 94,224.78
206		25 mm dia	t	2.61	18085.37	R 47,202.82
207		32 mm dia	t	1.74	18085.37	R 31,468.54
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
208		75 mm minimum thickness	m ²	35.80	165.98	R 5,942.08
	PSG 8.4.3	Strength concrete				
		35 Mpa/26 mm (watertight concrete)				
209		Foundation Raft	m ³	15.75	2195.20	R 34,574.40
210		RC Columns	m ³	3.71	2195.20	R 8,144.19
		35 Mpa/19 mm (watertight concrete)				
211		Splitter Box Floor	m ³	1.56	2200.77	R 3,433.20
212		Inner Splitter Box dividing wall	m ³	1.07	2200.77	R 2,354.82
213		Splitter Box walls	m ³	4.56	2200.77	R 10,035.51
214		230 THK RC Walls	m ³	21.89	2200.77	R 48,174.86
215		350 THK RC Wall	m ³	17.58	2200.77	R 38,689.54
Carried forward /...						R 6,544,598.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 6,544,598.96
216		RC Staircase	m ³	47.04	2200.77	R 103,524.22
217		Platforms	m ³	8.57	2200.77	R 18,860.60
218		RC Columns	m ³	3.32	2200.77	R 7,306.56
		30 MPa/19 mm				
219		Benching inside Splitter Box	m ³	0.20	1944.68	R 388.94
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
220		Top of floor slabs and footings	m ²	384.33	37.33	R 14,347.04
		(b) Steel-floated finish:				
221		Top of walls	m ²	9.47	44.21	R 418.67
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
222		Under floor slab	m ²	447.22	16.35	R 7,312.05
	PSG 8.13	Casting items in concrete				
		(a) Up to 300 mm nominal bore				
223		Through 250 THK Platforms	No	7.00	1139.91	R 7,979.37
	PSG 8.21	Testing for water tightness:				
224		Anaerobic Digesters Staircase and Splitter Box	Sum	1.00	16705.91	R 16,705.91
		(e) PRIMARY SLUDGE HOLDING TANKS 2-WAY SPLITTER				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
225		Sides of footings	m ²	11.49	457.46	R 5,256.22
	8.2.2	Smooth				
		Vertical Formwork to				
226		Sides of columns	m ²	40.53	457.46	R 18,540.85
227		Sides of walls of staircase steps	m ²	1.40	457.46	R 640.44
228		Sides of staircase beam	m ²	1.58	457.46	R 722.79
229		Sides of walls	m ²	94.60	457.46	R 43,275.72
Carried forward /...						R 6,789,878.32

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	6,789,878.32
		Horizontal formwork to:					
230		Soffit of Staircase landing	m ²	2.10	853.53	R	1,792.41
231		Soffit of Splitter Slab	m ²	13.02	853.53	R	11,112.96
232		Soffit of Splitter Walkway	m ²	18.21	853.53	R	15,542.78
		Sloping formwork to:					
233		Soffit of staircase (Approx. 38° to the horizontal)	m ²	8.80	853.53	R	7,511.06
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(b) Up to 200 mm					
234		Sides of Staircase risers	m	17.60	91.49	R	1,610.22
235		Sides of Splitter Roof	m	20.60	91.49	R	1,884.69
		(c) Up to 250 mm					
236		Sides of Staircase landing	m	6.20	114.37	R	709.09
237		Sides of Walkway Platforms	m	22.34	114.37	R	2,555.03
		(d) Up to 300 mm					
238		Sides of beams under walkway	m	18.85	137.24	R	2,586.97
239		Sides of splitter floor	m	16.48	137.24	R	2,261.72
240		Sides of columns	m	19.58	137.24	R	2,687.16
		(b) Groove chases and splays in the following					
		Chamfers and splays over 40 x 40 mm					
241		100 x 100 mm chamfer (smooth, curved at 6050 - 6250 mm radius)	m	5.20	201.99	R	1,050.35
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
242		8 mm dia	t	0.12	18085.37	R	2,170.24
243		10 mm dia	t	0.18	18085.37	R	3,255.37
		(b) High tensile steel bars					
244		10 mm dia	t	0.30	18085.37	R	5,425.61
245		12 mm dia	t	0.91	18085.37	R	16,457.69
246		16 mm dia	t	1.21	18085.37	R	21,883.30
247		20 mm dia	t	1.82	18085.37	R	32,915.37
Carried forward /...						R	6,923,290.35

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	6,923,290.35
248	8.4	25 mm dia	t	0.91	18085.37	R	16,457.69
249		32 mm dia	t	0.61	18085.37	R	11,032.08
		Concrete					
		Blinding layer in 15 MPa/19 mm concrete					
250	8.4.2	75 mm minimum thickness	m²	37.62	165.98	R	6,277.36
	PSG 8.4.3	Strength Concrete					
		35 MPa/19 mm (Watertight Concrete)					
251	PSG 8.4.4	Splitter Floor	m³	4.27	2200.77	R	9,397.29
252		Splitter Roof	m³	2.62	2200.77	R	5,766.02
253		Splitter Walls	m³	7.27	2200.77	R	15,999.60
		30 Mpa/19 mm					
254		Footings	m³	14.98	1944.68	R	29,131.31
255		Floor Slabs	m³	0.35	1944.68	R	680.64
256		Columns	m³	2.71	1944.68	R	5,270.08
257		Walkway slab	m³	4.55	1944.68	R	8,848.29
258		Beams	m³	0.93	1944.68	R	1,808.55
259		Staircase Landing	m³	0.53	1944.68	R	1,030.68
260		Staircase	m³	8.20	1944.68	R	15,946.38
		Unformed surface finishes:					
		(a) Wood-floated finish:					
261		Top of floor slabs and footings	m²	38.82	37.33	R	1,449.15
262		Top of stairs	m²	7.25	37.33	R	270.64
263		Top of staircase upstand beam	m²	72.00	37.33	R	2,687.76
	(b) Steel-floated finish:						
264	Top of walkway	m²	144.01	44.21	R	6,366.68	
265	Top of stairs landing	m²	10.80	44.21	R	477.47	
266	Top of Splitter roof	m²	11.90	44.21	R	526.10	
	(1) Joint Type F:						
267	In walls (all thicknesses)	m	13.40	305.16	R	4,089.14	
Carried forward /...						R	7,066,803.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,066,803.26
268	PSG 8.21	Testing for water tightness: Primary Sludge Holding Tanks 2-Way Splitter (f) WAS HOLDING TANKS 4-WAY SPLITTER	No	1.00	11055.45	R	11,055.45
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
269		Sides of footings	m²	8.92	457.46	R	4,080.54
	8.2.2	Smooth					
		Vertical Formwork to					
270		Sides of columns	m²	14.00	457.46	R	6,404.44
271		Sides of walls	m²	131.02	457.46	R	59,936.41
		Horizontal formwork to:					
272		Sides of floor splitter	m²	20.28	853.53	R	17,309.59
273		Soffit of splitter walkway	m²	53.15	853.53	R	45,365.12
	8.2.5	Narrow widths up to 300 mm wide Different widths in the following range:					
		(a) Up to 150 mm					
274		Sides of Upstand Beam	m	116.67	68.62	R	8,005.90
		(c) Up to 250 mm					
275		Sides of Walkway Platforms	m	79.24	114.37	R	9,062.68
		(d) Up to 300 mm					
276		Sides of Floor	m	18.20	137.24	R	2,497.77
		(b) Groove chases and splays in the following ranges:					
		Chamfers and splays over 40 x 40 mm					
277		100 x 100 mm chamfer (smooth, curved at 6050 - 6250 mm radius)	m	6.60	201.99	R	1,333.13
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
278		8 mm dia	t	0.13	18085.37	R	2,351.10
279		10 mm dia	t	0.20	18085.37	R	3,617.07
Carried forward /...						R	7,237,822.45

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,237,822.45
		(b) High tensile steel bars					
280		10 mm dia	t	0.33	18085.37	R	5,968.17
281		12 mm dia	t	0.99	18085.37	R	17,904.52
282		16 mm dia	t	1.32	18085.37	R	23,872.69
283		20 mm dia	t	1.98	18085.37	R	35,809.03
284		25 mm dia	t	0.99	18085.37	R	17,904.52
285		32 mm dia	t	0.66	18085.37	R	11,936.34
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
286		75 mm minimum thickness	m ²	34.39	165.98	R	5,708.05
	PSG 8.4.3	Strength Concrete					
		35 MPa/19 mm (Watertight Concrete)					
287		Splitter Floor	m ²	6.69	2200.77	R	14,723.15
288		Splitter Walls	m ³	15.07	2200.77	R	33,165.60
		30 MPa/19 mm					
289		Footings	m ³	12.04	1944.68	R	23,413.95
290		Columns	m ³	1.23	1944.68	R	2,391.96
291		Walkway slab	m ³	13.29	1944.68	R	25,844.80
292		Upstand Beams	m ³	1.31	1944.68	R	2,547.53
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
293		Top of floor slabs and footings	m ²	34.39	37.33	R	1,283.78
294		Top of Upstand beam	m ²	8.71	37.33	R	325.14
		(b) Steel-floated finish:					
295		Top of walkway	m ²	53.15	44.21	R	2,349.76
		(1) Joint Type F:					
296		In 250 mm thick walls	m	37.60	305.16	R	11,474.02
	PSG 8.21	Testing for water tightness:					
297		WAS Holding Tanks 4-Way Splitter	No	1.00	22110.91	R	22,110.91
Carried forward /...						R	7,496,556.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,496,556.37
		(g) FLOW BALANCING TANK FLOW SPLITTER					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical Formwork to:					
298		Sides of base	m ³	1.68	457.46	R	768.53
299		Sides of internal walls	m ²	48.69	457.46	R	22,273.73
	8.2.3	Smooth					
		Vertical Formwork to:					
300		Sides of external walls	m ²	90.20	457.46	R	41,262.89
		Horizontal Formwork to:					
301		Soffit of roof slab	m ²	8.19	853.53	R	6,990.41
	8.2.5	Narrow Widths in the following range:					
		a) Up to 250mm					
302		Recess for manhole	m	4.00	114.37	R	457.48
	PSG 8.2.6	Box out holes/Form voids					
303		Large, other than circular, of area over 0.5m ² up to and including 1m ² (All)	No	2.00	1458.43	R	2,916.86
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
304		8 mm dia	t	0.37	18085.37	R	6,691.59
305		10mm dia	t	0.55	18085.37	R	9,946.95
		(b) High tensile steel bars					
306		10 mm dia	t	1.01	18085.37	R	18,266.22
307		12 mm dia	t	3.04	18085.37	R	54,979.52
308		16 mm dia	t	4.05	18085.37	R	73,245.75
309		20 mm dia	t	6.07	18085.37	R	109,778.20
310		25 mm dia	t	3.04	18085.37	R	54,979.52
311		32mm dia	t	2.02	18085.37	R	36,532.45
Carried forward /...						R	7,935,646.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,935,646.48
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
312		75 mm minimum thickness	m ²	17.64	165.98	R	2,927.89
	PSG 8.4.3	Strength concrete					
		35 MPa/19 mm (Watertight concrete)					
313		Splitter base	m ³	7.76	2200.77	R	17,077.98
314		Splitter walls	m ³	18.26	2200.77	R	40,186.06
315		Splitter roof slab	m ³	4.60	2200.77	R	10,123.54
	PSG 8.4.4	Uniformed surface finishes:					
		(a) wood-floated finish					
316		Top of base	m ²	13.68	37.33	R	510.67
		(b) Steel-floated finish:					
317		Top of roof slab	m ²	11.96	44.21	R	528.75
	PSG 8.5	Joints:					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the					
		(1) Joint Type F:					
318		In walls (all thicknesses)	m	26.40	305.16	R	8,056.22
	PSG 8.21	Testing for water tightness:					
319		Flow balancing tank flow splitter	Sum	1.00	22110.91	R	22,110.91
	PSG 8.13	Casting Items in concrete					
320		(a) Up to 300 mm nominal bore	No	6.00	1139.91	R	6,839.46
Carried forward /...						R	8,044,007.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	8,044,007.97
		(h) CONCRETE LINED MATURATION PONDS FLOW SPLITTER					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical Formwork to:					
321		Sides of base	m ²	1.68	457.46	R	768.53
322		Sides of internal walls	m ²	48.69	457.46	R	22,273.73
	8.2.3	Smooth					
		Vertical Formwork to:					
323		Sides of external walls	m ²	90.20	457.46	R	41,262.89
		Horizontal Formwork to:					
324		Soffit of roof slab	m ²	8.19	853.53	R	6,990.41
	8.2.5	Narrow Widths in the following range:					
		a) Up to 250mm					
325		Recess for manhole	m	4.00	114.37	R	457.48
	PSG 8.2.6	Box out holes/Form voids					
326		Large , other than circular, of area over 0.5m2 up to and including 1m2 (All)	No	2.00	1458.43	R	2,916.86
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
327		8 mm dia	t	0.37	18085.37	R	6,691.59
328		10mm dia	t	0.55	18085.37	R	9,946.95
		(b) High tensile steel bars					
329		10 mm dia	t	1.11	18085.37	R	20,074.76
330		12 mm dia	t	3.34	18085.37	R	60,405.14
331		16 mm dia	t	4.45	18085.37	R	80,479.90
332		20 mm dia	t	6.68	18085.37	R	120,810.27
333		25 mm dia	t	3.34	18085.37	R	60,405.14
334		32mm dia	t	2.23	18085.37	R	40,330.38
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
335		75 mm minimum thickness	m ²	17.64	165.98	R	2,927.89
Carried forward /...						R	8,520,749.87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	8,520,749.87
	PSG 8.4.3	Strength concrete					
		35 MPa/19 mm (Watertight concrete)					
336		Splitter base	m ³	8.54	2200.77	R	18,794.58
337		Splitter walls	m ³	20.09	2200.77	R	44,213.47
338		Splitter roof slab	m ³	5.07	2200.77	R	11,157.90
	PSG 8.4.4	Uniformed surface finishes:					
		(a) wood-floated finish					
339		Top of base	m ²	13.68	37.33	R	510.67
		(b) Steel-floated finish:					
340		Top of roof slab	m ²	11.96	44.21	R	528.75
	PSG 8.5	Joints:					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		(1) Joint Type F:					
341		In 250 mm thick walls	m	26.40	305.16	R	8,056.22
	PSG 8.21	Testing for water tightness:					
342		Flow balancing tank flow splitter	Sum	1.00	21114.68	R	21,114.68
	PSG 8.13	Casting Items in concrete					
343		(a) Up to 300 mm nominal bore	No	6.00	1113.03	R	6,678.18
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	8,631,804.33

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200H and in the project specifications					
		(a) SST 6-WAY SPLITTERS					
		Quantities provided for two SST 6-way splitters					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
344		a) Horizontal top mounted	m	20.26	1320.44	R	26,752.11
345		e) Sloping top mounted	m	2.82	1320.44	R	3,723.64
346		j) Bends	No	3.00	178.37	R	535.11
347		k) End Closures	No	2.00	245.39	R	490.78
348		m) Kick Plates	m	23.07	924.26	R	21,322.68
		(b) REACTOR 6-WAY SPLITTER					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
349		a) Horizontal top mounted	m	20.26	1320.44	R	26,752.11
350		e) Sloping top mounted	m	2.82	1320.44	R	3,723.64
351		j) Bends	No	3.00	178.37	R	535.11
352		k) End Closures	No	2.00	245.39	R	490.78
353		m) Kick Plates	m	23.07	924.26	R	21,322.68
		(c) PST 6-WAY SPLITTER					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
354		a) Horizontal top mounted	m	146.20	1320.44	R	193,048.33
355		e) Sloping top mounted	m	10.00	1320.44	R	13,204.40
356		j) Bends	No	15.00	178.37	R	2,675.55
357		k) End Closures	No	20.00	245.39	R	4,907.80
358		m) Kick Plates	m	156.20	924.26	R	144,369.41
Carried forward /...						R	463,854.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	463,854.14
		(d) ANAEROBIC DIGESTERS SPLITTER BOX					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
359		a) Horizontal top mounted	m	48.00	1320.44	R	63,381.12
360		e) Sloping top mounted	m	10.00	1320.44	R	13,204.40
361		j) Bends	No	15.00	178.37	R	2,675.55
362		k) End Closures	No	20.00	245.39	R	4,907.80
363		m) Kick Plates	m	58.00	924.26	R	53,607.08
		(e) PRIMARY SLUDGE HOLDING TANKS 2-WAY SPLITTER					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
364		Horizontal	m	23.61	1320.44	R	31,175.59
365		Sloping (measured on slope)	m	22.22	1320.44	R	29,340.18
366		j) Bends	No	4.00	178.37	R	713.48
367		k) End Closures	No	10.00	245.39	R	2,453.90
368		m) Kick Plates	m	45.83	924.26	R	42,358.84
		(f) WAS HOLDING TANKS 4-WAY SPLITTER					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
369		Horizontal	m	58.06	1320.44	R	76,664.75
370		j) Bends	No	8.00	178.37	R	1,426.96
371		k) End Closures	No	8.00	245.39	R	1,963.12
372		m) Kick Plates	m	58.06	924.26	R	53,662.54
		(g) FLOW BALANCING TANK FLOW SPLITTER					
	8.3.8	Ladders, complete and installed					
373		Flow balancing tank flow splitter (details as per drawing)	No	2.00	41618.50	R	83,237.00
Carried forward /...						R	924,626.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	924,626.43
	8.3.14	Miscellaneous Items:					
374		Copolymer long leg step irons to be installed to suppliers specification, drilled and epoxied into concrete wall. 400mm from the bottom of chamber, vertically staggered @ 300mm c/c.	No.	15.00	339.59	R	5,093.85
375		Clear opening std cast iron (single seal) manhole with cover and frame (details as per drawing)	No.	2.00	2918.7	R	5,837.40
		(h) CONCRETE LINED MATURATION PONDS FLOW SPLITTER					
	8.3.8	Ladders, complete and installed					
376		Concrete lined maturation ponds flow splitter (details as per drawing)	No.	2.00	48645.00	R	97,290.00
	8.3.14	Miscellaneous Items:					
377		Copolymer long leg step irons to be installed to suppliers specification, drilled and epoxied into concrete wall. 400mm from the bottom of chamber, vertically staggered @ 300mm c/c.	No.	15.00	339.59	R	5,093.85
378		Clear opening std cast iron (single seal) manhole with cover and frame (details as per drawing)	No.	2.00	2918.7	R	5,837.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,043,778.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 LE	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
		(a) SST 6-WAY SPLITTERS					
		Quantities provided for two SST 6-way splitters					
	PSLE 8.2.14	Supply and install subsurface drains complete					
379		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	10.70	430.27	R	4,603.89
		(c) PST 6-WAY SPLITTER					
	PSLE 8.2.14	Supply and install subsurface drains complete					
380		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	25.00	430.27	R	10,756.75
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	15,360.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR as specified in PSGG in the project specifications (a) SST 6-WAY SPLITTERS					
381	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	30.00	942.63	R	28,278.90
		(b) REACTOR 6-WAY SPLITTER					
382	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	2.82	1694.48	R	4,778.43
		(d) ANAEROBIC DIGESTERS SPLITTER BOX					
383	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	5.00	1694.48	R	8,472.40
		(e) PRIMARY SLUDGE HOLDING TANKS 2-WAY SPLITTER					
384	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	2.00	1694.48	R	3,388.96
		(f) WAS HOLDING TANKS 4-WAY SPLITTER					
385	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	20.00	1694.48	R	33,889.60
		(g) FLOW BALANCING TANK FLOW SPLITTER					
386	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	10.00	942.63	R	9,426.30
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	88,234.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	509,932.37
SANS 1200 G		CONCRETE (STRUCTURAL)				R	8,631,804.33
SANS 1200 H		STRUCTURAL STEELWORK				R	1,043,778.93
SANS 1200 LE		STORMWATER DRAINAGE				R	15,360.64
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	88,234.59
							</

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C19 RETURN FLOW PUMP STATION				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200 D and in the project specifications				
		RETURN FLOW PUMP STATION				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer: Return Flow Pump Station (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	301.94	62.34	R 18,822.94
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m³	30.19		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	30.19	5.32	R 160.61
4	8.3.5	Extra excavation in all materials to provide working	m³	68.62	158.17	R 10,853.63
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	135.87	36.23	R 4,922.57
		Importing of materials for fill under floors and foundations				
6	PSD 8.3.16	(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	58.81	62.34	R 3,666.22
7		(f) Backfill stabilised with 5% cement directed by the Engineer	m³	30.2	373.18	R 11,266.30
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 49,692.27

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
8	PSG 5.5.20	Backfilling of excess excavations				
		3% cement stabilized sand compacted to 100% MAMDD (MOD AASHTO maximum dry density) in 150 mm thick layers (unless otherwise stated)	m ³	16.33	275.20	R 4,494.02
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
9		Sides of pump station footings	m ²	11.97	457.46	R 5,475.80
10		Sides of pump station walls	m ²	82.27	457.46	R 37,635.23
	8.2.2	Smooth				
		Vertical formwork to:				
11		Sides of pump station walls	m ²	9.30	457.46	R 4,254.38
		Horizontal formwork to:				
12		Soffit of cover slab	m ²	35.00	853.53	R 29,873.55
	PSG 8.2.6	Box out holes/form voids				
		Large, other than circular, of area over 0.1m ² up to and including 0.5m ²				
13		0 m to 0.5 m deep	No	5.00	795.05	R 3,975.25
		Larger, other than circular, of area over 0.5m ² up to and including 1.5m ²				
14		0 m to 0.5 m deep	No	2.00	1243.93	R 2,487.86
Carried forward /...						R 88,196.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 88,196.08
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
15		8 mm dia	t	0.09	18085.37	R 1,627.68
16		10 mm dia	t	0.14	18085.37	R 2,531.95
		(b) High tensile steel bars				
17		10 mm dia	t	0.25	18085.37	R 4,521.34
18		12 mm dia	t	0.76	18085.37	R 13,744.88
19		16 mm dia	t	1.01	18085.37	R 18,266.22
20		20 mm dia	t	1.51	18085.37	R 27,308.91
21		25 mm dia	t	0.76	18085.37	R 13,744.88
22		32 mm dia	t	0.50	18085.37	R 9,042.69
	8.4	Concrete				
	8.42	Blinding layer in 15 Mpa/19 mm concrete				
23		75 mm minimum thickness	m²	23.77	165.98	R 3,945.34
	PSG 8.4.3	Strength concrete				
		25 Mpa/19 mm				
24		Benching	m³	2.58	1944.68	R 5,017.27
		35 Mpa/19 mm (watertight concrete)				
25		Base slabs	m³	8.50	2200.77	R 18,706.55
26		Cover slab	m³	3.67	2200.77	R 8,076.83
27		Walls	m³	21.06	2200.77	R 46,348.22
Carried forward /...						R 261,078.85

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 261,078.85
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
28		Top of base slab	m ²	24.70	37.33	R 922.05
		(b) Steel-floated finish:				
29		Top of roof slab	m ²	16.97	44.21	R 750.24
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		(1) Joint Type F:				
30		In 300 mm thick walls	m	62.00	305.16	R 18,919.92
		(2) Joint Type R:				
31		In 300mm thick slab	m	3.70	305.16	R 1,129.09
	PSG 8.12	Granolithic Screeding				
		Floor screed:				
32		100mm screed 3% sloped to fall in dry well	m ²	20.00	66.22	R 1,324.40
	PSG 8.13	Casting items in Concrete				
		(a) Up to 300 mm nominal bore				
33		Through 300 mm walls or sides	No	2.00	1113.03	R 2,226.06
Carried forward /...						R 286,350.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 286,350.61
34	PSG 8.21	Testing for water tightness: Return flow pump station	Sum	1.00	27761.36	R 27,761.36
35	PSG 8.23	Concrete Protection and Proprietary Floor HDPE anchor-knob sheeting (3.0mm thick with anchor-knobs cast into concrete with formwork) For internal wet-well walls and roof slab	m²	55.35	559.56	R 30,971.65
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 345,083.62

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
36	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				
		as specified in PSGG in the project				
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid				
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	2.87	1694.48	R 4,863.16
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 4,863.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	49,692.27
SANS 1200 G		CONCRETE (STRUCTURAL)				R	345,083.62
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	4,863.16
TOTAL OF BILL C19 CARRIED TO SUMMARY							R 399,639.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C20 ANCILLARY STRUCTURES					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
		(a) ISOLATOR TRANSFORMERS					
	PSD 8.3.3	Restricted excavation					
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:					
1		Isolator Transformer (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layer	m ³	56.93	62.34	R	3,549.02
		(b) Extra-over item 8.3.3 (a) for:					
2		Hard rock excavation	m ³	5.69			
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	5.69	5.32	R	30.27
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	25.62	158.17	R	4,052.32
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	25.62	36.23	R	928.21
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
6		(b) G5 compacted to 97% Modified AASHTO (unless otherwise stated) in 150mm thick layers (unless otherwise stated)	m ³	16.97	545.87	R	9,263.41
7		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	47.09	62.34	R	2,935.59
8		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	5.69	374.28	R	2,129.65
		(b) PHOSPHATE BUND AREA					
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
9		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	375.75	62.34	R	23,424.26
Carried forward /...						R	46,312.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 46,312.73
10	PSD 8.3.16	(c) GAS CLEANING FACILITY Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	439.98	62.34	R 27,428.35
11	PSD 8.3.16	(d) ODOUR CONTROL UNITS Quantities provided for three Odour Control Units Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	8.28	62.34	R 516.18
12	PSD 8.3.16	(e) SST CLUSTER DISTRIBUTION/MIXING Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	117.81	62.34	R 7,344.28
13	PSD 8.3.3	(f) RAW SEWAGE COLLECTION CHAMBER Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer: Raw sewage collection chamber (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick	m³	38.83	62.34	R 2,420.66
14		(b) Extra-over item 8.3.3 (a) for: Hard rock excavation	m³	3.88		
15		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	3.88	5.32	R 20.64
16	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	17.47	158.17	R 2,763.23
17	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	17.47	36.23	R 632.94
18	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	95.88	62.34	R 5,977.16
Carried forward /...						R 93,416.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 93,416.16
19	PSD 8.3.16	(g) PRIMARY SLUDGE WITHDRAWAL VALVE Quantities provided for two Primary Sludge Withdrawal Valve Chambers Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	118.23	62.34	R 7,370.46
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 100,786.62

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
20	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
	PSDB 8.3.2	as specified in SANS 1200DB and in project Excavation: (a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material: (i) Pipes over 200 mm dia and up to 700 mm dia: Drainage pipe to oil interceptor Over 2.5 m up to 3.5 m	m	20.00	418.35	R	8,367.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	8,367.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		(a) ISOLATOR TRANSFORMERS					
	8.2	Formwork					
	8.2.2	Smooth					
		Vertical formwork to:					
21		Plinths	m ²	3.60	457.46	R	1,646.86
22		Oil Interceptor chamber	m ²	52.74	457.46	R	24,126.44
23		Fire barrier base	m ²	7.36	457.46	R	3,366.91
24		Fire barrier wall	m ²	41.06	457.46	R	18,783.31
		Horizontal formwork to:					
25		Soffit of oil interceptor chamber slab	m ²	9.35	737.97	R	6,900.02
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 200mm					
26		Plinths inner wall	m	38.60	91.49	R	3,531.51
		(b) Up to 300 mm					
27		Plinths	m	41.80	137.24	R	5,736.63
28		Oil interceptor chamber base	m	16.48	137.24	R	2,261.72
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
29		8 mm dia	t	0.10	18085.37	R	1,808.54
30		10 mm dia	t	1.15	18085.37	R	20,798.18
		(b) High tensile steel bars					
31		10mm dia	t	0.28	18085.37	R	5,063.90
32		12mm dia	t	0.83	18085.37	R	15,010.86
33		16mm dia	t	1.10	18085.37	R	19,893.91
34		20mm dia	t	1.66	18085.37	R	30,021.71
35		25mm dia	t	0.83	18085.37	R	15,010.86
36		32mm dia	t	0.55	18085.37	R	9,946.95
Carried forward /...						R	183,908.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	183,908.30
	8.4	Concrete					
		Blinding layer in 15 MPa/19 mm concrete					
37		75mm thickness	m ²	82.45	165.98	R	13,685.05
	PSG 8.4.3	Strength concrete					
		30Mpa / 19mm					
38		Plinths	m ²	14.10	1944.68	R	27,419.99
39		Fire barrier walls base	m ³	4.37	1944.68	R	8,498.25
40		Fire barrier walls	m ³	15.55	1944.68	R	30,239.77
41		Oil interceptor chamber base	m ³	3.39	1944.68	R	6,592.47
42		Oil interceptor chamber walls	m ³	4.26	1944.68	R	8,284.34
43		Oil interceptor chamber internal walls	m ²	2.52	1944.68	R	4,900.59
44		Oil interceptor chamber suspended slab	m ³	3.39	1944.68	R	6,592.47
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
45		Oil intereceptor chamber base	m ²	16.96	37.33	R	633.12
46		Fire wall barrier base	m ²	8.08	37.33	R	301.63
47		Top of fire barrier wall	m ²	2.84	37.33	R	106.02
		(b) Steel floated finish					
48		Top of plinths	m ²	56.57	44.21	R	2,500.96
49		Top of oil interceptor chamber	m ²	13.82	44.21	R	610.98
	PSG 8.13	Casting items in concrete					
		(a) Up to 300 mm nominal bore					
50		Through 200mm slabs	No	6.00	1113.03	R	6,678.18
		(b) PHOSPHATE BUND AREA					
	8.2	Formwork					
	8.2.1	Smooth					
		Vertical Formwork to:					
51		Sides of bund raft	m ²	12.00	457.46	R	5,489.52
52		Sides of drainage sump slab	m ²	1.76	457.46	R	805.13
53		Sides of bund walls	m ²	28.88	457.46	R	13,211.44
Carried forward /...						R	320,458.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 320,458.20
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
54		8 mm dia	t	0.07	18085.37	R 1,265.98
55		10 mm dia	t	0.10	18085.37	R 1,808.54
		(b) High tensile steel bars				
56		10 mm dia	t	0.18	18085.37	R 3,255.37
57		12 mm dia	t	0.55	18085.37	R 9,946.95
58		16 mm dia	t	0.73	18085.37	R 13,202.32
59		20 mm dia	t	1.10	18085.37	R 19,893.91
60		25 mm dia	t	0.55	18085.37	R 9,946.95
61		32 mm dia	t	0.37	18085.37	R 6,691.59
	8.4	Concrete				
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
62		Screed to fall	m ²	3.34	1944.68	R 6,495.23
		35 Mpa/19 mm				
63		Slabs	m ³	29.65	2200.77	R 65,252.83
64		Walls	m ³	3.41	2200.77	R 7,504.63
	PSG 8.4.4	Uniformed surface finishes:				
		(b) Steel-floated finish:				
65		Top of screed	m ²	83.41	44.21	R 3,687.56
66		Top of walls	m ²	9.75	44.21	R 431.05
67		Top of drainage channel	m ²	5.37	44.21	R 237.41
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Joint Type F:				
68		In walls (all thicknesses)	m	39.00	305.16	R 11,901.24
	PSG 8.23	Concrete protection and proprietary floor				
Carried forward /...						R 481,979.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 481,979.74
69		Apply (trowel-on) Sikaguard 720 Epodem (or equivalent) in combination with Sika 63N (or equivalent) to a thickness of 2mm Inside of drainage channel including bund walls	m²	108.12	678.75	R 73,386.45
		Provisional Sums				
70		Chemical Dosing Building	Prov Sum	1.00	1500000.00	R 1,500,000.00
71		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	1500000.00	10%	R 150,000.00
		(c) GAS CLEANING FACILITY				
	8.2	Formwork				
	8.2.1	Smooth				
		Vertical Formwork to:				
72		Sides of plinth	m²	25.00	457.46	R 11,436.50
	8.3	Reinforcement:				
73		Mesh Ref 395	m²	625.00	83.73	R 52,331.25
	8.4	Concrete				
	PSG 8.4.3	Strength concrete				
		30MPa/19mm				
74		Surface bed	m³	156.25	1944.68	R 303,856.25
	PSG 8.4.4	Uniformed surface finishes:				
		(b) Steel-floated finish:				
75		Top of concrete plinth	m²	625.00	44.21	R 27,631.25
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:				
		Saw-cut joints				
76		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm deep, with and including 12mm "Sondor cordex" or equivalent	m	200.00	88.10	R 17,620.00
		(d) ODOUR CONTROL UNITS				
		Quantities provided for three Odour Control Units				
	8.2	Formwork				
	8.2.1	Smooth				
		Vertical Formwork to:				
Carried forward /...						R 2,618,241.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,618,241.44
77	8.3	Sides of plinths	m ²	19.50	457.46	R	8,920.47
		Reinforcement:					
78	8.4	Mesh Ref 395	m ²	126.00	83.73	R	10,549.98
		Concrete					
	PSG 8.4.3	Strength concrete 30MPa/19mm					
79	PSG 8.4.4	Surface bed	m ²	31.50	1944.68	R	61,257.42
		Uniformed surface finishes: (b) Steel-floated finish:					
80	8.2	Top of plinths	m ²	126.00	44.21	R	5,570.46
		(e) SST CLUSTER DISTRIBUTION/MIXING					
		Formwork					
		8.2.1 Rough					
		Vertical formwork to:					
81	8.2.2	RC Slab	m ²	15.20	457.46	R	6,953.39
		Smooth					
		Vertical formwork to:					
82		Sides of chamber walls	m ²	447.25	342.67	R	153,259.16
83		Sides of sluice gate openings	m ²	3.96	457.46	R	1,811.54
		Sloped formwork to:					
84		Stairs	m ²	3.20	853.53	R	2,731.30
		Horizontal formwork to:					
85		Top of sluice gate openings	m ²	1.98	853.53	R	1,689.99
86	8.2.5	Landing of stairs	m ²	1.87	853.53	R	1,596.10
		Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 200 mm					
87		Sides of concrete apron	m	46.80	91.49	R	4,281.73
88		Risers of stairs	m	12.00	91.49	R	1,097.88
Carried forward /...						R	2,877,960.86

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,877,960.86
89		(b) Up to 250 mm Sides of stairway landing	m	4.50	114.37	R	514.67
90		(b) Groove chases and splays in the following Chamfers and splays over 40 x 40 mm 150 x 150 chamfer on weir wall	m	9.00	470.77	R	4,236.93
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
91		8 mm dia	t	0.31	18085.37	R	5,606.46
92		10 mm dia	t	0.46	18085.37	R	8,319.27
		(b) High tensile steel bars					
93		10 mm dia	t	0.85	18085.37	R	15,372.56
94		12 mm dia	t	2.54	18085.37	R	45,936.84
95		16 mm dia	t	3.38	18085.37	R	61,128.55
96		20 mm dia	t	5.08	18085.37	R	91,873.68
97		25 mm dia	t	2.54	18085.37	R	45,936.84
98		32 mm dia	t	1.69	18085.37	R	30,564.28
99		Mesh Ref 395	m ²	61.20	83.73	R	5,124.28
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
100		75 mm minimum thickness	m ²	84.24	165.98	R	13,982.16
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
101		150 mm Concrete apron	m ³	9.18	1944.68	R	17,852.16
		35 MPa/26 mm (watertight concrete)					
102		Base slab	m ³	33.70	2195.20	R	73,978.24
		35 MPa/19 mm (watertight concrete)					
103		Chamber walls	m ³	76.20	2200.77	R	167,698.67
		30 Mpa/19 mm					
104		Stairs	m ³	1.46	1944.68	R	2,839.23
Carried forward /...						R	3,468,925.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,468,925.68
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
105		Top of floor slab	m ²	88.56	37.33	R	3,305.94
106		Top of stairs	m ²	4.97	37.33	R	185.53
		(b) Steel-floated finish:					
107		Top of apron	m ²	61.20	44.21	R	2,705.65
108		Top of walls	m ²	16.57	44.21	R	732.56
109		Top of staircase landing	m ²	2.25	44.21	R	99.47
	PSG 8.5	Joints:					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		Joint Type F					
110		In walls (all thicknesses)	m	129.06	305.16	R	39,383.95
		Isolation Joints					
111		10 mm "Jointex" between surfaces	m	34.80	337.08	R	11,730.38
		Joint Type R2					
112		Through stair case beam	m	0.30	305.16	R	91.55
	PSG 8.21	Testing for water tightness:					
113		SST Cluster Distribution/Mixing Chamber	Sum	1.00	22110.91	R	22,110.91
	PSG 8.23	Concrete protection and proprietary floor					
114		Epoxy Finish Type 1: To internal RC wall	m ²	129.60	642.87	R	83,315.95
115		Epoxy Finish Type 2: To internal RC wall	m ²	129.60	678.75	R	87,966.00
		(f) RAW SEWAGE COLLECTION CHAMBER					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
116		Sides of raft	m ²	25.60	457.46	R	11,710.98
	8.2.2	Smooth					
Carried forward /...						R	3,732,264.55

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,732,264.55
117		Vertical formwork to: Chamber walls	m ²	366.12	342.67	R 125,458.34
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
118		8 mm dia	t	0.19	18085.37	R 3,436.22
119		10 mm dia	t	0.28	18085.37	R 5,063.90
		(b) High tensile steel bars				
120		10 mm dia	t	0.52	18085.37	R 9,404.39
121		12 mm dia	t	1.56	18085.37	R 28,213.18
122		16 mm dia	t	2.09	18085.37	R 37,798.42
123		20 mm dia	t	3.13	18085.37	R 56,607.21
124		25 mm dia	t	1.56	18085.37	R 28,213.18
125		32 mm dia	t	1.04	18085.37	R 18,808.78
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
126		75 mm minimum thickness	m ²	3.07	165.98	R 509.56
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
127		Chamber screed	m ³	12.08	1944.68	R 23,491.73
		35 Mpa/19 mm (watertight concrete)				
128		RC Raft	m ³	14.30	2200.77	R 31,471.01
129		Chamber walls	m ³	53.42	2200.77	R 117,565.13
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
130		Top of screed	m ²	27.20	37.33	R 1,015.38
131		Top of raft	m ²	7.32	37.33	R 273.26
		(b) Steel-floated finish:				
132		Top of floor walls	m ²	5.55	44.21	R 245.37
Carried forward /...						R 4,219,839.62

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	4,219,839.62
133	PSG 8.5	Joints: Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: Joint Type F In walls (all thicknesses)	m	44.00	305.16	R	13,427.04
134	PSG 8.21	Testing for water tightness: Raw Sewage Collection Chamber	Sum	1.00	11055.45	R	11,055.45
135	PSG 8.23	Concrete protection and proprietary floor Epoxy Finish Type 1: To internal RC wall	m²	205.40	642.87	R	132,045.50
136		Epoxy Finish Type 2: To internal RC wall	m²	205.40	678.75	R	139,415.25
137	PSG 8.28	HD Bolts & Miscellaneous metal work: Supply and install as specified on drawings the following: (1) Clear opening std cast iron (single seal) manhole with cover and frame (i) 1000 x 1000mm (g) PRIMARY SLUDGE WITHDRAWAL VALVE Quantities provided for two Primary Sludge Withdrawal Valve Chambers	No	2.00	2918.70	R	5,837.40
138	8.2	Formwork					
139	8.2.1	Rough Vertical formwork to: Sides of raft Sides of chamber walls	m²	13.56	457.46	R	6,203.16
140	8.2.2	Smooth Vertical formwork to: Sides of elevated slab Horizontal formwork to: Soffit of elevated slab	m²	9.01	457.46	R	4,121.71
141			m²	27.69	737.97	R	20,434.39
Carried forward /...						R	4,603,564.72

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	4,603,564.72
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
142		8 mm dia	t	0.06	18085.37	R	1,085.12
143		10 mm dia	t	0.09	18085.37	R	1,627.68
		(b) High tensile steel bars					
144		10 mm dia	t	0.16	18085.37	R	2,893.66
145		12 mm dia	t	0.49	18085.37	R	8,861.83
146		16 mm dia	t	0.65	18085.37	R	11,755.49
147		20 mm dia	t	0.97	18085.37	R	17,542.81
148		25 mm dia	t	0.49	18085.37	R	8,861.83
149		32 mm dia	t	0.32	18085.37	R	5,787.32
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
150		75 mm minimum thickness	m²	37.68	165.98	R	6,254.13
	PSG 8.4.3	Strength concrete					
		25 MPa/19 mm					
151		Chamber screed	m³	0.86	1944.68	R	1,283.49
		35 Mpa/19 mm (watertight concrete)					
152		RC Raft	m³	4.80	2200.77	R	10,563.70
153		Elevated slab	m³	2.24	2200.77	R	4,929.72
154		Chamber walls	m³	11.75	2200.77	R	25,859.05
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
155		Top of screed	m²	22.51	37.33	R	840.30
156		Top of raft	m²	8.01	37.33	R	299.01
		(b) Steel-floated finish:					
157		Top of elevated slab	m²	27.69	44.21	R	1,224.17
Carried forward /...						R	4,713,234.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	4,713,234.03
	PSG 8.5	Joints: Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: Joint Type F					
158		In walls (all thicknesses)	m	27.87	305.16	R	8,504.81
	PSG 8.21	Testing for water tightness:					
159		Primary Sludge Withdrawal Valve Chambers	Sum	1.00	16705.91	R	16,705.91
	PSG 8.23	Concrete protection and proprietary floor Epoxy Finish Type 1: To internal RC wall		81.08			
160		Epoxy Finish Type 2: To internal RC wall	m²	81.08	675.51	R	54,770.35
	PSG 8.28	HD Bolts & Miscellaneous metal work: Supply and install as specified on drawings the following: (1) Clear opening std cast iron (single seal) manhole with cover and frame					
161		(i) 900 x 900mm	No	2.00	1945.80	R	3,891.60
	PSG 8.13	CASTING ITEMS IN CONCRETE (e) SST CLUSTER DISTRIBUTION/MIXING Through walls and slabs (all sizes)					
162		1400mm diameter pipe openings	No.	6.00	3962.16	R	23,772.96
		(f) RAW SEWAGE COLLECTION CHAMBER Through walls and slabs (all sizes)					
163		1600mm diameter pipe opening	No	1.00	4610.41	R	4,610.41
164		1300mm diameter pipe openings	No	2.00	3962.16	R	7,924.32
165		1000mm diameter pipe openings	No.	2.00	3511.41	R	7,022.82
166		1700mm diameter pipe openings	No.	2.00	3962.16	R	7,924.32
		(g) PRIMARY SLUDGE WITHDRAWAL VALVE Quantities provided for two Primary Sludge Withdrawal Valve Chambers					
167		200mm diameter pipe openings	No.	6.00	871.84	R	5,231.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	4,853,592.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200 H and in project					
		(e) SST CLUSTER DISTRIBUTION/MIXING					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings					
168		a) Horizontal top mounted	m	40.00	1320.44	R	52,817.60
169		e) Sloping top mounted	m	5.00	1320.44	R	6,602.20
170		j) Bends	No	4.00	178.37	R	713.48
171		k) End Closures	No	10.00	245.39	R	2,453.90
172		m) Kick Plates	m	45.00	924.26	R	41,591.70
		(f) RAW SEWAGE COLLECTION CHAMBER					
	8.3.14	Miscellaneous Items:					
		Items measured by number:					
		Iron Steps					
173		Galvanised copolymer long leg step irons to be installed to suppliers specification, drilled and epoxied into concrete wall, 400mm from the bottom of chamber, vertically staggered @ 300mm c/c.	No.	23.00	339.59	R	7,810.57
		(g) PRIMARY SLUDGE WITHDRAWAL VALVE Quantities provided for two Primary Sludge Withdrawal Valve Chambers.					
	8.3.14	Miscellaneous Items:					
		Items measured by number:					
		Iron Steps					
174		Galvanised copolymer long leg step irons to be installed to suppliers specification, drilled and epoxied into concrete wall, 400mm from the bottom of chamber, vertically staggered @ 300mm c/c.	No.	14.00	339.59	R	4,754.26
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	116,743.71

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES				
		as specified in SANS 1200DB and in project specifications				
		(a) ISOLATOR TRANSFORMERS				
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of GRP pipes Class PN6 SN5000 manufactured to SANS 1748, complete with REKA couplings:				
		Drainage pipe to oil interceptor				
175		110mm dia	m	11.82	50.81	R 600.57
	8.2.2	Extra over item 8.2.1(b) for supplying, laying, jointing and bedding, below ground of fittings, specials, and valves complete with couplings (with stainless steel bolts) and corrosion protection as per specification:				
		Pipeline				
176		100mm nominal dia. Grade 304L stainless steel (SS) puddle pipe special, flanged on one end,	No	6.00	10128.45	R 60,770.70
177		100mm nominal dia. 90 deg bend, stainless steel Grade 304L stainless steel (SS)	No	2.00	7966.45	R 15,932.90
178		SG Iron flange adaptor for Upvc pipes	No	4.00	2474.97	R 9,899.88
179		110mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	1442.61	R 8,655.66
180		110mm dia. 1000mm long uPVC rocker pipe	No	4.00	669.70	R 2,678.80
181		110mm dia. 45 deg. uPVC bend	No	4.00	707.53	R 2,830.12
182		SG Iron equal tees for Upvc pipes	No	2.00	1318.30	R 2,636.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 104,005.23

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 LB	BEDDING (PROCESS PIPELINES) as specified in SANS 1200 LB and in the project specifications (all process pipes laid on bedding for flexible pipes)					
	PSLB 8.2.1	Provision of bedding from trench excavations:					
183		(a) Selected granular material	m ³	10.00	121.22	R	1,212.20
184		(b) Selected fill material	m ³	10.00	121.22	R	1,212.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2,424.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PSGG	GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION) as specified in PSGG in the project specifications (b) PHOSPHATE BUND AREA				
185	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	5.37	1694.48	R 9,099.36
		(e) SST CLUSTER DISTRIBUTION/MIXING				
186	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	64.00	1694.48	R 108,446.72
		(f) RAW SEWAGE COLLECTION CHAMBER				
187	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	21.20	1694.48	R 35,922.98
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 153,469.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SPE-CC-001	FENCING					
		as specified in Particular Specification					
		(a) ISOLATOR TRANSFORMERS					
188	6.1.01	Type 1 - 2.4m High Wire Mesh Fence					
		(i) Erect new fencing, Betafix Secure 70 x 44 x 3800mm long with vertical poles at 3020mm centres, 2.36m high, electrified, with security underdig complete as detailed on the drawings	m	80.00	1643.12	R	131,449.60
189	6.2.01	Supply and install new gates					
		(iii) Gate as indicated on the drawings, approximate size, 5080mm x 1750mm	No	2.00	56795.74	R	113,591.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	245,041.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 100,786.62
SANS1200 DB		EARTHWORKS (PIPE TRENCHES)				R 8,367.00
SANS 1200 G		CONCRETE (STRUCTURAL)				R 4,853,592.57
SANS 1200 H		STRUCTURAL STEELWORK				R 116,743.71
SANS1200 L		MEDIUM-PRESSURE PIPELINES				R 104,005.23
SANS1200 LB		BEDDING (PROCESS PIPELINES)				R 2,424.40
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R 153,469.05
SPE-CC-001		FENCING				R 245,041.08
TOTAL OF BILL C20 CARRIED TO SUMMARY						R 5,584,429.67

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C21 PRIMARY AND WAS SLUDGE SILOS Quantities provided for two Primary Sludge Silos and two WAS Sludge Silos				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill				
1		Primary and WAS Sludge Silo (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick	m³	56.76	97.74	R 5,547.72
2		(b) Extra-over item 8.3.3 (a) for: Hard rock excavation	m³	5.68		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	5.68	5.32	R 30.22
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	162.48	158.17	R 25,699.46
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	25.54	36.23	R 925.31
6	PSD 8.3.16	Importing of materials for fill under floors and foundations				
7		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	1978.86	62.34	R 123,362.13
8	PSD 8.3.19	(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer Deep Compaction	m³	28.38	373.18	R 10,590.85
9		(a) Deep compaction to be undertaken at the Sludge Silos to a required depth of required depth of 4.5m	m²	880.00	84.32	R 74,201.60
		(b) Deep Compaction Testing to confirm E-Modulus at Sludge Silos	Sum	1.00	43240.00	R 43,240.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 283,597.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	Formwork				
	8.2.1	Rough				
		Vertical formwork to:				
10		Sides of Silo raft	m²	173.04	342.67	R 59,295.62
11		Sides of walkway footing	m²	30.08	342.67	R 10,307.51
	8.2.2	Smooth				
		Vertical formwork to:				
12		Sides of 800 x 800mm columns	m²	360.96	342.67	R 123,690.16
13		Sides of 500 x 1000 mm columns	m²	338.40	342.67	R 115,959.53
14		Side of walkway supporting wall	m²	404.55	342.67	R 138,627.15
15		Sides of 550 x 400 mm RC Beams	m²	203.72	342.67	R 69,808.73
16		Sides of 400 x 350 mm RC Beams	m²	33.28	342.67	R 11,404.06
17		Sides of 350mm thick silo floor slab	m²	48.16	342.67	R 16,502.99
18		Sides of 350mm thick silo walls	m²	1925.76	342.67	R 659,900.18
16		Sides of 300mm thick walls supporting wall	m²	115.81	342.67	R 39,684.61
17		Sides of 400mm thick vertical walls in silo	m²	153.09	342.67	R 52,459.35
		Horizontal formwork to:				
19		Soffit of staircase landing	m²	9.00	853.53	R 7,681.77
20		Soffits of 550 x 400mm beams	m²	74.08	853.53	R 63,229.50
21		Soffit of 350mm thick silo floor slab	m²	287.94	853.53	R 245,765.43
21		Soffit of 250mm thick walkway slab	m²	221.28	853.53	R 188,869.12
22		Soffit of 300mm thick silo roof slab	m²	280.01	853.53	R 238,996.94
Carried forward /						R 2,042,182.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,042,182.64
23		Sloping formwork to:				
24		Soffit of staircase (Approx. 38° to the horizontal)	m²	1.00	853.53	R 853.53
25		Soffit of 400mm thick sloped wall (Approx. 60° to the horizontal)	m²	9.20	853.53	R 7,852.48
26		Face of 400mm thick sloped wall (Approx. 60° to the horizontal)	m²	9.20	853.53	R 7,852.48
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 200 mm				
27		Staircase risers	m	60.19	91.49	R 5,506.78
28		Sides of apron slab	m	60.19	91.49	R 5,506.78
29		Sides of silo roof walls	m	134.38	91.49	R 12,294.43
30		(b) Up to 250 mm				
31		Sides of staircase landing	m	38.00	114.37	R 4,346.08
32		Sides of walkway slab	m	117.84	114.37	R 13,477.36
		(c) Up to 300 mm				
33		Sides of roof slab	m	242.00	137.24	R 33,212.08
34		Sides of staircase ground beam	m	134.38	137.24	R 18,442.31
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
35		8 mm dia	t	3.42	18085.37	R 61,851.97
36		10 mm dia	t	5.14	18085.37	R 92,958.80
		(b) High tensile steel bars				
37		10 mm dia	t	9.42	18085.37	R 170,364.19
38		12 mm dia	t	28.26	18085.37	R 511,092.56
39		16 mm dia	t	37.67	18085.37	R 681,275.89
40		20 mm dia	t	56.51	18085.37	R 1,022,004.26
41		25 mm dia	t	28.26	18085.37	R 511,092.56
42		32 mm dia	t	18.84	18085.37	R 340,728.37
Carried forward /...						R 5,542,895.51

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	5,542,895.51
	8.4	Concrete					
	8.4.2	Blinding layer in 15 MPa/19 mm concrete					
43		75 mm minimum thickness	m ²	616.60	165.98	R	102,343.27
	PSG 8.4.3	Strength concrete					
		35 Mpa/19 mm (watertight concrete)					
44		Silo floor slab	m ³	100.78	2200.77	R	221,793.60
45		Silo walls	m ³	394.01	2200.77	R	867,125.39
46		Silo support and sloping walls	m ³	150.95	2200.77	R	332,206.23
		Silo walkway	m ³	55.20	2200.77	R	121,482.50
47		Silo 550 x 400mm beams	m ³	40.72	2200.77	R	89,615.35
		35 Mpa/26 mm (watertight concrete)					
48		Silo footing	m ³	437.36	2195.20	R	960,092.67
49		Silo columns	m ³	117.73	2195.20	R	258,440.90
		30 Mpa/19 mm					
50		Walkway supporting wall footing	m ³	18.96	1944.68	R	36,871.13
51		Walkway supporting wall	m ³	80.35	1944.68	R	156,255.04
52		Silo apron	m ³	81.24	1944.68	R	157,985.80
53		Silo 550 x 400mm beams	m ³	10.16	1944.68	R	19,757.95
54		Silo roof slab	m ³	84.00	1944.68	R	163,353.12
55		Silo roof walls	m ³	5.02	1944.68	R	9,762.29
56		Stairs volume	m ³	10.16	1944.68	R	19,757.95
57		Staircase Landings	m ³	2.75	1944.68	R	5,347.87
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finish:					
58		Top of floor slabs and footings	m ²	2143.14	37.33	R	80,003.42
59		Top of stairs	m ²	50.00	37.33	R	1,866.50
		(b) Steel-floated finish:					
60		Top of walls	m ²	25.06	44.21	R	1,107.90
61		Top of walkway	m ²	220.80	44.21	R	9,761.57
62		Top of staircase landings	m ²	11.00	44.21	R	486.31
Carried forward /...						R	9,158,312.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,158,312.28
	PSG 8.5	Joints: Expansion/contraction joints as detailed on the Drawings and/or specified in the Project					
63		(1) Isolation Joint: In 200 mm thick floor slabs (5750 mm radius)	m	170.04	337.08	R	57,317.08
64		(2) Saw-cut Joint: In 100mm thick RC apron slab	m	325.65	88.10	R	28,689.77
	PSG 8.12	Granolithic Screeding 35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the					
65		50 mm average thick screed to silo roof at slope of 1 in 100	m²	247.87	151.17	R	37,470.51
	PSG 8.13	Casting items in concrete					
66		(a) Up to 300 mm nominal bore	No	32.00	939.94	R	30,078.08
67		Up to 300 mm nominal bore	No	8.00	974.51	R	7,796.08
	PSG 8.21	Through 350 mm floor slab					
68		Watertightness testing:	Sum	1.00	44467.27	R	44,467.27
	PSG 8.28	Sludge Silos					
69		Miscellaneous Work	Sum	1.00	48645.00	R	48,645.00
		Rainwater Goods					
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	9,412,776.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
70		a) Horizontal top mounted	m	253.68	1320.44	R	334,969.22
71		e) Sloping top mounted	m	69.47	1320.44	R	91,730.97
72		j) Bends	No	8.00	178.37	R	1,426.96
73		k) End Closures	No	20.00	245.39	R	4,907.80
74		m) Kick Plates	m	323.15	924.26	R	298,674.62
	PSH 8.3.7	Ladders, complete and installed					
75		9000mm ladder to top of silos	No	4.00	62823.69	R	251,294.76
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	983,004.33

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 283,597.30
SANS 1200 G		CONCRETE (STRUCTURAL)				R 9,412,776.06
SANS 1200 H		STRUCTURAL STEELWORK				R 983,004.33
TOTAL OF BILL C21 CARRIED TO SUMMARY						R 10,679,377.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C22 PRIMARY SLUDGE CIRCULAR HOLDING TANKS Quantities provided for two primary sludge circular holding tanks				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill				
1		Primary Sludge Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick	m³	1684.79	97.74	R 164,671.37
2		(b) Extra-over item 8.3.3 (a) for: Hard rock excavation	m³	168.48		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	168.48	5.32	R 896.31
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	358.52	162.02	R 58,087.41
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	758.15	36.23	R 27,467.77
6	PSD 8.3.16	Importing of materials for fill under floors and (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	269.94	62.34	R 16,828.06
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m³	84.24	394.95	R 33,270.59
8		(g) Soilcrete backfill (class of material stated) where directed by the Engineer	m³	7.00	1381.78	R 9,672.46
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 310,893.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
9		Sides of holding tank raft	m ²	54.29	342.67	R	18,603.55
10		Sides of sump footing	m ²	8.48	342.67	R	2,905.84
11		Sides of tank footings	m ²	78.68	342.67	R	26,961.28
12		Sides of internal plinth	m ²	3.35	342.67	R	1,147.94
13		Sump walls curved to 1200 mm radius	m ²	25.12	342.67	R	8,607.87
14		Internal tank walls	m ²	1128.46	342.67	R	386,689.39
15		Internal columns	m ²	323.30	342.67	R	110,785.21
16		Sides of beams	m ²	10.87	342.67	R	3,724.82
17		Sides of concrete pipe encasement	m ²	18.00	342.67	R	6,168.06
	8.2.2	Smooth					
		Vertical formwork to:					
18		External tank walls	m ²	1162.31	342.67	R	398,288.77
19		Sides of tank roof	m ²	28.62	342.67	R	9,807.22
20		Sides of manhole opening	m ²	3.68	457.46	R	1,683.45
18		Sides of external plinth	m ²	3.95	457.46	R	1,806.97
		Horizontal formwork to:					
21		Soffit of beams	m ²	3.62	853.53	R	3,089.78
22		Soffit of roof slab	m ²	628.32	853.53	R	536,289.97
		Narrow widths up to 300 mm wide					
		(a) up to 50 mm					
23		Manhole recesses	m	16.00	45.75	R	732.00
Carried forward /...						R	1,517,292.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,517,292.12
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
24		8 mm dia	t	2.15	18085.37	R 38,883.55
25		10 mm dia	t	3.23	18085.37	R 58,415.75
		(b) High tensile steel bars				
26		10 mm dia	t	5.91	18085.37	R 106,884.54
27		12 mm dia	t	17.74	18085.37	R 320,834.46
28		16 mm dia	t	23.66	18085.37	R 427,899.85
29		20 mm dia	t	35.48	18085.37	R 641,668.93
30		25 mm dia	t	17.74	18085.37	R 320,834.46
31		32 mm dia	t	11.83	18085.37	R 213,949.93
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
32		75 mm minimum thickness	m ²	764.34	165.98	R 126,865.15
	PSG 8.4.3	Strength concrete				
		35 Mpa/19 mm (watertight concrete)				
33		Sump floors	m ³	6.36	2200.77	R 13,996.90
34		Sump walls	m ³	5.65	2200.77	R 12,434.35
33		Footings below tank	m ³	39.34	2200.77	R 86,578.29
35		Tank raft	m ³	216.39	2200.77	R 476,224.62
36		Tank walls	m ³	377.98	2200.77	R 831,847.04
36		Internal columns	m ³	36.04	2200.77	R 79,315.75
37		Internal plinths	m ³	1.03	2200.77	R 2,266.79
38		Internal beams	m ³	1.63	2200.77	R 3,587.26
39		Tank roof slab	m ³	194.31	2200.77	R 427,631.62
		30 Mpa/19 mm				
		External plinth	m ³	3.05	1944.68	R 5,931.27
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
40		Top of tank raft	m ²	682.42	37.33	R 25,474.74
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	5,738,817.37
41	PSG 8.5	Top of internal plinths	m²	6.00	37.33	R	223.98
		(b) Steel-floated finish:					
42		Top of roof slab	m²	666.58	44.21	R	29,469.50
43		External plinth	m²	12.18	44.21	R	538.48
		Joints:					
		Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification:					
		(1) Joint Type B:					
44		In tank raft	m	92.99	686.12	R	63,802.30
		(2) Joint Type D:					
45		In tank raft	m	158.23	621.09	R	98,275.07
		(3) Joint F					
46	PSG 8.9	In sump walls	m	24.50	305.16	R	7,476.42
47		In tank walls	m	382.65	305.16	R	116,769.47
		(4) Isolation Joint					
48		At walkway and tank roof slab	m	2.50	337.08	R	842.70
		(5) Joint G					
49		At top of tank walls	m	127.55	53.36	R	6,806.07
		Impervious DPC membrane under concrete slabs:					
50		Under floor slab	m²	674.00	16.35	R	11,019.90
		Granolithic Screeding					
		35 MPa/19 mm on structural floor screeds to fall with surface preparation as described in the Specifications:					
51		PSG 8.12	50 mm average thick screed to tank floors	m²	682.42	165.26	R
	Casting items in concrete						
	(a) Up to 450 mm nominal bore						
52	PSG 8.13	Through 300 mm thick walls	No	8.00	1304.31	R	10,434.48
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 6,197,252.47
52	PSG 8.21	Through 450 mm thick walls	No	2.00	1531.90	R 3,063.80
		Testing for water tightness::				
53	PSG 8.23	PS Holding Tanks	Sum	1.00	44712.72	R 44,712.72
		Concrete protection and proprietary floor				
		HDPE anchor-knob sheeting (3.0mm thick with anchor-knobs cast into concrete with formwork)				
54	PSG 8.28	Inside wall and roof slab surfaces	m²	1810.96	559.56	R 1,013,340.78
		Miscellaneous work				
		Drainage or service duct pipes cast into				
55		194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or similar approved type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	16.00	3364.44	R 53,831.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
56	SANS 1200 LE	STORMWATER DRAINAGE				
		as specified in SANS 1200LE and in the project specifications				
	PSLE 8.2.14	Supply and install subsurface drains complete				
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	217.40	430.27	R 93,540.70
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 93,540.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEEL					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails:					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
57		a) Horizontal top mounted	m	124.76	1320.44	R	164,738.09
58		e) Sloping top mounted	m	30.00	1320.44	R	39,613.20
59		j) Bends	No	8.00	178.37	R	1,426.96
60		k) End Closures	No	10.00	245.39	R	2,453.90
61		m) Kick Plates	m	154.76	924.26	R	143,038.48
	PSH 8.3.14	Miscellaneous Steel Items					
		Supply all material and install SS316 manholes complete as indicated on drawings:					
62		1000 x 1000 Stainless Steel Manhole Covers, complete with all mounting accessories.	No	4.00	2918.70	R	11,674.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	362,945.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 D		EARTHWORKS			R	310,893.98
SANS 1200 G		CONCRETE (STRUCTURAL)			R	7,312,200.81
SANS1200 LE		STORMWATER DRAINAGE			R	93,540.70
SANS 1200 H		STRUCTURAL STEELWORK			R	362,945.43
TOTAL OF BILL C22 CARRIED TO SUMMARY						R 8,079,580.92

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C23 WAS CIRCULAR HOLDING TANKS				
		Quantities provided for 4 WAS circular holding tanks				
	SANS	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted Excavation				
		(a) Excavate in all materials and use for backfill				
1		WAS Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	3369.57	97.74	R 329,341.77
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	370.65		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	370.65	5.32	R 1,971.86
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	1639.19	158.17	R 259,270.68
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	505.44	36.23	R 18,312.09
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	539.89	62.34	R 33,656.74
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m ³	168.48	373.18	R 62,873.37
8		(g) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	40.00	1381.78	R 55,271.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 760,697.71

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
9		Sides of WAS Tank footing curved to 10600 mm rad	m ²	106.56	457.46	R	48,746.94
10		Sides of sump footing curved to 1450 mm radius	m ²	14.68	595.93	R	8,688.66
11		Sump walls curved to 1100 mm radius	m ²	27.65	595.93	R	16,477.46
12		Sump walls curved to 750 mm radius	m ²	18.85	595.93	R	11,233.28
13		Sides of 1200x 1200 x 350 mm deep RC footing	m ²	6.72	457.46	R	3,074.13
14		Sides of 1500x 1500 x 350 mm deep RC footing	m ²	8.40	457.46	R	3,842.66
15		Sides of pipe encasement	m ²	130.05	457.46	R	59,492.67
	8.2.2	Smooth					
		Vertical Formwork to					
16		WAS tank wall curved to 10300 mm radius	m ²	1307.28	342.7	R	447,965.64
17		WAS tank wall curved to 10000 mm radius	m ²	1269.20	342.7	R	434,916.76
18		Sides of 350 x 350 mm columns with 3.250m height	m ²	18.20	342.7	R	6,236.59
19		Sides of 350 x 350 mm columns with 5.505m height	m ²	28.28	342.7	R	9,690.71
		Horizontal formwork to:					
20		Soffit of staircase landing 3000x1500x250	m ²	9.00	853.53	R	7,681.77
21		Soffit of walkways and platforms	m ²	383.18	853.53	R	327,055.63
		Sloping formwork to:					
22		Soffit of staircase (Approx. 38° to the horizontal)	m ²	9.47	853.53	R	8,082.93
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 150 mm					
23		150 x 150 Upstand Beams	m	1123.35	68.62	R	77,084.28
		(b) Up to 200 mm					
24		Sides of Staircase risers	m	12.63	91.49	R	1,155.52
Carried forward /...						R	1,471,425.63

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,471,425.63
		(c) Up to 250 mm				
25		Sides of Staircase landing	m	18.00	114.37	R 2,058.66
26		Sides of Curved Walkway Platforms	m	480.03	114.37	R 54,901.03
27		Sides of Bridge Walkways Between the tanks	m	382.35	114.37	R 43,729.37
28		Sides of 1500x900x250 mm Footing for reticulation System	m	31.60	114.37	R 3,614.09
		(d) Up to 300 mm				
29		Sides of 1500 x 900 x 300 mm footing for staircase	m	9.60	137.24	R 1,317.50
30		Sides of plinth of 1700x1200x300	m	32.00	137.24	R 4,391.68
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
31		8 mm dia	t	2.44	18085.37	R 44,128.30
32		10 mm dia	t	3.66	18085.37	R 66,192.45
		(b) High tensile steel bars				
33		10 mm dia	t	6.71	18085.37	R 121,352.83
34		12 mm dia	t	26.85	18085.37	R 485,592.18
35		16 mm dia	t	20.13	18085.37	R 364,058.50
36		20 mm dia	t	40.27	18085.37	R 728,297.85
37		25 mm dia	t	20.13	18085.37	R 364,058.50
38		32 mm dia	t	13.42	18085.37	R 242,705.67
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
39		75 mm minimum thickness	m ²	1465.88	165.98	R 243,306.76
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
40		Benching inside central sumps	m ³	2.20	1944.68	R 4,278.30
41		Pipe concrete encasement	m ³	11.57	1944.68	R 22,499.95
42		Plinths	m ³	4.08	1944.68	R 7,934.29
		35 Mpa/19 mm (watertight concrete)				
43		Sump floors	m ³	10.57	2200.77	R 23,262.14
Carried forward /...						R 4,299,105.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,299,105.70
44		Sump walls	m ³	8.09	2200.77	R 17,804.23
45		WAS holding tanks footing	m ³	62.12	2200.77	R 136,711.83
46		WAS holding tanks floor	m ³	321.02	2200.77	R 706,491.19
47		WAS holding tanks walls	m ³	425.12	2200.77	R 935,591.34
48		Screed to conical shaped floors	m ²	1248.95	2200.77	R 2,748,651.69
		35 Mpa/19 mm				
49		Walkways platform	m ³	95.80	2200.77	R 210,833.77
50		Beams	m ³	11.35	2200.77	R 24,978.74
51		Columns	m ³	4.07	2200.77	R 8,957.13
52		Staircase	m ³	2.78	2200.77	R 6,118.14
53		Staircase landings	m ³	1.13	2200.77	R 2,486.87
54		Footings	m ³	16.22	2200.77	R 35,696.49
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
55		Top of floor slabs and footings	m ²	1359.18	37.33	R 50,738.19
56		Top of stairs	m ²	8.25	37.33	R 307.97
		(b) Steel-floated finish:				
57		Top of Bridge Platform	m ²	23.15	44.21	R 1,023.46
58		Top of walkways	m ²	312.41	44.21	R 13,811.65
59		Top of staircase landing	m ²	9.00	44.21	R 397.89
		Top of reticulation footings	m ²	24.36	44.21	R 1,078.96
		(c) Power-floated finish:				
60		Screed to conical shaped floors	m ²	1248.95	46.93	R 58,613.22
	PSG 8.5	Joints:				
		Watertight concrete joints as detailed and				
		(1) Joint Type B:				
61		In 200 mm thick floor slabs (8.20mm radius)	m	51.52	686.12	R 35,348.90
		(2) Joint Type D:				
62		In 200 mm thick floor slabs, straight	m	136.00	621.09	R 84,468.24
63		In 400 mm thick sump floor	m	35.19	621.09	R 21,856.16
Carried forward /...						R 9,401,069.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 9,401,069.75
64		(3) Joint Type F: In 300 mm thick walls, curved in plan to inside	m	510.19	305.16	R 155,689.58
		In 350 mm thick walls sump walls curved to 1450mm	m	55.29	305.16	R 16,872.30
65		(4) Joint Type V: In 350 mm thick walls, curved in plan to inside radius (1100 - 950) mm	m	55.29	305.16	R 16,872.30
66		(5) Joint Type CJ: In 300 mm thick walls, curved in plan to inside radius (10000 - 10300) mm	m	255.10	53.36	R 13,612.14
67	PSG 8.9	Impervious DPC membrane under concrete slabs: Under tank floor slab	m ²	207.60	16	R 3,394.26
68	PSG 8.12	Granolithic Screeding 35 MPa/19 mm on structural floor screeds to fall with surface preparation as described in the Specifications: 50 mm average thick screed to conical shaped	m ²	1249.07	165.26	R 206,421.31
69	PSG 8.13	Casting items in concrete (a) Up to 300 mm nominal bore Through 350 mm walls or sides of centre sump	No	4.00	1113.03	R 4,452.12
70	PSG 8.23	Concrete protection and proprietary floor Epoxy Type 1: WAS Holding Tank walls	m ²	1292.00	642.87	R 830,588.04
71		Epoxy Type 2: WAS Holding Tank walls	m ²	1292.00	678.75	R 876,945.00
72	PSG 8.21	Testing for water tightness:: WAS holding tanks	Sum	1.00	88443.63	R 88,443.63
73	PSG 8.28	Miscellaneous work Drainage or service duct pipes cast into 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or similar approved type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC	No	32.00	3364.44	R 107,662.08
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 11,722,022.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile					
74		Under structure	m	336.78	430.27	R	144,906.33
75		Around external circular wall	m	266.41	430.27	R	114,628.23
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	STRUCTURAL STEEL					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails:					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
76		a) Horizontal top mounted	m	559.48	1320.44	R	738,759.77
77		e) Sloping top mounted	m	31.20	1320.44	R	41,197.73
78		j) Bends	No	8.00	178.37	R	1,426.96
79		k) End Closures	No	10.00	245.39	R	2,453.90
80		m) Kick Plates	m	590.68	924.26	R	545,941.90
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,329,780.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 760,697.71
SANS 1200 G		CONCRETE (STRUCTURAL)				R 11,722,022.50
SANS 1200 LE		STORMWATER DRAINAGE				R 259,534.56
SANS 1200 H		STRUCTURAL STEELWORK (SUNDRY ITEMS)				R 1,329,780.26
TOTAL OF BILL C23 CARRIED TO SUMMARY						R 14,072,035.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C24 GAS HOLDING TANKS				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specification				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Gas Holding Tanks (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m³	200.00	97.74	R 19,548.00
		(b) Extra-over item 8.3.3 (a) for:				
2		(2) Hardrock excavation	m³	22.00		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	22.00	5.32	R 117.04
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m²	94.58	158.17	R 14,959.72
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m³	30.00	36.23	R 1,086.90
	PSD 8.3.16	Importing of materials for fill under floors and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	400.00	62.34	R 24,936.00
7		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m³	10.00	374.28	R 3,742.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 64,390.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.1	Rough					
8		Sides of footing curved to 10000 mm radius	m²	62.83	342.67	R	21,529.96
9		Sides of Ring Beam curved to 10000 mm radius	m²	62.83	342.67	R	21,529.96
10		Sides of Ring Beam curved to 9650 mm radius	m²	24.25	342.67	R	8,309.75
11		Sides of the Control Valve 8500x3800x400mm	m²	19.68	342.67	R	6,743.75
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(c) Up to 250 mm					
12		2500 x 2000 mm	m	9.00	114.37	R	1,029.33
13		3500 x 2000 mm	m	11.00	114.37	R	1,258.07
	8.3	Reinforcement:					
	8.3.1	(a) Mild steel bars:					
14		8 mm dia	t	0.99	18085.37	R	17,904.52
15		10 mm dia	t	1.49	18085.37	R	26,947.20
		(b) High tensile steel bars					
16		10 mm dia	t	2.48	18085.37	R	44,851.72
17		12 mm dia	t	7.43	18085.37	R	134,374.30
18		16 mm dia	t	9.91	18085.37	R	179,226.02
19		20 mm dia	t	14.87	18085.37	R	268,929.45
20		25 mm dia	t	7.43	18085.37	R	134,374.30
21		32 mm dia	t	4.96	18085.37	R	89,703.44
Carried forward /...						R	956,711.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 956,711.74
	8.4	Concrete				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
22		75 mm minimum thickness	m ²	675.26	165.98	R 112,079.65
	PSG 8.4.3	Strength concrete				
		30 Mpa/19 mm				
22		Gas Holding Tank Floor	m ³	322.80	1944.68	R 627,742.70
23		Control Valve Plinth	m ³	25.16	1944.68	R 48,928.15
24		Control System Plinth and Endomental Safety Protector Plinth	m ³	6.00	1944.68	R 11,668.08
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
25		Top of floor slabs and footings	m ²	401.07	37.33	R 14,971.94
	PSG 8.9	Impervious DPC membrane under concrete slabs:				
26		Under floor slab	m ²	1281.50	16.35	R 20,952.53
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,793,054.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 64,390.46
SANS 1200 G		CONCRETE (STRUCTURAL)				R 1,793,054.80
TOTAL OF BILL C24 CARRIED TO SUMMARY						R 1,857,445.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C25 ANAEROBIC DIGESTERS					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.3	Restricted excavation					
		(a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:					
1		Anaerobic Digesters (Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa), in 150 mm thick layers	m ³	2228.33	97.74	R	217,796.97
		(b) Extra-over item 8.3.3 (a) for:					
2		Hard rock excavation	m ³	222.83			
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	222.83	5.32	R	1,185.46
4	PSD 8.3.5	Extra excavation in all materials to provide working space around structure	m ²	318.70	158.17	R	50,408.78
5	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	1002.75	36.23	R	36,329.63
	PSD 8.3.16	Importing of materials for fill under floors and foundations					
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	525.45	62.34	R	32,756.55
7		(f) Backfill stabilised with 5% cement where directed by the Engineer	m ³	111.42	373.18	R	41,579.72
8		(g) Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	50.49	1381.78	R	69,766.07
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
	8.2	Formwork					
	8.2.1	Rough					
		Vertical formwork to:					
9		Sides of footing curved to 10750 mm radius	m²	101.31	342.67	R	34,715.90
10		Sides of Overflow Chamber collection walls	m²	15.95	342.67	R	5,465.59
11		Digester Floor Staircase (sloped at approx 26.57° to the Horizontal)	m²	2.98	342.67	R	1,021.16
	8.2.2	Smooth					
		Vertical formwork to:					
12		Wall curved to 9250 mm radius	m²	1743.57	342.67	R	597,469.13
13		Wall curved to 9650 mm radius	m²	1818.99	342.67	R	623,313.30
14		Withdrawal Chamber Walls	m²	30.25	342.67	R	10,365.77
15		Sides of ringbeam	m²	85.77	342.67	R	29,390.81
		Sloping formwork to:					
16		Soffit of roof slab (Approx 26.57° to the horizontal)	m²	534.12	1251.52	R	668,461.86
17		Face of roof slab (Approx 26.57° to the horizontal)	m²	534.12	968.92	R	517,519.55
19		Digester Roof Staircase	m²	2.56	968.92	R	2,480.44
	8.2.5	Narrow widths up to 300 mm wide					
		Different widths in the following range:					
		(a) Up to 200 mm					
20		150mm High Staircase risers (Digester floor)	m	7.50	91.49	R	686.18
		(b) Up to 250 mm					
21		150mm High Staircase Risers	m	6.90	114.37	R	789.15
Carried forward /...						R	2,491,678.83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,491,678.83
	PSG 8.2.6	Box out holes/Form voids				
		(c) Large, circular, of diameter over 0.35 m up to and including 0.7 m				
22		0 m to 0.5 m deep	No	8.00	795.05	R 6,360.40
	8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
23		8 mm dia	t	3.23	18085.37	R 58,415.75
24		10 mm dia	t	4.85	18085.37	R 87,714.04
		(b) High tensile steel bars				
25		10 mm dia	t	8.08	18085.37	R 146,129.79
26		12 mm dia	t	24.25	18085.37	R 438,570.22
27		16 mm dia	t	32.33	18085.37	R 584,700.01
28		20 mm dia	t	48.50	18085.37	R 877,140.45
29		25 mm dia	t	24.25	18085.37	R 438,570.22
30		32 mm dia	t	16.17	18085.37	R 292,440.43
	8.4	Concrete				
	8.2.4	Blinding layer in 15 MPa/19 mm concrete				
31		75 mm minimum thickness	m²	2557.43	165.98	R 424,482.23
	PSG 8.4.3	Strength concrete				
		25 MPa/19 mm				
32		Benching inside overflow chamber	m³	0.79	1944.68	R 1,536.30
33		Benching Inside Withdrawal chamber	m³	0.44	1944.68	R 855.66
35		Overflow Chamber and Withdrawal chamber floors	m²	3.25	1944.68	R 6,320.21
		35 Mpa/19 mm (watertight concrete)				
35		Overflow Chamber and Withdrawal chamber Walls (250 THK)	m³	9.78	2200.77	R 21,523.53
36		Overflow Chamber Top slab (100 THK)	m³	0.23	2200.77	R 506.18
37		Digester Floor Staircase (250 THK WAIST)	m³	4.20	2200.77	R 9,243.23
38		Roof Staircase	m³	0.79	2200.77	R 1,738.61
Carried forward / ...						R 5,887,938.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,887,926.09
		35 Mpa/26 mm (watertight concrete)				
39		Digester walls (400 THK)	m ³	1908.68	2195.20	R 4,189,934.34
40		Floors (500 THK)	m ³	304.15	2195.20	R 667,670.08
41		Footling (750 THK)	m ³	137.22	2195.20	R 301,225.34
43		Digester Floor Plinths (500 THK)	m ³	2.34	2195.20	R 5,136.77
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finish:				
44		Top of floor slabs and footings	m ²	741.32	37.33	R 27,673.48
		(b) Steel-floated finish:				
45		Top of Walls	m ²	53.75	44.21	R 2,376.29
46		Top of Ringbeam	m ²	85.77	44.21	R 3,791.89
		(c) Power-floated finish:				
47		Top of conical shaped roof (radius 8350mm)	m ²	480.33	46.93	R 22,541.89
48		Screed to conical shaped floors	m ²	594.04	46.93	R 27,878.30
Carried forward /...						R 11,136,154.45

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 11,136,154.45
49	PSG 8.5	Joints: Watertight concrete joints as detailed and indicated on drawings and/or specified in the Project Specification: (3) Joint Type F: Around 400mm THK Concrete walls	m	1908.68	305.16	R 582,452.79
50	PSG 8.9	Impervious DPC membrane under concrete slabs: Under floor slab	m ²	165.88	16.35	R 2,712.14
51	PSG 8.12	Granolithic Screeding 35 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications: 50mm Thick screed to conical shaped AD floors at slope 1:2	m ²	300.16	165.26	R 49,604.44
52	PSG 8.13	Casting items in concrete (a) Up to 300 mm nominal bore Through 400mm thick wall	No	20.00	1354.95	R 27,099.00
53	PSG 8.21	Testing for water tightness:: Anaerobic Digesters	Sum	1.00	99744.54	R 99,744.54
54	PSG 8.23	HDPE covering (3mm thick with anchor knobs cast into concrete with formwork): Internal Digester Surfaces	m ²	1909.38	559.56	R 1,068,412.67
55		All Internal Digester surfaces	m ²	1909.38		
56	PSG 8.28	Miscellaneous work Drainage or service duct pipes cast into 194mm diameter (ID) x 125mm long "Gereg" or "Fulton" or equivalent type "S" cast iron ground water pressure relief valve cast into top of concrete floors with continuous 600 mm x 300 mm Bidim A13" geotextile wrapped aggregate sausage with central 110 mm dia Class 29 perforated PVC pipe	No	16.00	3364.44	R 53,831.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 13,020,011.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
57	SANS	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (300X600 stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in A3 Geotextile	m	16.00	430.27	R	6,884.32
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	6,884.32

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	STRUCTURAL STEEL					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
58		Horizontal	m	117.27	1320.44	R	154,848.00
59		Sloping (measured on slope)	m	32.07	1320.44	R	42,346.51
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	197,194.51

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
60	PSGG	GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP Open Grid Flooring by Area of the grid					
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	6.00	1694.48	R	10,166.88
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 449,823.18
SANS 1200 G		CONCRETE (STRUCTURAL)				R 13,020,011.08
SANS 1200 LE		STORMWATER DRAINAGE				R 6,884.32
SANS 1200 H		STRUCTURAL STEELWORK				R 197,194.51
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R 10,166.88
TOTAL OF BILL C25 CARRIED TO SUMMARY						R 13,684,079.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C26 BLOWER BUILDING					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	4144.00	62.34	R	258,336.96
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	258,336.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 DM	<u>EARTHWORKS (ROADS, SUBGRADE)</u>					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed:					
		(a) Roadbed preparation and compaction of material to:					
2		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	293.00	97.36	R	28,526.48
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
3		Blower house	Sum	1.00	60451.73	R	60,451.73
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m ²	129.00	342.67	R	44,204.43
5		Sides of cable trench floors not exceeding 300mm	m ²	74.00	342.67	R	25,357.58
6		Sides of bases	m ²	177.00	342.67	R	60,652.59
7		Sides of columns in foundations	m ²	69.00	342.67	R	23,644.23
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
8		Sides of downstand beams	m ²	74.00	457.46	R	33,852.04
		Horizontal formwork not exceeding 4m high to:					
9		Soffits of beams and slabs	m ²	705.00	784.06	R	552,762.30
10		Soffits of isolated beams	m ²	84.00	853.53	R	71,696.52
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
11		Sides of upstand beams and slab edges	m ²	334.00	342.67	R	114,451.78
12		Sides of isolated beams	m ²	142.00	342.67	R	48,659.14
13		Sides of columns	m ²	564.00	342.67	R	193,265.88
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
14		Over 100mm and up to 200mm	m	333.00	56.95	R	18,964.35
15		Over 200mm and up to 300mm	m	175.00	113.89	R	19,930.75
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
16		8mm	t	1.30	18085.37	R	23,510.98
Carried forward /...						R	1,230,952.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,230,952.57
17	8.3.1	10mm	t	1.90	18085.37	R	34,362.20
		(b) High-tensile steel bars in the following:					
18		10mm	t	3.20	18085.37	R	57,873.18
19		12mm	t	9.70	18085.37	R	175,428.09
20		16mm	t	13.00	18085.37	R	235,109.81
21		20mm	t	19.30	18085.37	R	349,047.64
22		25mm	t	9.70	18085.37	R	175,428.09
23	PSG 8.3.2	32mm	t	6.40	18085.37	R	115,746.37
		(c) High-tensile welded mesh in the following:					
24		Ref No 617 in surface beds	kg	9835.00	25.34	R	249,218.90
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
25	PSG 8.4.3	75mm thickness under strip footings, bases, cable trench floors, etc	m²	565.00	128.65	R	72,687.25
26		75mm thickness under surface beds and floors etc	m²	1450.00	128.65	R	186,542.50
		Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
27		Aprons and Ramps	m³	19.00	1944.68	R	36,948.92
28		Strip footings	m³	37.00	1944.68	R	71,953.16
		Reinforced class 30 MPa/19mm concrete in:					
29		Cable trench floors	m³	42.00	1944.68	R	81,676.56
30		Column bases	m³	82.00	1944.68	R	159,463.76
31		Surface beds	m³	319.00	1944.68	R	620,352.92
32		Columns in foundations	m³	5.00	1944.68	R	9,723.40
33		Columns	m³	42.00	1944.68	R	81,676.56
34		Downstand beams	m³	11.00	1944.68	R	21,391.48
35		Upstand beams	m³	48.00	1944.68	R	93,344.64
Carried forward /...						R	4,058,928.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	4,058,928.01
36	PSG 8.4.4	Isolated beams	m ³	48.00	1944.68	R	93,344.64
37		Slabs	m ³	176.00	1944.68	R	342,263.68
38		Plinths	m ³	36.00	1944.68	R	70,008.48
		Unformed surface finishes:					
		(a) Wood-floated finishes to:					
39		Top of ramps	m ²	20.00	37.33	R	746.60
40		Top of roof slabs	m ²	662.00	37.33	R	24,712.46
41		Top of cable trench floors	m ²	212.00	37.33	R	7,913.96
		(b) Steel-floated finishes to:					
42		Top of aprons	m ²	164.00	44.21	R	7,250.44
43		Top of plinths	m ²	146.00	44.21	R	6,454.66
44		Top of slightly sloping upstand beams	m ²	106.00	44.21	R	4,686.26
45		Top of isolated beams	m ²	74.00	44.21	R	3,271.54
		(c) Power-floated finishes to:					
46		Top of surface beds and floor slabs etc	m ²	1448.00	46.93	R	67,954.64
	PSG 8.5	Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
47		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	475.00	337.08	R	160,113.00
48		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	50.00	337.08	R	16,854.00
		Saw-cut joints as per drawing DRG-CC-0247:					
49		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	422.00	88.10	R	37,178.20
50		3mm x 25mm Saw-cut joint in aprons	m	53.00	88.10	R	4,669.30
		Slip joints:					
51		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	302.00	106.72	R	32,229.44
52		280mm wide slip joint between top of brick walls and slabs	m	437.00	5.89	R	2,573.93
Carried forward /...						R	4,941,153.24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,941,153.24
53	PSG 8.7	Grouting: Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	1.00	19923.47	R 19,923.47
	PSG 8.12	Granolithic screeding Floor screeds				
54		Average 65mm thick normal screed on cable trench floors	m²	145.00	201.57	R 29,227.65
	PSG 8.23	Concrete protection and proprietary floor Floor Finishes				
55		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	1437.00	894.42	R 1,285,281.54
		Skirtings				
56		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	500.00	172.96	R 86,480.00
	PSG 8.28	Miscellaneous Work Electrical cable sleeves and drain pipes class 9 PVC				
57		160mm dia x 500mm long	No	6.00	119.99	R 719.94
58		160mm dia x 508mm long	No	18.00	119.99	R 2,159.82
59		160mm dia x 3940mm long	No	4.00	497.26	R 1,989.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 6,3

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200 H and in the project specifications				
	PSH 8.3.1	Structural Steel:				
60		Structural steel roof and side cladding	t	33.90	61 617	R 2,088,816.30
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,088,816.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 HB	CLADDING AND SHEETING					
		as specified in SANS 1200 HB and in the project specifications					
	8.2.2	Supply and install cladding and sheeting including corrosion protection and/or coloured finish:					
		0.54mm Safintra SAFLOK 410 Bluescope Clean COLORBOND ULTRA AZ200 (or equivalent)					
61		Roof coverings with pitches not exceeding 25°, fixed to steel purlins	m²	1147.00	427.32	R	490,136.04
62		Side cladding fixed to steel girts	m²	311.00	465.93	R	144,904.23
	8.2.3	Supply and install ancillaries and including corrosion protection and/or coloured finish:					
		Ancillaries suited for 0,54mm Thick "Safintra SAFLOK 410 Bluescope clear colobond ultra					
63		Drip flashing	m	140.00	128.03	R	17,924.20
64		Narrow and board flute closures	m	229.00	66.04	R	15,123.16
65		Poly closures	m	229.00	18.87	R	4,321.23
66		Gable flashing	m	51.00	216.51	R	11,042.01
67		Eave flashing	m	89.00	216.51	R	19,269.39
68		External corner side wall flashing	m	7.00	216.50	R	1,515.50
		Rainwater					
69		152mm x 152mm aluminium eaves gutters including stop ends, outlets, downpipes, etc.	m	89.00	430.59	R	38,322.51
70		100mm x 100mm aluminium downpipes including elbows, shoes, etc.	m	133.00	327.03	R	43,494.99
	8.2.6	Supply and install insulation					
		4mm Thick "Alububble" or equivalent 1983 D10 both sides reflective foil insulation under sheeting, and above roof insulation boards:					
71		Roof sheeting radiant heat barrier insulation 100mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with roof covering:	m²	1147.00	56.82	R	65,172.54
72		Roof sheeting insulation 40mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with vertical cladding:	m²	1147.00	625.94	R	717,953.18
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,569,178.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		230mm thick non-facing engineering bricks, in:					
73		Cable trench walls	m ²	215.00	763.18	R	164,083.70
		280mm thick cavity walls of two half brick skins, in:					
74		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	535.00	831.08	R	444,633.15
75		Superstructure	m ²	1637.00	684.44	R	1,120,428.28
76		Closing 60mm wide cavity horizontally around openings	m	101.00	64.60	R	6,524.60
77		Closing 60mm wide cavity vertically around	m	219.00	64.60	R	14,147.40
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
78		Foundations	m ²	84.00	334.85	R	28,127.40
79		Superstructure	m ²	1169.00	374.22	R	437,463.18
80		110mm Wide brick-on-edge lintel	m	52.00	239.18	R	12,437.36
		Brickwork sundries					
81		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	155.00	71.55	R	11,090.25
82		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	125.00	93.97	R	11,746.25
83		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	1637.00	270.57	R	442,923.09
84		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	2097.00	51.19	R	107,345.43
85		Form opening for standard louvre unit 2000 x 2000mm high (installed by others)	No	32.00	60.54	R	1,937.28
Carried forward /						R	2,802,887.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,802,887.37
86	PD 10.2	Form opening 500 x 500mm high	No	6.00	60.54	R 363.24
87		Form opening 700 x 700mm high	No	6.00	60.54	R 363.24
		Plasterwork:				
88		15mm thick, one coat cement plaster to internal brick walls	m²	2105.00	88.64	R 186,587.20
89		15mm thick, waterproof plaster to cable trench walls and floor edges	m²	587.00	129.72	R 76,145.64
90	PD 10.3	15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	662.00	194.58	R 128,811.96
91		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	74.00	194.58	R 14,398.92
		Roof finishes:				
		Roof screed				
92		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m²	662.00	218.64	R 144,739.68
		Crushed stone to roof slab				
93		Clean crushed 19 - 25mm stone as ballast	m³	56.00	402.55	R 22,542.80
		Torch-on waterproofing				
94		"Sika Blackseal" or equivalent primer applied to	m²	662.00	22.70	R 15,027.40
95		"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m²	662.00	254.20	R 168,280.40
96		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	662.00	50.00	R 33,100.00
97		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	240.00	577.79	R 138,669.60
Carried forward /...						R 3,731

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,731,917.45
	PD 10.4	Doors, windows, louvres, etc:					
	PD 10.4	Timber doors					
		(ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule					
98		Single door 813 x 2056 mm high in and including 900 x 2100 mm high "Nuklip 44mm" aluminium or equivalent door frame	No	2.00	5450.23	R	10,900.46
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
99		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	3.00	30651.76	R	91,955.28
100		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	2.00	115573.40	R	231,146.80
101		Double door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high	No	2.00	65,413.47	R	130,826.94
102		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.00	63,480.64	R	126,961.28
		WG66 "Winblock" or equivalent high density precast concrete window with aluminium frame, top hung with powder coated finish and 6.4mm laminated safety glass					
103		Window comprising 9 units overall size approximately 1800 x 1800mm high	No	10.00	9,514.96	R	95,149.60
104		Window comprising 16 units overall size approximately 2400 x 2400mm high	No	18.00	16,742.53	R	301,365.54
		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design					
105		Slatted roller shutter door for 4000 x 5655mm high opening	No	1.00	88,339.32	R	88,339.32
	PD 10.7	Miscellaneous work					
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c	
Brought forward /...						R	4,808,562.67	
106	PD 10.8	Paintwork: One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to: Internal plastered walls	m²	2105.00	91.89	R	193,428.45	
107		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint Plastered concrete soffits	m²	662.00	85.40	R	56,534.80	
108		Plastered sides of concrete beams	m²	74.00	85.40	R	6,319.60	
109		One coat "Plascon" or equivalent wood primer and three coats "Plascon velvagio" or equivalent waterbased paint Timber doors	m²	7.00	145.94	R	1,021.58	
110		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule): Rainwater drainage: Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	26.00	1114.84	R	28,985.84	
111		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	129.00	181.03	R	23,352.87	
112		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	52.00	163.31	R	8,492.12	
113		Miscellaneous Items: (c) Items measured by area Damp- and waterproofing 375 micron medium density polyethylene damp proof sheeting under floors	m²	1652.00	42.10	R	69,549.20	
114		375 micron green medium density polyethylene damp proof course in walls	m²	132.00	10.53	R	1,389.96	
115		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	330.00	42.10	R	13,893.00	
116		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer: Bottoms of foundations, footings and column bases	m²	565.00	4.86	R	2,745.90	
117		Under floors	m²	1379.00	4.86	R	6,701.94	
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	5,220,562.67	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						c
Section		Description				Amount
SANS 1200 D		EARTHWORKS			R	258,336.96
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)			R	88,978.21
SANS 1200 G		CONCRETE (STRUCTURAL)			R	6,366,934.70
SANS 1200 H		STRUCTURAL STEELWORK			R	2,088,816.30
SANS 1200 HB		CLADDING AND SHEETING			R	1,569,178.98
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK			R	5,220,977.93
TOTAL OF BILL C26 CARRIED TO SUMMARY						R 15,593,223.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C27 CHLORINATION BUILDING				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	316.00	62.34	R 19,699.44
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 19,699.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE) as specified in SANS 1200 DM and in the project specifications				
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	42.00	97.36	R 4,089.12
3	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works Chlorination building	Sum	1.00	20,150.58	R 20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 24,239.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200 G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m²	33.00	457.46	R	15,096.18
5		Sides of cable trench floors not exceeding 300mm high	m²	13.00	457.46	R	5,946.98
6		Sides of bases	m²	64.00	457.46	R	29,277.44
7		Sides of columns in foundations	m²	21.00	457.46	R	9,606.66
8		Sides of cable trench walls	m²	36.00	457.46	R	16,468.56
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
9		Sides of downstand beams	m²	231.00	457.46	R	105,673.26
		Horizontal formwork not exceeding 4m high to:					
10		Soffits of beams and slabs	m²	219.00	737.97	R	161,615.43
11		Soffits of isolated beams	m²	14.00	853.53	R	11,949.42
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
12		Sides of upstand beams and slab edges	m²	166.00	457.46	R	75,938.36
13		Sides of ramps	m²	5.00	457.46	R	2,287.30
14		Sides of columns	m²	159.00	457.46	R	72,736.14
15		Sides of cable trench walls	m²	36.00	457.46	R	16,468.56
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
16		Over 20mm and up to 100mm	m	60.00	37.96	R	2,277.60
17		Over 100mm and up to 200mm	m	119.00	75.93	R	9,035.67
18		Over 200mm and up to 300mm	m	23.00	113.89	R	2,619.47
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	536,997.03
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
19		8mm	t	0.60	18085.37	R	10,851.22
20		10mm	t	0.90	18085.37	R	16,276.83
	8.3.1	(b) High-tensile steel bars in the following:					
21		10mm	t	1.50	18085.37	R	27,128.06
22		12mm	t	4.50	18085.37	R	81,384.17
23		16mm	t	6.00	18085.37	R	108,512.22
24		20mm	t	9.00	18085.37	R	162,768.33
25		25mm	t	5.00	18085.37	R	90,426.85
26		32mm	t	3.00	18085.37	R	54,256.11
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
27		Ref No 617 in surface beds	kg	1249.00	25.34	R	31,649.66
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
28		75mm thickness under strip footings, bases, cable trench floors, etc	m²	138.00	128.65	R	17,753.70
29		75mm thickness under surface beds and floors etc	m²	169.00	128.65	R	21,741.85
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
30		Aprons	m²	6.00	1944.68	R	11,668.08
31		Ramps	m²	4.00	1944.68	R	7,778.72
32		Strip footings	m³	10.00	1944.68	R	19,446.80
		Reinforced class 30 MPa/19mm concrete in:					
33		Cable trench floors	m³	6.00	1944.68	R	11,668.08
34		Column bases	m³	9.00	1944.68	R	17,502.12
35		Surface beds	m³	46.00	1944.68	R	89,455.28
Carried forward /...							

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,317,265.11
36		Columns in foundations	m ³	2.00	1944.68	R 3,889.36
37		Columns	m ³	19.00	1944.68	R 36,948.92
38		Downstand beams	m ³	46.00	1944.68	R 89,455.28
39		Upstand beams	m ³	15.00	1944.68	R 29,170.20
40		Isolated beams	m ³	5.00	1944.68	R 9,723.40
41		Slabs	m ³	48.00	1944.68	R 93,344.64
42		Plinths	m ³	11.00	1944.68	R 21,391.48
43		Cable trench walls	m ³	8.00	1944.68	R 15,557.44
		Reinforced class 35 MPa/19 mm watertight concrete in:				
44		Column bases	m ³	29.00	2200.77	R 63,822.33
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
45		Top of ramps	m ²	9.00	37.33	R 335.97
46		Top of roof slabs	m ²	174.00	37.33	R 6,495.42
47		Top of cable trench floors	m ²	26.00	37.33	R 970.58
		(b) Steel-floated finishes to:				
48		Top of aprons	m ²	57.00	44.21	R 2,519.97
49		Top of plinths	m ²	82.00	44.21	R 3,625.22
50		Top of slightly sloping upstand beams	m ²	45.00	44.21	R 1,989.45
51		Top of isolated beams	m ²	14.00	44.21	R 618.94
		(c) Power-floated finishes to:				
52		Top of surface beds and floor slabs etc	m ²	117.00	46.93	R 5,490.81
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
53		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	106.00	337.08	R 35,730.48
Carried forward /...						R 1,738,345.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,738,345.00
54		10mm thick "Jointex" or equivalent between concrete apron and brickwork (IJW)	m	58.00	337.08	R	19,550.64
55		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	9.00	337.08	R	3,033.72
		Saw-cut joints as per drawing DRG-CC-0247:					
56		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	56.00	88.10	R	4,933.60
57		3mm x 25mm Saw-cut joint in aprons	m	41.00	88.10	R	3,612.10
		Slip joints:					
58		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	65.00	106.72	R	6,936.80
59		280mm wide slip joint between top of brick walls and slabs	m	77.00	5.89	R	453.53
		Construction joints: In walls and at kickers as DWG-CC-0201					
60		Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	65.00	497.57	R	32,342.05
	PSG 8.12	Granolithic screeding					
		Floor screeds					
61		Average 65mm thick normal screed on cable trench floors	m ²	26.00	201.57	R	5,240.82
	PSG 8.23	Concrete protection and proprietary floor finishes					
		Floor Finishes					
62		Type 2 - Polyurethane cement smooth floor finish (refer to SANS1200 G)	m ²	165.00	918.85	R	151,610.25
		Skirtings					
63		Type 3 - Polyurethane cement cove skirting (refer to SANS1200 G)	m	103.00	648.60	R	66,805.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 280mm thick cavity walls of two half brick skins, in:					
64		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m²	63.00	831.09	R	52,358.67
65		Superstructure	m²	323.00	684.44	R	221,074.12
66		Closing 60mm wide cavity vertically around openings 300mm thick cavity walls of two half brick skins, in:	m	22.00	64.60	R	1,421.20
67		Closing 80mm wide cavity horizontally around openings Extra over brickwork for "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:	m	20.00	64.60	R	1,292.00
68		Foundations	m²	20.00	334.85	R	6,697.00
69		Superstructure	m²	291.00	374.22	R	108,898.02
70		110mm Wide brick-on-edge lintel Brickwork sundries	m	5.00	239.18	R	1,195.90
71		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	9.00	71.55	R	643.95
72		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	9.00	93.97	R	845.73
73		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1087.00	51.19	R	55,643.53
74		Form opening 350 x 350mm high	No	3.00	55.13	R	165.39
75		Form opening 450 x 450mm high	No	5.00	55.13	R	275.65
	PD 10.2	Plasterwork: 15mm thick, one coat cement plaster to internal brick walls					
76			m²	356.00	88.64	R	31,555.84
Carried forward /...						R	482,067.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /						R	482,067.00
77	PD 10.3	15mm thick, waterproof plaster to cable trench walls and floor edges	m²	85.00	129.72	R	11,026.20
78		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	219.00	194.58	R	42,613.02
79		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	231.00	194.58	R	44,947.98
		Roof finishes:					
		Roof screed					
80		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m²	219.00	218.64	R	47,882.16
		Crushed stone to roof slab					
81		Clean crushed 19 - 25mm stone as ballast	m³	17.00	402.55	R	6,843.35
		Torch-on waterproofing					
82		"Sika Blackseal" or equivalent primer applied to	m²	219.00	22.70	R	4,971.30
83	PD 10.4	"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m²	219.00	254.20	R	55,669.80
84		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	219.00	50.00	R	10,950.00
85		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	98.00	577.79	R	56,623.42
		Doors and Windows:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
86		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	3.00	30651.76	R	91,955.28
87		Double fire door comprising 2 x leaves size 1200 3457mm high in and including frame size 2528 3500mm high (Ironmongery Type D)	No	1.00	191977.40	R	191,977.40
		View only window					
88		Window overall size 1500 x 1500mm high (WB)	No	1.00	6486.00	R	6,486.00
Carried forward /						R	1,054

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,054,012.91
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
89		Internal plastered walls	m²	356.00	91.89	R	32,712.84
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
90		Plastered concrete soffits	m²	219.00	85.40	R	18,702.60
91		Plastered sides of concrete beams	m²	231.00	85.40	R	19,727.40
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
92		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	12.00	1114.84	R	13,378.08
93		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	82.00	181.03	R	14,844.46
94		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	12.00	163.31	R	1,959.72
Carried forward /...						R	1,155,338.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,155,338.01
	PD 10.8	Miscellaneous Items					
		(c) Items measured by area					
		Damp- and waterproofing					
95		375 micron medium density polyethylene damp proof sheeting under floors	m ²	211.00	42.10	R	8,883.10
96		375 micron green medium density polyethylene damp proof course in walls	m ²	44.00	10.53	R	463.32
97		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m ²	49.00	42.10	R	2,062.90
		Ant poison, aldrin emulsifiable concentrate solution to SANS 618 spread at a rate recommended by the manufacturer:					
98		Bottoms of foundations, footings and column bases	m ²	150.00	4.86	R	729.00
99		Under floors	m ²	211.00	4.86	R	1,025.46
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
100	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring					
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	66.00	1694.48	R	111,835.68
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	111,835.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 19,699.44
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 24,239.70
SANS 1200 G		CONCRETE (STRUCTURAL)				R 2,032,864.31
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 1,168,501.79
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 111,835.68
TOTAL OF BILL C27 CARRIED TO SUMMARY						R 3,357,140.92

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C28 <u>TSE PUMP STATION AND FILTER BUILDING</u>					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	2086.00	62.34	R	130,041.24
2		Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	110.00	1381.78	R	151,995.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS							R 282,037.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 DM	<u>EARTHWORKS (ROADS, SUBGRADE)</u>					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed:					
		(a) Roadbed preparation and compaction of material to:					
3		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	86.00	97.36	R	8,372.96
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
4		TSE pump station	Sum	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	28,523.54

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
5		Sides of strip footings not exceeding 300mm high	m²	33.00	342.67	R	11,308.11
6		Sides of bases	m²	39.00	342.67	R	13,364.13
7		Sides of columns in foundations	m²	35.00	342.67	R	11,993.45
8		Sides of water retaining / water-excluding walls in foundations	m²	261.00	342.67	R	89,436.87
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
9		Sides of downstand beams	m²	59.00	342.67	R	20,217.53
		Horizontal formwork not exceeding 4m high to:					
10		Soffits of landings	m²	2.00	853.53	R	1,707.06
		Horizontal formwork not exceeding 5m high to:					
11		Soffits of beams and slabs	m²	308.00	853.53	R	262,887.24
		Horizontal formwork not exceeding 10m high to:					
12		Soffits of beams and slabs	m²	135.00	988.66	R	133,469.10
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
13		Sides of upstand beams and slab edges	m²	99.00	342.67	R	33,924.33
14		Sides of sump floors	m²	18.00	342.67	R	6,168.06
15		Sides of columns	m²	297.00	342.67	R	101,772.99
16		Sides of water retaining/water-excluding walls	m²	473.00	342.67	R	162,082.91
17		Stepped sides of stairs 360mm high extreme	m²	5.00	457.46	R	2,287.30
Carried forward /						R	850,619.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	850,619.08
18	8.2.5	(b) Sloping formwork not exceeding 3.5m high Soffits of stairs	m²	7.00	853.53	R	5,974.71
		Narrow widths (up to 300mm wide): (a) Different widths in the following ranges:					
19		Over 20mm and up to 100mm	m	124.00	37.96	R	4,707.04
20		Over 100mm and up to 200mm	m	120.00	75.93	R	9,111.60
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
21		8mm	t	0.80	18085.37	R	14,468.30
22		10mm	t	1.20	18085.37	R	21,702.44
	8.3.1	(b) High-tensile steel bars in the following:					
23		10mm	t	2.00	18085.37	R	36,170.74
24		12mm	t	6.10	18085.37	R	110,320.76
25		16mm	t	8.10	18085.37	R	146,491.50
26		20mm	t	12.10	18085.37	R	218,832.98
27		25mm	t	6.10	18085.37	R	110,320.76
28		32mm	t	4.00	18085.37	R	72,341.48
	8.3.2	(c) High-tensile welded mesh in the following:					
29		Ref No 395 in surface beds	kg	995.00	24.80	R	24,676.00
30		Ref No 617 in surface beds	kg	3029.00	25.34	R	76,754.86
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer: (a) Class 15 MPa/19mm concrete of:					
31		20mm thick Mortar under floor slabs	m²	253.00	42.31	R	10,704.43
32		75mm thickness under strip footings, bases, cable trench floors, etc	m²	80.00	128.65	R	10,292.00
33		75mm thickness under surface beds and floors etc	m²	506.00	128.65	R	65,096.90
Carried forward /...						R	1,788,585.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward / ...						R	1,788,585.57
	PSG 8.4.3	Strength concrete:					
		25 MPa/19mm Mass concrete of:					
34		100 mm thick concrete under floor slabs	m ²	253.00	194.47	R	49,200.91
		Unreinforced class 25 MPa/19 mm concrete in:					
35		Aprons	m ²	12.00	1944.68	R	23,336.16
36		Strip footings	m ²	10.00	1944.68	R	19,446.80
		Reinforced class 30 MPa/19mm concrete in:					
37		Column bases	m ³	17.00	1944.68	R	33,059.56
38		Surface beds	m ³	95.00	1944.68	R	184,744.60
39		Upstand beams	m ³	11.00	1944.68	R	21,391.48
40		Downstand beams	m ²	9.00	1944.68	R	17,502.12
41		Stairs and landings	m ³	4.00	1944.68	R	7,778.72
		Reinforced class 35 MPa/19 mm watertight concrete in:					
42		Pump station floors	m ³	101.00	2200.77	R	222,277.77
43		Plinths	m ⁵	2.00	2200.77	R	4,401.54
44		Pump gallery and chamber walls	m ³	116.00	2200.77	R	255,289.32
45		Sump floors	m ²	3.00	2200.77	R	6,602.31
46		Sump walls	m ³	4.00	2200.77	R	8,803.08
47		Slabs	m ³	89.00	2200.77	R	195,868.53
48		Columns	m ³	31.00	2200.77	R	68,223.87
49		Columns in foundations	m ³	4.00	2200.77	R	8,803.08
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finishes to:					
50		Top of roof slabs	m ²	412.00	37.33	R	15,379.96
51		Top of sump floors	m ²	15.00	37.33	R	559.95
Carried forward / ...						R	2,931,255.33

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward / ...						R	2,931,255.33
		(b) Steel-floated finishes to:					
52		Top of aprons	m ²	120.00	44.21	R	5,305.20
53		Top of plinths	m ²	14.00	44.21	R	618.94
54		Top of slightly sloping upstand beams	m ²	31.00	44.21	R	1,370.51
55		Top of stair treads and landings	m ²	5.00	44.21	R	221.05
		(c) Power-floated finishes to:					
56		Top of surface beds and floor slabs etc	m ²	477.00	46.93	R	22,385.61
	PSG 8.5	Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
57		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	77.00	337.08	R	25,955.16
58		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	20.00	370.79	R	7,415.80
		Saw-cut joints as per drawing DRG-CC-0247:					
59		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	75.00	88.10	R	6,607.50
60		3mm x 25mm Saw-cut joint in aprons	m	41.00	88.10	R	3,612.10
		Slip joints:					
61		280mm wide slip joint between top of brick walls and slabs	m	126.00	5.89	R	742.14
		Construction joints: In walls and at kickers as DWG-CC-0201					
62		Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	88.00	497.57	R	43,786.16
Carried forward / ...						R	3,049,275.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,049,275.50
63	PSG 8.12	Granolithic screeding					
		Floor screeds					
		Average 80mm thick normal screed to falls	m²	15.00	237.88	R	3,568.20
64	PSG 8.23	Concrete protection and proprietary floor					
		Floor Finishes					
		Type 1 - Quartz-encapsulated resin finish (refer to SANS1200 G - 5.5.26)	m²	454.00	1004.03	R	455,829.62
65		Skirtings					
		Type 2 - Quarts-encapsulated resin cove skirting (refer to SANS1200 G - 5.5.26)	m	176.00	176.20	R	31,011.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,539,684.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200 H and in the project specifications				
	PSHA 8.3.2	Handrails:				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
66		a) Horizontal top mounted	m	33.00	1320.44	R 43,574.52
67		e) Sloping top mounted	m	19.00	1320.44	R 25,088.36
68		j) Bends	No	4.00	178.37	R 713.48
69		k) End Closures	No	2.00	245.39	R 490.78
70		m) Kick Plates	m	52.00	924.26	R 48,061.52
	8.3.8	Ladders, complete and installed				
		Sump service ladder SS316				
71		5800mm long	No	1.00	42818.70	R 42,818.70
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 160,747.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 280mm thick cavity walls of two half brick					
72		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m²	114.00	831.09	R	94,744.26
73		Superstructure	m²	497.00	684.44	R	340,166.68
74		Closing 60mm cavity horizontally around openings	m	21.00	64.60	R	1,356.60
75		Closing 60mm cavity vertically around openings	m	51.00	64.60	R	3,294.60
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
76		Foundations	m²	20.00	334.85	R	6,697.00
77		Superstructure	m²	408.00	374.22	R	152,681.76
78		110mm Wide brick-on-edge lintel	m	16.00	239.18	R	3,826.88
		Brickwork sundries					
79		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	29.00	71.55	R	2,074.95
80		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	17.00	93.97	R	1,597.49
81		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m²	497.00	270.57	R	134,473.29
82		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	2223.00	51.19	R	113,795.37
83		Form opening for standard louvre unit 2200 x 1180mm high (installed by others)	No	6.00	60.54	R	363.24
	PD 10.2	Plasterwork: 15mm thick, one coat cement plaster to internal brick walls					
84			m²	596.00	88.64	R	52,829.44
Carried forward /...						R	907,901.56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward / ...						R	907,901.56
85	PD 10.3	15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	412.00	194.58	R	80,166.96
86		15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	59.00	194.58	R	11,480.22
		Roof finishes:					
		Roof screed					
87		Average 70mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	443.00	234.00	R	103,662.00
		Crushed stone to roof slab					
88		Clean crushed 19 - 25mm stone as ballast	m ³	35.00	402.55	R	14,089.25
		Torch-on Waterproofing					
89		"Sika Blackseal" or equivalent primer applied to	m ²	443.00	22.70	R	10,056.10
90		"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	443.00	254.20	R	112,610.60
91	PD 10.4	"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	443.00	50.00	R	22,150.00
92		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	69.00	577.79	R	39,867.51
		Doors and Windows:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery					
93		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.00	63480.64	R	126,961.28
94		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.00	55577.45	R	55,577.45
Carried forward / ...						R	1,484,522.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,484,522.93
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint					
95		Internal plastered walls	m ²	596.00	91.89	R	54,766.44
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
96		Plastered concrete soffits	m ²	410.00	85.40	R	35,014.00
97		Plastered sides of concrete beams	m ²	59.00	85.40	R	5,038.60
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
		Rainwater drainage:					
98		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm	No	21.00	1114.84	R	23,411.64
99		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	110.00	181.03	R	19,913.30
100		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	42.00	163.31	R	6,859.02
	PD 10.8	Miscellaneous Items					
		(c) Items measured by area:					
		Damp- and waterproofing					
101		375 micron medium density polyethylene damp proof sheeting under floors	m ²	611.00	42.10	R	25,723.10
102		375 micron green medium density polyethylene damp proof course in walls	m ²	37.00	10.53	R	389.61
		Ant poison, aldrin emulsifiable concentrate solution to SANS 618 spread at a rate recommended by the manufacturer:					
103		Bottoms of foundations, footings and column bases	m ²	95.00	4.86	R	461.70
104		Under floors	m ²	611.00	4.86	R	2,969.46
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,659,069.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
105	PSGG	PARTICULAR SPECIFICATION PSGG: GRP as specified in PSGG in the project				
	PSGG 08.1	(a) GRP open grid flooring by area of the grid				
		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	50.00	1694.48	R 84,724.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 84,724.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	282,037.04
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R	28,523.54
SANS 1200 G		CONCRETE (STRUCTURAL)				R	3,539,684.52
SANS 1200 H		STRUCTURAL STEELWORK				R	160,747.36
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	1,659,069.80
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	84,724.00
TOTAL OF BILL C28 CARRIED TO SUMMARY						R	5,145,186.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C29 <u>SERVICE WATER PUMP STATION</u>				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation				
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:				
1		Total depth up to 1.0 m	m ³	191.00	97.74	R 18,668.34
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	19.00		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	19.00	5.32	R 101.08
4	PSD 8.3.5	Extra excavation to provide working space	m ²	149.00	158.17	R 23,567.33
5	PSD 8.3.14	Extra over item PSD 8.3.3 (a) for temporary	m ³	86.00	36.23	R 3,115.78
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	326.00	62.34	R 20,322.84
7		Soilcrete backfill (class of material stated) where directed by the Engineer	m ³	145.00	1381.78	R 200,358.10
	PSD 8.3.19	Deep Compaction				
8		(a) Deep compaction to be undertaken at the Service Water Pumpstation to a required depth of 4m	m ²	450.00	57.29	R 25,780.50
9		(b) Deep Compaction Testing to confirm E-Modulus at Service water pumpstation	Sum	1.00	43240.00	R 43,240.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 335,153.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
10		Sides of strip footings not exceeding 300mm high	m ²	20.00	457.46	R 9,149.20
11		Sides of sump floor edges	m ²	4.00	457.46	R 1,829.84
12		Sides of pump gallery and sump floor edges	m ²	22.00	457.46	R 10,064.12
13		Sides of bases	m ²	16.00	457.46	R 7,319.36
14		Sides of columns in foundations	m ²	8.00	457.46	R 3,659.68
15		Sides of water retaining/water-excluding walls in foundations	m ²	6.00	457.46	R 2,744.76
	8.2.2	Smooth (W8, C5):				
		Vertical formwork to:				
16		Sides of downstand beams	m ²	86.00	457.46	R 39,341.56
17		Sides of water retaining/water-excluding walls	m ²	127.00	457.46	R 58,097.42
		Horizontal formwork not exceeding 3m high to:				
18		Soffits of pump gallery sump roof slab	m ²	28.00	737.97	R 20,663.16
		Horizontal formwork not exceeding 8m high to:				
19		Soffits of beams and slabs	m ²	305.00	988.66	R 301,541.30
	8.2.3	Special Smooth:				
		(a) Vertical formwork to:				
20		Sides of down- and upstand beams and slab edges	m ²	134.00	342.67	R 45,917.78
21		Sides of columns	m ²	132.00	342.67	R 45,232.44
22		Sides of water retaining/water-excluding walls	m ²	311.00	342.67	R 106,570.37
23		Stepped sides of stairs 360mm high extreme	m ²	2.00	457.46	R 914.92
		(b) Sloping formwork not exceeding 3.5m high to:				
24		Soffits of stairs	m ²	4.00	853.53	R 3,414.12
Carried forward /...						R 656,460.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward / ...						R 656,460.03
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
25		Over 20mm and up to 100mm	m	109.00	37.96	R 4,137.64
26		Over 100mm and up to 200mm	m	62.00	75.93	R 4,707.66
27		Over 200mm and up to 300mm	m	52.00	113.89	R 5,922.28
	8.2.6	Box out holes/form voids:				
		Large, other than circular, of area over 0.5m ² and up to and including 1.5m ² , and in the following depth ranges:				
28		0m up to and including 0.5m deep	No	6.00	795.05	R 4,770.30
		Grooves and recesses				
29		300mm wide x 50mm deep recessed drain channel	m	16.00	497.80	R 7,964.80
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
30		8mm	t	0.70	18085.37	R 12,659.76
31		10mm	t	1.10	18085.37	R 19,893.91
	8.3.1	(b) High-tensile steel bars in the following:				
32		10mm	t	1.80	18085.37	R 32,553.67
33		12mm	t	5.30	18085.37	R 95,852.46
34		16mm	t	7.10	18085.37	R 128,406.13
35		20mm	t	10.60	18085.37	R 191,704.92
36		25mm	t	5.30	18085.37	R 95,852.46
37		32mm	t	3.50	18085.37	R 63,298.80
	8.3.2	(c) High-tensile welded mesh in the following:				
38		Ref No 395 in surface beds	kg	1371.00	24.80	R 34,000.80
39		Ref No 617 in surface beds	kg	2141.00	25.34	R 54,252.94
Carried forward / ...						R 1,412,438.55

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,412,438.55
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
40		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	40.00	128.65	R	5,146.00
41		75mm thickness under surface beds and floors etc	m ²	347.00	128.65	R	44,641.55
42		75mm thick under sump floors	m ²	2.00	128.65	R	257.30
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
43		Aprons and ramps	m ³	9.00	1944.68	R	17,502.12
44		Strip footings	m ³	6.00	1944.68	R	11,668.08
45		Benching including steel float finish	m ³	6.00	1944.68	R	11,668.08
		Reinforced class 30 MPa/19mm concrete in:					
46		Column bases	m ³	6.00	1944.68	R	11,668.08
47		Surface beds	m ³	38.00	1944.68	R	73,897.84
48		Columns in foundations	m ³	1.00	1944.68	R	1,944.68
49		Columns	m ³	10.00	1944.68	R	19,446.80
50		Slabs	m ³	76.00	1944.68	R	147,795.68
51		Upstand beams	m ³	9.00	1944.68	R	17,502.12
52		Downstand beams	m ³	20.00	1944.68	R	38,893.60
53		Stairs and landings	m ³	2.00	1944.68	R	3,889.36
		Reinforced class 35 MPa/19 mm watertight concrete in:					
54		Plinths	m ³	3.00	2200.77	R	6,602.31
55		Pump gallery and chamber floors	m ³	68.00	2200.77	R	149,652.36
56		Pump gallery and chamber walls	m ³	64.00	2200.77	R	140,849.28
57		Sump floors	m ³	1.00	2200.77	R	2,200.77
Carried forward /...						R	2,117,881.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,117,664.56
58	PSG 8.4.4	Sump walls	m ³	2.00	2200.77	R 4,401.54
59		Pump chamber roof slab	m ³	9.00	2200.77	R 19,806.93
		Unformed surface finishes:				
		(a) Wood-floated finishes to:				
60		Top of ramps	m ²	2.00	37.33	R 74.66
61		Top of roof slabs	m ²	280.00	37.33	R 10,452.40
62		Top of sump floors	m ²	2.00	37.33	R 74.66
		(b) Steel-floated finishes to:				
63		Top of aprons	m ²	100.00	44.21	R 4,421.00
64		Top of plinths	m ²	19.00	44.21	R 839.99
65	PSG 8.5	Top of gallery chamber roof	m ²	36.00	44.21	R 1,591.56
66		Top of slightly sloping upstand beams	m ²	25.00	44.21	R 1,105.25
67		Top of stair treads and landings	m ²	3.00	44.21	R 132.63
68		Top of gallery chamber floors	m ²	28.00	44.21	R 1,237.88
		(c) Power-floated finishes to:				
69		Top of surface beds and floor slabs etc	m ²	257.00	46.93	R 12,061.01
		Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
70		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	43.00	337.08	R 14,494.44
71		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	2.00	370.79	R 741.58
		Saw-cut joints as per drawing DRG-CC-0247:				
72		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	31.00	88.10	R 2,731.10
73		3mm x 25mm Saw-cut joint in aprons	m	31.00	88.10	R 2,731.10
		Slip joints:				
74		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 300mm concrete wall	m	7.00	106.72	R 747.04
Carried forward /...						R 2,195,309.33

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,195,309.33
75		280mm wide slip joint between top of brick walls and slabs	m	87.00	5.89	R 512.43
		Construction joints: In walls and at kickers as DWG-CC-0201				
76		Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	117.00	497.57	R 58,215.69
	PSG 8.14	Creating box outs in concrete for others to cast				
77		450 x 450mm raking/skew opening through 300mm thick wall	No	6.00	795.05	R 4,770.30
78		500 x 500mm square opening through 300mm thick wall	No	1.00	933.52	R 933.52
79		800 x 800mm square opening through 300mm thick wall	No	1.00	1243.93	R 1,243.93
	PSG 8.21	Testing for water tightness::				
80		Service water pump station: Pump gallery chamber	SUM	1.00	27761.36	R 27,761.36
	PSG 8.23	Concrete protection and proprietary floor finishes				
		Floor Finishes				
81		Type 8 – Epoxy floor finish (refer to SANS1200 G - 5.5.26)	m²	265.00	897.23	R 237,765.95
		Skirlings				
82		Type 5 – Epoxy cove skirting (refer to SANS1200 G - 5.5.26)	m	120.00	176.20	R 21,144.00
	PSG 8.24	Preparation of base concrete to receive benching				
83		Floor and vertical sides of chamber	m²	41.00	117.03	R 4,798.23
Carried forward /...						R 2,552,454.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,552,454.74
	PSG 8.28	Miscellaneous Work					
		Cast-iron manhole covers including frames					
84		900 x 600mm Manhole cover	No	3.00	1945.80	R	5,837.40
85		900 x 1150mm Manhole cover	No	1.00	2918.70	R	2,918.70
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2,561,210.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200 H and in the project specifications				
	PSH 8.3.7	Handrails:				
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:				
86		Horizontal top mounted	m	6.00	1320.44	R 7,922.64
87		Sloping side mounted flush (measured on slope)	m	8.00	1320.44	R 10,563.52
88		Bends	No	2.00	178.37	R 356.74
89		End closures	No	4.00	245.39	R 981.56
90		m) Kick Plates	m	14.00	924.26	R 12,939.64
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 32,764.10

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 280mm thick cavity walls of two half brick					
91		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m²	43.00	831.09	R	35,736.87
92		Superstructure	m²	313.00	684.44	R	214,229.72
93		Closing 60mm wide cavity horizontally around openings	m	26.00	64.60	R	1,679.60
94		Closing 60mm wide cavity vertically around openings	m	54.00	64.60	R	3,488.40
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
95		Foundations	m²	11.00	334.85	R	3,683.35
96		Superstructure	m²	313.00	374.22	R	117,130.86
97		110mm Wide brick-on-edge lintel	m	30.00	239.18	R	7,175.40
		Brickwork sundries					
98		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	37.00	71.55	R	2,647.35
99		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	5.00	93.97	R	469.85
100		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1438.00	51.19	R	73,611.22
	PD 10.2	Plasterwork:					
101		15mm thick, one coat cement plaster to internal brick walls	m²	313.00	88.64	R	27,744.32
102		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	278.00	194.58	R	54,093.24
103		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	86.00	194.58	R	16,733.88
Carried forward /						R	558,424.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 558,424.06
	PD 10.3	Roof finishes:				
		Roof screed				
104		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m ²	280.00	190.86	R 53,440.80
		Crushed stone to roof slab				
105		Clean crushed 19 - 25mm stone as ballast	m ³	22.00	402.55	R 8,856.10
		Torch-on waterproofing				
106		"Sika Blackseal" or equivalent primer applied to screed	m ²	311.00	22.70	R 7,059.70
107		"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	311.00	254.20	R 79,056.20
108		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	305.00	50.00	R 15,250.00
109		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m ²	50.00	577.79	R 28,889.50
	PD 10.4	Doors and Windows:				
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc				
110		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	1.00	30651.76	R 30,651.76
111		Double fire door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high (Ironmongery Type D)	No	1.00	126876.33	R 126,876.33
		WG66 "Winblock" or equivalent high density precast concrete window with aluminium frame, top hung with powder coated finish and 6.4mm laminated safety glass				
112		Window comprising 6 units overall size approximately 1320 x 1980mm high	No	16.00	6440.60	R 103,049.60
113		Window comprising 4 units overall size approximately 1320 x 1320mm high	No	8.00	4341.30	R 34,730.40
Carried forward /...						R 1,046,284.45

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,046,284.45
	PD 10.7	Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:				
114		Internal plastered walls	m²	313.00	91.89	R 28,761.57
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
115		Plastered concrete soffits	m²	277.00	85.40	R 23,655.80
116		Plastered sides of concrete beams	m²	86.00	85.40	R 7,344.40
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule);				
		Rainwater drainage:				
117		Hydrain fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	14.00	1114.84	R 15,607.76
118		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	73.00	181.03	R 13,215.19
119		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	28.00	163.31	R 4,572.68
Carried forward /...						R 1,139,572.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,139,441.85
	PD 10.8	Miscellaneous Items					
		(c) Items measured by area:					
		Damp- and waterproofing					
120		375 micron medium density polyethylene damp proof sheeting under floors	m²	167.00	42.10	R	7,030.70
121		375 micron green medium density polyethylene damp proof course in walls	m²	18.00	10.53	R	189.54
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:					
122		Bottoms of strip, footings and column bases	m²	42.00	4.86	R	204.12
123		Under floors	m²	152.00	4.86	R	738.72
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
124	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	34.00	1,694.48	R	57,612.32
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	57,612.32

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 335,153.97
SANS 1200 G		CONCRETE (STRUCTURAL)				R 2,561,210.84
SANS 1200 H		STRUCTURAL STEELWORK				R 32,764.10
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 1,147,604.93
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R 57,612.32
TOTAL OF BILL C29 CARRIED TO SUMMARY						R 4,134,346.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C30 MAIN SLUDGE TRANSFER PUMPSTATION				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200D and in project				
	PSD 8.3.3	Restricted excavation (a) Excavate in all materials and use for backfill or embankment or dispose as ordered by the Engineer:				
1		Main sludge transfer pumpstation	m ³	50.00	97.74	R 4,887.00
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	5.00		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	5.00	5.32	R 26.60
4	PSD 8.3.14	Extra over item 8.3.3 (a) for temporary stockpiling	m ³	22.50	158.17	R 3,558.83
	PSD 8.3.16	Importing of materials for fill under floors and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)				
5			m ³	807.10	62.34	R 50,314.61
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
6		Sides of 650mm thick floor slab	m ²	42.25	342.67	R 14,477.81
7		Sides of footings 2000x1600x400	m ²	8.64	342.67	R 2,960.67
	8.2.2	Special Smooth:				
		Vertical formwork to:				
8		Sides of walls	m ²	821.54	342.67	R 281,517.11
9		Sides of beams	m ²	164.10	342.67	R 56,232.15
10		Sides of columns	m ²	97.58	342.67	R 33,437.74
11		Sides of mass concrete stairs	m ²	2.40	342.67	R 822.41
12		Sides of RC stairs	m ²	4.25	457.46	R 1,944.21
		Sloping formwork to:				
13		Soffit of staircase	m ²	6.49	853.53	R 5,539.41
		Horizontal formwork not exceeding 4m high to:				
14		Soffit of roof slabs	m ²	245.81	737.97	R 181,400.41
15		Soffit of beams	m ²	16.98	853.53	R 14,492.94
16		Soffit of staircase	m ²	4.75	853.53	R 4,054.27
	8.2.5	Narrow widths up to 300 mm wide				
		Different widths in the following range:				
		(a) Up to 150 mm				
17		Sides of 100mm thick apron	m	81.36	37.96	R 3,086.43
18		Sides of 150mm thick concrete plinths	m	77.00	56.95	R 4,385.15
		(b) Up to 250 mm				
19		Sides of 200mm staircase risers	m	39.60	114.37	R 4,529.05
20		Sides of 200mm thick cable trench floor	m	27.80	114.37	R 3,179.49
21		Sides of 250mm thick strip footing	m	15.20	114.37	R 1,738.42
Carried forward / ...						R 613,799.65

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 613,799.65
22		Sides of 250mm thick sump roof slab	m	37.80	114.37	R 4,323.19
23		Sides of 250mm thick overflow channel roof slab	m	6.00	114.37	R 686.22
		(b) Groove chases and splays in the following ranges:				
		Chamfers and splays over 40 x 40 mm				
24		Chamfers 45x45 L-Channel support for Gratings	m	71.26	208.09	R 14,828.49
	PSG 8.3	Reinforcement:				
	8.3.1	(a) Mild steel bars:				
25		8 mm dia	t	1.05	18085.37	R 18,989.64
26		10 mm dia	t	1.58	18085.37	R 28,574.88
		(b) High tensile steel bars				
27		10 mm dia	t	2.90	18085.37	R 52,447.57
28		12 mm dia	t	8.70	18085.37	R 157,342.72
29		16 mm dia	t	11.60	18085.37	R 209,790.29
30		20 mm dia	t	17.41	18085.37	R 314,866.29
31		25 mm dia	t	8.70	18085.37	R 157,342.72
32		32 mm dia	t	5.80	18085.37	R 104,895.15
		(c) High-tensile welded mesh in the following:				
33		Ref No 395 in surface beds	m ²	50.00	83.73	R 4,186.50
	PSG 8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer:				
		Class 15MPa / 19mm concrete of:				
34		75 mm minimum thickness	m ²	306.73	128.65	R 39,460.81
	PSG 8.4.3	Strength concrete:				
		Unreinforced class 25MPa / 19mm concrete in:				
35		Benching in overflow channel and sludge sump	m ³	4.83	1944.68	R 9,392.80
36		Strip footings	m ³	2.65	1944.68	R 5,153.40
		35Mpa / 26mm (watertight concrete)				
37		Floor slab	m ³	181.25	2195.20	R 397,880.00
Carried forward /...						R 2,

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,133,960.33
		35Mpa / 19mm (watertight concrete)				
38		Sump Walls	m ³	61.45	2200.77	R 135,237.32
39		Overflow channel floor slab	m ³	7.14	2200.77	R 15,713.50
40		Overflow channel walls	m ³	4.00	2200.77	R 8,803.08
		30Mpa / 19mm				
41		Sump and overflow channel roof slab	m ³	12.16	1944.68	R 23,647.31
42		Surface bed	m ³	7.73	1944.68	R 15,032.38
43		Stairs to overflow channel platform	m ³	1.50	1944.68	R 2,917.02
44		Staircase	m ³	3.01	1944.68	R 5,853.49
45		Plinths and ramps	m ³	4.86	1944.68	R 9,451.14
46		Pump gallery room walls	m ³	51.03	1944.68	R 99,237.02
47		Roof slab	m ³	47.41	1944.68	R 92,197.28
48		Trench floor	m ³	3.37	1944.68	R 6,553.57
49		Pad footings	m ³	3.84	1944.68	R 7,467.57
50		Columns	m ³	14.84	1944.68	R 28,859.05
51		Beams	m ³	18.52	1944.68	R 36,015.47
	PSG 8.4.4	Unformed surface finishes:				
		Wood-floated finishes to:				
52		Top of floor slab	m ²	253.60	37.33	R 9,466.89
53		Top of roof slab	m ²	191.00	37.33	R 7,130.03
54		Top of footing	m ²	20.22	37.33	R 754.81
55		Top of apron	m ²	74.36	37.33	R 2,775.86
56		Top of stairs (external)	m ²	3.00	37.33	R 111.99
		Steel-floated finishes to:				
57		Top of sump roof slab	m ²	44.80	44.21	R 1,980.61
58		Top of overflow channel roof slab	m ²	3.90	44.21	R 172.42
59		Top of sump walls	m ²	7.09	44.21	R 313.45
Carried forward /...						R 2,643,651.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,643,651.58
60	PSG 8.5	Top of Plinths	m ²	31.50	44.21	R	1,392.62
61		Top of stairs (internal)	m ²	10.45	44.21	R	461.99
		Power-floated finishes to:					
62		Top of surface bed	m ²	38.96	46.93	R	1,828.39
		Joints:					
		Watertight concrete joints as detailed and					
		Joint type F:					
63		In 300mm thick sump walls	m	49.20	305.16	R	15,013.87
64		In 300mm thick overflow channel walls	m	20.60	305.16	R	6,286.30
		Joint type R:					
65	PSG 8.7	Overflow channel base to sump wall connection	m	18.00	305.16	R	5,492.88
		Isolation joints:					
66		10 mm "Jointex" between surface	m	147.68	337.08	R	49,779.97
67		20mm thick "Jointex" or equivalent between concrete surface bed and columns	m	4.00	370.79	R	1,483.16
		Saw-cut joints:					
68		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	35.00	88.10	R	3,083.50
		Slip joints:					
69		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	25.00	106.72	R	2,668.00
70		280mm wide slip joint between brick walls and slabs	m	30.00	5.89	R	176.70
		Grouting:					
71	PSG 8.10	Under base plates (10mm thick grout)	m ²	0.09	16725.33	R	1,505.28
72		Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m ³	0.21	16725.33	R	3,512.32
	PSG 8.12	No-fines concrete					
73	PSG 8.12	Apron	m ²	74.36	257.14	R	19,120.93
		Granolithic Screeding:					
		Floor screeds:					
74		Average 55mm thick normal screed to fall (30-80mm thick). Top of pump gallery floor slab	m ²	165.75	154.25	R	25,566.94
Carried forward /...						R	2,781,024.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,781,024.44
	PSG 8.13	Casting items in concrete					
		(a) Up to 300 mm nominal bore					
75		Puddle pipes through 300mm walls	No	30.00	1113.03	R	33,390.90
	PSG 8.21	Testing for water tightness::					
76		Sludge Sumps	No	1.00	22110.91	R	22,110.91
	PSG 8.23	Concrete protection and proprietary floor finishes					
		Floor Finishes					
77		Type 3 - Epoxy Floor Finish (refer to SANS 1200G)	m²	44.80	894.42	R	40,070.02
78		Type 1 - Quartz-encapsulated resin finish (refer to SANS1200 G)	m²	44.80	897.23	R	40,195.90
		Skirtings					
79		Type 5 - Epoxy Cove Skirting (refer to SANS 1200 G 5.5.21)	m	30.00	176.20	R	5,286.00
80		Type 2 - Quartz-encapsulated resin cove skirting (refer to SANS1200 G - 5.5.21)	m	15.00	176.20	R	2,643.00
	PSG 8.28	Miscellaneous work					
		Electrical cable sleeves					
81		160mm dia x 640mm long Class 9 PVC pipes	No	15.00	119.99	R	1,799.85
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,036,631.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	STRUCTURAL STEELWORK					
		as specified in SANS 1200H and in the project specifications					
	PSH 8.3.7	Handrails:					
		Cast iron, "key clamp" or equivalent 900mm					
82		Horizontal	m	2.64	1320.44	R	3,485.96
83		Sloping (measured on slope)	m	7.91	1320.44	R	10,444.68
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
84	SANS 1200 LE	STORMWATER DRAINAGE					
		as specified in SANS 1200LE and in the project specifications					
	PSLE 8.2.14	Supply and install subsurface drains complete					
		Supply and install subsurface drains complete (450x450mm stone drain cross-section), including 19mm stone and 110mm UPVC pipes wrapped in geofabric blanket	m	150.00	430.27	R	64,540.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	64,540.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
	PD 10	BUILDING WORK					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		230mm thick non-facing engineering bricks, in:					
85		Cable trench walls	m ²	15.00	763.18	R	11,447.70
		280mm thick cavity walls of two half brick skins, in:					
86		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	19.00	831.09	R	15,790.71
87		Superstructure	m ²	183.78	684.44	R	125,786.38
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
88		Superstructure	m ²	183.78	374.22	R	68,774.15
		Brickwork sundries					
89		110 x 75mm High lintels in lengths not exceeding	m	3.00	71.55	R	214.65
90		170 x 75mm High lintels in lengths not exceeding	m	7.00	93.97	R	657.79
91		30x1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2 x Fischer Hammerfix N6x40 anchors or equivalent	m ²	600.00	51.19	R	30,714.00
	PD 10.2	Plaster Work:					
92		15mm thick, one coat cement plaster to internal	m ²	214.38	88.64	R	19,002.64
93		15mm thick, waterproof plaster to cable trench walls and floors	m ²	31.83	129.72	R	4,128.99
94		15mm thick, one coat cement plaster to soffits of slabs	m ²	191.00	194.58	R	37,164.78
95		15mm thick, one coat cement plaster to sides of downstand beams	m ²	86.00	194.58	R	16,733.88
	PD 10.3	Roof finishes:					
		Roof screed					
96		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m ²	191.00	190.86	R	36,454.26
Carried forward /						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 366,869.94
97		Crushed stone to roof slab Clean crushed 19 - 25mm stone as ballast	m ²	191.00	402.55	R 76,887.05
98		Torch-on Waterproofing "Sika Blackseal" or equivalent primer applied to	m ²	191.00	22.70	R 4,335.70
99		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	No	191.00	254.20	R 48,552.20
100		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	191.00	50.00	R 9,550.00
101		"Sikalastic 560" or equivalent (including reemal membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	50.00	577.79	R 28,889.50
	PD 10.4	Doors and Windows: Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc				
102		Single fire door size 836 x 2357mm high in an including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.00	63480.64	R 126,961.28
103		Double door comprising 2 x leaves size 836 2357mm high in and including frame size 1800 2400mm high	No	2.00	55577.45	R 111,154.90
	PD 10.5	Ceilings and Bulkheads 6 mm thick Everite Nutec ceiling boards fixed to 38 mm x 38 mm SA pine brander at maximum 400 mm centres				
104		Nailed-up ceiling	m ²	50.00	339.97	R 16,998.50
105		75 mm Everite Nucornice product code 605-730	m	30.00	51.52	R 1,545.60
106		600 mm x 600 mm Access ceiling hatch	No	1.00	505.09	R 505.09
	PD 10.7	Miscellaneous work Paintwork: One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to: Internal plastered walls				
107		Sides of columns	m ²	214.38	91.89	R 19,699.38
108			m ²	38.00	85.40	R 3,245.20
Carried forward /...						R 815,194.33

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 815,194.33
109		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint Plastered and concrete soffits	m²	191.00	85.40	R 16,311.40
110		Sides of concrete beams and columns	m²	86.00	85.40	R 7,344.40
111		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule): Rainwater drainage: Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	19.60	1114.84	R 21,850.86
112		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	138.06	181.03	R 24,993.00
113		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	10.00	163.31	R 1,633.10
	PD 10.8	Miscellaneous Items: (c) Items measured by area Damp- and waterproofing				
114		375 micron medium density polyethylene damp proof sheeting under floors	m²	30.00	42.10	R 1,263.00
115		375 micron green medium density polyethylene damp proof course in walls	m²	15.00	10.53	R 157.95
116		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	15.00	42.10	R 631.50
117		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer: Bottoms of foundations, footings, column bases and floors	m²	312.00	4.86	R 1,516.32
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description					Amount
SANS 1200 D		EARTHWORKS				R	58,787.04
SANS 1200 G		CONCRETE (STRUCTURAL)				R	2,926,521.02
SANS 1200 H		STRUCTURAL STEELWORK				R	13,930.64
SANS 1200 LE		STORMWATER DRAINAGE				R	64,540.50
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	890,895.87
TOTAL OF BILL C30 CARRIED TO SUMMARY							R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C31 <u>DEWATERING BUILDING</u>					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	10693.00	62.3	R	666,601.62
	PSD 8.3.19	Deep Compaction					
2		(a) Deep compaction to be undertaken at the Dewatering Building to a required depth of 4.5m	m ²	4320.00	84.32	R	364,262.40
3		(b) Deep Compaction Testing to confirm E-Modulus at Dewatering Building	Sum	1.00	43240.00	R	43,240.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200 G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m²	76.00	342.67	R	26,042.92
5		Sides of strip footings exceeding 300 mm high	m²	12.00	342.67	R	4,112.04
6		Sides of drain channel not exceeding 300mm high	m²	102.00	342.67	R	34,952.34
7		Sides of bases	m²	526.00	342.67	R	180,244.42
8		Sides of columns in foundations	m²	408.00	342.67	R	139,809.36
		Horizontal formwork not exceeding 3.5m high					
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
9		Sides of downstand beams	m²	271.00	342.67	R	92,863.57
10		Sides of drain channel	m	460.00	342.67	R	157,628.20
		Horizontal formwork not exceeding 4m high to:					
11		Soffits of isolated beams	m²	329.00	853.53	R	280,811.37
		Horizontal formwork not exceeding 5m high to:					
12		Soffits of beams and slabs	m²	879.00	853.53	R	750,252.87
		Horizontal formwork not exceeding 6m high to:					
13		Soffits of isolated beams	m²	23.00	988.66	R	22,739.18
		Horizontal formwork not exceeding 10m high to:					
14		Soffits of isolated beams	m²	68.00	1202.66	R	81,780.88
15		Soffits of beams and slabs	m²	158.00	1202.66	R	190,020.28
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
16		Sides of upstand beams and slab edges	m²	79.00	342.67	R	27,070.93
Carried forward / ...							

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,988,328.36
17		Sides of isolated beams	m²	835.00	342.67	R 286,129.45
18		Sides of columns	m²	2217.00	342.67	R 759,699.39
19		Sides of walls	m²	119.00	342.67	R 40,777.73
20		Sides of plinths	m²	6.00	457.46	R 2,744.76
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
21		Over 20mm and up to 100mm	m	722.00	37.96	R 27,407.12
22		Over 100mm and up to 200mm	m	422.00	75.93	R 32,042.46
23		Over 200mm and up to 300mm	m	72.00	113.89	R 8,200.08
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
24		8mm	t	4.80	18085.37	R 86,809.78
25		10mm	t	7.10	18085.37	R 128,406.13
	8.3.1	(b) High-tensile steel bars in the following:				
26		10mm	t	11.90	18085.37	R 215,215.90
27		12mm	t	35.60	18085.37	R 643,839.17
28		16mm	t	47.50	18085.37	R 859,055.08
29		20mm	t	71.30	18085.37	R 1,289,486.88
30		25mm	t	35.60	18085.37	R 643,839.17
31		32mm	t	23.90	18085.37	R 432,240.34
	PSG 8.3.2	(c) High-tensile welded mesh in the following:				
32		Ref No 395 in surface beds	kg	14429.00	24.80	R 357,839.20
33		Ref No 517 in surface beds	kg	22539.00	25.34	R 571,138.26
		SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer:				
		(a) Class 15 MPa/19mm concrete of:				
34		75mm thickness under strip footings, bases, cable trench floors, etc	m²	1127.00	128.65	R 144,988.55
35		75mm thickness under surface beds and floors etc	m²	3653.00	128.65	R 469,958.45
Carried forward /...						R 8,987,118.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,988,146.26
	PSG 8.4.3	Strength concrete:				
		25 MPa/19mm Mass concrete of:				
		Unreinforced class 25 MPa/19mm concrete in:				
36		Aprons and Ramps	m ³	29.00	1944.68	R 56,395.72
37		Strip footings	m ³	44.00	1944.68	R 85,565.92
		Watertight concrete class 35 MPa/19mm				
38		Drain channel floors	m ²	100.00	2200.77	R 220,077.00
39		Drain channel walls	m ³	115.00	2200.77	R 253,088.55
		Reinforced class 30 MPa/19mm concrete in:				
40		Column bases	m ³	319.00	1944.68	R 620,352.92
41		Surface beds	m ³	804.00	1944.68	R 1,563,522.72
42		Columns in foundations	m ³	56.00	1944.68	R 108,902.08
43		Columns	m ³	277.00	1944.68	R 538,676.36
44		Downstand beams	m ³	54.00	1944.68	R 105,012.72
45		Upstand beams	m ³	1.00	1944.68	R 1,944.68
46		Isolated beams	m ³	179.00	1944.68	R 348,097.72
47		Slabs	m ²	353.00	1944.68	R 686,472.04
48		Plinths	m ³	73.00	1944.68	R 141,961.64
49		Walls	m ³	53.00	1944.68	R 103,068.04
50		Drain channel walls	m ³	115.00	1944.68	R 223,638.20
51		Stub columns	m ³	19.00	1944.68	R 36,948.92
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
52		Top of drain channel	m ²	298.00	37.33	R 11,124.34
53		Top of ramps	m ²	12.00	37.33	R 447.96
54		Top of suspended slabs	m ²	1037.00	37.33	R 38,711.21
55		Top of box plinths	m ²	96.00	37.33	R 3,583.68
		(b) Steel-floated finishes to:				
56		Top of aprons	m ²	285.00	44.21	R 12,599.85
Carried forward /...						R 14,148.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	14,148,338.53
57	PSG 8.5	Top of plinths	m²	292.00	44.21	R	12,909.32
58		Top of slightly sloping upstand beams	m²	4.00	44.21	R	176.84
59		Top of isolated beams	m²	260.00	44.21	R	11,494.60
		(c) Power-floated finishes to:					
60		Top of surface beds and floor slabs etc	m²	3265.00	48.93	R	153,226.45
		Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
61		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW) with	m	254.00	337.08	R	85,618.32
62		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	156.00	370.79	R	57,843.24
		Saw-cut joints as per drawing DRG-CC-0247:					
63	PSG 8.12	3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	532.00	88.10	R	46,869.20
64		3mm x 25mm Saw-cut joint in aprons	m	96.00	88.10	R	8,457.60
		Slip joints:					
65		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 100mm wide	m	48.00	106.72	R	5,122.56
66		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 250mm wide	m	399.00	106.72	R	42,581.28
67		300mm wide slip joint between top of brick walls and slabs	m	254.00	29.02	R	7,371.08
68		3mm x 10mm polyurethane sealant in top of saw-cut joints in aprons	m	96.00	227.17	R	21,808.32
		Granolithic screeding					
		Floor screeds					
69		Average 65mm thick normal screed on cable trench floors	m²	82.00	201.57	R	16,528.74
70	PSG 8.21	Average 40mm thick normal screed on drain channel floors	m²	298.00	141.05	R	42,032.90
		Water tightness testing					
		Dewatering building sumps	Sum	1.00	39062.27	R	39,062.27
Carried forward /...						R	14,699,441.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	14,699,441.25
	PSG 8.23	Concrete protection and proprietary floor					
		Floor Finishes					
71		Type 1 - Quartz-encapsulated resin finish (refer to SANS1200 G - 5.5.26)	m²	3431.00	1004.03	R	3,444,826.93
72		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	940.00	894.42	R	840,754.80
		Skirtings					
73		Type 2 - Quartz-encapsulated resin cove skirting (refer to SANS1200 G - 5.5.26)	m	571.00	176.20	R	100,610.20
74		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	415.00	176.20	R	73,123.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200 H and in the project specifications					
	PSH 8.3.1	Structural Steel:					
75		Steel columns	l	53.40	62698.00	R	3,348,073.20
76		Structural steel roof and side cladding	t	113.90	61617.00	R	7,018,176.30
	8.3.7	Handrails					
77		a) Horizontal top mounted	m	100.00	1320.44	R	132,044.00
78		j) Bends	No	2.00	178.37	R	356.74
79		k) End Closures	No	10.00	245.39	R	2,453.90
80		m) Kick Plates	m	100.00	924.26	R	92,426.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	10,55

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 HB	CLADDING AND SHEETING				
		as specified in SANS 1200 HB and in the project specifications				
	PSHB 8.2.2	Supply and install cladding and sheeting including corrosion protection and/or coloured				
		6mm Fibre-cement "Nutec BigSix" or equivalent				
81		Roof coverings with pitches not exceeding 25°, fixed to steel purlins	m²	4067.00	407.05	R 1,655,472.35
82		Side cladding fixed to steel girts	m²	634.00	445.19	R 282,250.46
	PSHB 8.2.3	Supply and install ancillaries				
		Ancillaries suitable for 6mm Fibre-cement "Nutec BigSix" or equivalent				
83		Drip flashing	m	200.00	290.38	R 58,076.00
84		Narrow and broad flute closures	m	399.00	290.38	R 115,861.62
85		Bird proofing	m	399.00	247.03	R 98,564.97
86		Gable flashing	m	82.00	158.37	R 12,986.34
87		Eave flashing	m	199.00	297.03	R 59,108.97
88		External corner side wall flashing	m	13.00	297.03	R 3,861.39
		Rainwater				
89		152mm x 152mm aluminium eaves gutters including stop ends, outlets, downpipes, etc.	m	200.00	430.59	R 86,118.00
90		100mm x 100mm aluminium downpipes including	m	140.00	327.03	R 45,784.20
	PSHB 8.2.6	Supply and install insulation				
		4mm Thick "Alububble" or equivalent 1983 D10 both sides reflective foil insulation under sheeting, and above roof insulation boards:				
91		Roof sheeting radiant heat barrier insulation	m²	4067.00	56.82	R 231,086.94
		100mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with roof covering:				
92		Roof sheeting insulation	m²	4701.00	625.94	R 2,942,543.94
Carried forward / ...						R 5,59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	5,591,715.18
93		40mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with vertical cladding: Side cladding fixed to steel girts	m²	634.00	304.31	R	192,932.54
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 115mm thick non-facing engineering bricks, in:					
94		Superstructure	m²	64.00	379.39	R	24,280.96
		300mm thick cavity walls of two half brick skins, in:					
95		Foundations including filling of 80 mm cavity with 25MPa/19mm unreinforced concrete	m²	415.00	897.63	R	372,516.45
96		Superstructure	m²	2841.00	886.28	R	2,517,921.48
97		Closing 80mm wide cavity horizontally around openings	m	258.00	64.60	R	16,666.80
98		Closing 80mm wide cavity vertically around	m	702.00	64.60	R	45,349.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
99		Foundations	m²	74.00	334.85	R	24,778.90
100		Superstructure	m²	1817.00	374.22	R	679,957.74
101		110mm Wide brick-on-edge lintel	m	206.00	239.18	R	49,271.08
		Brickwork sundries					
102		Precast concrete window cill No. 095 by "Modcon Precast" or equivalent	m	19.00	1186.57	R	22,544.83
103		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	290.00	71.55	R	20,749.50
104		110 x 75mm High precast concrete lintels in lengths exceeding 3.5m and not exceeding 5m	m	20.00	93.97	R	1,879.40
105		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	55.00	93.97	R	5,168.35
106		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m²	3256.00	270.57	R	880,975.92
Carried forward /...						R	4,662,060.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	4,662,060.61
107	PD 10.2	30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	5199.00	51.19	R	266,136.81
108		Plasterwork: 15mm thick, one coat cement plaster to internal brick walls	m²	3993.00	88.64	R	353,939.52
109		15mm thick, waterproof plaster to drain channel floor edges	m²	102.00	129.72	R	13,231.44
110		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	1037.00	194.58	R	201,779.46
111		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	271.00	194.58	R	52,731.18
112	PD 10.4	One coat of Rhinolite or Creststone gypsum skim plaster or equivalent to ceilings	m²	783.00	156.75	R	122,735.25
		Doors, windows, louvres, etc:					
	PD 10.4	Timber doors (ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule					
113		Double door 1412 x 2056mm high in and including 1500 x 2100mm high "Nuklip 44mm" aluminium or equivalent door frame Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc	No	3.00	7656.77	R	22,970.31
114		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	3.00	30551.76	R	91,955.28
115		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	6.00	63480.64	R	380,883.84
116		Double door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high "ISO 100 ALUPLAN OR WISPECO CLIP 44" or equivalent powder coated aluminium frames complete with semi-solid timber doors with ironmongery, installation etc. suitable for door as described:	No	5.00	65413.47	R	327,067.35
117		Single door 813 x 2056 mm high in and including 900 x 2100 mm high (A-D03-FS)	No	13.00	5450.23	R	
Carried forward /...						R	6,

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	6,566,344.04
118		WG66 "Winblock" or equivalent high density precast concrete window with aluminium frame, top hung with powder coated finish and 6.4mm laminated safety glass Window comprising 5 units overall size approximately 1320 x 1980mm high	No	5.00	3,468.30	R	17,341.50
119		Window comprising 6 units overall size approximately 1320 x 1980mm high	No	144.00	3,468.30	R	499,435.20
120		"GEALAN-FUTARA S9000" or equivalent shopfront window complete with frame Shopfront window overall size 3000 x 3000mm high	No	6.00	57084.37	R	342,506.22
121		Shopfront window overall size 4562 x 3000mm high	No	2.00	88796.75	R	177,597.50
122	PD 10.5	Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design Overhead roller shutter door for 4200 x 4200mm high opening Ceilings and Bulkheads: "OWA" or equivalent Acoustic Sinfonia white premium ceiling tiles laid on and including fire rated demountable T24 suspension system, comprising main and cross tees	No	6.00	69082.39	R	414,494.34
123		Size 600mm x 600mm suspended ceiling tiles	m²	783.00	527.94	R	413,377.02
124	PD 10.6	Construct shadow line W-trim cornice Carpentry and Joinery: Fittings, countertops, cupboards, shelves etc complete with ironmongery and installed as specified (Drawings AA-0048 to 0078) Casework shelving	m	334.00	53.87	R	17,992.58
125		Tall cupboard unit overall size 1285 x 2550mm high	No	3.00	5450.23	R	16,350.69
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,465,439.09
	PD 10.7	Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to				
126		Internal plastered walls	m²	3993.00	91.89	R 366,916.77
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
127		Plaster-board bulkhead ceilings	m²	783.00	85.40	R 66,868.20
128		Plastered concrete soffits	m²	1003.00	85.40	R 85,656.20
129		Plastered sides of concrete beams	m²	271.00	85.40	R 23,143.40
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		(b) Plumbing drainage and water supply				
130		Waste pipework for 10 sanitary fittings or points including all bends etc., up to and including gully or in ground up to 1m from building including all stub-stacks, two-way vent valves, etc.	SUM	1.00	13625.22	R 13,625.22
131		Hot water pipework reticulation chased into walls from drop pipework positions to 4 sanitary fittings or water points including all bends, insulated etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	10486.19	R 10,486.19
132		Cold water pipework reticulation chased into walls from drop pipework positions to 10 sanitary fittings or water points, etc., including all bends, etc.	SUM	1.00	15730.13	R 15,730.13
		"Geberit" or equivalent				
133		Geberit Selnova Square washbasin (500.290.01.1). B55cm white with 1 tap hole, including trap, waste, etc, complete	No	4.00	3166.62	R 12,666.48
134		Selnova wall-hung WC, in colour white including seat, actuator for dual flush, element, cistern, connection set etc (500.265.01.1) complete	No	4.00	12543.56	R 50,174.24
135		Urinal in colour white, including trap, flush control and pipe set, etc (500.254.01.1) complete	No	2.00	8956.06	R 17,912.12
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 9,128,618.04
136		"Franke" or equivalent Franke Commercial "RODAN" #RODX672 Double Roll Toilet Tissue Holder Wall Mounted, 11-13/16" H x 5-5/8" W x 5-7/16" D (301mm x 144mm x 138mm), manufactured from 22 gauge (0.8mm) grade 18-10 type 304 stainless steel with #4 satin finish and spindle sys	No	4.00	3841.76	R 15,367.04
137		"Hansgrohe " or equivalent Talis E Self-closing single lever pillar tap 110 for cold water or pre-adjusted water without waste set, chrome, (71719003)	No	1.00	4128.29	R 4,128.29
138		4mm Glass bathroom mirrors by specialist 400 x 600mm	No	4.00	329.71	R 1,318.84
	PD 10.8	Miscellaneous Items: (b) Items measured by length: 300 x 100mm high tile skirting, to match adjacent floor tiles, "TAL" or equivalent epoxy adhesive and grout, colour grey (S4)				
139		(c) Items measured by area Damp- and waterproofing 375 micron medium density polyethylene damp proof sheeting under floors	m	77.00	256.14	R 19,722.78
140		375 micron green medium density polyethylene damp proof course in walls	m²	3653.00	42.10	R 153,791.30
141		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	122.00	10.53	R 1,284.66
142		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer: Bottoms of foundations, footings and column bases	m²	1127.00	4.86	R 5,477.22
143		Under floors	m²	3653.00	4.86	R 17,753.58
144		Floor finishes 297 x 297 x 8.3mm thick anti-slip "Pumice porcelain" or equivalent tiles, "TAL" or equivalent adhesive and grout, colour grey (F3)	m²	39.00	1498.27	R 58,432.53
145						
Carried forward /...						R 9,410,188.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,410,188.48
		Budgetary allowances:					
146		Loose furniture	Prov Sum	1.00	200000.00	R	200,000.00
147		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	200000.00	10.00%	R	20,000.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	9,630,188.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						Rc
	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				
		as specified in PSGG in the project specifications				
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring				
148		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	405.00	1694.48	R 686,264.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 686,264.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	1,074,104.02
SANS 1200 G		CONCRETE (STRUCTURAL)				R	19,158,756.18
SANS 1200 H		STRUCTURAL STEELWORK				R	10,593,530.14
SANS 1200 HB		CLADDING AND SHEETING				R	5,784,647.72
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	9,630,188.48
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	685,264.40
TOTAL OF BILL C31 CARRIED TO SUMMARY							R 46,927,490.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		<u>BILL C32</u> <u>BOILER HOUSE</u>					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	4 12.00	62.3	R	25,684.08
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						_c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)				
		as specified in SANS 1200 DM and in the project specifications				
	PSDM 8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
2		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m ³	42.00	63.41	R 2,663.22
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works				
3		Boiler House	SUM	1.00	20150.58	R 20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 22,813.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings	m²	26.00	342.67	R	8,909.42
5		Sides of bases	m²	55.00	342.67	R	18,846.85
6		Sides of columns in foundations	m²	23.00	342.67	R	7,881.41
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
7		Sides of downstand beams	m²	20.00	457.46	R	9,149.20
		Horizontal formwork not exceeding 4m high to:					
8		Soffits of beams and slabs	m²	219.00	737.97	R	161,615.43
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
9		Sides of upstand beams and slabs	m²	58.00	457.46	R	26,532.68
10		Sides of columns	m²	133.00	457.46	R	60,842.18
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
11		Over 20 mm and up to 100mm	m	87.00	113.89	R	9,908.43
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
12		8mm	t	0.30	18085.37	R	5,425.61
13		10mm	t	0.50	18085.37	R	9,042.69
		(b) High-tensile steel bars in the following:					
14		10mm	t	0.80	18085.37	R	14,468.30
15		12mm	t	2.50	18085.37	R	45,213.43
16		16mm	t	3.30	18085.37	R	59,681.72
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	437,517.34
17		20mm	t	4.90	18085.37	R	88,618.31
18		25mm	t	2.40	18085.37	R	43,404.89
19		32mm	t	1.60	18085.37	R	28,936.59
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
20		Ref No 617 in surface beds	kg	1240.00	25.34	R	31,421.60
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19 mm concrete of:					
21		75mm thickness under strip footings, bases, cable trench floors, etc.	m ²	92.00	128.65	R	11,835.80
22		75mm thickness under surface beds and floors etc.	m ²	201.00	128.65	R	25,858.65
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19 mm concrete in:					
23		Aprons and ramps	m ³	7.00	1944.68	R	13,612.76
24		Strip footings	m ³	8.00	1944.68	R	15,557.44
		Reinforced class 30 MPa/19 mm concrete in:					
25		Column bases	m ³	28.00	1944.68	R	54,451.04
26		Surface beds	m ³	40.00	1944.68	R	77,787.20
27		Columns in foundations	m ³	2.00	1944.68	R	3,889.36
28		Columns	m ³	17.00	1944.68	R	33,059.56
29		Downstand beams	m ³	3.00	1944.68	R	5,834.04
30		Upstand beams	m ³	6.00	1944.68	R	11,668.08
31		Slabs	m ³	55.00	1944.68	R	108,957.40
	PSG 8.4.4	Unformed surface finishes:					
		Wood-floated finishes to:					
32		Top of ramps	m ²	6.00	37.33	R	223.98
33		Top of roof slabs	m ²	203.00	37.33	R	7,577.99
		Steel-floated finishes to:					
34		Top of aprons	m ²	66.00	44.21	R	2,917.86
Carried forward /...						R	1,001,129.89

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /						R	1,001,129.89
35	PSG 8.5	Top of slightly sloping upstand beams	m²	18.00	44.21	R	795.78
		Power-floated finishes to:					
36		Top of surface beds	m²	201.00	46.93	R	9,432.93
		Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
37		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	76.00	337.08	R	25,618.08
38		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	11.00	370.79	R	4,078.69
		Saw-cut joints as per drawing DRG-CC-0247:					
39		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	38.00	88.10	R	3,347.80
40		3mm x 25mm Saw-cut joint in aprons	m	26.00	88.10	R	2,290.60
	PSG 8.23	Slip joints:					
41		10mm Jointex up to 300mm wide in horizontal isolation joints	m	56.00	162.59	R	9,105.04
		Concrete protection and proprietary floor finishes					
		Floor Finishes					
42		Type 4 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	201.00	894.42	R	179,778.42
		Skirtings					
43		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	82.00	176.20	R	14,448.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,250,025.63

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 280mm thick cavity walls of two half brick skins, in: Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete					
44			m ²	66.00	831.09	R	54,851.94
45		Superstructure	m ²	231.00	684.44	R	158,105.64
46		Closing 60mm cavity vertically around openings	m	35.00	64.60	R	2,261.00
47		Closing 60mm cavity horizontally around openings	m	11.00	64.60	R	710.60
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:					
48		Foundations	m ²	15.00	334.85	R	5,022.75
49		Superstructure	m ²	197.00	374.22	R	73,721.34
50		110 mm Wide brick-on-edge lintel	m	12.00	239.18	R	2,870.16
		Brickwork sundries					
51		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	16.00	71.55	R	1,144.80
52		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	1.00	93.97	R	93.97
53		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	253.00	270.57	R	68,454.21
54		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	880.00	51.19	R	45,047.20
	PD 10.2	Plasterwork:					
55		15mm thick, one coat cement plaster to internal brick walls	m ²	265.00	88.64	R	23,489.60
56		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	206.00	194.58	R	40,083.48
Carried forward /...							

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	475,856.69
57	PD 10.3	15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	20.00	194.58	R	3,891.60
		Roof finishes:					
		Roof screed					
58		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m ²	203.00	190.86	R	38,744.58
		Crushed stone to roof slab					
59		Clean crushed 19 - 25mm stone as ballast	m ³	18.00	402.55	R	7,245.90
		Torch-on Waterproofing					
60		"Sika Blackseal" or equivalent primer applied to screed	m ²	221.00	22.70	R	5,016.70
61		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	221.00	254.20	R	56,178.20
62		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	221.00	50.00	R	11,050.00
63		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m ²	40.00	577.79	R	23,111.60
	PD 10.4	Doors and Windows:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
64		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.00	63480.64	R	126,961.28
		ISO 100 ALUPLAN OR WISPECO CLIP 44 or equivalent powder coated aluminium frames completed with semi-solid timber doors with ironmongery, installation etc. suitable for door as described:					
65		Single door 813 x 2056mm high	No	1.00	5450.23	R	5,450.23
		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design					
66		Overhead roller shutter door for 2500 x 3500mm high opening	No	3.00	43946.97	R	131,840.91
Carried forward /...							

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 885,347.69
	PD 10.7	Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:				
67		Internal plastered walls	m ²	265.00	91.89	R 24,350.85
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
68		Plastered concrete soffits	m ²	206.00	85.40	R 17,592.40
69		Plastered sides of concrete beams	m ²	20.00	85.40	R 1,708.00
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		Rainwater drainage:				
		Hydrain fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	10.00	1114.84	R 11,148.40
71		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	52.00	181.03	R 9,413.56
72		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	20.00	163.31	R 3,266.20
	PD 10.8	Miscellaneous Items:				
		(c) Items measured by area				
		Damp- and waterproofing				
73		375 micron medium density polyethylene damp proof sheeting under floors	m ²	218.00	42.10	R 9,177.80
74		375 micron green medium density polyethylene damp proof course in walls	m ²	22.00	10.53	R 231.66
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:				
75		Bottoms of foundations, footings and column bases	m ²	92.00	4.86	R 447.12
76		Under floors	m ²	201.00	4.86	R 976.86
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 963,660.54

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 25,684.08
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 22,813.80
SANS 1200 G		CONCRETE (STRUCTURAL)				R 1,250,025.63
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 963,660.54
TOTAL OF BILL C32 CARRIED TO SUMMARY						R 2,262,184.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
BILL C33 COMBINED HEAT AND POWER BUILDING							
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200 D and in the project specifications					
	PSD 8.3.3	Restricted excavation					
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:					
1		Total depth up to 1.0 m	m³	5.00	97.74	R	488.70
		(b) Extra-over item 8.3.3 (a) for:					
2		Hard rock excavation	m³	1.00			
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	1.00	5.32	R	5.32
4	PSD 8.3.5	Extra excavation to provide working space	m²	86.00	158.17	R	13,602.62
5	PSD 8.3.14	Extra over item PSD 8.3.3 (a) for temporary	m³	2.00	36.23	R	72.46
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	2173.00	62.3	R	135,464.82
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	149,633.92

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
7	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	167.00	63.41	R	10,589.47
8	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
		Combined heat and power building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	30,740.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
9		Sides of strip footings not exceeding 300mm high	m²	89.00	342.67	R	30,497.63
10		Sides of cable trench floors not exceeding 300mm	m²	25.00	342.67	R	8,566.75
11		Sides of sump floor edges	m²	126.00	342.67	R	43,176.42
12		Sides of bases	m²	26.00	342.67	R	8,909.42
13		Sides of columns in foundations	m²	42.00	342.67	R	14,392.14
14		Sides of drain channel walls	m²	14.00	342.67	R	4,797.38
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
15		Sides of downstand beams	m²	84.00	457.46	R	38,426.64
		Horizontal formwork not exceeding 4m high to:					
16		Soffits of beams and slabs	m²	151.00	853.53	R	128,883.03
17		Soffits of isolated beams	m²	29.00	853.53	R	24,752.37
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
18		Sides of isolated beams	m²	68.00	457.46	R	31,107.28
19		Sides of columns	m²	314.00	342.67	R	107,598.38
20		Sides of walls	m²	14.00	457.46	R	6,404.44
21		Sides of cable trench walls	m²	42.00	457.46	R	19,213.32
22		Sides of drain channel walls	m²	14.00	457.46	R	6,404.44
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
23		Over 20mm and up to 100mm	m	117.00	37.96	R	4,441.32
24		Over 100mm and up to 200mm	m	89.00	75.93	R	6,757.77
Carried forward /...						R	484,328.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	484,328.73
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
25		8mm	t	0.46	18085.37	R	8,319.27
26		10mm	t	0.68	18085.37	R	12,298.05
	8.3.1	(b) High-tensile steel bars in the following:					
27		10mm	t	1.14	18085.37	R	20,617.32
28		12mm	t	3.43	18085.37	R	62,032.82
29		16mm	t	4.57	18085.37	R	82,650.14
30		20mm	t	6.85	18085.37	R	123,884.78
31		25mm	t	3.43	18085.37	R	62,032.82
32		32mm	t	2.29	18085.37	R	41,415.50
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
33		Ref No 395 in surface beds	kg	2402.00	24.80	R	59,569.60
34		Ref No 617 in surface beds	kg	3751.00	25.34	R	95,050.34
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
35		75mm thickness under strip footings, bases, cable trench floors, etc	m²	307.00	128.65	R	39,495.55
36		75mm thickness under surface beds and floors etc	m²	608.00	128.65	R	78,219.20
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
37		Aprons and ramps	m³	16.00	1944.68	R	31,114.88
38		Strip footings	m³	32.00	1944.68	R	62,229.76
		Reinforced class 30 MPa/19mm concrete in:					
39		Cable trench floors	m³	10.00	1944.68	R	19,446.80
40		Column bases	m³	57.00	1944.68	R	110,846.76
41		Surface beds	m³	122.00	1944.68	R	237,250.96
42		Columns in foundations	m³	2.00	1944.68	R	3,889.36
43		Columns	m³	33.00	1944.68	R	64,174.44
Carried forward /...						R	1,698,867.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,698,867.08
44		Isolated beams	m ³	10.00	1944.68	R 19,446.80
45		Upstand beams	m ³	6.00	1944.68	R 11,668.08
46		Downstand beams	m ³	13.00	1944.68	R 25,280.84
47		Plinths	m ³	24.00	1944.68	R 46,672.32
48		Slabs	m ³	39.00	1944.68	R 75,842.52
49		Walls	m ³	4.00	1944.68	R 7,778.72
50		Cable trench walls	m ³	10.00	1944.68	R 19,446.80
51		Drain channel walls	m ³	3.00	1944.68	R 5,834.04
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
52		Top of drain channel	m ²	25.00	37.33	R 933.25
53		Top of roof slabs	m ²	138.00	37.33	R 5,151.54
54		Top of cable trench floors	m ²	43.00	37.33	R 1,605.19
		(b) Steel-floated finishes to:				
55		Top of aprons	m ²	160.00	44.21	R 7,073.60
56		Top of plinths	m ²	95.00	44.21	R 4,199.95
57		Top of slightly sloping upstand beams	m ²	16.00	44.21	R 707.36
58		Top of isolated beams	m ²	29.00	44.21	R 1,282.09
		(c) Power-floated finishes to:				
59		Top of surface beds and floor slabs etc	m ²	543.00	46.93	R 25,482.99
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
60		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	123.00	337.08	R 41,460.84
61		10mm thick "Jointex" or equivalent in 10mm thick concrete aprons (IJ)	m	18.00	337.08	R 6,067.44
62		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	18.00	370.79	R 6,674.22
		Saw-cut joints as per drawing DRG-CC-0247:				
63		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	153.00	88.10	R 13,479.30
Carried forward /...						R 2,024,954.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,024,954.97
64		Slip joints: 2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	39.00	106.72	R 4,162.08
65		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 250mm wide	m	64.00	106.72	R 6,830.08
66		280mm wide slip joint between top of brick walls	m	123.00	5.89	R 724.47
67		Construction joints: In walls and at kickers as DWG-CC-0201 Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	39.00	497.57	R 19,405.23
	PSG 8.12	Granolithic screeding Floor screeds				
68		Average 65mm thick normal screed on cable trench floors	m²	34.00	201.57	R 6,853.38
69		Average 65mm thick normal screed on drain channel floors	m²	11.00	201.57	R 2,217.27
	PSG 8.23	Concrete protection and proprietary floor Floor Finishes				
70		Type 2 - Polyurethane cement smooth floor finish (refer to SANS1200 G)	m²	673.00	918.85	R 618,386.05
71		Average 65mm thick normal screed on drain channel floors	m²	11.00	2.02	R 22.22
72		Skirtings Type 3 - Polyurethane cement cove skirting (refer to SANS1200 G)	m	214.00	302.04	R 64,636.56
	PSG 8.28	Miscellaneous Work Electrical cable sleeves and drain pipes class 9 PVC				
73		110mm dia x 4020mm long	No	2.00	599.96	R 1,199.92
74		110mm dia x 5300mm long	No	4.00	719.95	R 2,879.80
75		160mm dia x 1060mm long	No	10.00	119.99	R 1,199.90
76		160mm dia x 1920mm long	No	1.00	239.98	R 239.98
77		160mm dia x 6300mm long	No	2.00	839.94	R 1,679.88
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,755,391.79

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200H	STRUCTURAL STEELWORK				
		as specified in SANS 1200 H and in the project specifications				
	PSH 8.3.1	Structural Steel:				
78		Steel columns	t	4.18	62698.00	R 262,077.64
79		Structural steel roof and side cladding	t	16.46	61617.00	R 1,014,215.82
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,276,293.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS	CLADDING AND SHEETING					
		as specified in SANS 1200 HB and in the project					
	PSHB 8.2.2	Supply and Install Cladding and Sheeting					
		a) 0.54mm Safintra SAFLOK 410 Bluescope Clean COLORBOND ULTRA AZ200 (or					
80		Roof coverings with pitches not exceeding 25°, fixed to steel purlins	m²	525.00	427.32	R	224,343.00
81		Side cladding fixed to steel girts	m²	108.00	477.12	R	51,528.96
	PSHB 8.2.3	Supply and Install Ancillaries					
		Suitable for 0.54mm Safintra SAFLOK 410					
82		Standard ridge flashing	m	31.00	304.99	R	9,454.69
83		Drip flashing	m	61.00	99.03	R	6,040.83
84		Narrow and board flute closures	m	122.00	66.04	R	8,056.88
85		Poly closures	m	122.00	18.87	R	2,302.14
86		Gable flashing	m	34.00	216.51	R	7,361.34
87		Eave flashing	m	61.00	216.51	R	13,207.11
88		External corner side wall flashing	m	7.00	216.50	R	1,515.50
		Rainwater					
89		134mm x 134mm aluminium eaves gutters	m	61.00	430.59	R	26,265.99
90		100mm x 50mm aluminium downpipes including	m	31.00	327.03	R	10,137.93
	PSHB 8.2.6	Supply and install insulation					
		4mm Thick "Alububble" or equivalent 1983 D10 both sides reflective foil insulation under sheeting, and above roof insulation boards:					
91		Roof sheeting radiant heat barrier insulation	m²	525.00	56.82	R	29,830.50
		100mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with roof covering:					
92		Roof sheeting insulation	m²	525.00	625.94	R	328,618.50
Carried forward /...						R	718,663.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	718,663.37
93		40mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with vertical cladding: Side cladding fixed to steel girts	m ²	108.00	304.31	R	32,865.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	751,528.85

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		230mm thick non-facing engineering bricks, in:					
94		Foundations	m ²	26.00	763.18	R	19,842.68
		230mm thick "Corobrick 'Silvergrey satin FBX" or equivalent face brickwork in stretcher bond					
95		Superstructure	m ²	133.00	1801.26	R	239,567.58
		280mm thick cavity walls of two half brick					
96		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	111.00	831.09	R	92,250.99
97		Superstructure	m ²	725.00	684.44	R	496,219.00
98		Closing 60mm wide cavity horizontally around	m	49.00	64.60	R	3,165.40
99		Closing 60mm wide cavity vertically around	m	127.00	64.60	R	8,204.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX" or equivalent face brickwork in stretcher bond in:					
100		Foundations	m ²	41.00	334.85	R	13,728.85
101		Superstructure	m ²	1086.00	374.22	R	406,402.92
102		110mm Wide brick-on-edge lintel	m	53.00	239.18	R	12,676.54
		Brickwork sundries					
103		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	35.00	71.55	R	2,504.25
104		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	8.00	93.97	R	751.76
105		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	725.00	270.57	R	196,163.25
106		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	2238.00	51.19	R	114,563.22
Carried forward /						R	1,606,040.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,606,040.64
107		Form opening for standard louvre unit 1200 x 1200mm high (installed by others)	No	7.00	60.54	R	423.78
108		Form opening for standard louvre unit 2500 x 2500mm high (installed by others)	No	9.00	60.54	R	544.86
109		Form opening 300 x 300mm high	No	2.00	55.13	R	110.26
110		Form opening 460 x 250mm high	No	1.00	55.13	R	55.13
111		Form opening 580 x 325mm high	No	1.00	55.13	R	55.13
112		Form opening 580 x 350mm high	No	1.00	55.13	R	55.13
113		Form opening 500 x 300mm high	No	1.00	55.13	R	55.13
114		Form opening 500 x 500mm high	No	5.00	55.13	R	275.65
115		Form opening 600 x 300mm high	No	2.00	55.13	R	110.26
116		Form opening 850 x 350mm high	No	1.00	55.13	R	55.13
117		Form opening 1000 x 350mm high	No	1.00	55.13	R	55.13
	PD 10.2	Plasterwork:					
118		15mm thick, one coat cement plaster to internal brick walls	m ²	987.00	88.64	R	87,487.68
119		15mm thick, waterproof plaster to cable trench walls and floor edges	m ²	25.00	129.72	R	3,243.00
120		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	151.00	194.58	R	29,381.58
121		15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	84.00	194.58	R	16,344.72
	PD 10.3	Roof finishes:					
		Roof screed					
122		Average 35mm thick normal screed to falls towards outlet drain	m ²	154.00	119.36	R	18,381.44
		Crushed stone to roof slab					
123		Clean crushed 19 - 25mm stone as ballast	m ³	12.00	402.55	R	4,830.60
		Torch-on waterproofing					
124		"Sika Blackseal" or equivalent primer applied to	m ²	154.00	22.70	R	3,495.80
Carried forward /...						R	1,771,001.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...							R 1,771,001.05
125		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	154.00	254.20	R	39,146.80
126		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	154.00	50.00	R	7,700.00
127		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	38.00	577.79	R	21,956.02
	PD 10.4	Doors, windows, louvres, etc:					
	PD 10.4	Timber doors					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
128		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.00	63480.64	R	253,922.56
129		Double door comprising 2 x leaves size 1200 x 2400mm high in and including frame size 2552x 2476mm high	No	5.00	66182.06	R	330,910.30
130		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	2.00	115573.40	R	231,146.80
		Single wall profiled 1.0mm hot-dipped galvanised slate curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design					
131		Slatted roller shutter door for 4000 x 4000mm high opening	No	1.00	65008.10	R	65,008.10
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint					
132		Internal plastered walls	m ²	987.00	91.89	R	90,695.43
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
133		Plastered concrete soffits	m ²	151.00	85.40	R	12,895.40
Carried forward /...							R 2,824,382.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,824,382.46
134	PD 10.8	Plastered sides of concrete beams	m²	84.00	85.40	R	7,173.60
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
		Rainwater drainage:					
135		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	5.00	1114.84	R	5,574.20
136		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	24.00	181.03	R	4,344.72
137		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	10.00	163.31	R	1,633.10
		Miscellaneous Items:					
		(c) Items measured by area					
		Damp- and waterproofing					
138		375 micron medium density polyethylene damp proof sheeting under floors	m²	673.00	42.10	R	28,333.30
139		375 micron green medium density polyethylene damp proof course in walls	m²	51.00	10.53	R	537.03
140		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	25.00	42.10	R	1,052.50
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:					
141	Bottoms of foundations, footings and column bases	m²	307.00	4.86	R	1,492.02	
142	Under floors	m²	608.00	4.86	R	2,954.88	
	(d) Items measured in volume						
143	50mm Thick crusher stone fill over transformer bay floor area	m³	21.00	402.55	R	8,453.55	
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2,885,931.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
144	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	70.00	1694.48	R	118,613.60
145		(d) Miscellaneous Items Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	55.00	942.63	R	51,844.65
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS							R 170,458.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description					Amount
SANS 1200 D		EARTHWORKS				R	149,633.92
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R	30,740.05
SANS 1200 G		CONCRETE (STRUCTURAL)				R	2,755,391.79
SANS 1200 H		STRUCTURAL STEELWORK				R	1,276,293.46
SANS 1200 HB		CLADDING AND SHEETING				R	751,528.85
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	2,885,931.36
PSGG		PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING				R	170,458.25
TOTAL OF BILL C33 CARRIED TO SUMMARY						R	8,019,977.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
1		BILL C34 <u>CENTRALISED GENERATOR BUILDING</u>				
	SANS 1200 D	EARTHWORKS as specified in SANS 1200 D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and foundations (a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	4326.00	62.3	R 269,682.84
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 269,682.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE) as specified in SANS 1200 DM and in the project specifications	m³	142.00	63.41	R	9,004.22
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)					
3	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works Central generator building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	29,154.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m²	128.00	342.67	R	43,861.76
5		Sides of cable trench floors not exceeding 300mm	m²	15.00	457.46	R	6,861.90
6		Sides of sump floor edges	m²	1.00	342.67	R	342.67
7		Sides of bases	m²	103.00	342.67	R	35,295.01
8		Sides of columns in foundations	m²	92.00	342.67	R	31,525.64
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
9		Sides of downstand beams	m²	93.00	342.67	R	31,868.31
		Horizontal formwork not exceeding 4m high to:					
10		Soffits of beams and slabs	m²	559.00	853.53	R	477,123.27
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
11		Sides of upstand beams and slab edges	m²	167.00	342.67	R	57,225.89
12		Sides of columns	m²	211.00	342.67	R	72,303.37
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
13		Over 20mm and up to 100mm	m	207.00	37.96	R	7,857.72
14		Over 100mm and up to 200mm	m	218.00	75.93	R	16,552.74
Carried forward /						R	780,818.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 780,818.28
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
15		8mm	t	0.70	18085.37	R 12,659.76
16		10mm	t	1.00	18085.37	R 18,085.37
	8.3.1	(b) High-tensile steel bars in the following:				
17		10mm	t	1.70	18085.37	R 30,745.13
18		12mm	t	5.20	18085.37	R 94,043.92
19		16mm	t	6.90	18085.37	R 124,789.05
20		20mm	t	10.40	18085.37	R 188,087.85
21		25mm	t	5.20	18085.37	R 94,043.92
22		32mm	t	3.50	18085.37	R 63,298.80
	PSG 8.3.2	(c) High-tensile welded mesh in the following:				
23		Ref No 395 in surface beds	kg	2319.00	24.80	R 57,511.20
24		Ref No 617 in surface beds	kg	3727.00	25.34	R 94,442.18
		SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer:				
		(a) Class 15 MPa/19mm concrete of:				
25		75mm thickness under strip footings, bases, cable trench floors, etc	m²	307.00	128.65	R 39,495.55
26		75mm thickness under surface beds and floors etc	m²	604.00	128.65	R 77,704.60
27		75mm thickness under plinths	m²	9.00	128.65	R 1,157.85
	PSG 8.4.3	Strength concrete:				
		Unreinforced class 25 MPa/19mm concrete in:				
28		Aprons and ramps	m³	17.00	1944.68	R 33,059.56
29		Strip footings	m³	39.00	1944.68	R 75,842.52
		Reinforced class 30 MPa/19mm concrete in:				
30		Cable trench floors	m³	8.00	1944.68	R 15,557.44
Carried forward /...						R 1,801,342.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,801,342.98
31		Column bases	m ³	44.00	1944.68	R	85,565.92
32		Surface beds	m ³	121.00	1944.68	R	235,306.28
33		Columns in foundations	m ³	8.00	1944.68	R	15,557.44
34		Columns	m ³	18.00	1944.68	R	35,004.24
35		Downstand beams	m ³	14.00	1944.68	R	27,225.52
36		Upstand beams	m ³	18.00	1944.68	R	35,004.24
37		Slabs	m ³	120.00	1944.68	R	233,361.60
38		Plinths	m ³	16.00	1944.68	R	31,114.88
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finishes to:					
39		Top of ramps	m ²	25.00	37.33	R	933.25
40		Top of roof slabs	m ²	558.00	37.33	R	20,830.14
41		Top of cable trench floors	m ²	42.00	37.33	R	1,567.86
		(b) Steel-floated finishes to:					
42		Top of aprons	m ²	136.00	44.21	R	6,012.56
43		Top of plinths	m ²	109.00	44.21	R	4,818.89
44		Top of slightly sloping upstand beams	m ²	48.00	44.21	R	2,122.08
		(c) Power-floated finishes to:					
45		Top of surface beds and floor slabs etc	m ²	486.00	46.93	R	22,807.98
	PSG 8.5	Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
46		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	412.00	337.08	R	138,876.96
47		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	16.00	370.79	R	5,932.64
		Saw-cut joints as per drawing DRG-CC-0247:					
48		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	65.00	88.10	R	5,726.50
49		3mm x 25mm Saw-cut joint in aprons	m	50.00	88.10	R	4,405.00
Carried forward /...						R	2,713,516.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,713,516.96
50	PSG 8.7	Slip joints: 2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	49.00	106.72	R	5,229.28
51		280mm wide slip joint between top of brick walls and slabs	m	202.00	5.89	R	1,189.78
52		Grouting: Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	0.30	16725.33	R	5,017.60
53	PSG 8.12	Granolithic screeding Floor screeds Average 65mm thick normal screed on cable trench	m²	42.00	201.57	R	8,465.94
	PSG 8.23	Concrete protection and proprietary floor Floor Finishes Type 7 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)					
54	PSG 8.28	Skirtings Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m²	593.00	961.55	R	570,199.15
55		Miscellaneous Work Electrical cable sleeves and drain pipes class 9 PVC	m	316.00	338.14	R	106,852.24
56		160mm dia x 1080mm long	No	4.00	129.72	R	518.88
57		110mm dia x 1080mm long	No	16.00	129.72	R	2,075.52
58		110mm dia x 3100mm long	No	2.00	378.35	R	756.70
59		110mm dia x 6128mm long	No	4.00	810.75	R	3,243.00
Carried forward /...						R	3,417,065.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,417,065.05
60		160mm dia x 1920mm long	No	1.00	239.98	R	239.98
61		160mm dia x 6220mm long	No	2.00	839.94	R	1,679.88
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,418,984.91

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	PD	PARTICULAR SPECIFICATION PD: BUILDING as specified in PD in the project specifications				
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 230mm thick non-facing engineering bricks, in:				
62		Foundations	m ²	94.00	763.18	R 71,738.92
		230mm thick "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:				
63		Superstructure	m ²	185.00	1801.26	R 333,233.10
		280mm thick cavity walls of two half brick skins, in:				
64		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	479.00	831.09	R 398,092.11
65		Superstructure	m ²	674.00	684.44	R 461,312.56
66		Closing 60mm wide cavity horizontally around openings	m	28.00	64.60	R 1,808.80
67		Closing 60mm wide cavity vertically around openings	m	115.00	64.60	R 7,429.00
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:				
68		Foundations	m ²	51.00	334.85	R 17,077.35
69		Superstructure	m ²	482.00	374.22	R 180,374.04
70		110mm Wide brick-on-edge lintel	m	45.00	239.18	R 10,763.10
		Brickwork sundries				
71		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	40.00	71.55	R 2,862.00
72		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	39.00	93.97	R 3,664.83
73		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	674.00	270.57	R 182,364.18
74		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	3125.00	51.19	R 159,968.75
Carried forward /...						R 1,830,688.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,830,688.74
75		Form opening for standard louvre unit 2000 x 2000mm high (installed by others)	No	7.00	60.54	R 423.78
76		Form opening for standard louvre unit 2500 x 2500mm high (installed by others)	No	7.00	60.54	R 423.78
77		Form opening 300 x 300mm high	No	10.00	55.13	R 551.30
78		Form opening 377 x 200mm high	No	1.00	55.13	R 55.13
79		Form opening 437 x 300mm high	No	1.00	55.13	R 55.13
80		Form opening 500 x 300mm high	No	4.00	55.13	R 220.52
81		Form opening 500 x 500mm high	No	7.00	60.54	R 423.78
82		Form opening 600 x 300mm high	No	5.00	55.13	R 275.65
83		Form opening 1000 x 300mm high	No	1.00	55.13	R 55.13
	PD 10.2	Plasterwork:				
84		15mm thick, one coat cement plaster to internal brick walls	m²	866.00	88.64	R 76,762.24
85		15mm thick, waterproof plaster to cable trench walls and floor edges	m²	97.00	129.72	R 12,582.84
86		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	601.00	194.58	R 116,942.58
87		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	93.00	194.58	R 18,095.94
	PD 10.3	Roof finishes:				
		Roof screed				
88		Average 35mm thick normal screed to falls towards outlet drain	m²	601.00	119.36	R 71,735.36
		Crushed stone to roof slab				
89		Clean crushed 19 - 25mm stone as ballast	m³	48.00	402.55	R 19,322.40
		Torch-on waterproofing				
90		"Sika Blackseal" or equivalent primer applied to	m²	601.00	22.70	R 13,642.70
91		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m²	601.00	254.20	R 152,774.20
Carried forward /...						R 2,315,031.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,315,031.20
92		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	601.00	50.00	R	30,050.00
93		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	97.00	577.79	R	56,045.63
	PD 10.4	Doors, windows, louvres, etc:					
	PD 10.4	Timber doors					
		(ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule					
94		Single door size 900 x 2400mm	No	1.00	5773.50	R	5,773.50
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
95		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	6.00	63480.64	R	380,883.84
96		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	7.00	115573.40	R	809,013.80
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
97		Internal plastered walls	m²	866.00	91.89	R	79,576.74
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
98		Plastered concrete soffits	m²	601.00	85.40	R	51,325.40
99		Plastered sides of concrete beams	m²	93.00	85.40	R	7,942.20
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
Carried forward /...						R	3,735,642.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,735,642.31
100	PD 10.8	Rainwater drainage: Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	25.00	1114.84	R 27,871.00
101		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	120.00	181.03	R 21,723.60
102		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	50.00	163.31	R 8,165.50
		Miscellaneous Items: (c) Items measured by area Damp- and waterproofing				
103		375 micron medium density polyethylene damp proof sheeting under floors	m²	690.00	42.10	R 29,049.00
104		375 micron green medium density polyethylene damp proof course in walls	m²	115.00	10.53	R 1,210.95
105		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	56.00	42.10	R 2,357.60
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:				
106		Bottoms of foundations, footings and column bases	m²	307.00	4.86	R 1,492.02
107		Under floors	m²	604.00	4.86	R 2,935.44
		(d) Items measured in volume				
108		50mm Thick crusher stone fill over transformer bay floor area	m³	11.00	402.55	R 4,428.05
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3,83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring					
109		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	70.00	1694.48	R	118,613.60
		(d) Miscellaneous Items					
110		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	55.00	942.63	R	51,844.65
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	170,458.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Section		Description				Amount	
SANS 1200 D		EARTHWORKS				R	269,682.84
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R	29,154.80
SANS 1200 G		CONCRETE (STRUCTURAL)				R	3,418,984.91
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	3,834,875.47
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R	170,458.25
TOTAL OF BILL C34 CARRIED TO SUMMARY						R	7,723,156.27

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						Rc
		<u>BILL C35</u> <u>MV INTAKE SUBSTATION</u>				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	922 00	62.3	R 57,477.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 57,477.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	72.00	63.41	R	4,565.52
3	PSDM 8.3.18	Final finishing and cleaning up of the Site of the MV Intake Substation	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200 G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
4		Sides of strip footings not exceeding 300mm high	m ²	72.00	342.67	R 24,672.24
5		Sides of cable trench floors not exceeding 300mm	m ²	32.00	342.67	R 10,965.44
6		Sides of bases	m ²	60.00	342.67	R 20,560.20
7		Sides of columns in foundations	m ²	59.00	342.67	R 20,217.53
8		Sides of cable trench walls	m ²	145.00	342.67	R 49,887.15
	8.2.2	Smooth (W8, C5):				
		Vertical formwork to:				
9		Sides of downstand beams	m ²	42.00	457.46	R 19,213.32
		Horizontal formwork not exceeding 4m high to:				
10		Soffits of beams and slabs	m ²	407.00	853.53	R 347,386.71
	8.2.3	Special Smooth (W9, C6):				
		(a) Vertical formwork to:				
11		Sides of upstand beams and slab edges	m ²	76.00	457.46	R 34,766.96
12		Sides of ramps	m ²	12.00	457.46	R 5,489.52
13		Sides of columns	m ²	110.00	457.46	R 50,320.60
14		Sides of cable trench walls	m ²	145.00	457.46	R 66,331.70
15		Stepped sides of steps	m ²	3.00	457.46	R 1,372.38
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
16		Over 20mm and up to 100mm	m	75.00	37.96	R 2,847.00
17		Over 100mm and up to 200mm	m	201.00	75.93	R 15,261.93
Carried forward /...						R 669,092.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 669,092.68
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
18		8mm	t	0.60	18085.37	R 10,851.22
19		10mm	t	0.80	18085.37	R 14,468.30
	8.3.1	(b) High-tensile steel bars in the following:				
20		10mm	t	1.40	18085.37	R 25,319.52
21		12mm	t	4.10	18085.37	R 74,150.02
22		16mm	t	5.50	18085.37	R 99,469.54
23		20mm	t	8.20	18085.37	R 148,300.03
24		25mm	t	4.10	18085.37	R 74,150.02
25		32mm	t	2.70	18085.37	R 48,830.50
	PSG 8.3.2	(c) High-tensile welded mesh in the following:				
26		Ref No 395 in surface beds	kg	110.00	24.80	R 2,728.00
27		Ref No 617 in surface beds	kg	1843.00	25.34	R 46,701.62
		SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer:				
		(a) Class 15 MPa/19mm concrete of:				
28		75mm thickness under strip footings, bases, cable trench floors, etc	m²	261.00	128.65	R 33,577.65
29		75mm thickness under surface beds and floors etc	m²	284.00	128.65	R 36,536.60
30		75mm thick under sump floors	m²	2.00	128.65	R 257.30
	PSG 8.4.3	Strength concrete:				
		Unreinforced class 25 MPa/19mm concrete in:				
31		Aprons and ramps	m³	19.00	1944.68	R 36,948.92
32		Steps	m³	2.00	1944.68	R 3,889.36
33		Strip footings	m³	22.00	1944.68	R 42,782.96
		Reinforced class 30 MPa/19 mm concrete in:				
34		Cable trench floors	m³	28.00	1944.68	R 56,395.72
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,424,449.95
35		Column bases	m ³	23.00	1944.68	R 44,727.64
36		Surface beds	m ²	59.00	1944.68	R 114,736.12
37		Columns in foundations	m ³	5.00	1944.68	R 9,723.40
38		Columns	m ³	9.00	1944.68	R 17,502.12
39		Downstand beams	m ³	6.00	1944.68	R 11,668.08
40		Upstand beams	m ³	8.00	1944.68	R 15,557.44
41		Slabs	m ³	81.00	1944.68	R 157,519.08
42		Cable trench walls	m ³	33.00	1944.68	R 64,174.44
43		Sump floors and walls	m ³	1.00	1944.68	R 1,944.68
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
44		Top of ramps	m ²	52.00	37.33	R 1,941.16
45		Top of roof slabs	m ²	384.00	37.33	R 14,334.72
46		Top of cable trench floors	m ²	90.00	37.33	R 3,359.70
		(b) Steel-floated finishes to:				
47		Top of surface beds	m ²	15.00	44.21	R 663.15
48		Top of aprons	m ²	69.00	44.21	R 3,050.49
49		Top of slightly sloping upstand beams	m ²	23.00	44.21	R 1,016.83
50		Top of stair treads and landings	m ²	4.00	44.21	R 176.84
		(c) Power-floated finishes to:				
51		Top of surface beds and floor slabs etc	m ²	284.00	46.93	R 13,328.12
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
52		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	292.00	337.08	R 98,427.36
53		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	7.00	370.79	R 2,595.53
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,000,896.85
54		Saw-cut joints as per drawing DRG-CC-0247: 3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	32.00	88.10	R	2,819.20
55		3mm x 25mm Saw-cut joint in aprons	m	54.00	88.10	R	4,757.40
		Slip joints:					
56		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	122.00	106.72	R	13,019.84
57		230mm wide slip joint between top of brick walls and slabs	m	93.00	29.02	R	2,698.86
58		280mm wide slip joint between top of brick walls and slabs	m	97.00	5.89	R	571.33
		Construction joints: In walls and at kickers as DWG-CC-0201					
59		Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	109.00	305.16	R	33,262.44
	PSG 8.7	Grouting:					
60		Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as	m³	2.00	16725.33	R	33,450.66
	PSG 8.10	No-fines concrete					
61		Apron	m²	93.00	219.81	R	20,442.33
	PSG 8.12	Granolithic screeding					
		Floor screeds					
62		Average 65mm thick normal screed on cable trench floors	m²	90.00	201.57	R	18,141.30
Carried forward /...						R	2,130,060.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,130,060.21
	PSG 8.23	Concrete protection and proprietary floor				
		Floor Finishes				
63		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	269.00	894.42	R 240,598.98
		Skirtings				
64		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	298.00	176.20	R 52,507.60
	PSG 8.28	Miscellaneous Work				
		Electrical cable sleeves and drain pipes class 9 PVC				
65		50mm dia x 300mm long	No	2.00	54.05	R 108.10
66		160mm dia x 640mm long	No	10.00	119.99	R 1,199.90
67		160mm dia x 1080mm long	No	42.00	119.99	R 5,039.58
68		160mm dia x 4340mm long	No	1.00	486.45	R 486.45
69		160mm dia x 4358mm long	No	1.00	486.45	R 486.45
70		160mm dia x 4500mm long	No	6.00	486.45	R 2,918.70
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,130,060.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK as specified in SANS 1200 H and in the project specifications					
	PSH 8.3.7	Handrails: Handrail assembly stainless steel 316 complete as DWG-CC-0216, 0217 and 0532					
71		Horizontal top mounted	m	18.00	1320.44	R	23,767.92
72		Sloping top mounted	m	22.00	1320.44	R	29,049.68
73		Bends	No	14.00	178.37	R	2,497.18
74		End closures	No	20.00	245.39	R	4,907.80
	PSH 8.3.8	Ladders, complete and installed Ladder type 1, without grab bars, of lengths:					
75		1500mm long	No	7.00	14894.31	R	104,260.17
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		230mm thick non-facing engineering bricks, in:					
76		Foundations	m ²	158.00	763.18	R	120,582.44
77		Superstructure	m ²	199.00	684.44	R	136,203.56
		280mm thick cavity walls of two half brick skins, in:					
78		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	184.00	831.09	R	152,920.56
79		Superstructure	m ²	283.00	684.44	R	193,696.52
80		Closing 60mm wide cavity horizontally around openings	m	22.00	64.60	R	1,421.20
81		Closing 60mm wide cavity vertically around openings	m	90.00	64.60	R	5,814.00
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
82		Foundations	m ²	167.00	334.85	R	55,919.95
83		Superstructure	m ²	407.00	374.22	R	152,307.54
84		110mm Wide brick-on-edge lintel	m	16.00	239.18	R	3,826.88
		Brickwork sundries					
85		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	69.00	71.55	R	4,936.95
86		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	31.00	93.97	R	2,913.07
87		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	403.00	270.57	R	109,039.71
88		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1008.00	51.19	R	51,497.14
Carried forward f...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	991,079.52
	PD 10.2	Plasterwork:					
89		15mm thick, one coat cement plaster to internal brick walls	m ²	629.00	88.64	R	55,754.56
90		15mm thick, waterproof plaster to cable trench walls and floor edges	m ²	32.00	129.72	R	4,151.04
91		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	402.00	194.58	R	78,221.16
92		15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	42.00	194.58	R	8,172.36
93		One coat of Rhinolite or Crelestone gypsum skim plaster or equivalent to ceilings	m ²	5.00	156.75	R	783.75
	PD 10.3	Roof finishes:					
		Roof screed					
94		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	407.00	218.64	R	88,986.48
		Crushed stone to roof slab					
95		Clean crushed 19 - 25mm stone as ballast	m ³	33.00	402.55	R	13,284.15
		Torch-on waterproofing					
96		"Sika Blackseal" or equivalent primer applied to	m ²	407.00	22.70	R	9,238.90
97		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	407.00	254.20	R	103,459.40
98		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	407.00	50.00	R	20,350.00
99		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	53.00	577.79	R	30,622.87
	PD 10.4	Doors and Windows:					
	PD 10.4	Timber doors					
		(ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule					
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,404,104.19
100	PD 10.5	Single door 813 x 2056 mm high in and including 900 x 2100 mm high (A-D03-FS)	No	5.00	5450.23	R	27,251.15
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
101			No	2.00	30851.76	R	61,303.52
102		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high					
		Double door comprising 2 x leaves size 836 x 2557mm high in and including frame size 1800 x 2600mm high	No	4.00	55577.45	R	222,309.80
103			No	3.00	63480.64	R	190,441.92
104		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)					
		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	4.00	115573.40	R	462,293.60
		Ceilings and Bulkheads:					
		9mm thick gypsum plaster-board ceilings fixed with 32mm galvanised ceiling board screws at 150mm centres with 63mm wide strips of mesh scrim nailed over joints, finished with one coat of "Rhinolite" / "Crestestone" or equivalent smooth skim plaster, measured elsewhere					
105	PD 10.7	Suspended ceilings not exceeding 1 m below concrete soffits	m²	5.00	315.03	R	1,575.15
106		20x15mm "OWA" or equivalent aluminium plaster trim cornice	m	10.00	66.12	R	661.20
		Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
107		Internal plastered walls	m²	629.00	91.89	R	57,798.81
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
108		Plaster-board bulkhead ceilings	m²	5.00	85.40	R	427.00
109		Plastered concrete soffits	m²	402.00	85.40	R	34,330.80
110		Plastered sides of concrete beams	m²	42.00	85.40	R	3,586.80
Carried forward /...						R	2,466,083.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,466,083.94
111		One coat "Plascon" or equivalent wood primer and three coats "Plascon velvagio" or equivalent waterbased paint				
		Timber doors	m²	18.00	145.94	R 2,626.92
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		(b) Plumbing drainage and water supply				
112		Waste pipework for 2 sanitary fittings or points including all bends etc., up to and including gulley or in ground up to 1m from building including all stub-stacks, two-way vent valves, etc.	SUM	1.00	2723.91	R 2,723.91
113		Hot water pipework reticulation chased into walls or built into walls from drop pipework positions to 1 sanitary fittings or water points including all bends, insulated etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	2621.55	R 2,621.55
114		Cold water pipework reticulation chased into walls or built into walls from drop pipework positions to 2 sanitary fittings or water points, etc., including all bends, etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	5632.63	R 5,632.63
		Rainwater drainage:				
115		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	14.00	1114.84	R 15,607.76
116		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	67.00	181.03	R 12,129.01
117		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	28.00	163.31	R 4,572.68
		"Geberit" or equivalent				
118		Geberit Selnova Square washbasin (500.290.01.1): B55cm white with 1 tap hole, including trap, waste, etc, complete	No	1.00	3166.62	R 3,166.62
119		Selnova wall-hung WC, in colour white including seat, actuator for dual flush, element, cistern, connection set etc (500.265.01.1) complete	No	1.00	12543.56	R 12,543.56
		"Franke" or equivalent				
120		Franke Commercial "RODAN" #RODX672 Double Roll Toilet Tissue Holder Wall Mounted, 11-13/16" H x 5-5/8" W x 5-7/16" D (301mm x 144mm x 138mm), manufactured from 22 gauge (0.8mm) grade 18-10 type 304 stainless steel with #4 satin finish and spindle sys	No	1.00	3841.76	R 3,841.76
Carried forward /...						R 2,531,550.34

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,531,550.34
121	PD 10.8	"Hansgrohe " or equivalent Talis E Self-closing single lever pillar tap 110 for cold water or pre-adjusted water without waste set, chrome, (71719003) 4mm Glass bathroom mirrors by specialist	No	1.00	4128.29	R	4,128.29
122		400 x 600mm	No	1.00	329.71	R	329.71
		Miscellaneous Items: (b) Items measured by length:					
123		300 x 100mm high tile skirting, to match adjacent floor tiles, "TAL" or equivalent epoxy adhesive and grout, colour grey (S4)	m	10.00	256.14	R	2,561.40
		(c) Items measured by area Damp- and waterproofing					
124		375 micron medium density polyethylene damp proof sheeting under floors	m²	377.00	42.10	R	15,871.70
125		375 micron green medium density polyethylene damp proof course in walls	m²	79.00	10.53	R	831.87
126		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	32.00	42.10	R	1,347.20
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:					
127		Bottoms of foundations, footings and column bases	m²	263.00	4.86	R	1,278.18
128	Under floors	m²	284.00	4.86	R	1,380.24	
	Floor finishes						
129	297 x 297 x 8.3mm thick anti-slip "Pumice porcelain" or equivalent tiles, "TAL" or equivalent adhesive and grout, colour grey (F3)	m²	5.00	1498.27	R	7,491.35	
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2,566,770.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring					
130		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m²	25.00	1694.48	R	42,362.00
		(d) Miscellaneous Items					
131		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	107.00	942.63	R	100,861.41
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	143,223.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 57,477.48
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 24,716.10
SANS 1200 G		CONCRETE (STRUCTURAL)				R 2,433,405.97
SANS 1200 H		STRUCTURAL STEELWORK				R 164,482.75
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 2,566,770.28
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R 143,223.41
TOTAL OF BILL C35 CARRIED TO SUMMARY						R 5,390,075.99

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C36 INLET WORKS ELECTRICAL BUILDING				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	795.00	62.3	R 49,560.30
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 49,560.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE) as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	84.00	63.41	R	5,326.44
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
3		Inlet Works Electrical Building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200 G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m ²	46.00	457.46	R	21,043.16
5		Sides of cable trench floors not exceeding 300mm	m ²	26.00	457.46	R	11,893.96
6		Sides of bases	m ²	40.00	457.46	R	18,298.40
7		Sides of columns in foundations	m ²	39.00	457.46	R	17,840.94
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
8		Sides of downstand beams	m ²	17.00	457.46	R	7,776.82
		Horizontal formwork not exceeding 4m high to:					
9		Soffits of beams and slabs	m ²	254.00	853.53	R	216,796.62
	8.2.3	Special Smooth (W9,C6):					
		(a) Vertical formwork to:					
10		Sides of upstand beams and slab edges	m ²	73.00	457.46	R	33,394.58
11		Sides of columns	m ²	68.00	457.46	R	31,107.28
	8.2.5	Narrow widths (up to 300mm wide):					
		Different widths in the following ranges:					
12		Over 20mm and up to 100mm	m	131.00	37.96	R	4,972.76
13		Over 100mm and up to 200mm	m	126.00	75.93	R	9,567.18
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
14		8mm	t	0.30	18085.37	R	5,425.61
15		10mm	t	0.40	18085.37	R	7,234.15
Carried forward /...						R	3,000,000.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	385,351.46
	8.3.1	(b) High-tensile steel bars in the following:					
16		10mm	t	0.70	18085.37	R	12,659.76
17		12mm	t	2.00	18085.37	R	36,170.74
18		16mm	t	2.70	18085.37	R	48,830.50
19		20mm	t	4.10	18085.37	R	74,150.02
20		25mm	t	2.00	18085.37	R	36,170.74
21		32mm	t	1.40	18085.37	R	25,319.52
		(c) High-tensile welded mesh in the following:					
22		Ref No 395 in surface beds	kg	341.00	24.80	R	8,456.80
23		Ref No 617 in surface beds	kg	1086.00	25.34	R	27,519.24
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
24		75mm thickness under strip footings, bases, cable trench floors, etc	m²	167.00	128.65	R	21,484.55
25		75mm thickness under surface beds and floors etc	m²	152.00	128.65	R	19,554.80
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19 mm concrete in:					
26		Aprons and ramps	m³	9.00	1944.68	R	17,502.12
27		Strip footings	m³	14.00	1944.68	R	27,225.52
		Reinforced class 30 MPa/19mm concrete in:					
28		Cable trench floors	m³	15.00	1944.68	R	29,170.20
29		Column bases	m³	16.00	1944.68	R	31,114.88
30		Surface beds	m³	35.00	1944.68	R	68,063.80
31		Columns in foundations	m³	3.00	1944.68	R	5,834.04
32		Columns	m³	6.00	1944.68	R	11,668.08
33		Downstand beams	m³	3.00	1944.68	R	5,834.04
34		Upstand beams	m³	8.00	1944.68	R	15,557.44
Carried forward /...						R	907,638.24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	907,638.24
35	PSG 8.4.4	Slabs	m³	51.00	1944.68	R	99,178.68
36		Plinths	m³	0.30	1944.68	R	583.40
		Unformed surface finishes:					
		(a) Wood-floated finishes to:					
37		Top of ramps	m²	16.00	37.33	R	597.28
38		Top of roof slabs	m²	232.00	37.33	R	8,660.56
39		Top of cable trench floors	m²	73.00	37.33	R	2,725.09
		(b) Steel-floated finishes to:					
40		Top of aprons	m²	73.00	44.21	R	3,227.33
41		Top of plinths	m²	2.00	44.21	R	88.42
42		Top of slightly sloping upstand beams	m²	22.00	44.21	R	972.62
		(c) Power-floated finishes to:					
43	PSG 8.5	Top of surface beds and floor slabs etc	m²	176.00	46.93	R	8,259.68
		Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
44		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	116.00	337.08	R	39,101.28
45		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	6.00	370.79	R	2,224.74
		Saw-cut joints as per drawing DRG-CC-0247:					
46		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	55.00	88.10	R	4,845.50
47		3mm x 25mm Saw-cut joint in aprons	m	28.00	88.10	R	2,466.80
		Slip joints:					
48		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	110.00	106.72	R	11,739.20
49		280mm wide slip joint between top of brick walls and slabs	m	105.00	5.89	R	618.45
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,092,927.28
	PSG 8.7	Grouting:					
50		Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	1.00	20487.10	R	20,487.10
	PSG 8.12	Granolithic screeding					
		Floor screeds					
51		Average 65mm thick normal screed on cable trench floors	m²	47.00	201.57	R	9,473.79
	PSG 8.23	Concrete protection and proprietary floor					
		Floor Finishes					
52		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	250.00	894.42	R	223,605.00
		Skirtings					
53		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	129.00	176.20	R	22,729.80
	PSG 8.28	Miscellaneous Work					
		Electrical cable sleeves and drain pipes class 9 PVC					
54		160mm dia x 500mm long	No	8.00	119.99	R	959.92
55		160mm dia x 508mm long	No	24.00	119.99	R	2,879.76
56		160mm dia x 3000mm long	No	4.00	119.99	R	479.96
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,3

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK				
		as specified in PD in the project specifications				
	PD 10.1	Brickwork:				
		Construct brickwork complete with brickforce and ties, etc.				
		230mm thick non-facing engineering bricks, in:				
57		Cable trench walls	m ²	76.00	763.18	R 58,001.68
		280mm thick cavity walls of two half brick				
58		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	170.00	831.09	R 141,285.30
59		Superstructure	m ²	262.00	684.44	R 179,323.28
60		Closing 60mm wide cavity horizontally around openings	m	53.00	64.60	R 3,423.80
61		Closing 60mm wide cavity vertically around	m	50.00	64.60	R 3,230.00
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:				
62		Foundations	m ²	26.00	334.85	R 8,706.10
63		Superstructure	m ²	187.00	374.22	R 69,979.14
64		110mm Wide brick-on-edge lintel	m	16.00	239.18	R 3,826.88
		Brickwork sundries				
65		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	26.00	71.55	R 1,860.30
66		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	16.00	93.97	R 1,503.52
67		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	262.00	270.57	R 70,889.34
68		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1126.00	51.19	R 57,639.94
Carried forward f...						R 599,669.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	599,669.28
69	PD 10.2	Plasterwork: 15mm thick, one coat cement plaster to internal brick walls	m ²	337.00	88.64	R	29,871.68
70		15mm thick, waterproof plaster to cable trench walls and floors	m ²	189.00	129.72	R	24,517.08
71		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	241.00	194.58	R	46,893.78
72		15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	17.00	194.58	R	3,307.86
	PD 10.3	Roof finishes: Roof screed Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	230.00	218.64	R	50,287.20
		Crushed stone to roof slab Clean crushed 19 - 25mm stone as ballast	m ³	20.00	402.55	R	8,051.00
		Torch-on Waterproofing "Sika Blackseal" or equivalent primer applied to screed	m ²	242.00	22.70	R	5,493.40
		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	242.00	254.20	R	61,516.40
		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	242.00	50.00	R	12,100.00
		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	38.00	577.79	R	21,956.02
	PD 10.4	Doors and Windows: Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
79		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.00	63480.64	R	253,922.56
80		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.00	55577.45	R	55,577.45
81		Double door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high	No	2.00	65413.47	R	130,826.94
Carried forward /...						R	1,303,990.65

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,303,990.65
82	PD 10.7	Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	1.00	115573.40	R 115,573.40
		Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:				
		Internal plastered walls				
83		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint	m²	337.00	91.89	R 30,966.93
		Plastered concrete soffits				
84		Plastered sides of concrete beams	m²	217.00	85.40	R 18,531.80
85		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):	m²	17.00	85.40	R 1,451.80
		Rainwater drainage:				
		Hydrain fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	13.00	1114.84	R 14,492.92
		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns				
87		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	m	47.00	181.03	R 8,508.41
88		Miscellaneous Items:	No	26.00	163.31	R 4,246.06
	PD 10.8	(c) Items measured by area				
		Damp- and waterproofing				
89		375 micron medium density polyethylene damp proof sheeting under floors	m²	200.00	42.10	R 8,420.00
90		375 micron green medium density polyethylene damp proof course in walls	m²	44.00	10.53	R 463.32
91		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	99.00	42.10	R 4,167.90
Carried forward /...						R 1,510,813.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,510,813.19
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:					
92		Bottoms of foundations, footings and column bases	m²	167.00	4.86	R	811.62
93		Under floors	m²	152.00	4.86	R	738.72
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,510,813.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	GRP OPEN GRID FLOORING					
		as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid					
94		Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	25.00	1694.48	R	42,362.00
		(d) Miscellaneous Items					
95		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	107.00	942.63	R	100,861.41
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	143,223.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 49,560.30
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 25,477.02
SANS 1200 G		CONCRETE (STRUCTURAL)				R 1,373,542.61
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 1,512,363.53
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R 143,223.41
TOTAL OF BILL C36 CARRIED TO SUMMARY						R 3,104,166.87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		<u>BILL C37</u> <u>REACTOR ELECTRICAL BUILDING</u>					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200 D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	922.00	62.34	R	57,477.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	57,477.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE) as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m ³	66.00	63.41	R	4,185.06
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
3		Reactor electrical building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	24,335.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m ²	37.00	342.67	R	12,678.79
5		Sides of cable trench floors not exceeding 300mm	m ²	24.00	342.67	R	8,224.08
6		Sides of bases	m ²	105.00	342.67	R	35,980.35
7		Sides of columns in foundations	m ²	68.00	342.67	R	23,301.56
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
8		Sides of downstand beams	m ²	53.00	457.46	R	24,245.38
		Horizontal formwork not exceeding 4m high to:					
9		Soffits of beams and slabs	m ²	359.00	853.53	R	306,417.27
10		Soffits of box gutter	m ²	14.00	853.53	R	11,949.42
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
11		Sides of upstand beams and slab edges	m ²	76.00	457.46	R	34,766.96
12		Sides of columns	m ²	107.00	457.46	R	48,948.22
13		Sides of box gutter walls	m ²	50.00	457.46	R	22,873.00
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
14		Over 20mm and up to 100mm	m	39.00	37.96	R	1,480.44
15		Over 100mm and up to 200mm	m	128.00	75.93	R	9,718.04
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
16		8mm	t	0.50	18085.37	R	9,042.69
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 549,627.20
17	8.3.1	10mm	t	0.70	18085.37	R 12,659.76
		(b) High-tensile steel bars in the following:				
18		10mm	t	1.20	18085.37	R 21,702.44
19		12mm	t	3.60	18085.37	R 65,107.33
20		16mm	t	4.80	18085.37	R 86,809.76
21		20mm	t	7.20	18085.37	R 130,214.66
22		25mm	t	3.60	18085.37	R 65,107.33
23	8.3.2	32mm	t	2.40	18085.37	R 43,404.89
		(c) High-tensile welded mesh in the following:				
24		Ref No 395 in surface beds	kg	1293.00	24.80	R 32,066.40
25		Ref No 617 in surface beds	kg	1718.00	25.34	R 43,534.12
SCHEDULED CONCRETE ITEMS						
	8.4.2	Blinding layer:				
		(a) Class 15 MPa/19mm concrete of:				
26		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	236.00	128.65	R 30,361.40
27		75mm thickness under surface beds and floors etc	m ²	278.00	128.65	R 35,764.70
	PSG 8.4.3	Strength concrete:				
		Unreinforced class 25 MPa/19mm concrete in:				
28		Aprons and ramps	m ³	9.00	1944.68	R 17,502.12
29		Strip footings	m ³	10.00	1944.68	R 19,446.80
		Reinforced class 30 MPa/19mm concrete in:				
30		Cable trench floors	m ³	15.00	1944.68	R 29,170.20
31		Column bases	m ³	49.00	1944.68	R 95,289.32
32		Surface beds	m ³	42.00	1944.68	R 81,676.56
33		Columns in foundations	m ³	7.00	1944.68	R 13,612.76
34		Columns	m ³	6.00	1944.68	R 11,668.08
35		Downstand beams	m ³	8.00	1944.68	R 15,557.44
Carried forward /...						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,400,283.29
36		Upstand beams	m ³	7.00	1944.68	R 13,612.76
37		Slabs	m ³	90.00	1944.68	R 175,021.20
38		Plinths	m ³	0.40	1944.68	R 777.87
39		Box gutter	m ³	8.00	1944.68	R 15,557.44
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
40		Top of ramps	m ²	15.00	37.33	R 559.95
41		Top of roof slabs	m ²	339.00	37.33	R 12,654.87
42		Top of cable trench floors	m ²	74.00	37.33	R 2,762.42
43		Top of box gutter floors	m ²	14.00	37.33	R 522.62
		(b) Steel-floated finishes to:				
44		Top of aprons	m ²	74.00	44.21	R 3,271.54
45		Top of plinths	m ²	3.00	44.21	R 132.63
46		Top of slightly sloping upstand beams	m ²	20.00	44.21	R 884.20
47		Top of box gutter walls	m ²	9.00	44.21	R 397.89
		(c) Power-floated finishes to:				
48		Top of surface beds and floor slabs etc	m ²	276.00	46.93	R 12,952.68
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
49		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	130.00	337.08	R 43,820.40
50		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	13.00	370.79	R 4,820.27
		Saw-cut joints as per drawing DRG-CC-0247:				
51		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	110.00	88.10	R 9,691.00
52		3mm x 25mm Saw-cut joint in aprons	m	31.00	88.10	R 2,731.10
Carried forward /...						R 1,700,454.13

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,700,454.13
		Slip joints:				
53		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	113.00	106.72	R 12,059.36
54		280mm wide slip joint between top of brick walls and slabs	m	96.00	5.89	R 565.44
	PSG 8.7	Grouting:				
55		Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	1.00	20487.10	R 20,487.10
	PSG 8.12	Granolithic screeding				
		Floor screeds				
56		Average 65mm thick normal screed on cable trench floors	m²	88.00	201.57	R 17,738.16
	PSG 8.23	Concrete protection and proprietary floor finishes				
		Floor Finishes				
57		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	76.00	894.42	R 67,975.92
		Skirtings				
58		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	129.00	176.20	R 22,729.80
	PSG 8.28	Miscellaneous Work				
		Electrical cable sleeves and drain pipes class 9 PVC				
59		110mm dia x 700mm long	No	40.00	119.99	R 4,799.60
60		110mm dia x 3100mm long	No	5.00	119.99	R 599.95
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,847,409.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PD	PARTICULAR SPECIFICATION PD: BUILDING				
		as specified in PD in the project specifications				
	PD 10.1	Brickwork:				
		Construct brickwork complete with brickforce and ties, etc.				
		280mm thick cavity walls of two half brick				
61		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m²	170.00	831.09	R 141,285.30
62		Superstructure	m²	332.00	684.44	R 227,234.08
63		Closing 60mm wide cavity horizontally around openings	m	19.00	64.60	R 1,227.40
64		Closing 60mm wide cavity vertically around openings	m	51.00	64.60	R 3,294.60
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:				
65		Foundations	m²	11.00	334.85	R 3,683.35
66		Superstructure	m²	255.00	374.22	R 95,426.10
67		110mm Wide brick-on-edge lintel	m	18.00	239.18	R 4,305.24
		Brickwork sundries				
68		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	38.00	71.55	R 2,718.90
69		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	18.00	93.97	R 1,691.46
70		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m²	332.00	270.57	R 89,829.24
71		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1827.00	51.19	R 93,524.13
72		Form opening for standard louvre unit 2000 x 2000mm high (installed by others)	No	2.00	60.54	R 121.08
	PD 10.2	Plasterwork:				
73		15mm thick, one coat cement plaster to internal brick walls	m²	410.00	88.64	R 36,342.40

Carried forward /...

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	700,683.28
74	PD 10.3	15mm thick, waterproof plaster to cable trench walls and floor edges	m²	217.00	129.72	R	28,149.24
75		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	359.00	194.58	R	69,854.22
76		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	53.00	194.58	R	10,312.74
		Roof finishes:					
		Roof screed					
77		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m²	359.00	218.64	R	78,491.76
		Crushed stone to roof slab					
78		Clean crushed 19 - 25mm stone as ballast	m³	27.00	402.55	R	10,868.85
		Torch-on waterproofing					
79		"Sika Blackseal" or equivalent primer applied to screed	m²	373.00	22.70	R	8,467.10
80	PD 10.4	"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m²	373.00	254.20	R	94,816.60
81		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	373.00	50.00	R	18,650.00
82		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	99.00	577.79	R	57,201.21
		Doors, windows, louvres, etc:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery					
83		Single door size 836 x 2357mm high in and including frame size 958 x 2400mm high	No	2.00	30651.76	R	61,303.52
84		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	3.00	55577.45	R	166,732.35
85		Double fire door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high (Ironmongery Type D)	No	2.00	126876.33	R	253,752.66
86		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	2.00	63480.64	R	126,961.28
		Miscellaneous work					
Carried forward /...						R	1,686,244.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,686,244.81
87		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to: Internal plastered walls	m²	410.00	91.89	R 37,674.90
88		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint Plastered concrete soffits	m²	359.00	85.40	R 30,658.60
89		Plastered sides of concrete beams	m²	53.00	85.40	R 4,526.20
90		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule): Rainwater drainage: Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	5.00	1114.84	R 5,574.20
91		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	20.00	181.03	R 3,620.60
92		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	10.00	163.31	R 1,633.10
	PD 10.8	Miscellaneous Items: (c) Items measured by area Damp- and waterproofing 375 micron medium density polyethylene damp proof sheeting under floors				
93		375 micron green medium density polyethylene damp proof course in walls	m²	364.00	42.10	R 15,324.40
94		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	41.00	10.53	R 431.73
95		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:	m²	121.00	42.10	R 5,094.10
96		Bottoms of foundations, footings and column bases				
97		Under floors	m²	221.00	4.86	R 1,074.06
			m²	278.00	4.86	R 1,351.08
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	PSGG	PARTICULAR SPECIFICATION PSGG; GRP OPEN GRID FLOORING as specified in PSGG in the project specifications				
98	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E	m ²	25.00	1694.48	R 42,362.00
99		(d) Miscellaneous Items Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	118.00	942.63	R 111,230.34
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 153,592.34

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 57,477.48
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 24,335.64
SANS 1200 G		CONCRETE (STRUCTURAL)				R 1,847,409.46
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 1,793,207.78
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R 153,592.34
TOTAL OF BILL C37 CARRIED TO SUMMARY						R 3,876,022.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C38 SERVICE WATER ELECTRICAL BUILDING					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200 D and in the project specifications					
	PSD 8.3 16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	512.00	62.34	R	31,918.08
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	31,918.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
2	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	38.00	63.41	R	2,409.58
3	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
		Service Water Electrical Building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	22,560.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200 G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
4		Sides of strip footings not exceeding 300mm high	m ²	35.00	457.46	R 16,011.10
5		Sides of cable trench floors not exceeding 300mm	m ²	20.00	457.46	R 9,149.20
6		Sides of bases	m ²	35.00	457.46	R 16,011.10
7		Sides of columns in foundations	m ²	34.00	457.46	R 15,553.64
8		Sides of foundation walls	m ²	26.00	457.46	R 11,893.96
9		Sides of cable trench walls	m ²	42.00	457.46	R 19,213.32
	8.2.2	Smooth (W8, C5):				
		Vertical formwork to:				
10		Sides of downstand beams	m ²	14.00	457.46	R 6,404.44
		Horizontal formwork not exceeding 4m high to:				
11		Soffits of beams and slabs	m ²	207.00	853.53	R 176,680.71
	8.2.3	Special Smooth (W9, C6):				
		(a) Vertical formwork to:				
12		Sides of upstand beams and slab edges	m ²	58.00	457.46	R 26,532.68
13		Sides of columns	m ²	59.00	457.46	R 26,990.14
14		Sides of walls	m ²	26.00	457.46	R 11,893.96
15		Sides of cable trench walls	m ²	42.00	457.46	R 19,213.32
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
16		Over 100mm and up to 200mm	m	110.00	75.93	R 8,352.30
Carried forward / ...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	363,899.87
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
17		8mm	t	0.30	18085.37	R	5,425.61
18		10mm	t	0.40	18085.37	R	7,234.15
	8.3.1	(b) High-tensile steel bars in the following:					
19		10mm	t	0.70	18085.37	R	12,659.76
20		12mm	t	2.00	18085.37	R	36,170.74
21		16mm	t	2.60	18085.37	R	47,021.96
22		20mm	t	3.90	18085.37	R	70,532.94
23		25mm	t	2.00	18085.37	R	36,170.74
24		32mm	t	1.30	18085.37	R	23,510.98
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
25		Ref No 395 in surface beds	kg	347.00	24.80	R	8,605.60
26		Ref No 617 in surface beds	kg	882.00	25.34	R	22,349.88
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
27		75mm thickness under strip footings, bases, cable trench floors, etc	m²	142.00	128.65	R	18,268.30
28		75mm thickness under surface beds and floors etc	m²	143.00	128.65	R	18,396.95
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
29		Aprons and Ramps	m³	8.00	1944.68	R	15,557.44
30		Strip footings	m³	23.00	1944.68	R	44,727.64
		Reinforced class 30 MPa/19mm concrete in:					
31		Cable trench floors	m³	13.00	1944.68	R	25,280.84
32		Column bases	m³	14.00	1944.68	R	27,225.52
33		Surface beds	m³	29.00	1944.68	R	56,395.72
Carried forward /...						R	839,434.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 839,434.64
34		Columns in foundations	m³	3.00	1944.68	R 5,834.04
35		Columns	m³	5.00	1944.68	R 9,723.40
36		Downstand beams	m³	2.00	1944.68	R 3,889.36
37		Upstand beams	m³	6.00	1944.68	R 11,668.08
38		Slabs	m³	42.00	1944.68	R 81,676.56
39		Plinths	m³	0.30	1944.68	R 583.40
40		Cable trench walls	m³	16.00	1944.68	R 31,114.88
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
41		Top of ramps	m²	12.00	37.33	R 447.96
42		Top of roof slabs	m²	191.00	37.33	R 7,130.03
43		Top of cable trench floors	m²	48.00	37.33	R 1,791.84
		(b) Steel-floated finishes to:				
44		Top of aprons	m²	57.00	44.21	R 2,519.97
45		Top of plinths	m²	2.00	44.21	R 88.42
46		Top of slightly sloping upstand beams	m²	18.00	44.21	R 795.78
		(c) Power-floated finishes to:				
47		Top of surface beds and floor slabs etc	m²	141.00	46.93	R 6,617.13
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
48		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	133.00	337.08	R 44,831.64
49		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	5.00	370.79	R 1,853.95
		Saw-cut joints as per drawing DRG-CC-0247:				
50		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	61.00	88.10	R 5,374.10
51		3mm x 25mm Saw-cut joint in aprons	m	22.00	88.10	R 1,938.20
Carried forward /...						R 1,057,313.39

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,057,313.39
52		Slip joints: 2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	94.00	106.72	R 10,031.68
53		280mm wide slip joint between top of brick walls and slabs	m	85.00	5.89	R 500.65
54		Construction joints: In walls and at kickers as DWG-CC-0201 Construction joint F with and including 200 x 2mm thick galvanized mild steel plate	m	30.00	497.57	R 14,927.10
55	PSG 8.7	Grouting: Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	1.00	16725.33	R 16,725.33
56	PSG 8.12	Granolithic screeding Floor screeds Average 65mm thick normal screed on cable trench floors	m²	48.00	201.57	R 9,675.36
57	PSG 8.23	Concrete protection and proprietary floor Floor Finishes Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	182.00	894.42	R 162,784.44
58		Skirtings Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	116.00	176.20	R 20,439.20
Carried forward /...						R 1,292,397.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,292,397.15
	PSG 8.28	Miscellaneous Work					
		Electrical cable sleeves and drain pipes class 9 PVC					
59		160mm dia x 500mm long	No	8.00	119.99	R	959.92
60		160mm dia x 508mm long	No	24.00	119.99	R	2,879.76
61		160mm dia x 3000mm long	No	4.00	119.99	R	479.96
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,296,716.79

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK				
		as specified in PD in the project specifications				
	PD 10.1	Brickwork:				
		Construct brickwork complete with brickforce and ties, etc.				
		280mm thick cavity walls of two half brick skins, in:				
62		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	163.00	1142.22	R 186,181.86
63		Superstructure	m ²	216.00	684.44	R 147,839.04
64		Closing 60mm wide cavity horizontally around openings	m	39.00	64.60	R 2,519.40
65		Closing 60mm wide cavity vertically around	m	47.00	64.60	R 3,036.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:				
66		Foundations	m ²	15.00	334.85	R 5,022.75
67		Superstructure	m ²	141.00	374.22	R 52,765.02
68		110mm Wide brick-on-edge lintel	m	16.00	239.18	R 3,826.88
		Brickwork sundries				
69		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	39.00	71.55	R 2,790.45
70		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	16.00	93.97	R 1,503.52
71		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1009.00	51.19	R 51,650.71
72		Form opening for standard louvre unit 2000 x 2000mm high (installed by others)	No	2.00	60.54	R 121.08
	PD 10.2	Plasterwork:				
73		15mm thick, one coat cement plaster to internal brick walls	m ²	291.00	88.64	R 25,794.24
74		15mm thick, waterproof plaster to cable trench walls and floor edges	m ²	88.00	129.72	R 11,415.36
75		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	209.00	194.58	R 40,667.22
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	535,133.73
76	PD 10.3	15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	14.00	194.58	R	2,724.12
		Roof finishes:					
		Roof screed					
77		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m²	209.00	190.86	R	39,889.74
		Crushed stone to roof slab					
78		Clean crushed 19 - 25mm stone as ballast	m³	17.00	402.55	R	6,843.35
		Torch-on waterproofing					
79		"Sika Blackseal" or equivalent primer applied to	m²	191.00	22.70	R	4,335.70
80		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m²	191.00	254.20	R	48,552.20
81		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	191.00	50.00	R	9,550.00
82	PD 10.4	"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	40.00	577.79	R	23,111.60
		Doors, windows, louvres, etc:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc					
83		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.00	63480.64	R	253,922.56
84		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.00	55577.45	R	55,577.45
85		Double door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high	No	2.00	65413.47	R	130,826.94
86		Double fire door comprising 2 x leaves size 836 2357mm high in and including frame size 1800 2400mm high (Ironmongery Type D)	No	1.00	115573.40	R	115,573.40
		Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer					
87	PD 10.7	Internal plastered walls	m²	291.00	48.65	R	14,157.15
Carried forward /...						R	535,133.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,240,197.94
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
88		Plastered concrete soffits	m²	209.00	85.40	R 17,848.60
89		Plastered sides of concrete beams	m²	14.00	85.40	R 1,195.60
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		Rainwater drainage:				
90		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm	No	11.00	1114.84	R 12,263.24
91		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	58.00	181.03	R 10,499.74
92		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	22.00	163.31	R 3,592.82
	PD 10.8	Miscellaneous Items:				
		(c) Items measured by area				
		Damp- and waterproofing				
93		375 micron medium density polyethylene damp proof sheeting under floors	m²	222.00	42.10	R 9,346.20
94		375 micron green medium density polyethylene damp proof course in walls	m²	39.00	10.53	R 410.67
95		375 micron medium density polyethylene damp proof sheeting against cable trench walls	m²	20.00	42.10	R 842.00
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:				
96		Bottoms of foundations, footings and column bases	m²	142.00	4.86	R 690.12
97		Under floors	m²	143.00	4.86	R 694.98
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING as specified in PSGG in the project specifications					
	PSGG 08.1	(a) GRP open grid flooring by area of the grid flooring Flooring Detail 2, Flooring Type 7, Additional Support Type E					
98			m²	25.00	1694.48	R	42,362.00
		(d) Miscellaneous Items					
99		Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	102.00	942.63	R	96,148.26
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	138,510.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 31,918.08
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 22,560.16
SANS 1200 G		CONCRETE (STRUCTURAL)				R 1,296,716.79
PD		BUILDING WORK				R 1,297,581.91
PSGG		SPECIFICATION)				R 138,510.26
TOTAL OF BILL C38 CARRIED TO SUMMARY						R 2,787,287.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C39 UV, SST AND FLOW BALANCING TANK ELECTRICAL BUILDING				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200 D and in the project specifications				
	PSD 8.3.3	Restricted excavation:				
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:				
1		Total depth up to 1.0 m	m³	67.00	97.74	R 6,548.58
2		Total depth up to 2.0 m	m³	33.00	97.74	R 3,225.42
		(b) Extra-over item 8.3.3 (a) for:				
3		Hard rock excavation	m³	10.00		
4		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	10.00	5.32	R 53.20
5	PSD 8.3.5	Extra excavation to provide working space	m²	317.00	158.17	R 50,139.89
6	PSD 8.3.14	Extra over item PSD 8.3.3 (a) for temporary	m³	13.00	36.23	R 470.99
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
7		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	589.00	62.34	R 36,718.26
8		(e) Backfill (clean sand) stabilised with 5% cement where directed by the Engineer	m³	5.00	374.28	R 1,871.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 99,027.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed:					
		(a) Roadbed preparation and compaction of material to:					
9		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	47.00	63.41	R	2,980.27
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
10		UV electrical building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS							

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
11		Sides of strip footings not exceeding 300mm high	m²	58.00	457.46	R 26,532.68
12		Sides of cable trench floors not exceeding 300mm	m²	26.00	457.46	R 11,893.96
13		Sides of bases	m²	35.00	457.46	R 16,011.10
14		Sides of columns in foundations	m²	39.00	457.46	R 17,840.94
15		Sides of cable trench walls	m²	87.00	457.46	R 39,799.02
	8.2.2	Smooth (W8, C5):				
		Vertical formwork to:				
16		Sides of downstand beams	m²	15.00	457.46	R 6,861.90
		Horizontal formwork not exceeding 4m high to:				
17		Soffits of beams and slabs	m²	275.00	853.53	R 234,720.75
	8.2.3	Special Smooth (W9, C6):				
		(a) Vertical formwork to:				
18		Sides of upstand beams and slab edges	m²	64.00	457.46	R 29,277.44
19		Sides of columns	m²	67.00	457.46	R 30,649.82
20		Sides of cable trench walls	m²	87.00	457.46	R 39,799.02
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
21		Over 100mm and up to 200mm	m	143.00	75.93	R 10,857.99
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
22		8mm	t	0.40	18085.37	R 7,234.15
23		10mm	t	0.50	18085.37	R 9,042.69
Carried forward /...						R 480,521.45

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 480,521.45
	8.3.1	(b) High-tensile steel bars in the following:				
24		10mm	t	0.90	18085.37	R 16,276.83
25		12mm	t	2.60	18085.37	R 47,021.96
26		16mm	t	3.50	18085.37	R 63,298.80
27		20mm	t	5.20	18085.37	R 94,043.92
28		25mm	t	2.60	18085.37	R 47,021.96
29		32mm	t	1.70	18085.37	R 30,745.13
	PSG 8.3.2	(c) High-tensile welded mesh in the following:				
30		Ref No 395 in surface beds	kg	275.00	24.80	R 6,820.00
31		Ref No 617 in surface beds	kg	1,259.00	25.34	R 31,903.06
		SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer:				
		(a) Class 15 MPa/19mm concrete of:				
32		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	184.00	128.65	R 23,671.60
33		75mm thickness under surface beds and floors etc	m ²	204.00	128.65	R 26,244.60
	PSG 8.4.3	Strength concrete:				
		Unreinforced class 25 MPa/19mm concrete in:				
34		Aprons and ramps	m ³	7.00	1944.68	R 13,612.76
35		Strip footings	m ³	18.00	1944.68	R 35,004.24
		Reinforced class 30 MPa/19mm concrete in:				
36		Cable trench floors	m ³	17.00	1944.68	R 33,059.56
37		Column bases	m ³	12.00	1944.68	R 23,336.16
38		Surface beds	m ³	41.00	1944.68	R 79,731.88
39		Columns in foundations	m ³	3.00	1944.68	R 5,834.04
40		Columns	m ³	6.00	1944.68	R 11,668.08
41		Downstand beams	m ³	2.00	1944.68	R 3,889.36
42		Upstand beams	m ³	7.00	1944.68	R 13,612.76
Carried forward /...						R 1,087,318.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,087,318.16
43		Slabs	m³	69.00	1944.68	R 134,182.92
44		Plinths	m³	0.30	1944.68	R 583.40
45		Cable trench walls	m³	20.00	1944.68	R 38,893.60
	PSG 8.4.4	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
46		Top of ramps	m²	14.00	37.33	R 522.62
47		Top of roof slabs	m²	258.00	37.33	R 9,631.14
48		Top of cable trench floors	m²	56.00	37.33	R 2,090.48
		(b) Steel-floated finishes to:				
49		Top of aprons	m²	58.00	44.21	R 2,564.18
50		Top of plinths	m²	2.00	44.21	R 88.42
51		Top of slightly sloping upstand beams	m²	19.00	44.21	R 839.99
		(c) Power-floated finishes to:				
52		Top of surface beds and floor slabs etc	m²	202.00	46.93	R 9,479.86
	PSG 8.5	Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
53		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	126.00	337.08	R 42,472.08
54		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	5.00	370.79	R 1,853.95
		Saw-cut joints as per drawing DRG-CC-0247:				
55		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	117.00	88.10	R 10,307.70
56		3mm x 25mm Saw-cut joint in aprons	m	21.00	88.10	R 1,850.10
		Slip joints:				
57		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	150.00	106.72	R 16,008.00
58		280mm wide slip joint between top of brick walls and slabs	m	64.00	5.89	R 376.96
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,359,063.56
59	PSG 8.7	Grouting: Grouting around sleeve pipes in cable trenches including formwork to sides (through brick walls as per DWG-CC-0246)	m³	1.00	16725.33	R	16,725.33
60	PSG 8.12	Granolithic screeding Floor screeds Average 65mm thick normal screed on cable trench floors	m²	56.00	201.57	R	11,287.92
61	PSG 8.23	Concrete protection and proprietary floor Floor Finishes Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	192.00	894.42	R	171,728.64
62		Skirtings Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	234.00	176.20	R	41,230.80
63	PSG 8.28	Miscellaneous Work Electrical cable sleeves and drain pipes class 9 PVC 160mm dia x 508mm long	No	32.00	119.99	R	3,839.68
64		160mm dia x 4358mm long	No	4.00	486.45	R	1,945.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		280mm thick cavity walls of two half brick					
65		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m²	212.00	831.09	R	176,191.08
66		Superstructure	m²	232.00	684.44	R	158,790.08
67		Closing 60mm wide cavity horizontally around openings	m	16.00	64.60	R	1,033.60
68		Closing 60mm wide cavity vertically around openings	m	47.00	64.60	R	3,036.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX" or equivalent face brickwork in stretcher bond in:					
69		Foundations	m²	16.00	334.85	R	5,357.60
70		Superstructure	m²	152.00	374.22	R	56,881.44
71		110mm Wide brick-on-edge lintel	m	16.00	239.18	R	3,826.88
		Brickwork sundries					
72		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	46.00	71.55	R	3,291.30
73		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	21.00	93.97	R	1,973.37
74		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m²	232.00	270.57	R	62,772.24
75		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1,048.00	51.19	R	53,647.12
76		Form opening for standardouvre unit 2000 x 2000mm high (installed by others)	No	2.00	60.54	R	121.08
	PD 10.2	Plasterwork:					
77		15mm thick, one coat cement plaster to internal brick walls	m²	312.00	88.64	R	27,655.68
Carried forward f...						R	554,577.67

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 554,577.67
78	PD 10.3	15mm thick, waterproof plaster to cable trench walls and floor edges	m ²	45.00	129.72	R 5,837.40
79		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	277.00	194.58	R 53,898.66
80		15mm thick, one coat cement plaster to sides of concrete downstand beams	m ²	15.00	194.58	R 2,918.70
		Roof finishes:				
		Roof screed				
81		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	258.00	218.64	R 56,409.12
		Crushed stone to roof slab				
82		Clean crushed 19 - 25mm stone as ballast	m ³	22.00	402.55	R 8,856.10
		Torch-on waterproofing				
83		"Sika Blackseal" or equivalent primer applied to screed	m ²	258.00	22.70	R 5,856.60
84	PD 10.4	"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	258.00	254.20	R 65,583.60
85		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	258.00	50.00	R 12,900.00
86		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m ²	42.00	577.79	R 24,267.18
		Doors, windows, louvres, etc:				
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc				
87		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	4.00	63480.64	R 253,922.56
88		Double door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high	No	1.00	55577.45	R 55,577.45
89		Double door comprising 2 x leaves size 1200 x 2357mm high in and including frame size 2528 x 2400mm high	No	2.00	65413.47	R 130,826.94
90		Double fire door comprising 2 x leaves size 836 x 2357mm high in and including frame size 1800 x 2400mm high (Ironmongery Type D)	No	1.00	115573.40	R 115,573.40
Carried forward /...						R 1,347,005.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,347,005.38
	PD 10.7	Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:				
91		Internal plastered walls	m ²	312.00	91.89	R 28,669.68
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
92		Plastered concrete soffits	m ²	275.00	85.40	R 23,485.00
93		Plastered sides of concrete beams	m ²	15.00	85.40	R 1,281.00
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		Rainwater drainage:				
94		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm	No	8.00	1114.84	R 8,918.72
95		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	42.00	181.03	R 7,603.26
96		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	16.00	163.31	R 2,612.96
	PD 10.8	Miscellaneous Items:				
		(c) Items measured by area				
		Damp- and waterproofing				
97		375 micron medium density polyethylene damp proof sheeting under floors	m ²	288.00	42.10	R 12,124.80
98		375 micron green medium density polyethylene damp proof course in walls	m ²	52.00	10.53	R 547.56
99		375 micron medium density polyethylene damp	m ²	26.00	42.10	R 1,094.60
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,433,342.96
100		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer: Bottoms of foundations, footings and column bases	m²	184.00	4.86	R	894.24
101		Under floors	m²	204.00	4.86	R	991.44
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
102	PSGG	PARTICULAR SPECIFICATION PSGG: GRP OPEN GRID FLOORING as specified in PSGG in the project specifications				
	PSGG 08.1	(d) Miscellaneous Items Flooring Detail 3 (75x50x6mm (SS316 with 75mm leg vertically orientated) with 5mm flat bar only where specifically indicated)	m	135.00	942.63	R 127,255.05
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 127,255.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
Section		Description					R c
							Amount
SANS 1200 D		EARTHWORKS				R	99,027.74
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R	23,130.85
SANS 1200 G		CONCRETE (STRUCTURAL)				R	1,605,821.73
PD		PARTICULAR SPECIFICATION PD. BUILDING WORK				R	1,435,228.64
PSGG		GRP OPEN GRID FLOORING (PARTICULAR SPECIFICATION)				R	127,255.05
TOTAL OF BILL C39 CARRIED TO SUMMARY							R 3,290,464.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount Rc
		<u>BILL C40</u> <u>PROCESS OPERATIONS BUILDING</u>				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	2161.00	62.3	R134,716.74
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)				
		as specified in SANS 1200 DM and in the project specifications				
	PSDM 8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
2		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	168.00	63.41	R 10,652.88
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works				
3		Process operations building	SUM	1.00	20150.58	R 20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 30,803.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 G	CONCRETE (STRUCTURAL) as specified in SANS 1200 G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough: Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m ²	141.00	342.67	R	48,316.47
5		Sides of bases	m ²	156.00	342.67	R	53,456.52
6		Sides of columns in foundations	m ²	81.00	342.67	R	27,756.27
7		Sides of foundation walls	m ²	176.00	342.67	R	60,309.92
	8.2.2	Smooth (W8, C5): Vertical formwork to:					
8		Sides of walls	m ²	247.00	342.67	R	84,639.49
9		Sides of planter and balcony walls	m ²	145.00	342.67	R	49,687.15
		Horizontal formwork not exceeding 4m high to:					
10		Soffits of beams and slabs	m ²	2189.00	737.97	R	1,615,416.33
11		Soffits of landings	m ²	2.00	737.97	R	1,475.94
	8.2.3	Special Smooth (W9, C6): (a) Vertical formwork to:					
12		Sides of upstand beams and slab edges	m ²	267.00	342.67	R	91,492.89
13		Sides of columns	m ²	406.00	342.67	R	139,124.02
14		Sides of walls	m ²	16.00	342.67	R	5,482.72
15		Stepped sides of stairs 360mm high extreme	m ²	7.00	342.67	R	2,398.69
16		Balcony walls	m ²	34.00	342.67	R	11,650.78
		(b) Sloping formwork not exceeding 3.5m high					
17		Soffits of stairs	m ²	16.00	737.97	R	11,807.52
		(c) Back shuttering:					
18		Curved/circular on elevation (top/front) edge of walls not exceeding 300mm wide	m	3.00	700.06	R	2,100.18
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,205,114.89
	8.2.4	Special off-form: (Refer to Drawings No AA-0017, W10, C7)				
		(a) Vertical formwork to:				
19		Single curved surface	m ²	2.00	457.46	R 914.92
20		Walls	m ²	381.00	342.67	R 130,557.27
21		Sides of walls circular on plan	m ²	119.00	342.67	R 40,777.73
22		Planter and balcony walls	m ²	179.00	342.67	R 61,337.93
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
23		Over 20mm and up to 100mm	m	238.00	37.96	R 9,034.48
24		Over 100mm and up to 200mm	m	238.00	75.93	R 18,071.34
25		Over 200mm and up to 300mm	m	88.00	113.89	R 10,022.32
26		Over 200mm and up to 300mm circular	m	3.00	113.89	R 341.67
		(b) Grooves, chases and splays in the following ranges:				
27		Concrete recess drip groove in soffits of slabs formed with 20mm pvc chamfer strip	m	415.00	17.56	R 7,287.40
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
28		8mm	t	2.70	18085.37	R 48,830.50
29		10mm	t	4.10	18085.37	R 74,150.02
	8.3.1	(b) High-tensile steel bars in the following:				
30		10mm	t	6.90	18085.37	R 124,789.05
31		12mm	t	20.50	18085.37	R 370,750.09
32		16mm	t	27.30	18085.37	R 493,730.60
33		20mm	t	41.00	18085.37	R 741,500.17
34		25mm	t	20.50	18085.37	R 370,750.09
35		32mm	t	13.70	18085.37	R 247,769.57
Carried forward /...						R 4,955,730.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,955,730.03
36	PSG 8.3.2	(c) High-tensile welded mesh in the following: Ref No 245 in surface beds	kg	2155.00	24.91	R 53,681.05
		SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer: (a) Class 15 MPa/19mm concrete of:				
37		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	452.00	128.65	R 58,149.80
38		75mm thickness under surface beds and floors etc	m ²	880.00	128.65	R 113,212.00
	PSG 8.4.3	Strength concrete: Reinforced class 30 MPa/19mm concrete in:				
39		Strip footings	m ³	43.00	1944.68	R 83,621.24
40		Column bases	m ³	95.00	1944.68	R 184,744.60
41		Surface beds	m ³	114.00	1944.68	R 221,693.52
42		Columns in foundations	m ³	8.00	1944.68	R 15,557.44
43		Columns	m ³	40.00	1944.68	R 77,787.20
44		Upstand beams	m ³	34.00	1944.68	R 66,119.12
45		Planter and balcony walls	m ³	41.00	1944.68	R 79,731.88
46		Slabs	m ³	577.00	1944.68	R 1,122,080.36
47		Wall foundation	m ³	37.00	1944.68	R 71,953.16
48		Stairs and landings	m ³	6.00	1944.68	R 11,668.08
49		Foundation walls	m ³	26.00	1944.68	R 50,561.68
50		Walls	m ³	114.00	1944.68	R 221,693.52
	PSG 8.4.4	Unformed surface finishes: (a) Wood-floated finishes to:				
51		Top of roof slabs	m ²	979.00	37.33	R 36,546.07
52		Top of suspended slabs	m ²	1057.00	37.33	R 39,457.81
		(b) Steel-floated finishes to:				
53		Top of slightly sloping upstand beams	m ²	152.00	44.21	R 6,719.92
Carried forward /...						R 7,470,708.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,470,708.48
54	PSG 8.5	Top of stair treads and landings	m²	15.00	44.21	R 663.15
		(c) Power-floated finishes to:				
55		Top of surface beds and floor slabs etc	m²	880.00	46.93	R 41,298.40
		Joints:				
		Isolation joints as per drawing DRG-CC-0247:				
56		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	581.00	337.08	R 195,843.48
57		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	6.00	370.79	R 2,224.74
		Slip joints:				
58		10mm Jointex up to 300mm wide in horizontal isolation joints	m	528.00	48.78	R 25,755.84
59		2 Layers 3 ply "Malthoid" or equivalent slip joint to top of 230mm wide cable trench walls	m	174.00	106.72	R 18,569.28
60	PSG 8.12	280mm wide slip joint between top of brick walls and slabs	m	158.00	5.89	R 930.62
		Sealing of joints with sealant:				
61		10mm x 10mm polyurethane sealant all-around frame	m	29.00	227.17	R 6,587.93
		Granolithic screeding				
		25 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:				
62		Minimum 40mm thick	m²	416.00	122.00	R 50,752.00
		Floor screeds				
63		Average 40mm thick normal screed to falls in planters	m²	35.00	145.45	R 5,090.75
64		Average 55mm thick normal screed to falls in balcony (65mm thick at ridge lines sloping down to 45mm thick to drain outlet)	m²	172.00	183.41	R 31,546.52
Carried forward /...						R 7,849

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	7,849,971.19
65	PSG 8.13	Casting items in concrete 50mm Diameter x 350mm long PVC side outlet by "waterproofing center" or equivalent	No	73.00	2166.57	R	158,159.61
66	PSG 8.23	Concrete protection and proprietary floor Floor Finishes Type 1 - Quartz-encapsulated resin finish (refer to SANS1200 G - 5.5.26)	m²	1310.00	1004.03	R	1,315,279.30
67		Skirtings Type 2 - Quartz-encapsulated resin cove skirting (refer to SANS1200 G - 5.5.26)	m	287.00	176.20	R	50,569.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	9,373,979.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 H	STRUCTURAL STEELWORK					
		As specified in SANS 1200 H and in the project specifications					
68	PSH 8.3.1	Structural Steel: 150 x 150 x 4.5mm Square hollow section	t	1.00	57293.00	R	57,293.00
69	PSH 8.3.7	Handrails: 316 marine grade stainless steel balustrades Horizontal	m	35.00	1320.44	R	46,215.40
70		Sloping (measured on slope)	m	33.00	1320.44	R	43,574.52
71		Circular	m	12.00	1320.44	R	15,845.28
72	PSH 8.3.8	Ladders, complete and installed Ladder Type 1, of lengths: 4000mm long	No	1.00	30808.50	R	30,808.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	193,736.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		As specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		115mm thick non-facing engineering bricks, in:					
73		Superstructure	m ²	32.00	379.39	R	12,140.48
74		Lining to brick walls	m ²	96.00	436.29	R	41,883.84
		230mm thick non-facing engineering bricks, in:					
75		Foundations	m ²	251.00	763.18	R	191,558.18
76		Superstructure	m ²	435.00	684.44	R	297,731.40
		300mm thick cavity walls of two half brick skins, in:					
77		Foundations including filling of 80 mm cavity with 25MPa/19mm unreinforced concrete	m ²	52.00	897.63	R	46,676.76
78		Foundations including filling of 80 mm cavity with 25MPa/19mm unreinforced concrete curved on plan	m ²	81.00	924.65	R	74,896.65
79		Superstructure	m ²	1148.00	886.28	R	1,017,449.44
80		Closing 80mm wide cavity horizontally around openings	m	6.00	64.60	R	387.60
81		Closing 80mm wide cavity vertically around	m	32.00	64.60	R	2,067.20
		115mm thick "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond, in:					
82		Lining to concrete walls or columns including wire ties in superstructure	m ²	109.00	437.76	R	47,715.84
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:					
83		Foundations	m ²	18.00	334.85	R	6,027.30
84		Superstructure	m ²	176.00	374.22	R	65,862.72
85		230mm Wide brick-on-edge course as shown on A-SD10 drawing no AA-0023	m	76.00	239.18	R	18,177.68
86		110mm Wide brick-on-edge lintel	m	12.00	239.18	R	2,870.16
Carried forward /						R	1,825,445.25

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Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,825,445.25
87	PD 10.2	Brickwork sundries				
		Precast concrete window cill No. 095 by "Modcon Precast" or equivalent	m	5.00	1186.57	R 5,932.85
88		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	36.00	71.55	R 2,575.80
89		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	287.00	270.57	R 77,653.59
90	PD 10.3	30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	2431.00	51.19	R 124,442.89
91		Plasterwork: 15mm thick, one coat cement plaster to internal brick walls	m ²	2791.00	88.64	R 247,394.24
92		15mm thick, waterproof plaster to cable trench walls and floor edges	m ²	307.00	129.72	R 39,824.04
93		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	1132.00	194.58	R 220,264.56
94	PD 10.3	Roof finishes: Roof screed Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	1132.00	218.64	R 247,500.48
95		Crushed stone to roof slab Clean crushed 19 - 25mm stone as ballast	m ³	82.00	402.55	R 33,009.10
96		Torch-on waterproofing "Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m ²	751.00	577.79	R 433,920.29
97		One layer of "Derbigum CG4H (horticultural) and of CG3" or equivalent laid staggered on planter floor and walls	m ²	181.00	695.62	R 125,907.22
98		One layer of "Derbigum CG4 and of CG3" or equivalent laid staggered in balcony floor	m ²	172.00	486.72	R 83,715.84
Carried forward /...						R 3,46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,467,586.15
99		"Tilesafe" or equivalent torch-on waterproofing applied over cement screed on balcony floor	m²	172.00	383.76	R 66,006.72
100		Derbigum SP4 torch on waterproofing dressed up 100 mm high at vertical surfaces as per architectural specifications	m²	1132.00	254.20	R 287,754.40
101		50mm thick extruded drainage EPS insulation layer	m²	1021.00	267.01	R 272,617.21
102		Bidim A2 membrane	m²	1021.00	17.30	R 17,663.30
103		Two coats bituminous aluminium paint to waterproofing on slabs	m²	1132.00	21.62	R 24,473.84
104		20 x 20 x 2mm Aluminium waterproofing angle fixed to concrete (by aluminium specialist)	m	34.00	281.06	R 9,556.04
	PD 10.4	Doors, windows, louvres, etc:				
	PD 10.4	Timber doors				
		(ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule				
105		Single door overall size 900 x 2100mm high with fanlight overall size 900x500mm high (D01-GS, type A)	No	6.00	5544.09	R 33,264.54
106		Single door overall size 900 x 2100mm high with fanlight overall size 900x500mm high (D10-GS, type B)	No	4.00	5544.09	R 22,176.36
107		Single door overall size 1000 x 2100mm high with fanlight overall size 1000x500mm high (D01-GS, type C)	No	1.00	5800.61	R 5,800.61
		Flush panel fire door including galvanized mild steel frame, installation, paintwork, ironmongery etc				
		Fire doors and steel frames				
108		Class A flush panel door and frame overall size 900x2100mm high (A-D04-GS, FD2)	No	1.00	8017.78	R 8,017.78
109		Class B flush panel door and frame overall size 900x2100mm high (A-D04-FS, FD1)	No	1.00	8166.41	R 8,166.41
		Purpose made full pane powder coated steel framed fire rated glazed shopfronts with glazing as per SANS 10400 and AAAMSA as per drawing no DRG-AA-0030 to DRG-AA-0040 complete with ironmongery, etc				
110		Shopfront with 30 minute fire rated glazing and steel frame overall size 1700 x 3060mm high including single door size 900 x 2600mm high (A-SF010-GS)	No	1.00	68353.79	R 68,353.79
Carried forward /...						R 4,291,4

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	4,291,437.15
111		Shopfront with 2 hour fire rated glazing and steel frame overall size 3685 x 3060mm high including FD3 fire double door size 1850 x 2600mm high (A-SF033-GS, A-GS034-GS, mirror image shopfront and door)	No	2.00	137906.95	R	275,813.90
112		Shopfront with 30 minute fire rated glazing and steel frame including FD1 fire and smoke control double door overall size 1670 x 2600mm (A-SF035-GS)	No	1.00	52658.21	R	52,658.21
113		Shopfront with 2 hour fire rated glazing and steel frame overall size 3655 x 2600mm high including FD3 fire double door size 1805 x 2600mm high (A-SF39-FS)	No	1.00	111451.64	R	111,451.64
114		Shopfront with 30 minute hour fire rated glazing and steel frame overall size 3070 x 2600mm high including FD1 fire and smoke control double door size 1500 x 2600mm high (A-SF40-FS)	No	1.00	94264.82	R	94,264.82
115		Shopfront with 2 hour fire rated glazing and steel frame overall size 3700 x 2600 mm high including FD3 fire double door size 1850 x 2600mm high (A-SF41-FS)	No	1.00	112686.68	R	112,686.68
		"ISO 100 ALUPLAN OR WISPECO CLIP 44" or equivalent powder coated aluminium shopfronts with glazing as per SANS 10400 and AAAMSA as per drawing no. DRG-AA-0030 to DRG-AA-0040 complete with ironmongery, etc					
116		Shopfront single door overall size 885 x 3060mm high (A-SF05-GS)	No	1.00	13774.67	R	13,774.67
117		Shopfront window overall size 1600 x 6000mm high (A-SF020-GS)	No	1.00	46513.27	R	46,513.27
118		Shopfront window overall size 1600 x 5995mm high (A-SF021-GS)	No	1.00	46474.67	R	46,474.67
119		Shopfront window overall size 3850 x 3110mm high (A-SF03-GS)	No	1.00	46335.47	R	46,335.47
120		Shopfront window overall size 4400 x 600mm high (A-SF022-GS)	No	1.00	12447.84	R	12,447.84
121		Shopfront window overall size 4414 x 600mm high (A-SF031-GS)	No	1.00	12485.68	R	12,485.68
122		Shopfront window overall size 4685 x 600mm high (A-SF029-GS)	No	1.00	13217.99	R	13,217.99
123		Shopfront window overall size 4685 x 600mm high (A-SF30-GS)	No	1.00	13217.99	R	13,217.99
124		Shopfront overall size 5266 x 3110mm high including two sliding doors (A-SF04-GS)	No	1.00	72678.75	R	72,678.75
Carried forward /						R	5,215,458.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,215,458.73
125		Shopfront window overall size 5700 x 600mm high (A-SF023-GS , A-SF24-GS, A-SF25-GS, A-SF26-GS, A-SF27-GS, A- SF28-GS)	No	6.00	15905.36	R 95,432.16
126		Shopfront overall size 5700 x 3060mm high with two full height sliding doors (A-SF014-GS, A-SF015-GS)	No	2.00	65811.28	R 131,622.56
127		Shopfront overall size 2650 x 2600mm high including single door size 900 x 2600mm high (A-SF08-GS)	No	1.00	17682.34	R 17,682.34
128		Shopfront L-shaped overall size girth 3070 x 3060mm high including double fire escape door overall size 1730 x 2600mm high and window size 1340 x 3060mm high (A-SF013-GS)	No	1.00	44408.18	R 44,408.18
129		Shopfront overall size 1700 x 3060mm high including single door size 900 x 2600mm high (A-SF011-GS)	No	1.00	20085.96	R 20,085.96
130		Shopfront overall size 2700 x 3145mm high including single door size 900 x 2600mm high (A-SF02-GS)	No	1.00	24500.89	R 24,500.89
131		Shopfront overall size 5085 x 3060mm high including single door size 900 x 2600mm high (A-SF09-GS)	No	1.00	38747.29	R 38,747.29
132		Shopfront overall size 5700 x 3060mm high including single door size 900 x 2600mm high (A-SF01-GS)	No	1.00	52741.51	R 52,741.51
133		Shopfront overall size 5745 x 3060mm high including fire escape double door size 1500 x 2600mm high (A-SF016-GS)	No	1.00	75161.26	R 75,161.26
134		Shopfront overall size 900 x 3060mm high including single door size 900 x 2600mm high (A-SF017-GS)	No	1.00	13990.70	R 13,990.70
135		Shopfront overall size 1550 x 3060mm high including single fire escape door overall size 1550 x 2600mm high (A-SF018-GS , A-SF019-GS), (one LH and one RH)	No	2.00	27126.71	R 54,253.42
136		Shopfront overall size 1700 x 3145mm high including fire escape double door size 1700 x 2600mm high (A-SF032-GS)	No	1.00	29655.89	R 29,655.89
137		Shopfront window overall size 4000 x 1700mm high including two opening out windows size 600 x 1700mm high (A-SF06-GS)	No	1.00	26090.80	R 26,090.80
138		Shopfront window overall size 5850 x 1700mm high including three opening out windows size 600 x 1700mm high (A-SF07-GS)	No	1.00	37753.32	R 37,753.32
139		Shopfront window overall size 5700 x 1700mm high including three opening out windows size 600 x 1700mm high (A-SF012-GS)	No	1.00	36802.94	R 36,802.94
Carried forward /...						R 5,914

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	5,914,387.95
140		Shopfront overall size 2000 x 2600mm high including single door 900 x 2600mm high (A-SF01-FS, A-SF03-FS)	No	2.00	16715.07	R	33,430.14
141		Shopfront overall size 2000 x 2600mm high including single door 900 x 2600mm high (A-FS02-FS, A-FS04-FS)	No	2.00	16715.07	R	33,430.14
142		Shopfront overall size 3000 x 2600mm high including single door 900 x 2600mm high (A-SF05-FS)	No	1.00	22975.14	R	22,975.14
143		Shopfront overall size 3000 x 2600mm high including single door 900 x 2600mm high (A-SF06-FS)	No	1.00	22975.14	R	22,975.14
144		Shopfront overall size 3925 x 2600mm high with stacking/folding doors in six equal leaves (A-SF07-FS)	No	1.00	31032.12	R	31,032.12
145		Shopfront overall size 2825 x 2600mm high including double door 1600 x 2600mm high (A-SF08-FS)	No	1.00	31219.68	R	31,219.68
146		Shopfront overall size 5750 x 2600mm high with two full height sliding doors (A-SF09-FS)	No	1.00	59256.53	R	59,256.53
147		Shopfront overall size 4850 x 3740mm high with two 2550mm high sliding doors (A-SF010-FS)	No	1.00	80412.90	R	80,412.90
148		Shopfront overall size 8850 x 3740mm high with two 2550mm high sliding doors (A-SF011-FS)	No	1.00	113838.79	R	113,838.79
149		Shopfront overall size 5925 x 3790mm high with two 2660mm high sliding doors (A-SF012-FS)	No	1.00	83821.28	R	83,821.28
150		Shopfront overall size 6000 x 3790mm high with two 2550mm high sliding doors (A-SF013-FS)	No	1.00	83937.75	R	83,937.75
151		Shopfront overall size 6000 x 3790mm high including two opening out windows size 600 x 1650mm high and double sliding door size 3270 x 2550mm high (A-SF014-FS, A-SF015-FS, A-SF016-FS)	No	3.00	94501.76	R	283,505.28
152		Shopfront overall size 5925 x 3790mm high including one opening out window size 600 x 1550mm high and single sliding door 2550mm high (A-FS017-FS)	No	1.00	82086.95	R	82,086.95
153		Shopfront overall size 4775 x 3790mm high including one opening out window size 600 x 1550mm high and single sliding door 2550mm high (A-SF018-FS)	No	1.00	65375.52	R	65,375.52
154		Shopfront overall size 2700 x 2600mm high including single door 900 x 2600mm high (A-SF19-FS, A-SF20-FS, A-SF21-FS)	No	3.00	21913.32	R	65,738.96
155		Shopfront overall size 665 x 2600mm high (A-SF22-FS - Part 1)	No	1.00	5902.74	R	5,902.74
Carried forward /...						R	7,013,328.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,013,328.01
156		Shopfront overall size 1735 x 2600mm high including single door 900 x 2600mm high (A-SF22-FS Part - 2)	No	1.00	15292.56	R	15,292.56
157		Shopfront overall size 2670 x 2600mm high including single door 900 x 2600mm high (A-SF23-FS, A-SF24-FS)	No	2.00	21680.65	R	43,361.30
158		Shopfront overall size 4250 x 3740mm high including two opening out windows size 735 x 1700mm high and single sliding door size 2380 x 2600mm high (A-SF25-FS)	No	1.00	74010.06	R	74,010.06
159		Shopfront overall size 2670 x 3740mm high including one opening out window size 735 x 1700mm high and single sliding door size 1713 x 2600mm high (A-SF26-FS)	No	1.00	48049.63	R	48,049.63
160		Shopfront overall size 3670 x 3740mm high including two opening out windows size 735 x 1700mm high and single sliding door size 1755 x 2600mm high (A-SF27-FS)	No	1.00	63970.55	R	63,970.55
161		Shopfront overall size 735 x 3740mm high including one opening out window size 735 x 1700mm high (A-SF28-FS part 2)	No	1.00	12895.90	R	12,895.90
162		Shopfront overall size 1735 x 3740mm high including single sliding door 2600mm high (A-SF28-FS part 1)	No	1.00	28902.87	R	28,902.87
163		Shopfront overall size 2670 x 3740mm high including one opening out window size 735 x 1700mm high and single sliding door size 1713 x 2600mm high (A-SF29-FS, A-SF30-FS)	No	2.00	48049.63	R	96,099.26
164		Shopfront overall size 4735 x 3740mm high including two opening out windows size 735 x 1700mm high and single sliding door size 2820 x 2600mm high (A-SF31-FS)	No	1.00	82405.16	R	82,405.16
165		Shopfront overall size 395 x 3790mm high (A-SF32-FS, A-SF33-FS, A-SF34-FS, A-SF35-FS)	No	4.00	8156.45	R	32,625.80
166		Shopfront overall size 850 x 2595mm high including one opening out window size 615 x 1695mm high (A-SF36-FS) (A-SF37-FS) (SF36 and SF37 mirror image)	No	2.00	11628.35	R	23,256.70
167		Shopfront window overall size 450 x 2825mm high (A-SF38-FS)	No	1.00	6631.12	R	6,631.12
		Vertical screen					
168		Screen Vertical 50 x 200 x 2990mm high	No	1.00	15000.00	R	15,000.00
169		Screen Vertical 150 x 20 x 3045mm high	No	1.00	15000.00	R	15,000.00
Carried forward /...						R	7,570,828.92

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,570,828.92
170	PD 10.5	"TROX AWR WEATHERPROOF" or equivalent powder coated aluminium louvres as per drawing no. DRG-AA-0126					
		Standard louvre unit 650 x 2800mm high (WS-L02-	No	1.00	8440.45	R	8,440.45
171		Standard louvre unit 2500 x 2800mm high (WS-L01 F)	No	1.00	29749.12	R	29,749.12
172		Standard louvre unit 2800 x 2800mm high (WS-L03 F)	No	1.00	32972.66	R	32,972.66
		Ceilings and Bulkheads: 9mm thick gypsum plaster-board ceilings fixed with 32mm galvanised ceiling board screws at 150mm centres with 63mm wide strips of mesh scrim nailed over joints, finished with one coat of "Rhino-lite" / "Cretestone" or equivalent smooth skim plaster, measured elsewhere					
173		Suspended ceilings (horizontal bulkhead) not exceeding 1 m below concrete soffits	m²	630.00	315.03	R	198,468.90
174		Vertical bulkheads 200mm high with edge trims	m²	145.00	1138.76	R	165,120.20
175		Vertical bulkheads 300mm high with edge trims	m²	155.00	801.63	R	124,252.65
		"OWA" or equivalent Acoustic Sinfonia white premium ceiling tiles laid on and including fire rated demountable T24 suspension system, comprising main and cross tees					
176		Size 600mm x 600mm suspended ceiling tiles	m²	340.00	527.94	R	179,499.60
177	PD 10.6	Construct shadow line W-trim cornice	m	358.00	53.87	R	19,285.46
		Carpentry and Joinery: Fittings, countertops, cupboards, shelves etc complete with ironmongery and installed as specified (Drawings AA-0048 to 0078)					
		First Floor SHEQ as per drawing no. DRG-AA-0050					
178		Floor cupboard unit overall size 4385 x 600 x 900mm high including countertop	No	1.00	25047.85	R	25,047.85
179		Lockable tall cupboard unit overall size 2000 x 350 2600mm high	No	1.00	17577.06	R	17,577.06
		First floor GMR as per drawing no. DRG-AA-0051					
180		Floor cupboard unit overall size 2070 x 600 x 900mm high including countertop	No	1.00	11815.33	R	11,815.33
Carried forward /...						R	8,383,058.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	8,383,058.20
181		Lockable tall cupboard unit overall size 2000 x 350 2600mm high First floor superintendent grounds / technician as per drawing no. DRG-AA-0052	No	1.00	17577.06	R	17,577.06
182		Floor cupboard unit overall size 2070 x 600 x 900mm high countertop	No	1.00	11815.33	R	11,815.33
183		Lockable tall cupboard unit overall size 2000 x 350 2600mm high First floor CoCT projects as per drawing no. DRG-AA-0053	No	1.00	17577.06	R	17,577.06
184		Floor cupboard unit overall size 2070 x 600 x 900mm high with countertop	No	1.00	11815.33	R	11,815.33
185		Lockable tall cupboard unit overall size 2000 x 350 2600mm high First floor store room as per drawing no. DRG-AA-0054	No	1.00	17577.06	R	17,577.06
186		Tall cupboard unit overall size 2740 x 550 x 3200mm high	No	2.00	24080.36	R	48,160.72
187		Tall cupboard unit overall size 1060 x 600 x 3200mm high First floor kitchenette as per drawing no. DRG-AA-0055	No	1.00	9316.06	R	9,316.06
188		Floor cupboard unit overall size 600 x 600 x 900mm high	No	1.00	3424.61	R	3,424.61
189		Floor cupboard unit overall size 900 x 600 x 900mm high	No	1.00	5136.91	R	5,136.91
190		Floor cupboard unit overall size 3090 x 600 x 900mm high including countertop	No	1.00	17636.52	R	17,636.52
191		Floor cupboard unit overall size 3540 x 600 x 900mm high including countertop	No	1.00	20204.97	R	20,204.97
192		Floor cupboard unit overall size 3570 x 600 x 900mm high including countertop	No	1.00	20204.97	R	20,204.97
193		Floor cupboard unit overall size 3930 x 600 x 900mm high including countertop	No	1.00	22430.75	R	22,430.75
194		Wall cupboard unit overall size 3090 x 600 x 1050mm high	No	1.00	11226.19	R	11,226.19
Carried forward /...						R	8,617,161.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,617,161.74
195		Wall cupboard unit overall size 4170 x 600 x 1050mm high	No	1.00	15100.49	R 15,100.49
		First floor archive store as per drawing DRG-AA-0056				
196		Open shelving with support brackets/storage dividers overall size 5170 x 450 x 2600mm high	No	1.00	45486.32	R 45,486.32
		First floor COCT operations as per drawing no. DRG-AA-0057				
197		Cupboard unit overall size 3685 x 600 x 2600mm	No	1.00	43383.77	R 43,383.77
		First floor superintendent as per drawing no. DRG-AA-0058				
198		Cupboard unit overall size 3685 x 600 x 2600mm	No	1.00	43383.77	R 43,383.77
199		Lockable cupboard unit overall size 1000 x 600 x 2600mm high	No	2.00	11762.36	R 23,524.72
		First floor senior superintendent as per drawing no. DRG-AA-0059				
200		Lockable cupboard unit overall size 3685 x 600 x 2600mm high	No	1.00	45702.52	R 45,702.52
		First floor meeting room as per drawing no. DRG-AA-0060				
201		Lockable floor cupboard unit overall size 3000 x 600 x 900mm high including countertop	No	1.00	17123.04	R 17,123.04
		First Floor plant manager as per drawing no. DRG-AA-0061				
202		Lockable cupboard unit overall size 3685 x 600 x 2600mm high	No	1.00	45702.52	R 45,702.52
		Ground floor circulation as per drawing no. DRG-AA-0062, DRG-AA-0063				
203		Lockable tall cupboard unit overall size 3405 x 450 x 2600mm high	No	1.00	40186.18	R 40,186.18
204		Lockable tall cupboard unit overall size 5670 x 450 x 2600mm high	No	1.00	66919.31	R 66,919.31
205		Lockable tall cupboard unit overall size 1020 x 450 x 2600mm high	No	1.00	12038.02	R 12,038.02
206		Lockable tall cupboard unit overall size 3805 x 450 x 2600mm high	No	1.00	44906.90	R 44,906.90
Carried forward /...						R 9,060,619.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	9,060,619.30
207		Lockable tall cupboard unit overall size 3725 x 450 x 2600mm high	No	1.00	43995.62	R	43,995.62
208		Lockable tall cupboard unit overall size 7985 x 450 x 2600mm high	No	1.00	94241.58	R	94,241.58
		Ground floor training / VR as per drawing no. DRG-AA-0064					
209		Lockable cupboard unit overall size 5320 x 600 x 900mm high including countertop	No	1.00	32377.03	R	32,377.03
		Ground floor senior clerk as per drawing no. DRG-AA-0065					
210		Lockable cupboard unit overall size 4460 x 600 x 900mm high including countertop	No	1.00	30385.83	R	30,385.83
		Ground floor sick bay as per drawing no. DRG-AA-0066					
211		Floor cupboard unit overall size 2355 x 600 x 900mm high including countertop	No	1.00	13441.15	R	13,441.15
		Ground floor laundry as per drawing no. DRW-AA-0067					
212		Floor cupboard unit overall size 3670 x 600 x 900 mm high including countertop	No	1.00	20946.54	R	20,946.54
213		Wall overhead cupboard unit overall size 3670 x 350 x 1500mm high	No	1.00	13290.90	R	13,290.90
		Ground floor kitchen as per drawing no. DRG-AA-0068					
214		Floor cupboard unit overall size 3000 x 600 x 900mm high including countertop	No	1.00	17123.04	R	17,123.04
215		Floor cupboard unit overall size 3600 x 600 x 900mm high including corner storage 600 x 600 x 900mm high including countertop	No	1.00	20547.65	R	20,547.65
216		Floor cupboard unit overall size 1200 x 600 x 900mm high	No	1.00	6849.22	R	6,849.22
217		Floor cupboard unit overall size 3000 x 600 x 900mm high including 900mm wide countertop	No	1.00	17123.04	R	17,123.04
218		Wall overhead cupboard unit overall size 3875 x 350 x 1100mm high	No	1.00	14032.46	R	14,032.46
219		Wall overhead cupboard unit overall size 3130 x 350 x 1100mm high	No	1.00	11334.29	R	11,334.29
Carried forward /...						R	9,396,307.65

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,396,307.65
220		Tall cupboard unit overall size 2150 x 350 x 2600mm high	No	1.00	18894.80	R	18,894.80
221		Tall cupboard unit overall size 3385 x 350 x 2600mm high	No	1.00	29749.12	R	29,749.12
		Ground floor cleaning store as per drawing no. DRG-AA-0069					
222		Tall cupboard unit overall size 1140 x 600 x 3145mm high	No	1.00	10546.24	R	10,546.24
223		Tall cupboard unit overall size 3670 x 600 x 3145mm long	No	1.00	33375.88	R	33,375.88
		First floor circulation spaces as per drawing no. DRG-AA-0071					
224		Lockable tall cupboard unit overall size 2400 x 600 x 2595mm high	No	3.00	21650.27	R	64,950.81
		First floor circulation spaces as per drawing no. DRG-AA-0072					
225		Lockable tall cupboard unit overall size 1800 x 600 x 2595mm high	No	1.00	16418.23	R	16,418.23
226		Lockable tall cupboard unit overall size 4830 x 600 x 2595mm high including fire services cupboard 1200 x 600 x 2595mm high	No	1.00	43570.79	R	43,570.79
227		16 x 140 x 2595mm High fixed panel between cupboards to match cupboards doors, concealed fixed to brickwork or concrete	No	1.00	945.88	R	945.88
228		16 x 300 x 2595mm High fixed panel between cupboards to match cupboards doors, concealed fixed to brickwork or concrete	No	1.00	945.88	R	945.88
229		Electrical riser access cupboard overall size 2560 x 600 x 2595mm high	No	1.00	23006.92	R	23,006.92
230		Mechanical riser access cupboard overall size 2440 x 600 x 2595mm high	No	2.00	21443.80	R	42,887.60
		Ground floor chemical store as per drawing no. DRG-AA-0073					
231		L-shaped adjustable shelving unit overall girth along back 7445 x 350 x 2700mm high, including corner storage and with stainless steel legs and support rails	No	1.00	62826.64	R	62,826.64
Carried forward /...						R	9,744,426.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	9,744,426.44
232		Ground floor laboratory technician as per DRG-AA-0074 Lockable cupboard and drawers unit overall size 1200 x 600 x 725mm high including 3700mm long counter top workdesk with stainless steel desk brackets supports by joinery specialist fixed to walls at 500mm centres	No	1.00	19090.46	R	19,090.46
233		L-shaped tall cupboards 3605 girth along back x 600 x 2600mm high including corner storage 600 x 600 x 2600mm high	No	1.00	32354.33	R	32,354.33
234		U-shaped countertop desk 10620mm girth along back x 600mm wide with stainless steel desk brackets supports by joinery specialist fixed to walls at 500mm centres	No	1.00	64373.55	R	64,373.55
235		Counter top workdesk with void below, 2500 x 600 x 725mm high	No	1.00	18890.48	R	18,890.48
236		16 x 300 x 2600mm High fixed panel between cupboards to match cupboards finish, concealed fixed to concrete	No	1.00	2929.51	R	2,929.51
237		Ground floor laboratory as per drawing no DRG-AA-0075, DRG-AA-0076, with all units complete with stainless steel legs and supports Fume cupboard 1800 x 600 x 2600mm high (by Specialist)	No	1.00	16215.00	R	16,215.00
238		Island work bench unit comprising floor cupboard and drawers overall size 2300 x 1200 x 900mm high, including countertops and stainless steel shelving units on top	No	2.00	64367.06	R	128,734.12
239		Floor cupboard unit overall size 5640 x 600 x 900mm high with countertop suitable for two double laboratory sinks	No	1.00	98211.01	R	98,211.01
240		Floor cupboard unit overall size 2320 x 600 x 900mm high with countertop	No	1.00	30830.12	R	30,830.12
241		Floor cupboard unit overall size 3850 x 600 x 900mm high with countertop	No	1.00	51161.57	R	51,161.57
242		Floor cupboard unit overall size 1740 x 600 x 900mm high with countertop	No	1.00	23121.51	R	23,121.51
243		Floor cupboard unit overall size 1285 x 600 x 900mm high with countertop	No	1.00	17275.46	R	17,275.46
Carried forward /...						R	10,247,613.56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,247,613.56
244		16 x 300 x 900mm High fixed panel between cupboards to match cupboards finish, concealed fixed to concrete	No	1.00	459.43	R 459.43
245		Tall cupboard unit overall size 1835 x 600 x 2600 mm high including corner storage 600 x 600 x 2600mm high	No	1.00	20123.90	R 20,123.90
246		Tall cupboard unit overall size 1285 x 600 x 2600 mm high	No	1.00	14201.10	R 14,201.10
247		Tall cupboard unit overall size 1685 x 600 x 2600 mm high	No	1.00	18478.61	R 18,478.61
Ground floor reception as per drawing no. DRG-AA-0077						
248		Lockable floor cupboards and drawers 600 x 600 x 780mm high with counter top	No	1.00	7972.38	R 7,972.38
249		Lockable tall cupboard unit overall size 3400 x 350 2600mm high	No	1.00	32472.16	R 32,472.16
250		Lockable floor cupboard unit overall size 3690 x 600 x 780mm high with countertop	No	1.00	49708.70	R 49,708.70
251		Solid surfacing counter top desktop unit with lockable drawer unit overall size 2600 x 600 x 780mm high on and including stainless steel support frame below desk top	No	1.00	21027.61	R 21,027.61
252		Solid surfacing counter top desktop unit with lockable drawer unit overall size 3618 x 600 x 780mm high on and including stainless steel support frame below desk top	No	1.00	28908.10	R 28,908.10
253		Solid surfacing counter top desktop unit with lockable drawer unit overall size 2500 x 330 x 1100mm high with fixed face panel backing below, on and including galvanised mild steel support frame	No	1.00	28069.25	R 28,069.25
254		Solid surfacing counter top desktop unit with lockable drawer unit overall size 3000 x 330 x 1100mm high with fixed face panel backing below, on and including galvanised mild steel support frame	No	1.00	33683.96	R 33,683.96
Ground floor Filing store as per drawing no. DRG-AA-0078						
255		Open shelving unit overall size 1203 at front and 853mm long at back x 3060mm high	No	1.00	10546.24	R 10,546.24
256		Open shelving unit overall size 2613mm long at front and 2731mm long at back x 3060mm high	No	1.00	22850.18	R 22,850.18
Carried forward /...						R 10,536,115.18

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 10,536,115.18
	PD 10.7	Miscellaneous work				
		Paintwork:				
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:				
257		Internal plastered walls	m ²	2064.00	91.89	R 189,660.96
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Micatex" or equivalent acrylic emulsion paint				
258		External plastered walls	m ²	261.00	95.13	R 24,828.93
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint				
259		Plaster-board bulkhead ceilings	m ²	930.00	85.40	R 79,422.00
260		Plastered concrete soffits	m ²	1132.00	85.40	R 96,672.80
		One coat "Plascon" or equivalent wood primer and three coats "Plascon velvagio" or equivalent waterbased paint				
261		Timber doors	m ²	42.00	145.94	R 6,129.48
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):				
		(b) Plumbing drainage and water supply				
262		Waste pipework for 72 sanitary fittings or points including all bends etc., up to and including gulley or in ground up to 1m from building including all stub-stacks, two-way vent valves, etc.	SUM	1.00	98060.62	R 98,060.62
263		Hot water pipework reticulation chased into walls from drop pipework positions to 46 sanitary fittings or water points including all bends, insulated etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	120559.09	R 120,559.09
264		Cold water pipework reticulation chased into walls from drop pipework positions to 72 sanitary fittings or water points, etc., including all bends, etc.	SUM	1.00	113209.86	R 113,209.86
Carried forward /...						R 11,264,658.92

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	11,264,658.92
265		Rainwater drainage: 80mm Cast iron fullbore at 90 degree with 110mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 110mm diameter uPVC pipe	No	34.00	1974.94	R	67,147.96
266		80mm Diameter uPVC pipe cast into concrete slabs, beams and columns "Geberit" or equivalent	m	308.00	162.86	R	50,160.88
267		Geberit Selnova wall-hung WC, Rimfree, white Vitreous china (500.265.01.1) or equivalent	No	18.00	3368.64	R	60,635.52
268		(500.262.01.1), large projection 70cm, Rimfree: white	No	1.00	5766.86	R	5,766.86
269		Geberit Selnova WC seat, white bottom fix (500.331.01.1) or equivalent	No	18.00	831.66	R	14,969.88
270		Geberit Selnova Comfort WC seat ring (500.340.01.1), barrier-free, fastn, from below, white	No	1.00	1413.33	R	1,413.33
271		Geberit connection set for wall-hung WC (152.441.46.1), length 30cm	No	19.00	856.19	R	16,267.61
272		Geberit actuator plate Sigma20 for dual flush (115.889.SN.1), screwable: stainless steel brushed/polished/brushed	No	18.00	3379.64	R	60,833.52
273		Geberit remote flush actuation type 01, pneumatic, for dual flush, for Sigma concealed cistern 8 cm, concealed actuator, protruding: (116.045.11.1) white alpine	No	1.00	1552.80	R	1,552.80
274		Geberit Kombifix element for wall-hung WC (110.798.00.1), 109cm, with Sigma concealed cistern 8 cm, SABS	No	19.00	4425.41	R	84,082.79
275		Geberit cover plate Sigma, screwable (115.764.FW.1): stainless steel brushed	No	1.00	2327.61	R	2,327.61
276		Geberit Smyle urinal for concealed urinal control (500.254.01.1), outlet to the rear: white	No	5.00	4135.80	R	20,679.00
277		Geberit urinal flush control with pneumatic flush actuation, actuator plate type 10 (116.015.SN.1) stainless steel brushed/polished/brushed	No	5.00	4473.08	R	22,365.40
278		Installation set with flush pipe, for Geberit urinal flush control, universal (116.003.00.1)	No	5.00	2147.49	R	10,737.45
279		Geberit urinal trap (152.950.11.1), horizontal outlet: d50mm white alpine	No	5.00	498.59	R	2,492.95
Carried forward /...						R	11,686,092.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	11,886,092.48
280		Geberit shower floor drain (154.050.00.1), floor construction height from 90 mm: d50mm	No	13.00	1726.95	R	22,450.35
281		Geberit shower grating (154.310.00.1), screw-locked, 8 x 8 cm, stainless steel	No	13.00	545.52	R	7,091.76
282		Geberit Selnova Square washbasin (500.290.01.1): B55cm white with 1 tap hole	No	1.00	1885.41	R	1,885.41
283		Geberit washbasin wall fastening set (500.121.00.1): 1 set	No	1.00	414.82	R	414.82
284		Geberit bottle trap with dip tube, for washbasin (151.034.21.1), horizontal outlet: d32mm G1 1/4" bright chrome-plated plastic	No	1.00	693.78	R	693.78
285		Geberit waste outlet with push actuation (152.076.21.1): bright chrome-plated brass	No	1.00	891.73	R	891.73
286		horizontal outlet: d=50mm, G=1 1/2", white alpine plastic	No	2.00	1275.58	R	2,551.16
287		Geberit P-trap for two kitchen sinks (152.715.11.1), with angled hose connector, horizontal outlet: d=50mm, G=1 1/2", white alpine plastic	No	5.00	489.07	R	2,495.35
288		Geberit floor drain Varino (388.023.11.1), horizontal, d50: d=50mm, d1=50mm	No	2.00	2274.26	R	4,548.52
289		Geberit hair trap for floor drains (388.105.00.1) Varino 13 x 13cm and floor drains 13 x 13 cm	No	2.00	249.38	R	498.76
290		Geberit insert with odour trap (388.106.00.1), for floor drain 13 x 13cm	No	2.00	623.83	R	1,247.66
291		Geberit lockable grating (388.107.00.1) for floor drains 13 x 13 cm "Franke" or equivalent	No	2.00	996.33	R	1,992.66
292		RODX672 Double toilet roll holder with spindle system for wall mounting, stainless steel surface satin wall mounting, stainless steel surface satin finish, folded front cover, cylinder lock with Franke standard key. 144 x 138 x 301 (2120101)	No	19.00	3717.83	R	70,638.77
293		RODX618 Soap dispenser for wall mounting, stainless steel surface satin finish, folded front cover, cylinder lock with Franke standard key, suitable for liquid soaps, 0.8 litre soap tank, pull lever supplied. 321 x 116 x 140 (2120254)	No	19.00	4213.12	R	80,049.28
Carried forward /...						R	11,883,542.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	11,883,542.49
294		RODX600 Paper towel dispenser for wall mounting, loading capacity 500 - 800pcs of paper. 275 x 112 x 355mm (2120099)	No	2.00	3112.48	R	6,224.96
295		RODX605 Waste Bin for wall mounting, stainless steel surface satin finish, 23 litre capacity, 355 x 168 x 301 (2120097)	No	6.00	4281.91	R	25,691.46
296		Nova Bag Holder Bracket (2120239)	No	1.00	881.68	R	881.68
297		CNTXPAR Grab rail manufactured from 18/10 Stainless Steel, satin finish to prevent slipping, with diameter 31,8mm. Certified products, Includes screws and dowels (2510012)	No	1.00	2637.83	R	2,637.83
298		CNTX BR Back grab rail 750 x 260 mm (2510014)	No	1.00	2293.88	R	2,293.88
299		Jetstream Airtronic Hand Dryer, sensor operated wall mounted hand dryer in stainless steel brushed finish 245 x 140 x 167 (2500002)	No	4.00	10603.73	R	42,414.92
300		BS646 Soap dish 125 x 90 x 22mm wall mounted soap dish with holes (21210073)	No	13.00	614.58	R	7,989.54
301		BHM8P Robe hook, 68 x 40mm in stainless steel "Hansgrohe " or equivalent	No	13.00	1794.99	R	23,334.87
302		Vernis Blend single lever electronic basin mixer with temperature pre-adjustment and 230V mains connection, chrome, (71501009)	No	24.00	8030.76	R	192,738.24
303		Vernis Blend single lever shower mixer for concealed installation, chrome, (71649000)	No	15.00	1221.00	R	18,315.00
304		Basic set for single lever shower mixer for concealed installation (13620180)	No	15.00	2329.89	R	34,948.35
305		Chrometta 85 Overhead shower rose 1jet Green, 6l/m, chrome, (28423000)	No	13.00	843.40	R	10,964.20
306		Shower arm 12.8cm, chrome, (27411000)	No	13.00	705.16	R	9,167.08
307		Talis E Self-closing single lever pillar tap 110 for cold water or pre-adjusted water without waste set, chrome, (71719003)	No	1.00	3840.63	R	3,840.63
308		Décor single lever basin mixer 70 with extra long handle, without waste set, chrome, (31910223)	No	1.00	3332.16	R	3,332.16
309		S31 S310-F710 built-in stainless steel double bowl sink with manual set, (43352800)	No	5.00	6477.38	R	32,386.90
Carried forward /...						R	12,300,704.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 12,300,704.19
310		Décor single lever kitchen mixer 160, 1 jet, chrome (31806223)	No	5.00	3083.38	R 15,416.90
311			No	1.00	1003.69	R 1,003.69
312		with shower hose 125cm, white/chrome, (26568400)	No	2.00	770.89	R 1,541.78
313		FixFit wall outlet E without non-return valve, chrome, (27454000)	No	1.00	1855.32	R 1,855.32
314		Vernis Blend shower set 100 Vario EcoSmart with shower bar Crometta 65cm, chrome, (26279000)	No	1.00	8245.69	R 8,245.69
315		Vernis Blend showerpipe 200 1jet EcoSmart Reno, chemical shower, (26099000)				
		"Labscheme Allchem" or equivalent	No	2.00	39467.85	R 78,935.70
		Laboratory integrated sink unit 2200 x 1200mm wide x 750mm high of 32mm thick chipboard covered with 3mm thick polypropylene in countertop with integrated lab-sink and including counter mounted polypropylene covered mixers				
		12mm thick "Infin8 Surfacing Solid White" or equivalent surface sloping vanities, including fabricated gutter and "32mm Gio" or equivalent clicker wastes, cut-outs for taps, 12 x 200mm deep front and 12 x 100mm high coved splashback, including fixing into position on and including 32mm diameter black painted steel tubing brackets with 4mm thick steel plate, rawls bolts, etc., as necessary	No	1.00	42408.60	R 42,408.60
316			No	1.00	35718.16	R 35,718.16
317		Vanity size 550 x 5990mm long	No	1.00	29724.67	R 29,724.67
318		Vanity size 550 x 5030mm long	No	1.00	29585.28	R 29,585.28
319		Vanity size 550 x 4170mm long				
		Vanity size 550 x 4150mm long	No	2.00	329.71	R 659.42
320		4mm Glass bathroom mirrors by specialist	No	6.00	2082.01	R 12,492.06
321		600 x 400mm	No	5.00	2133.89	R 10,669.45
322		1650 x 998mm	No	8.00	2185.78	R 17,486.24
323		1650 x 1006mm				
		1650 x 1038mm				
Carried forward /...						R 12,586,447.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 12,586,447.15
	PD 10.8	Miscellaneous Items:				
		(a) Items measured by number:				
		"Cubicle Solutions" or equivalent 12 mm Compact High Pressure Laminate, with and including all doors, ironmongery, fixing and spacing dividers etc				
324		Toilet cubicle partition 1800 x 1830mm high	No	17.00	5291.50	R 89,955.50
325		Shower cubicle partition size 1800 x 1830mm high	No	13.00	5291.50	R 68,789.50
326		Toilet door size 850 x 1800mm high	No	17.00	5615.80	R 95,468.60
327		Shower door size 750 x 1780mm high	No	13.00	5507.70	R 71,600.10
328		Urinal screen	No	4.00	2697.10	R 10,788.40
		Lockers				
329		Two door locker units size 450 x 450 x 2000mm	No	54.00	6042.79	R 326,310.66
330		Two door locker units size 300 x 450 x 1850mm	No	32.00	6042.79	R 193,369.28
331		Two door locker units size 370 x 450 x 2000mm	No	2.00	6042.79	R 12,085.58
		Benches				
332		Slatted benches 1885 x 450 x 450mm high	No	2.00	7567.00	R 15,134.00
333		Slatted benches 3105 x 900 x 450mm high	No	2.00	14047.60	R 28,095.20
		Roof access				
334		Rainbowlite (or equivalent) 1200 x 1200 standard access hatch with 6.5mm PVB LAM safety glass. Colour: Clear. Hinged with manual opening mechanism to manufacturers specification	No	1.00	9404.70	R 9,404.70
		Roof anchors				
335		M10 stainless steel roof anchor points complete with hangers, washers, nuts, inspection plates, etc in accordance with SANS 50795 and EN795	No	50.00	302.68	R 15,134.00
		(b) Items measured by length:				
336		100 x 20mm profiled Meranti timber Skirting. Skirting to be fixed to wall plugs and anchors(or Equivalent), countersunk and plugged with matching timber to achieve a smooth, concealed finish	m	968.00	124.32	R 120,341.76
337		100 x 50 x 4mm Aluminium drip angle, vertical face set 25mm proud of slab edge	m	144.00	124.32	R 17,902.08
		(c) Items measured by area				
Carried forward /...						R 13,660,826.51

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 13,660,826.51
		Damp- and waterproofing				
338		375 micron medium density polyethylene damp proof sheeting under floors	m²	880.00	42.10	R 37,048.00
339		375 micron green medium density polyethylene damp proof course in walls	m²	163.00	10.53	R 1,716.39
		Ant poison, aldrin emulsifiable concentrate solution to SANS 618 spread at a rate recommended by the manufacturer:				
340		Bottoms of foundations, footings and column bases	m²	452.00	4.86	R 2,196.72
341		Under floors	m²	880.00	4.86	R 4,276.80
		Wall finishes				
342		150 x 150mm Gloss white glazed ceramic wall tiles in walls fixed with "TAL" adhesive and grout or similar approved to (plaster measured elsewhere) on plastered walls	m²	427.00	914.09	R 390,316.43
343		150 x 150mm Thick Gloss white glazed ceramic wall tiles in splash backs fixed with adhesive to plaster (plaster measured elsewhere) and flush pointed with waterproof jointing compound on plastered walls	m²	39.00	974.63	R 38,010.57
		Floor finishes				
344		297 x 297 x 8.3mm thick anti-slip "Pumice porcelain" or equivalent tiles, "TAL" or equivalent adhesive and grout, colour grey (F3)	m²	148.00	1498.27	R 221,743.96
345		297 x 297 x 8.3mm thick anti-slip porcelain tiles (smooth), "TAL" adhesive or equivalent and grout, colour grey	m²	26.00	1498.27	R 38,955.02
		Supply and fix "Flotex colour Metro-Grey "or equivalent flocked tiles				
346		500mm x 500mm flocked flooring tiles	m²	267.00	1235.58	R 329,899.86
		Provisional Sums				
347		Provide the Provisional Sum as indicated for Building Signage	Prov Sum	1.00	250000.00	R 250,000.00
348		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	%	250000.00	10%	R 25,000.00
349		Loose furniture	Prov Sum	1.00	1250000.00	R 1,250,000.00
350		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	%	1250000.00	10%	R 125,000.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 16,374,990.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 134,716.74
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 30,803.46
SANS 1200 G		CONCRETE (STRUCTURAL)				R 9,373,979.50
SANS 1200 H		STRUCTURAL STEELWORK				R 193,736.70
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 16,374,990.26
TOTAL OF BILL C40 CARRIED TO SUMMARY						R 26,108,226.66

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C41 <u>WORKSHOP AND STORE BUILDING</u>				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.16	Importing of materials for fill under floor and				
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	1808.00	62.3	R 112,710.72
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)				
		as specified in SANS 1200DM and in the project specifications				
	8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
2		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	121.00	63.41	R 7,672.61
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works				
3		Workshop and stores building	SUM	1.00	20150.58	R 20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 20,150.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
4		Sides of strip footings not exceeding 300mm high	m²	131.00	342.67	R	44,889.77
5		Sides of bases	m²	116.00	342.67	R	39,749.72
6		Sides of columns in foundations	m²	34.00	342.67	R	11,650.78
	8.2.2	Smooth (W8, C5):					
		Vertical formwork to:					
7		Sides of downstand beams	m²	56.00	342.67	R	19,189.52
		Horizontal formwork not exceeding 4m high to:					
8		Soffits of beams and slabs	m²	890.00	853.53	R	759,641.70
9		Soffits of isolated beams	m²	53.00	853.53	R	45,237.09
10		Soffits of landings	m²	7.00	853.53	R	5,974.71
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
11		Sides of upstand beams and slab edges	m²	99.00	342.67	R	33,924.33
12		Sides of isolated beams	m²	198.00	342.67	R	67,848.66
13		Sides of columns	m²	267.00	342.67	R	91,492.89
14		Stepped sides of stairs 360mm high extreme	m²	10.00	457.46	R	4,574.60
		(b) Sloping formwork not exceeding 3.5m high to:					
15		Soffits of stairs	m²	22.00	853.53	R	18,777.66
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
16		Over 20mm and up to 100mm	m	117.00	37.96	R	4,441.32
17		Over 100mm and up to 200mm	m	69.00	75.93	R	5,239.17
Carried forward /...						R	1.

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,152,631.92
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
18		8mm	t	1.10	18085.37	R	19,893.91
19		10mm	t	1.70	18085.37	R	30,745.13
	8.3.1	(b) High-tensile steel bars in the following:					
20		10mm	t	2.80	18085.37	R	50,639.04
21		12mm	t	8.30	18085.37	R	150,108.57
22		16mm	t	11.10	18085.37	R	200,747.61
23		20mm	t	16.60	18085.37	R	300,217.14
24		25mm	t	8.30	18085.37	R	150,108.57
25		32mm	t	5.60	18085.37	R	101,278.07
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
26		Ref No 245 in surface beds	kg	1483.00	24.91	R	36,941.53
27		Ref No 617 in surface beds	kg	3734.00	25.34	R	94,619.56
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
28		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	314.00	128.65	R	40,396.10
29		75mm thickness under surface beds and floors etc	m ²	605.00	128.65	R	77,833.25
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19mm concrete in:					
30		Strip footings	m ³	31.00	1944.68	R	60,285.08
		Reinforced class 30 MPa/19mm concrete in:					
31		Strip footings	m ³	18.00	1944.68	R	35,004.24
32		Column bases	m ³	64.00	1944.68	R	124,459.52
33		Surface beds	m ³	84.00	1944.68	R	163,353.12
34		Columns in foundations	m ³	3.00	1944.68	R	5,834.04
Carried forward /...						R	2,7

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,795,096.40
35		Columns	m³	23.00	1944.68	R	44,727.64
36		Downstand beams	m³	15.00	1944.68	R	29,170.20
37		Isolated beams	m³	176.00	1944.68	R	342,263.68
38		Slabs	m³	253.00	1944.68	R	492,004.04
39		Stairs and landings	m³	9.00	1944.68	R	17,502.12
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finishes to:					
40		Top of roof slabs	m²	460.00	37.33	R	17,171.80
41		Top of suspended slabs	m²	429.00	37.33	R	16,014.57
		(b) Steel-floated finishes to:					
42		Top of stair treads and landings	m²	18.00	44.21	R	795.78
		(c) Power-floated finishes to:					
43		Top of surface beds and floor slabs etc.	m²	605.00	46.93	R	28,392.65
	PSG 8.5	Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
44		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	395.00	337.08	R	133,146.60
45		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	32.00	370.79	R	11,865.28
		Saw-cut joints as per drawing DRG-CC-0247:					
46		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	117.00	88.10	R	10,307.70
		Slip joints:					
47		300mm wide slip joint between top of brick walls and slabs	m	470.00	88.10	R	41,407.00
		Sealing of joints with sealant:					
48		10mm x 10mm polyurethane sealant all-around frame	m	132.00	227.17	R	29,986.44
49		10mm x 10mm polyurethane sealant all-around frame	m	132.00	227.17	R	29,986.44
Carried forward /...						R	4,039,836.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 4,039,838.34
50	PSG 8.12	10mm x 10mm polyurethane sealant in top of saw-cut joints	m	117.00	227.17	R 26,578.89
		Granolithic screeding 25 MPa/10 mm on structural floor screeds to fall with surface preparation as described in the Specifications:				
51	PSG 8.23	Minimum 40mm thick	m ²	427.00	129.78	R 55,416.06
		Concrete protection and proprietary floor Floor Finishes				
52		Type 1 - Polyurethane cement textured floor finish	m ²	615.00	918.85	R 565,092.75
53		Type 2 - Polyurethane cement smooth floor finish (refer to SANS1200 G)	m ²	284.00	918.85	R 260,953.40
		Skirtings				
54		Type 3 - Polyurethane cement cove skirting (refer to SANS1200 G)	m	80.00	302.04	R 24,163.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		As specified in SANS 1200 H and in the project specifications					
	PSH 8.3.1	Structural Steel:					
55		150 x 150 x 4.5mm Square hollow section	t	0.05	62,698.00	R	3,134.90
56		90 x 90 x 10 Equal angle	t	0.04	62698.00	R	2,507.92
57		IPE 200	t	0.06	62698.00	R	3,761.88
58		Structural steel roof and side cladding	t	5.10	61617.00	R	314,246.70
	PSH 8.3.7	Handrails:					
		1000mm high Pipe railing complete with 2 x					
59		Horizontal	m	35.00	1,320.44	R	46,215.40
		1000mm high Railing / Balustrade SS316					
60		Horizontal	m	6.00	1,320.44	R	7,922.64
61		Sloping (measured on slope)	m	12.00	1,320.44	R	15,845.28
	PSH 8.3.8	Ladders, complete and installed					
		Ladder Type 1, of lengths:					
62		3000mm long	No	1.00	22917.20	R	22,917.20
	SPE-CC-001	2000mm high "Betafence" or equivalent mesh					
63		Fence 1 as indicated on drawings	m	26.00	1,589.07	R	41,315.82
64		Fence 2 as indicated on drawings	m	12.00	1617.18	R	19,406.16
65		Gate as indicated on drawings	m	2.00	21230.84	R	42,461.68
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	519,735.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 HB	CLADDING AND SHEETING					
		as specified in SANS 1200HB and in the project specifications					
	8.2.2	Supply and install cladding and sheeting including corrosion protection and/or coloured finish:					
		0,54mm Thick "Safintra SAFLOK 410 Bluescope clear colobond ultra ZA200" or equivalent					
66		Roof coverings with pitches not exceeding 25°, fixed to steel purlins	m²	300.00	427.32	R	128,196.00
		4mm Thick "Alububble" or equivalent 1983 D10 both sides reflective foil insulation under sheeting, and above roof insulation boards:					
67		Roof sheeting radiant heat barrier insulation	m²	300.00	56.82	R	17,046.00
		100mm Minimum thickness "LAMBDABOARD" or equivalent laminated polyisocyanurate core board on both sides, faced with white washable coated fiberglass tissue, fixed above purlins in conjunction with roof covering:					
68		Roof sheeting insulation	m²	300.00	625.94	R	187,782.00
	8.2.3	Supply and install ancillaries and including corrosion protection and/or coloured finish:					
		0,54mm Thick "Safintra SAFLOK 410 Bluescope clear colobond ultra ZA200" or equivalent					
69		Narrow and board flute closures	m	49.00	66.04	R	3,235.96
70		Poly closures	m	49.00	18.87	R	924.63
71		Gable flashing	m	25.00	216.51	R	5,412.75
72		Apex flashing	m	24.00	216.51	R	5,196.24
73		50 x 305mm Fascia board	m	24.00	249.46	R	5,987.04
		Rainwater					
74		152mm x 152mm eaves gutters including stop ends, outlets, downpipes, etc.	m	25.00	430.59	R	10,764.75
75		100mm x 100mm downpipes including elbows, shoes, etc.	m	11.00	327.03	R	3,597.33
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		115mm thick non-facing engineering bricks, in:					
76		Lining to brick walls	m ²	42.00	436.29	R	18,324.18
		230mm thick non-facing engineering bricks, in:					
77		Foundations	m ²	12.00	763.18	R	9,158.16
78		Superstructure	m ²	117.00	684.44	R	80,079.48
		300mm thick cavity walls of two half brick skins, in:					
79		Foundations including filling of 80 mm cavity with 25MPa/19mm unreinforced concrete	m ²	116.00	897.63	R	104,125.08
80		Superstructure	m ²	971.00	886.28	R	860,577.88
81		Closing 80mm wide cavity horizontally around	m	45.00	64.60	R	2,907.00
82		Closing 80mm wide cavity vertically around	m	88.00	64.60	R	5,684.80
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
83		Foundations	m ²	20.00	334.85	R	6,697.00
84		Superstructure	m ²	492.00	374.22	R	184,116.24
85		230mm Wide brick-on-edge course as shown on A-SD10 drawing no AA-0023	m	193.00	239.18	R	46,161.74
86		110mm Wide brick-on-edge lintel	m	15.00	239.18	R	3,587.70
		Brickwork sundries					
87		Precast concrete window cill No. 095 by "Modcon Precast" or equivalent	m	104.00	1186.57	R	123,403.28
88		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	52.00	71.55	R	3,720.60
89		110 x 75mm High precast concrete lintels in lengths exceeding 3.5m and not exceeding 5m	m	5.00	93.97	R	469.85
Carried forward /...						R	1,4

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,449,012.99
90		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	13.00	93.97	R	1,221.61
91		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m²	971.00	270.57	R	262,723.47
92		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	1112.00	51.19	R	56,923.28
	PD 10.2	Plasterwork:					
93		15mm thick, one coat cement plaster to internal brick walls	m²	1536.00	88.64	R	136,161.04
94		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m²	889.00	194.58	R	172,981.62
95		15mm thick, one coat cement plaster to sides of concrete downstand beams	m²	56.00	194.58	R	10,896.48
	PD 10.3	Roof finishes:					
		Roof screed					
96		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m²	397.00	218.64	R	86,800.08
		Crushed stone to roof slab					
97		Clean crushed 19 - 25mm stone as ballast	m³	30.00	402.55	R	12,076.50
		Torch-on waterproofing					
98		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m²	89.00	577.79	R	51,423.31
99		One layer "Derbigum CG4 and of CG3" or equivalent laid staggered in balcony floor	m²	25.00	486.72	R	12,168.00
100		"Tilesafe" or equivalent torch-on waterproofing applied over cement screed on balcony floor	m²	25.00	383.76	R	9,594.00
101		Derbigum SP4 torch on waterproofing dressed up 100 mm high at vertical surfaces as per architectural specifications	m²	460.00	254.20	R	116,932.00
102		50mm thick extruded drainage EPS insulation layer	m²	371.00	267.01	R	99,060.71
Carried forward /...						R	2,4

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,477,965.09
103		Bidim A2 membrane	m²	371.00	17.30	R 6,418.30
104		Two coats bituminous aluminium paint to waterproofing on slabs	m²	460.00	21.62	R 9,945.20
105		20 x 20 x 2mm Aluminium waterproofing angle fixed to concrete (by aluminium specialist)	m	140.00	281.06	R 39,348.40
	PD 10.4	Doors, windows, louvres, etc:				
	PD 10.4	Timber doors				
		(ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule				
106		Single door 813 x 2356 mm high in and including 900 x 2400 mm high "Nuklip 44mm" aluminium or equivalent door frame	No	4.00	5506.97	R 22,027.88
107		Single door 950 x 2032mm high in and including 1000 x 2100mm high "Nuklip 44mm" aluminium or equivalent door frame	No	1.00	5699.60	R 5,699.60
108		Double door 1412 x 2056mm high in and including 1500 x 2100mm high "Nuklip 44mm" aluminium or equivalent door frame	No	4.00	7656.77	R 30,627.08
		(i) Wrought hardwood doors hung to steel frames				
109		44mm Framed, ledged and braced hardwood single door 762 x 2032mm high of 108mm wide top rail and stiles, 144 x 22mm centre rail and 220 x 44mm bottom rail tongued and grooved at 65 x 20mm, let into and including rebates all round, hung to and including double rebated galvanised mild steel frame	No	3.00	7870.63	R 23,611.89
		Flush panel 60 minute fire door including galvanized mild steel frame, installation, paintwork, ironmongery etc				
110		Class A, Flush panel fire single door 813 x 2056mm high in and including 900 x 2100mm high galvanised mild steel frame (WS-D06-G)	No	1.00	8017.78	R 8,017.78
111		Class A, Flush panel fire double door 1436 x 2332mm high in and including 1500 x 2400mm high galvanised mild steel frame (WS-D05-G)	No	1.00	13840.04	R 13,840.04
112		Class A, Flush panel fire double door 1436 x 2032mm high in and including 1500 x 2100mm high galvanised mild steel frame (WS-D11-G)	No	1.00	12430.42	R 12,430.42
Carried forward /...						R 2,649,931.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,649,931.68
		"ISO 100 ALUPLAN OR WISPECO CLIP 44" or equivalent powder coated matt light grey aluminium shopfronts with glazing as per SANS 10400 and AAAMSA, and as per specifications and drawing nos. DRG-AA-0116 to DRG-AA-0122 complete with ironmongery, etc					
113		Shopfront overall size 600 x 3145mm high (WS-SF06-G)	No	1.00	8789.25	R	8,789.25
114		Shopfront overall size 1100 x 6200mm high (WS-SF05-G)	No	1.00	24503.89	R	24,503.89
115		Shopfront double door overall size 1595 x 2600mm high (WS-SF01-G)	No	1.00	18584.22	R	18,584.22
116		Shopfront double door overall size 1610 x 2600mm high (WS-SF04-G)	No	1.00	18749.84	R	18,749.84
117		L-shaped shopfront overall size 1700 x 1740mm high and 600 x 1740mm high (WS-SF02-G)	No	1.00	17110.20	R	17,110.20
118		Shopfront overall size 1700 x 2795mm high including single door (WS-SF03-G)	No	1.00	16793.34	R	16,793.34
119		Shopfront overall size 1850 x 2800mm high including double door with sliding panes (WS-SF08-F)	No	1.00	16704.54	R	16,704.54
120		Shopfront overall size 2800 x 3050mm high (WS-SF16-F)	No	1.00	30446.69	R	30,446.69
121		Shopfront overall size 3100 x 600mm high (WS-SF07-G)	No	1.00	8671.48	R	8,671.48
122		Shopfront overall size 3400 x 600mm high (WS-SF09-G)	No	1.00	9456.67	R	9,456.67
123		Shopfront overall size 3700 x 600mm high (WS-SF08-G, WS-SF16-G)	No	2.00	10996.55	R	21,993.10
124		Shopfront overall size 4500 x 600mm high (WS-SF13-G)	No	1.00	12140.17	R	12,140.17
125		Shopfront window overall size 5700 x 600mm high (WS-SF10-G, WS-SF11-G, WS-SF-12-G, WS-SF14-G, WS-SF15-G)	No	5.00	14944.13	R	74,720.65
126		Shopfront overall size 1685 x 2800mm high including single door 885 x 2400mm high (WS-SF06-F)	No	1.00	16728.11	R	16,728.11
127		Shopfront overall size 1685 x 2800mm high including single door 1050 x 2400mm high (WS-SF01-F)	No	1.00	21149.95	R	21,149.95
Carried forward /...						R	2,966,473

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,966,473.78
128		Shopfront overall size 1685 x 2800mm high including double door 1685 x 2400mm high (WS-SF09,WS-SF10,WS-SF14-F)	No	3.00	16024.01	R	48,072.03
129		Shopfront overall size 1700 x 2800mm high including single door 900 x 2400mm high (WS-SF02-F, WS-SF03-F,WS-SF04-F,WS-SF05-F, WS-SF19-F,WS-SF20-F)	No	6.00	16868.14	R	101,208.84
130		Shopfront overall size 1700 x 2800mm high including double door 1700 x 2400mm high (WS-SF11,WS-SF12,WS-SF13,WS-SF17,WS-SF18-F)	No	5.00	16154.59	R	80,772.95
131		Shopfront overall size 3550 x 2800mm high including single door 900 x 2400mm high (WS-SF07-F)	No	1.00	40888.93	R	40,888.93
132		Irregular shaped shopfront overall size 11850 x 1463mm to 426mm high (WS-SF01-R,WS-SF03-R)	No	2.00	53907.39	R	107,814.78
133		Shopfront overall size 24000 x 1475mm high including single door (WS-SF02-R)	No	1.00	126410.08	R	126,410.08
134		Full pane powder coated steel framed one hour fire rated glazed shopfront, with 6mm toughened Pyran S Borofloat glass, as per SANS 10400 and AAMSA and as per specifications and drawing no. DRG-AA-0120 complete with ironmongery, etc					
		Shopfront overall size 5400 x 2800mm high (WS-SF15-F)	No	1.00	74777.09	R	74,777.09
		"TROX AWR WEATHERPROOF" or equivalent powder coated aluminium louvres as per drawing no. DRG-AA-0126					
135		Standard louvre unit 650 x 2800mm high (WS-L02-F)	No	1.00	8440.45	R	8,440.45
136		Standard louvre unit 2500 x 2800mm high (WS-L01-F)	No	1.00	29749.12	R	29,749.12
137		Standard louvre unit 2800 x 2800mm high (WS-L03-F)	No	1.00	32972.66	R	32,972.66
138		Standard louvre unit 4000 x 1100mm high (WS-L04-F)	No	1.00	19272.07	R	19,272.07
		Single wall profiled 1.0mm hot-dipped galvanised slat curtain roller shutter as per roll up "Serranda high wind resistant" or equivalent, to be powder coated in UV resistant polyester, with and including frame comprising hot-dipped galvanised mild steel channel section guides mounted vertically and canopy to be constructed from HDG mild steel to manufacturers design					
139		Slatted roller shutter door for 2800 x 2600mm high opening	No	3.00	39341.91	R	118,025.73
Carried forward /...						R	3,754,8

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,754,878.51
140	PD 10.5	Slatted roller shutter door for 4000 x 4500mm high	No	1.00	70128.79	R	70,128.79
		Ceilings and Bulkheads:					
		9mm thick gypsum plaster-board ceilings fixed with 32mm galvanised ceiling board screws at 150mm centres with 63mm wide strips of mesh scrim nailed over joints, finished with one coat of "Rhinolite" / "Cretestone" or equivalent smooth skim plaster, measured elsewhere					
141		Suspended ceilings (horizontal bulkhead) not exceeding 1 m below concrete soffits	m²	10.00	315.03	R	3,150.30
142		Vertical bulkheads 300mm high with edge trims	m²	14.00	801.63	R	11,222.82
		"OWA" or equivalent Acoustic Sinfonia white premium ceiling tiles laid on and including fire rated demountable T24 suspension system, comprising main and cross tees					
143		Size 600mm x 600mm suspended ceiling tiles	m²	10.00	527.94	R	5,279.40
144		Construct shadow line W-trim cornice	m	13.00	53.87	R	700.31
	PD 10.6	Carpentry and Joinery:					
		Workshop and store building casework					
145		Floor drawers 611 x 600 x 950mm high including countertop	No	12.00	5532.56	R	66,390.72
146		Floor drawers 611 x 600 x 950mm high including countertop	No	4.00	5532.56	R	22,130.24
147		Floor cupboards 450 x 600 x 900mm high including countertop	No	2.00	3545.68	R	7,091.36
148		Tall wall cupboards 1170 x 600 x 3095mm high	No	2.00	13186.04	R	26,372.08
149		Tall cupboards 1185 x 600 x 3095mm high	No	3.00	13186.04	R	39,558.12
150		Tall cupboards 1088 x 450 x 2600mm high	No	4.00	12227.19	R	48,908.76
151		Tall cupboards 1235 x 600 x 1732mm high	No	2.00	9758.19	R	19,516.38
152		Tall cupboards 1275 x 600 x 2750mm high	No	2.00	13186.04	R	26,372.08
153		Tall cupboards 1882 x 600 x 1223mm high	No	6.00	15930.70	R	95,584.20
154		Tall cupboards 474 x 450 x 2600mm high	No	1.00	5610.39	R	5,610.39
155		Tall cupboards 544 x 450 x 2600mm high	No	1.00	5610.39	R	5,610.39
Carried forward /...						R	4,208,504.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	4,208,504.85
156	PD 10.7	Tall cupboards 626 x 450 x 2750mm high	No	1.00	6626.53	R	6,626.53
157		Tall cupboards 625 x 600 x 2750mm high	No	1.00	7671.86	R	7,671.86
158		Overhead wall cupboards 900 x 350 x 1250mm high	No	5.00	4526.15	R	22,630.75
159		Floor cupboards 485 x 600 x 2600 mm high	No	1.00	20539.00	R	20,539.00
		Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
160		Internal plastered walls	m²	1078.00	91.89	R	99,057.42
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Micatex" or equivalent acrylic emulsion paint					
161		External plastered walls	m²	356.00	95.13	R	33,866.28
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
162		Plaster-board bulkhead ceilings	m²	24.00	85.40	R	2,049.60
163		Plastered concrete soffits	m²	889.00	85.40	R	75,920.60
164		Plastered sides of concrete beams	m²	56.00	85.40	R	4,782.40
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
		(b) Plumbing drainage and water supply					
165		Waste pipework for 19 sanitary fittings or points including all bends etc., up to and including gully or in ground up to 1m from building including all stub-stacks, two-way vent valves, etc.	SUM	1.00	25877.11	R	25,877.11
166		Hot water pipework reticulation chased into walls from drop pipework positions to 12 sanitary fittings or water points including all bends, insulated etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	31441.50	R	31,441.50
167		Cold water pipework reticulation chased into walls from drop pipework positions to 19 sanitary fittings or water points, etc., including all bends, etc.	SUM	1.00	29874.83	R	29,874.83
Carried forward /...						R	4,56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,568,842.73
168		Rainwater drainage: 80mm Cast iron fullbore at 90 degree with 110mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 110mm diameter uPVC pipe	No	22.00	1974.94	R 43,448.68
169		80mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	154.00	162.86	R 25,080.44
170		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	22.00	163.31	R 3,592.82
171		"Geberit" or equivalent Selnova Comfort washbasin, barrier-free (SAN-310)	No	1.00	2933.89	R 2,933.89
172		Selnova wall-hung WC, in colour white including seat, actuator for dual flush, element, cistern, connection set etc (500.265.01.1) complete	No	4.00	12543.56	R 50,174.24
173		Geberit Smyle urinal for concealed urinal control (500 254.01.1), outlet to the rear: white, including urinal flush control with pneumatic flush actuation, ss actuator plate, installation set, traps, etc	No	2.00	10811.33	R 21,622.66
174		Shower floor drain and grating (154.050.00.1) "Franke" or equivalent	No	4.00	1860.19	R 7,440.76
175		RODX618 soap dispenser for wall mounting, stainless steel surface satin finish, folded front cover, cylinder lock with Franke standard key, suitable for liquid soaps, 0.8 litre soap tank, pull lever supplied, 321 x 116 x 140mm (2120254)	No	5.00	4213.12	R 21,065.60
176		RODX600 paper towel dispenser for wall mounting, loading capacity 500 - 800pcs of paper: 275 x 112 x 355mm (2120099)	No	3.00	3112.48	R 9,337.44
177		Franke Commercial "RODAN" #RODX672 Double Roll Toilet Tissue Holder Wall Mounted, 11-13/16" H x 5-5/8" W x 5-7/16" D (301mm x 144mm x 138mm), manufactured from 22 gauge (0.8mm) grade 18-10 type 304 stainless steel with #4 satin finish and spindle sys	No	5.00	3717.83	R 18,589.15
178		Franke stainless steel double bowl kitchen sink "Hansgrohe " or equivalent	No	1.00	6238.17	R 6,238.17
179		Vernis Blend single lever electronic basin mixer with temperature pre-adjustment and 230V mains connection, chrome, (71501009)	No	7.00	8030.76	R 56,215.32
Carried forward /...						R 4,834,5

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,834,581.90
180		Vernis Blend single lever shower mixer including basic set for concealed installation, (71649000)	No	4.00	1220.99	R 4,883.96
181		Drain with complete 75mm side outlet by Seaqual or equivalent (PC097802)	No	22.00	1136.96	R 25,013.12
182		Chrometta 85 Overhead shower rose 1jet Green, 6l/m chrome (28423000) with shower arm "Duravit" or equivalent	No	4.00	1548.55	R 6,194.20
183		Duravit D-code Back to wall toilet including closed coupled toilet pan, cistern and flush mechanism, code 21180900002 and 0927100004, Cisterb braided man connector: BSS-10-15-350. Toilet seat Duravit D-code 0067310000. Seat Duravit D-code 0067310000 "Cobra" or equivalent	No	1.00	8861.23	R 8,861.23
184		Cobra (Taps & Mixers) - Medical Elbow Action - Tap - Chrome - Pillar Tap code 508-CD: KF02a_Cobra (Taps & Mixers) - Medical Elbow Action KF02a_Cobra 4mm Glass bathroom mirrors by specialist	No	1.00	5706.91	R 5,706.91
185		600 x 400mm	No	7.00	329.71	R 2,307.97
186		1650 x 1038mm	No	4.00	2185.78	R 8,743.12
	PD 10.8	Miscellaneous Items: (a) Items measured by number: "Cubicle Solutions" or equivalent 12 mm Compact High Pressure Laminate, with and including all doors, ironmongery, fixing and spacing dividers etc				
187		Shower cubicle partition size 2700 x 1830mm high	No	4.00	10582.99	R 42,331.96
188		Toilet cubicle partition size 2700 x 1830mm high	No	4.00	10582.99	R 42,331.96
189		Two door locker units size 450 x 300 x 1800mm	No	10.00	6042.79	R 60,427.90
190		Slatted benches 1350 x 450 x 450mm high	No	2.00	7567.00	R 15,134.00
191		Urinal screen	No	1.00	2697.10	R 2,697.10
Carried forward /...						R 5,059,215.

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,059,215.33
192		12mm thick "Infin8 Surfacing Solid White" or equivalent surface sloping vanities, including fabricated gutter and "32mm Gio" or equivalent clicker wastes, cut-outs for taps, 12 x 200mm deep front and 12 x 100mm high covered splashback, including fixing into position on and including 32mm diameter black painted steel tubing brackets with 4mm thick steel plate, Vanity size 550 x 3800mm long	No	2.00	27025.00	R 54,050.00
193		Roof access Rainbowlite (or equivalent) 1200 x 1200 standard access hatch with 6.5mm PVB LAM safety glass. Colour: Clear. Hinged with manual opening mechanism to manufacturers specification	No	1.00	9404.70	R 9,404.70
194		Roof anchors M10 stainless steel roof anchor points complete with hangers, washers, nuts, inspection plates, etc in accordance with SANS 50795 and EN795	No	20.00	302.68	R 6,053.60
195		(b) Items measured by length: 90x65x10 mm High galvanised mild Steel angle skirting surface mounted with countersunk anchor fixing to all at equal spacings of minimum 400mm. Each-primed and painted	m	507.00	756.70	R 383,646.90
196		300 x 100mm high tile skirting, to match adjacent floor tiles, "TAL" or equivalent epoxy adhesive and grout, colour grey (S4)	m	63.00	256.14	R 16,136.82
197		(c) Items measured by area Damp- and waterproofing 375 micron medium density polyethylene damp proof sheeting under floors	m²	605.00	42.10	R 25,470.50
198		375 micron green medium density polyethylene damp proof course in walls	m²	65.00	10.53	R 684.45
199		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer: Bottoms of foundations, footings and column bases	m²	314.00	4.86	R 1,526.04
200		Under floors	m²	605.00	4.86	R 2,940.30
201		Wall finishes 150 x 150mm Gloss white glazed ceramic wall tiles in walls fixed with "TAL" adhesive and grout or similar approved to (plaster measured elsewhere) on plastered walls	m²	102.00	914.09	R 93,237.18
Carried forward /...						R 5,652,365.8

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 5,652,365.82
		Floor finishes				
202		297 x 297 x 8.3mm thick anti-slip "Pumice porcelain" or equivalent tiles, "TAL" or equivalent adhesive and grout, colour grey (F3)	m²	25.00	1498.27	R 37,456.75
		Provisional Sums				
203		Provide the Provisional Sum as indicated for Building Signage	Prov Sum	1.00	150000.00	R 150,000.00
204		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	%	150000.00	10%	R 15,000.00
205		Loose furniture	Prov Sum	1.00	500000.00	R 500,000.00
206		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	%	500000.00	10%	R 50,000.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 6,404,822.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						c
Section		Description				Amount
SANS 1200 D		EARTHWORKS			R	112,710.72
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)			R	27,823.19
SANS 1200 G		CONCRETE (STRUCTURAL)			R	4,972,042.64
SANS 1200 H		STRUCTURAL STEELWORK			R	519,735.58
SANS 1200 HB		CLADDING AND SHEETING			R	368,142.70
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK			R	6,404,822.57
TOTAL OF BILL C41 CARRIED TO SUMMARY						R 12,405,254.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C42 GUARD HOUSE				
	SANS 1200 D	EARTHWORKS				
		as specified in SANS 1200D and in the project specifications				
	PSD 8.3.3	Restricted excavation:				
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:				
1		Total depth up to 2.0 m	m ³	22.00	97.7	R 2,150.28
		(b) Extra-over item 8.3.3 (a) for:				
2		Hard rock excavation	m ³	2.00		
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m ³	2.00	5.3	R 10.64
4	PSD 8.3.5	Extra excavation to provide working space	m ²	244.00	158.2	R 38,593.48
5	PSD 8.3.14	Extra over item PSD 8.3.3 (a) for temporary	m ³	10.00	36.2	R 362.30
	PSD 8.3.16	Importing of materials for fill under floor and foundations				
6		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m ³	231.00	62.3	R 14,400.54
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 55,51

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
7	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE) as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed: (a) Roadbed preparation and compaction of material to: Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	34.00	63.41	R	2,155.94
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
8		Guardhouse	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	22,306.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 G	CONCRETE (STRUCTURAL)					
		as specified in SANS 1200G and in the project specifications					
		SCHEDULED FORMWORK ITEMS					
	8.2.1	Rough:					
		Vertical formwork to:					
9		Sides of strip footings not exceeding 300mm high	m²	11.00	457.46	R	5,032.06
10		Sides of strip footings exceeding 300 mm high	m²	13.00	457.46	R	5,946.98
11		Sides of bases	m²	23.00	457.46	R	10,521.58
12		Sides of columns in foundations	m²	16.00	457.46	R	7,319.36
13		Sides of foundation walls	m²	27.00	457.46	R	12,351.42
		Horizontal formwork not exceeding 3.5m high					
14		Soffits of floating surface beds propped 150mm high	m²	8.00	737.97	R	5,903.76
		Smooth (W8, C5):					
		Horizontal formwork not exceeding 3m high to:					
15		Soffits of beams and slabs	m²	49.00	737.97	R	36,160.53
	8.2.3	Special Smooth (W9, C6):					
		(a) Vertical formwork to:					
16		Sides of upstand beams and slab edges	m²	18.00	457.46	R	8,234.28
17		Sides of columns	m²	6.00	457.46	R	2,744.76
18		Sides of walls	m²	24.00	457.46	R	10,979.04
	8.2.5	Narrow widths (up to 300mm wide):					
		(a) Different widths in the following ranges:					
19		Over 20mm and up to 100mm	m	34.00	37.96	R	1,290.64
20		Over 100mm and up to 200mm	m	74.00	75.93	R	5,618.82
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
21		8mm	t	0.10	18085.37	R	1,808.54
22		10mm	t	0.20	18085.37	R	3,617.07
Carried forward L...						R	117,5

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	117,528.84
	8.3.1	(b) High-tensile steel bars in the following:					
23		10mm	t	0.30	18085.37	R	5,425.61
24		12mm	t	0.90	18085.37	R	16,276.83
25		16mm	t	1.20	18085.37	R	21,702.44
26		20mm	t	1.80	18085.37	R	32,553.67
27		25mm	t	0.90	18085.37	R	16,276.83
28		32mm	t	0.60	18085.37	R	10,851.22
	8.3.2	(c) High-tensile welded mesh in the following:					
29		Ref No 617 in surface beds	kg	275.00	25.34	R	6,968.50
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
30		75mm thickness under strip footings, bases, cable trench floors, etc	m ²	52.00	128.65	R	6,689.80
31		75mm thickness under surface beds and floors etc	m ²	41.00	128.65	R	5,274.65
	PSG 8.4.3	Strength concrete:					
		Reinforced class 30 MPa/19mm concrete in:					
32		Strip footings	m ³	10.00	1944.68	R	19,446.80
33		Column bases	m ³	14.00	1944.68	R	27,225.52
34		Surface beds	m ³	9.00	1944.68	R	17,502.12
35		Columns in foundations	m ³	3.00	1944.68	R	5,834.04
36		Columns	m ³	1.00	1944.68	R	1,944.68
37		Upstand beams	m ³	1.00	1944.68	R	1,944.68
38		Slabs	m ³	10.00	1944.68	R	19,446.80
39		Walls	m ³	7.00	1944.68	R	13,612.76
Carried forward /...						R	346,505.

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	346,505.80
	PSG 8.4.4	Unformed surface finishes:					
		(a) Wood-floated finishes to:					
40		Top of roof slabs	m ²	42.00	37.33	R	1,567.86
		(b) Steel-floated finishes to:					
41		Top of slightly sloping upstand beams	m ²	6.00	44.21	R	265.26
		(c) Power-floated finishes to:					
42		Top of surface beds and floor slabs etc	m ²	45.00	46.93	R	2,111.85
	PSG 8.5	Joints:					
		Isolation joints as per drawing DRG-CC-0247:					
43		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork (IJW)	m	45.00	337.08	R	15,168.60
44		20mm thick "Jointex" or equivalent between concrete surface bed and columns (IJC)	m	2.00	370.79	R	741.58
		Slip joints:					
45		280mm wide slip joint between top of brick walls and slabs	m	33.00	5.89	R	194.37
	PSG 8.23	Concrete protection and proprietary floor					
		Floor Finishes					
46		Type 2 - Polyurethane cement smooth floor finish (refer to SANS1200 G)	m ²	42.00	918.85	R	38,591.70
		Skirtings					
47		Type 3 - Polyurethane cement cove skirting (refer to SANS1200 G)	m	48.00	302.04	R	14,497.92
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	419,644.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 H	STRUCTURAL STEELWORK				
		as specified in SANS 1200H and in the project specifications.				
	PSH 8.3.1	Structural Steel:				
48		152.4 x 3.5mm circular hollow section columns	t	0.20	62,698.00	R 12,539.60
49		200 x 4mm circular hollow section columns	t	0.80	62698.00	R 50,158.40
50		305 x 102 x 25 I-beam	t	3.50	62698.00	R 219,443.00
51		356 x 171 x 51 I-beam	t	3.90	62698.00	R 244,522.20
52		350 x 350 x 16 Base plate	t	1.20	62698.00	R 75,237.60
	8.3.6	Holding-down (HD) bolts:				
53		M12 Cast-in anchor bolts, Grade 8.8	No	4.00	270.25	R 1,081.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 602,9

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK as specified in PD in the project specifications					
	PD 10.1	Brickwork: Construct brickwork complete with brickforce and ties, etc. 280mm thick cavity walls of two half brick					
54		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	5.00	831.09	R	4,155.45
55		Superstructure	m ²	68.00	684.44	R	46,541.92
56		Closing 60mm wide cavity horizontally around	m	1.00	64.60	R	64.60
57		Closing 60mm wide cavity vertically around	m	2.00	64.60	R	129.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
58		Superstructure	m ²	68.00	374.22	R	25,446.96
		Brickwork sundries					
59		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	1.00	71.55	R	71.55
60		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	1.00	93.97	R	93.97
61		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	68.00	270.57	R	18,398.76
	PD 10.2	Plasterwork: 15mm thick, one coat cement plaster to internal brick walls	m ²	170.00	88.64	R	15,068.80
63		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	49.00	194.58	R	9,534.42
	PD 10.3	Roof finishes: Roof screed					
64		Average 65mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 50mm thick)	m ²	49.00	218.64	R	10,713.36
Carried forward /...						R	130,218

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 130,218.99
65		Crushed stone to roof slab Clean crushed 19 - 25mm stone as ballast	m ³	3.00	402.55	R 1,207.65
66		Torch-on waterproofing "Sika Blackseal" or equivalent primer applied to	m ²	49.00	22.70	R 1,112.30
67		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m ²	49.00	254.20	R 12,455.80
68		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m ²	49.00	50.00	R 2,450.00
69		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m ²	52.00	577.79	R 30,045.08
70		Two coats bituminous aluminium paint to waterproofing on slabs	m ²	40.00	50.00	R 2,000.00
	PD 10.4	Doors and Windows:				
	PD 10.4	Timber doors (ii) Semi-solid timber doors with aluminium frames and glazed fanlights complete installed and finished as specified (drawings AA-0039&0040) with ironmongery as ironmongery schedule				
71		Single door 813 x 2056 mm high in and including 900 x 2100 mm high (A-D03-FS)	No	1.00	5450.23	R 5,450.23
72		"ISO 100 ALUPLAN OR WISPECO CLIP 44" or equivalent powder coated aluminium shopfronts with glazing as per SANS 10400 and AAAMSA as per drawing no. DRG-AA-0030 to DRG-AA-0040 complete with ironmongery, etc				
72		Shopfront door overall size 1070 x 2720 mm high (SF01, SF05)	No	2.00	13860.51	R 27,721.02
73		Shopfront overall size 2390 x 1920 mm high (SF02 A, SF02-C)	No	2.00	16847.73	R 33,695.46
74		Shopfront overall size 5200 x 1920 mm high (SF02 B)	No	1.00	35093.01	R 35,093.01
75		Shopfront overall size 600 x 1920 mm high (SF03, SF04)	No	2.00	5771.09	R 11,542.18
76		Shopfront overall size 450 x 2720 mm high (SF06)	No	1.00	5860.91	R 5,860.91
Carried forward /...						R 298,852.6

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	298,852.63
		Carpentry and Joinery:					
		Fittings, countertops, cupboards, shelves etc complete with ironmongery and installed as specified (Drawings AA-0048 to 0078)					
		Joinery plan- Breakout Space					
77		Lockable tall cupboards 1310 x 600 x 2620mm high	No	2.00	17155.47	R	34,310.94
78		Tall cupboards 1257 x 600 x 2620mm high	No	1.00	16461.47	R	16,461.47
79		Tall cupboards 1310 x 600 x 2620mm high	No	1.00	17155.47	R	17,155.47
		Joinery plan- Electrical cabinet & storage					
80		Electrical service cupboard 1710 x 1000 x 2620mm high	No	1.00	22394.00	R	22,394.00
		Joinery plan- Kitchenette					
81		Floor drawers 770 x 600 x 850mm high	No	1.00	4394.27	R	4,394.27
82		Floor cupboards 1200 x 600 x 850mm high	No	1.00	6849.22	R	6,849.22
83		Floor cupboards 1100 x 600 x 850mm high	No	1.00	6278.45	R	6,278.45
84		Floor cupboards 600 x 600 x 850mm high	No	1.00	3424.61	R	3,424.61
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
85		Internal plastered walls	m²	170.00	91.89	R	15,621.30
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
86		Plastered concrete soffits	m²	49.00	85.40	R	4,184.60
		One coat "Plascon" or equivalent wood primer and three coats "Plascon velvagio" or equivalent waterbased paint					
87		Timber doors	m²	7.00	145.9	R	1,021.58
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
Carried forward /...						R	430,852.63

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	430,948.54
		(b) Plumbing drainage and water supply					
88		Waste pipework for 3 sanitary fittings or points including all bends etc., up to and including gulley or in ground up to 1m from building including all stub-stacks, two-way vent valves, etc.	SUM	1.00	4085.86	R	4,085.86
89		Hot water pipework reticulation chased into walls or built into walls from drop pipework positions to 2 sanitary fittings or water points including all bends, insulated etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	5240.25	R	5,240.25
90		Cold water pipework reticulation chased into walls or built into walls from drop pipework positions to 3 sanitary fittings or water points, etc., including all bends, etc. (pipework from ceiling level to fittings or water points)	SUM	1.00	4717.08	R	4,717.08
		Rainwater drainage:					
91		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	6.00	1114.84	R	6,689.04
		"Geberit" or equivalent					
92		Selnova wall-hung WC, in colour white including seat, cistern, actuator for dual flush, element, connection set etc (500.265.01.1)	No	1.00	12543.56	R	12,543.56
		"Franke" or equivalent					
93		Quinline QLX651 stainless steel sink (code: KE04a)	No	1.00	5654.95	R	5,654.95
94		Franke Commercial "RODAN" #RODX672 Double Roll Toilet Tissue Holder Wall Mounted, 11-13/16" H x 5-5/8" W x 5-7/16" D (301mm x 144mm x 138mm), manufactured from 22 gauge (0.8mm) grade 18-10 type 304 stainless steel with #4 satin finish and spindle sys	No	1.00	3841.76	R	3,841.76
		"Hansgrohe" or equivalent					
95		Vernis Blend single lever electronic basin mixer with temperature pre-adjustment and 230V mains connection, chrome, (71501009)	No	2.00	8030.76	R	16,061.52
		"Globo Le Pietre" or equivalent					
96		Wash hand basin 600 x 500mm wide, including waste, trap, etc., complete	No	1.00	4569.00	R	4,569.00
Carried forward /...						R	494,351.56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	494,351.56
97	PD 10.8	4mm Glass bathroom mirrors by specialist 400 x 600mm	No	1.00	329.71	R	329.71
		Miscellaneous Items: (c) Items measured by area Damp- and waterproofing					
98		375 micron medium density polyethylene damp proof sheeting under floors	m²	51.00	42.10	R	2,147.10
		Ant poison, aldrin emulsifiable concentrate solution to SANS 618 spread at a rate recommended by the manufacturer:					
99		Bottoms of foundations, footings and column bases	m²	52.00	4.86	R	252.72
100		Under floors	m²	45.00	4.86	R	218.70
		Provisional Sums					
101		Provide the Provisional Sum as indicated for Building Signage	Prov Sum	1.00	30000.00	R	30,000.00
102		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	30000.00	10.00%	R	3,000.00
103		Loose furniture	Prov Sum	1.00	15000.00	R	15,000.00
104		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	x100%	15000.00	10.00%	R	1,500.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	546,79

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C42 GUARD HOUSE CANOPY				
		POST-TENSIONED SLAB				
		as specified on drawings DRG-CC -0796, -0797 and -0799				
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth (W8, C5):				
		Horizontal formwork not exceeding 4m high to:				
105		Soffits of post tensioned slabs	m²	163.00	853.53	R 139,125.39
	8.2.3	Special Smooth (W9, C6):				
		(b) Sloping formwork not exceeding 3.5m high				
106		Soffits of post tensioned slab	m²	283.00	853.53	R 241,548.99
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
107		8mm	t	0.60	18085.37	R 10,851.22
108		10mm	t	0.90	18085.37	R 16,276.83
	8.3.1	(b) High-tensile steel bars in the following:				
109		10mm	t	1.50	18085.37	R 27,128.06
110		12mm	t	4.60	18085.37	R 83,192.70
111		16mm	t	6.00	18085.37	R 108,512.22
112		20mm	t	9.00	18085.37	R 162,768.33
113		25mm	t	4.50	18085.37	R 81,384.17
114		32mm	t	3.00	18085.37	R 54,256.11
		Post-tensioned reinforcement (provisional)				
115		Cables as per Engineers specification	kg	1275.00	73.51	R 93,725.25
Carried forward f...						R 1,016,733.87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,018,769.27
		SCHEDULED CONCRETE ITEMS					
	PSG 8.4.3	Strength concrete:					
		35 Mpa/19mm					
116		Post tensioned slabs	m³	150.00	2200.77	R	330,115.50
	PSG 8.4.4	Unformed surface finishes:					
		Wood-floated finishes to:					
117		Top of roof slabs	m²	447.00	37.33	R	16,686.51
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,3

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		as specified in PD in the project specifications					
		Guard house canopy					
	PD 10.3	Roof finishes:					
		Roof screed					
118		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m²	447.00	190.86	R	85,314.42
		Torch-on Waterproofing					
119		"Sika Blackseal" or equivalent primer applied to	m²	447.00	22.70	R	10,146.90
120		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m²	447.00	254.20	R	113,627.40
121		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	447.00	50.00	R	22,350.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description					Amount
SANS 1200 D		EARTHWORKS				R	55,517.24
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R	22,306.52
SANS 1200 G		CONCRETE (STRUCTURAL)				R	419,644.94
SANS 1200 H		STRUCTURAL STEELWORK				R	602,981.80
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R	546,799.79
SANS 1200 G		CONCRETE (STRUCTURAL) (CANOPY)				R	1,365,571.28
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK (CANOPY)				R	231,438.72
TOTAL OF BILL C42 CARRIED TO SUMMARY							R 3,244,2

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C43 WEIGHBRIDGE AND BUILDING					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
1		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	66.00	62.3	R	4,114.44
2		Clean sand compacted to 100% MAMDD	m³	16.00	277.47	R	4,439.52
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed:					
		(a) Roadbed preparation and compaction of material to:					
3		Minimum of 100% of modified AASHTO maximum density sand (bottom of cut excavation under building footprint)	m³	5.00	63.41	R	317.05
	PSDM 8.3.18	Final finishing and cleaning up of the Site of the Works					
4		Weigh bridge building	SUM	1.00	20150.58	R	20,150.58
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	20,150.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
5		Sides of strip footings not exceeding 300mm high	m ²	7.00	457.46	R 3,202.22
6		Sides of foundation walls	m ²	25.00	457.46	R 11,436.50
7		Sides of walls	m ²	27.00	457.46	R 12,351.42
	8.2.2	Smooth (W8, C5):				
		Horizontal formwork not exceeding 4m high to:				
8		Soffits of beams and slabs	m ²	13.00	737.97	R 9,593.61
9		Soffits of landings	m ²	3.00	737.97	R 2,213.91
	8.2.3	Special Smooth (W9, C6):				
		(a) Vertical formwork to:				
10		Sides of upstand beams and slab edges	m ²	14.00	457.46	R 6,404.44
11		Sides of columns	m ²	13.00	457.46	R 5,946.98
12		Sides of walls	m ²	27.00	457.46	R 12,351.42
13		Stepped sides of stairs 360mm high extreme	m ²	2.00	457.46	R 914.92
		(b) Sloping formwork not exceeding 3.5m high to:				
14		Soffits of stairs	m ²	3.00	853.53	R 2,560.59
	8.2.5	Narrow widths (up to 300mm wide):				
		(a) Different widths in the following ranges:				
15		Over 20mm and up to 100mm	m	39.00	37.96	R 1,480.44
16		Over 100mm and up to 200mm	m	10.00	75.93	R 759.30
Carried forward /						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	69,215.75
		SCHEDULED REINFORCEMENT ITEMS					
	8.3.1	(a) Mild-steel bars in the following:					
17		8mm	t	0.10	18085.37	R	1,808.54
18		10mm	t	0.10	18085.37	R	1,808.54
	8.3.1	(b) High-tensile steel bars in the following:					
19		10mm	t	0.10	18085.37	R	1,808.54
20		12mm	t	0.40	18085.37	R	7,234.15
21		16mm	t	0.60	18085.37	R	10,851.22
22		20mm	t	0.80	18085.37	R	14,468.30
23		25mm	t	0.40	18085.37	R	7,234.15
24		32mm	t	0.30	18085.37	R	5,425.61
	PSG 8.3.2	(c) High-tensile welded mesh in the following:					
25		Ref No 617 in surface beds	kg	56.00	25	R	1,419.04
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		(a) Class 15 MPa/19mm concrete of:					
26		75mm thickness under strip footings, bases, cable trench floors, etc	m²	13.00	128.65	R	1,672.45
27		75mm thickness under surface beds and floors etc	m²	9.00	128.65	R	1,157.85
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19 mm concrete in:					
28		Aprons and ramps	m³	2.00	1944.68	R	3,889.36
29		Strip footings	m³	3.00	1944.68	R	5,834.04
		Reinforced class 30 MPa/19mm concrete in:					
30		Surface beds	m³	2.00	1944.68	R	3,889.36
31		Columns	m³	1.00	1944.68	R	1,944.68
32		Upstand beams	m³	1.00	1944.68	R	1,944.68
Carried forward /...						R	141,606.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 141,606.25
33	PSG 8.4.4	Slabs	m³	3.00	1944.68	R 5,834.04
34		Stairs and landings	m³	1.00	1944.68	R 1,944.68
35		Foundation walls	m³	4.00	1944.68	R 7,778.72
36		Walls	m³	8.00	1944.68	R 15,557.44
	PSG 8.5	Unformed surface finishes:				
		(a) Wood-floated finishes to:				
37		Top of roof slabs	m²	9.00	37.33	R 335.97
		(b) Steel-floated finishes to:				
38		Top of aprons	m²	22.00	44.21	R 972.62
39		Top of slightly sloping upstand beams	m²	4.00	44.21	R 176.84
40		Top of stair treads and landings	m²	3.00	44.21	R 132.63
		(c) Power-floated finishes to:				
41		Top of surface beds and floor slabs etc	m²	9.00	46.93	R 422.37
		Joints:				
	PSG 8.23	Saw-cut joints as per drawing DRG-CC-0247:				
42		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm	m	2.00	88.10	R 176.20
43		3mm x 25mm Saw-cut joint in aprons	m	10.00	88.10	R 881.00
		Slip joints:				
44		280mm wide slip joint between top of brick walls and slabs	m	13.00	5.89	R 76.57
		Concrete protection and proprietary floor finishes				
	PSG 8.23	Floor Finishes				
45		Type 3 - Epoxy floor finish (refer to SANS 1200 G - 5.5.26) (F10)	m²	9.00	894.42	R 8,049.78
		Skirtings				
46		Type 5 - Epoxy cove skirting (refer to SANS 1200 G - 5.5.26)	m	13.00	172.96	R 2,248.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 186,193.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 H	STRUCTURAL STEELWORK					
		as specified in SANS 1200 H and in the project specifications					
	PSH 8.3.7	Handrails:					
		Supply all material and install SS316 handrails assembly complete as indicated on drawings:					
47		a) Horizontal top mounted	m	3.00	1320.44	R	3,961.32
48		e) Sloping top mounted	m	3.00	1320.44	R	3,961.32
49		j) Bends	No	1.00	178.37	R	178.37
50		k) End Closures	No	5.00	245.39	R	1,226.95
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	PD	PARTICULAR SPECIFICATION PD: BUILDING WORK					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		280mm thick cavity walls of two half brick					
51		Superstructure	m ²	25.00	684.44	R	17,111.00
52		Closing 60mm wide cavity horizontally around openings	m	11.00	64.60	R	710.60
53		Closing 60mm wide cavity vertically around openings	m	17.00	64.60	R	1,098.20
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX'" or equivalent face brickwork in stretcher bond in:					
54		Superstructure	m ²	26.00	374.22	R	9,729.72
55		110mm Wide brick-on-edge lintel	m	10.00	239.18	R	2,391.80
		Brickwork sundries					
56		Precast concrete window cill No. 095 by "Modcon Precast" or equivalent	m	9.00	1186.57	R	10,679.13
57		110 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	13.00	71.55	R	930.15
58		170 x 75mm High precast concrete lintels in lengths not exceeding 3.5m	m	13.00	93.97	R	1,221.61
59		30mm Thick "Lambdaboard" or equivalent laminated polyisocyanurate core board faced with 60 micron embossed aluminium laminate both sides, supplied in 1220mm width, to be fixed on the inner skin of cavity wall using ties	m ²	25.00	270.57	R	6,764.25
60		30 x 1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	128.00	51.19	R	6,552.32
	PD 10.2	Plasterwork:					
61		15mm thick, one coat cement plaster to internal brick walls	m ²	25.00	88.64	R	2,216.00
62		15mm thick, one coat cement plaster to soffits of concrete slabs and beams	m ²	13.00	194.58	R	2,529.54
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 61,934.32
	PD 10.3	Roof finishes:				
		Roof screed				
63		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m²	13.00	190.86	R 2,481.18
		Crushed stone to roof slab				
64		Clean crushed 19 - 25mm stone as ballast	m³	1.00	402.55	R 402.55
		Torch-on waterproofing				
65		"Sika Blackseal" or equivalent primer applied to	m²	13.00	22.70	R 295.10
66		"Sikabit Pro P-40-0 sand" or equivalent plastomeric modified bituminous waterproofing membrane applied by heat fusion to primer	m²	13.00	254.20	R 3,304.60
67		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	13.00	50.00	R 650.00
68		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed	m²	9.00	577.79	R 5,200.11
	PD 10.4	Doors and Windows:				
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery etc				
69		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.00	63480.64	R 63,480.64
		Purpose made natural anodised shopfront window and aluminium frame complete, including installation, ironmongery, glazing and coatings/finish as specified in the drawings, fitted with retractable security burglar bar system, "Trellidor" or equivalent to inside of window				
70		Window overall size 1770 x 1200mm high (W1)	No	5.00	6,952.98	R 34,764.90
	PD 10.6	Carpentry and Joinery:				
		(a) Items measured by number				
		Weigh bridge as per drawing no. DRG-CC-0709-				
71		915mm wide x 2100mm long wooden desk and top with and including 40mm SAP planks sanded and varnished	No	1.00	16215.00	R 16,215.00
Carried forward /...						R 188,728.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	188,728.40
	PD 10.7	Miscellaneous work					
		Paintwork:					
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to:					
72		Internal plastered walls	m ²	25.00	91.89	R	2,297.25
		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint					
73		Plastered concrete soffits	m ²	13.00	85.40	R	1,110.20
		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule):					
		Rainwater drainage:					
74		Hydrain or equivalent fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	4.00	1114.84	R	4,459.36
75		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	19.00	181.03	R	3,439.57
76		Extra over uPVC pipes above for 75mm diameter 90degree uPVC elbow cast into concrete column	No	8.00	163.31	R	1,306.48
	PD 10.8	Miscellaneous Items					
		(c) Items measured by area:					
		Damp- and waterproofing					
77		375 micron medium density polyethylene damp proof sheeting under floors	m ²	31.00	42.10	R	1,305.10
		Ant poison, aldrin emulsifiable concentrates solution to SANS 618 spread at a rate recommended by the manufacturer:					
78		Bottoms of foundations, footings and column bases	m ²	13.00	4.86	R	63.18
79		Under floors	m ²	9.00	4.86	R	43.74
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	202,753.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 D		EARTHWORKS			R	8,553.96
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)			R	20,467.63
SANS 1200 G		CONCRETE (STRUCTURAL)			R	186,193.59
SANS 1200 H		STRUCTURAL STEELWORK			R	9,327.96
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK			R	202,753.28
TOTAL OF BILL C43 CARRIED TO SUMMARY						R 427,2

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		<u>BILL C44</u> INTERCONNECTING PIPEWORK - LIQUID					
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
		as specified in SANS 1200DB and in project specifications					
	PSDB 8.3.2	Excavation:					
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material:					
		(i) Pipes over 250 mm dia and up to 1650 mm dia:					
		Pipeline TE01					
1		Up to 1.5 m	m	49.80	135.67	R	6,756.37
		Pipeline TE02					
2		Up to 1.5 m	m	3.46	135.67	R	469.42
		Pipeline TE03					
3		Up to 1.5 m	m	71.90	165.24	R	11,880.76
4		Over 1.5 m up to 2.5 m	m	43.00	330.97	R	14,231.71
		Pipeline TE04					
5		Up to 1.5 m	m	49.46	135.67	R	6,710.24
		Pipeline TE05					
6		Up to 1.5 m	m	4.09	135.67	R	554.89
		Pipeline TE06					
7		Up to 1.5 m	m	3.00	165.24	R	495.72
8		Over 1.5 m up to 2.5 m	m	16.17	330.97	R	5,351.78
		Pipeline TE07					
9		Up to 1.5 m	m	49.50	135.67	R	6,715.67
		Pipeline TE08					
10		Up to 1.5 m	m	4.04	135.67	R	548.11
		Pipeline TE09					
11		Up to 1.5 m	m	16.04	165.24	R	2,650.45
12		Over 1.5 m up to 2.5 m	m	3.00	330.97	R	992.91
Carried forward / ...						R	57,358

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	57,358.02
13		Pipeline TE12 Over 2.5 m up to 3.5 m	m	50.00	779.24	R	38,962.00
14		Pipeline TE13 Over 2.5 m up to 3.5 m	m	4.00	779.24	R	3,116.96
15		Pipeline TE14 Up to 1.5 m	m	13.00	165.24	R	2,148.12
16		Pipeline TE15 Over 1.5 m up to 2.5 m	m	102.00	330.97	R	33,758.94
17		Pipeline TE16 Over 1.5 m up to 2.5 m	m	52.00	290.60	R	15,111.20
18		Pipeline TE17 Over 1.5 m up to 2.5 m	m	5.00	290.60	R	1,453.00
19		Pipeline TE18 Over 1.5 m up to 2.5 m	m	19.00	330.97	R	6,288.43
20		Pipeline TE19 Over 1.5 m up to 2.5 m	m	53.00	290.60	R	15,401.80
21		Pipeline TE20 Over 1.5 m up to 2.5 m	m	5.00	290.60	R	1,453.00
22		Pipeline ML01 Over 1.5 m up to 2.5 m	m	19.00	330.97	R	6,288.43
23		Pipeline ML02 Over 2.5 m up to 3.5 m	m	10.00	806.75	R	8,067.50
24		Over 3.5 m up to 4.5 m	m	30.00	806.75	R	24,202.50
25		Over 4.5 m up to 5.5 m	m	14.00	806.75	R	11,294.50
26		Pipeline ML02 Over 2.5 m up to 3.5 m	m	2.00	806.75	R	1,613.50
Carried forward /...						R	226,...

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	226,517.90
		Pipeline ML03					
27		Over 2.5 m up to 3.5 m	m	8.00	806.75	R	6,454.00
28		Over 3.5 m up to 4.5 m	m	22.00	806.75	R	17,748.50
29		Over 4.5 m up to 5.5 m	m	24.00	806.75	R	19,362.00
		Pipeline ML04					
30		Over 2.5 m up to 3.5 m	m	10.00	806.75	R	8,067.50
31		Over 3.5 m up to 4.5 m	m	30.00	806.75	R	24,202.50
32		Over 4.5 m up to 5.5 m	m	14.00	806.75	R	11,294.50
		Pipeline ML05					
33		Over 2.5 m up to 3.5 m	m	8.00	806.75	R	6,454.00
34		Over 3.5 m up to 4.5 m	m	22.00	806.75	R	17,748.50
35		Over 4.5 m up to 5.5 m	m	24.00	806.75	R	19,362.00
		Pipeline ML07					
36		Over 2.5 m up to 3.5 m	m	30.00	806.75	R	24,202.50
37		Over 3.5 m up to 4.5 m	m	24.00	806.75	R	19,362.00
		Pipeline ML08					
38		Over 4.5 m up to 5.5 m	m	2.00	806.75	R	1,613.50
		Pipeline ML09					
39		Over 4.5 m up to 5.5 m	m	55.00	806.75	R	44,371.25
		Pipeline ML10					
40		Over 3.5 m up to 4.5 m	m	30.00	806.75	R	24,202.50
41		Over 4.5 m up to 5.5 m	m	24.00	806.75	R	19,362.00
		Pipeline ML11					
42		Over 5.5 m up to 6.5 m	m	1.00	806.75	R	806.75
		Pipeline ML12					
43		Over 3.5 m up to 4.5 m	m	21.00	806.75	R	16,941.75
44		Over 4.5 m up to 5.5 m	m	24.00	806.75	R	19,362.00
45		Over 5.5 m up to 6.5 m	m	9.00	806.75	R	7,260.75
Carried forward /...						R	534,696.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	534,696.40
46		Pipeline RS03 Over 3.5 m up to 4.5 m	m	16.00	849.93	R	13,598.88
47		Pipeline RS04 Over 3.5 m up to 4.5 m	m	16.00	849.93	R	13,598.88
48		Pipeline RS05 Over 3.5 m up to 4.5 m	m	16.00	849.93	R	13,598.88
49		Pipeline RS06 Over 3.5 m up to 4.5 m	m	16.00	849.93	R	13,598.88
50		Pipeline RS07 Over 2.5 m up to 3.5 m	m	7.00	849.93	R	5,949.51
51		Pipeline RS09 Over 2.5 m up to 3.5 m	m	6.00	849.93	R	5,099.58
		Over 3.5 m up to 4.5 m	m	18.00	849.93	R	15,298.74
52		Pipeline RS10 Over 2.5 m up to 3.5 m	m	4.00	849.93	R	3,399.72
53		Pipeline RS11 Over 2.5 m up to 3.5 m	m	8.00	849.93	R	6,799.44
54		Pipeline IB010 Over 3.5 m up to 4.5 m	m	19.00	710.49	R	13,499.31
55		Over 4.5 m up to 5.5 m	m	22.00	710.49	R	15,630.78
56		Over 5.5 m up to 6.5 m	m	1.00	710.49	R	710.49
57		Pipeline IB011 Over 3.5 m up to 4.5 m	m	19.00	710.49	R	13,499.31
58		Over 4.5 m up to 5.5 m	m	22.00	710.49	R	15,630.78
59		Over 5.5 m up to 6.5 m	m	1.00	710.49	R	710.49
60		Pipeline IB012 Over 1.5 m up to 2.5m	m	50.00	249.61	R	12,480.50
Carried forward /...						R	697

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	697,800.57
61		Over 2.5 m up to 3.5m	m	50.00	710.49	R	35,524.50
62		Over 3.5 m up to 4.5m	m	13.00	710.49	R	9,236.37
		Pipeline IB013					
63		Up to 1.5 m	m	102.00	165.24	R	16,854.48
64		Over 1.5 m up to 2.5 m	m	161.00	330.97	R	53,286.17
65		Over 2.5 m up to 3.5 m	m	5.00	849.93	R	4,249.65
66		Over 3.5 m up to 4.5 m	m	9.00	849.93	R	7,649.37
		Pipeline IB014					
67		Up to 1.5 m	m	43.00	165.24	R	7,105.32
68		Over 1.5 m up to 2.5 m	m	223.00	330.97	R	73,806.31
69		Over 2.5 m up to 3.5 m	m	73.00	849.93	R	62,044.89
70		Over 4.5 m up to 5.5 m	m	3.00	849.93	R	2,549.79
71		Over 5.5 m up to 6.5 m	m	4.00	849.93	R	3,399.72
		Pipeline TE10					
72		Over 1.5 m up to 2.5 m	m	53.00	384.10	R	20,357.30
		Pipeline TE11					
73		Over 1.5 m up to 2.5 m	m	52.00	422.00	R	21,944.00
		Pipeline TE21					
74		Over 1.5 m up to 2.5 m	m	53.00	384.10	R	20,357.30
		Pipeline TE22					
75		Over 1.5 m up to 2.5 m	m	54.87	422.00	R	23,155.14
		Pipeline ML13					
76		Over 2.5 m up to 3.5 m	m	59.00	1136.77	R	67,069.43
		Pipeline ML14					
77		Over 1.5 m up to 2.5 m	m	97.00	493.19	R	47,839.43
78		Over 2.5 m up to 3.5 m	m	16.00	1136.77	R	18,188.32
		Pipeline ML15					
79		Over 1.5 m up to 2.5 m	m	18.00	493.19	R	8,877.42
Carried forward /...						R	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,201,295.48
80		Over 2.5 m up to 3.5 m	m	22.00	1136.77	R	25,008.94
81		Over 3.5 m up to 4.5 m	m	28.00	1136.77	R	31,829.56
82		Over 4.5 m up to 5.5 m	m	11.00	1136.77	R	12,504.47
Pipeline ML16							
83		Over 1.5 m up to 2.5 m	m	36.00	493.19	R	17,754.84
84		Over 2.5 m up to 3.5 m	m	68.00	1136.77	R	77,300.36
85		Over 3.5 m up to 4.5 m	m	48.00	1136.77	R	54,564.96
86		Over 4.5 m up to 5.5 m	m	36.00	1136.77	R	40,923.72
Pipeline RS01							
87		Over 1.5 m up to 2.5 m	m	40.00	422.00	R	16,880.00
88		Over 2.5 m up to 3.5 m	m	70.00	1054.26	R	73,798.20
89		Over 3.5 m up to 4.5 m	m	20.00	1054.26	R	21,085.20
Pipeline RS02							
90		Over 1.5 m up to 2.5 m	m	20.00	422.00	R	8,440.00
91		Over 2.5 m up to 3.5 m	m	88.00	1054.26	R	92,774.88
92		Over 3.5 m up to 4.5 m	m	20.00	1054.26	R	21,085.20
Pipeline RS08							
93		Over 2.5 m up to 3.5 m	m	5.00	971.76	R	4,858.80
94		Over 3.5 m up to 4.5 m	m	13.00	971.76	R	12,632.88
95		Over 4.5 m up to 5.5 m	m	40.00	971.76	R	38,870.40
Pipeline RS12							
96		Over 2.5 m up to 3.5 m	m	12.00	971.76	R	11,661.12
Carried forward /...						R	1,763

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,763,269.01
97		Over 4.5 m up to 5.5 m Pipeline RS14	m	46.00	971.76	R 44,700.96
98		Over 1.5 m up to 2.5 m	m	65.00	477.60	R 31,044.00
99		Over 2.5 m up to 3.5 m Pipeline RS15	m	37.00	1109.27	R 41,042.99
100		Over 1.5 m up to 2.5 m	m	40.00	477.60	R 19,104.00
101		Over 2.5 m up to 3.5 m Pipeline RS16	m	65.00	1109.27	R 72,102.55
102		Over 2.5 m up to 3.5 m Pipeline RS17	m	57.00	944.25	R 53,822.25
103		Over 2.5 m up to 3.5 m Pipeline RS18	m	61.00	944.25	R 57,599.25
104		Over 2.5 m up to 3.5 m Pipeline RS19	m	7.00	944.25	R 6,609.75
105		Over 2.5 m up to 3.5 m Pipeline IB15	m	8.00	944.25	R 7,554.00
106		Over 1.5 m up to 2.5 m	m	3.00	477.60	R 1,432.80
107		Over 4.5 m up to 5.5 m Pipeline TE00	m	28.00	1109.27	R 31,059.56
108		Up to 1.5 m	m	12.21	264.91	R 3,234.55
109		Over 1.5 m up to 2.5 m Pipeline RS13	m	33.00	493.19	R 16,275.27
110		Over 2.5 m up to 3.5 m Pipeline IB01	m	8.00	1191.77	R 9,534.16
111		Over 2.5 m up to 3.5 m Pipeline IB02	m	48.00	1191.77	R 57,204.96
112		Over 2.5 m up to 3.5 m	m	11.00	1191.77	R 13,109.47
113		Over 3.5 m up to 4.5 m	m	3.00	1191.77	R 3,575.31
Carried forward /...						R

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,232,274.84
114		Pipeline IB03 Over 2.5 m up to 3.5 m	m	56.00	1191.77	R 66,739.12
115		Pipeline IB04 Over 2.5 m up to 3.5 m	m	10.00	1191.77	R 11,917.70
116		Pipeline IB05 Over 2.5 m up to 3.5 m	m	151.00	1191.77	R 179,957.27
117		Over 3.5 m up to 4.5 m	m	139.00	1191.77	R 165,656.03
118		Over 4.5 m up to 5.5 m	m	21.00	1191.77	R 25,027.17
119		Pipeline IB06 Over 3.5 m up to 4.5 m	m	30.00	1191.77	R 35,753.10
120		Over 4.5 m up to 5.5 m	m	60.00	1191.77	R 71,506.20
121		Pipeline IB07 Over 2.5 m up to 3.5 m	m	18.00	1191.77	R 21,451.86
122		Over 3.5 m up to 4.5 m	m	42.00	1191.77	R 50,054.34
123		Over 5.5 m up to 6.5 m	m	12.00	1191.77	R 14,301.24
124		Pipeline IB08 Over 2.5 m up to 3.5 m	m	12.00	1191.77	R 14,301.24
125		Over 3.5 m up to 4.5 m	m	10.00	1191.77	R 11,917.70
126		Over 5.5 m up to 6.5 m	m	18.00	1191.77	R 21,451.86
127		Pipeline IB09 Over 2.5 m up to 3.5 m	m	8.00	1191.77	R 9,534.16
128		Over 3.5 m up to 4.5 m	m	46.00	1191.77	R 54,821.42
129		Over 4.5 m up to 5.5 m	m	54.00	1191.77	R 64,355.58
130		Over 5.5 m up to 6.5 m	m	16.00	1191.77	R 19,068.32
131	PSDB 8.3.2	(b) Extra over item PSDB 8.3.2 (a) above for: (1) Hard material	m³	300.00		
Carried forward /...						R 3,070,089.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,070,089.15
		(3) Hand excavation and backfill where ordered by the Engineer in:				
132		(a) Soft material	m ³	300.00	5.32	R 1,596.00
133		(b) Intermediate material	m ³	150.00		
134		(4) Backfill stabilized with 5% cement where directed by the Engineer	m ³	250.00	270.94	R 67,735.00
135		(5) Soilcrete backfill where directed by the Engineer	m ³	200.00	1381.78	R 276,356.00
136		(6) Mass concrete Class 15 MPa/19 mm in encasing around pipes under road crossings and pavements where directed by the Engineer	m ³	200.00	1715.36	R 343,072.00
137		(8) Backfill with clean sand compacted to 100% Modified AASHTO density	m	300.00	121.22	R 36,366.00
138		(c) Excavate and dispose of unsuitable material from trench bottom	m ³	250.00		
	PSDB 8.3.3	Excavation ancillaries				
	8.3.3.1	Make up deficiency in backfill material:				
139		(a) From other necessary excavations on site	m ³	150.00	36.23	R 5,434.50
140		(c) By importation from commercial or off site sources selected by the Contractor	m ³	400.00	169.09	R 67,636.00
141	PSDB 8.3.3.3	Compaction in road reserves	m ³	200.00	63.41	R 12,682.00
	PSDB 8.3.4	Particular items:				
	PSDB 8.3.4 (a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:				
142		(i) Over 1,5 m up to 2,5 m	m	950.00		
143		(ii) Over 2,5 m up to 3,5 m	m	600.00		
144		(iii) Over 3,5 m up to 4,5 m	m	300.00		
145		(iv) Over 4,5 m up to 5,5 m	m	80.00		
146		(v) Over 5,5 m up to 6,5 m	m	105.00		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES					
		as specified in SANS 1200DB and in project specifications					
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of GRP pipes Class PN6 SN5000 manufactured to SANS 1748, complete with REKA couplings:					
		Pipeline TE00					
147		1500mm dia	m	42.21	12516.76	R	528,332.44
		Pipeline TE01					
148		700mm dia	m	52.42	3768.27	R	197,532.71
		Pipeline TE02					
149		500mm dia	m	3.46	2312.73	R	8,002.05
		Pipeline TE03					
150		700mm dia	m	114.90	3768.27	R	432,974.22
		Pipeline TE04					
151		500mm dia	m	52.15	2312.73	R	120,608.87
		Pipeline TE05					
152		500mm dia	m	4.09	2312.73	R	9,459.07
		Pipeline TE06					
153		700mm dia	m	19.17	3768.27	R	72,237.74
		Pipeline TE07					
154		500mm dia	m	52.19	2312.73	R	120,701.38
		Pipeline TE08					
155		500mm dia	m	4.04	2312.73	R	9,343.43
		Pipeline TE09					
156		700mm dia	m	19.04	3768.27	R	71,747.86
		Pipeline TE10					
157		900mm dia	m	53.00	5660.02	R	299,981.06
		Pipeline TE11					
158		1100mm dia	m	52.00	7544.16	R	392,296.32
Carried forward /...						R	2,263,217.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,263,217.14
159		Pipeline TE12 700mm dia	m	51.21	3768.27	R	192,973.11
160		Pipeline TE13 500mm dia	m	3.41	2312.73	R	7,886.41
161		Pipeline TE14 700mm dia	m	114.90	3768.27	R	432,974.22
162		Pipeline TE15 500mm dia	m	51.80	2312.73	R	119,799.41
163		Pipeline TE16 500mm dia	m	4.09	2312.73	R	9,459.07
164		Pipeline TE17 700mm dia	m	19.00	3768.27	R	71,597.13
165		Pipeline TE18 500mm dia	m	53.00	2312.73	R	122,574.69
166		Pipeline TE19 500mm dia	m	4.09	2312.73	R	9,459.07
167		Pipeline TE20 700mm dia	m	18.34	3768.27	R	69,110.07
168		Pipeline TE21 900mm dia	m	53.00	5660.02	R	299,981.06
169		Pipeline TE22 1100mm dia	m	54.87	7544.16	R	413,948.06
170		Pipeline ML01 600mm dia	m	54.00	2928.90	R	158,160.60
171		Pipeline ML02 600mm dia	m	2.00	2928.90	R	5,857.80
172		Pipeline ML03 600mm dia	m	54.00	2928.90	R	158,160.60
Carried forward /...						R	4,335,158.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 4,335,158.44
173		600mm dia Pipeline ML04	m	54.00	2616.02	R 141,265.08
174		600mm dia Pipeline ML05	m	54.00	2928.90	R 158,160.60
175		600mm dia Pipeline ML06	m	1.00	2928.90	R 2,928.90
176		600mm dia Pipeline ML07	m	54.00	2928.90	R 158,160.60
177		600mm dia Pipeline ML08	m	54.00	2928.90	R 158,160.60
178		600mm dia Pipeline ML09	m	2.00	2928.90	R 5,857.80
179		600mm dia Pipeline ML10	m	54.00	2928.90	R 158,160.60
180		600mm dia Pipeline ML11	m	54.00	2928.90	R 158,160.60
181		600mm dia Pipeline ML12	m	1.00	2928.90	R 2,928.90
182		600mm dia Pipeline ML13	m	54.00	2928.90	R 158,160.60
183		1400mm dia Pipeline ML14	m	59.00	11122.88	R 656,249.92
184		1400mm dia Pipeline ML15	m	113.00	11435.76	R 1,292,240.88
185		1400mm dia	m	79.00	11435.76	R 903,425.04
Carried forward /...						R 6,289,018.56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	8,289,018.56
186		Pipeline ML16 1400mm dia	m	184.00	11435.76	R	2,104,179.84
187		Pipeline RS01 1100mm dia	m	130.00	7544.16	R	980,740.80
188		Pipeline RS02 1100mm dia	m	128.00	7544.16	R	965,652.48
189		Pipeline RS03 700mm dia	m	34.00	3768.27	R	128,121.18
190		Pipeline RS04 700mm dia	m	34.00	3768.27	R	128,121.18
191		Pipeline RS05 700mm dia	m	34.00	3768.27	R	128,121.18
192		Pipeline RS06 700mm dia	m	34.00	3768.27	R	128,121.18
193		Pipeline RS07 700mm dia	m	9.00	3768.27	R	33,914.43
194		Pipeline RS08 1000mm dia	m	58.00	6679.36	R	387,402.88
195		Pipeline RS09 700mm dia	m	26.00	3768.27	R	97,975.02
196		Pipeline RS10 700mm dia	m	6.00	3768.27	R	22,609.62
197		Pipeline RS11 700mm dia	m	9.00	3768.27	R	33,914.43
Carried forward /...						R	13,427,892.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	13,427,892.78
198		Pipeline RS12 1000mm dia	m	58.00	6679.36	R	387,402.88
199		Pipeline RS13 1600mm dia	m	10.00	15435.46	R	154,354.60
200		Pipeline RS14 1300mm dia	m	102.00	9489.96	R	967,975.92
201		Pipeline RS15 1300mm dia	m	105.00	9489.96	R	996,445.80
202		Pipeline RS16 900mm dia	m	57.00	5660.02	R	322,621.14
203		Pipeline RS17 900mm dia	m	61.00	5660.02	R	345,261.22
204		Pipeline RS18 900mm dia	m	7.00	5660.02	R	39,620.14
205		Pipeline RS19 900mm dia	m	8.00	5660.02	R	45,280.16
206		Pipeline IB01 1600mm dia	m	48.00	15435.46	R	740,902.08
207		Pipeline IB02 1600mm dia	m	20.00	15435.46	R	308,709.20
208		Pipeline IB03 1600mm dia	m	56.00	15435.46	R	864,385.76
209		Pipeline IB04 1600mm dia	m	14.00	15435.46	R	216,096.44
210		Pipeline IB05 1600mm dia	m	315.00	15435.46	R	4,862,169.90
Carried forward /...						R	23,679,118.02

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	23,679,118.02
211		Pipeline IB06 1600mm dia	m	90.00	15435.46	R	1,389,191.40
212		Pipeline IB07 1600mm dia	m	76.00	15435.46	R	1,173,094.96
213		Pipeline IB08 1600mm dia	m	60.00	15435.46	R	926,127.60
214		Pipeline IB09 1600mm dia	m	140.00	15435.46	R	2,160,964.40
215		Pipeline IB13 700mm dia	m	290.00	3768.27	R	1,092,798.30
216		Pipeline IB14 700mm dia	m	360.00	3768.27	R	1,356,577.20
217		Pipeline IB15 1300mm dia	m	30.00	9489.96	R	284,698.80
	8.2.1	(b) Supply, lay, joint and bed, below ground on Class C bedding of PVC-U SANS 966 Class 9 pipes complete with couplings:					
218		Pipeline IB10 250mm dia	m	42.00	508.46	R	21,355.32
219		Pipeline IB11 250mm dia	m	42.00	508.46	R	21,355.32
220		Pipeline IB12 250mm dia	m	113.00	508.46	R	57,455.98
	8.2.2	Extra over item 8.2.1(b) for supplying, laying, jointing and bedding, below ground of fittings, specials, and valves complete with couplings (with stainless steel bolts) and corrosion protection as per specification:					
221		Pipeline TE00 1500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10770.70	R	10,770.70
222		1500mm dia. GRP Double Bell REKA Coupling	No	2.00	7073.68	R	14,147.36
223		1500mm dia. 1500mm long GRP rocker pipe	No	1.00	24910.18	R	24,910.18
Carried forward /...						R	32

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 32,212,565.54
		Pipeline TE01				
224		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R 7,476.40
225		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	6254.87	R 18,764.61
226		500mm dia. GRP Double Bell REKA Coupling	No	6.00	2406.51	R 14,439.06
227		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R 13,219.08
		Pipeline TE02				
228		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R 7,476.40
229		500mm dia. GRP Double Bell REKA Coupling	No	2.00	2406.51	R 4,813.02
230		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R 4,406.36
231		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R 7,476.40
		Pipeline TE03				
232		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R 10,667.02
233		700mm dia. GRP Double Bell REKA Coupling	No	4.00	3845.91	R 15,383.64
234		700mm dia. 1000mm long GRP rocker pipe	No	2.00	7197.01	R 14,394.02
235		700mm dia. 24 deg. GRP bend	No	1.00	14720.77	R 14,720.77
236		700mm dia. 25 deg. GRP bend	No	1.00	14720.77	R 14,720.77
237		700mm dia. 90 deg. GRP bend	No	1.00	20396.02	R 20,396.02
238		700mm dia. 39 deg. GRP bend	No	2.00	20396.02	R 40,792.04
239		700x900mm dia GRP reducer	No	1.00	21801.32	R 21,801.32
		Pipeline TE04				
240		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R 7,476.40
241		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	7476.40	R 22,429.20
242		500mm dia. GRP Double Bell REKA Coupling	No	6.00	2406.51	R 14,439.06
243		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R 13,219.08
Carried forward /...						R 32,501,076.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	32,501,076.21
		Pipeline TE05					
244		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=400mm	No	1.00	7476.40	R	7,476.40
245		500mm dia. GRP Double REKA Bell Coupling	No	2.00	2406.51	R	4,813.02
246		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R	4,406.36
247		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	6254.87	R	6,254.87
		Pipeline TE06					
248		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R	10,667.02
249		700mm dia. GRP Double Bell REKA Coupling	No	2.00	3845.91	R	7,691.82
250		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
251		700x900mm dia GRP reducer	No	1.00	21801.32	R	21,801.32
		Pipeline TE07					
252		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
253		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	7476.40	R	22,429.20
254		500mm dia. GRP Double Bell REKA Coupling	No	6.00	2406.51	R	14,439.06
255		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R	13,219.08
		Pipeline TE08					
256		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
257		500mm dia. GRP Double Bell REKA Coupling	No	2.00	2406.51	R	4,813.02
258		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R	4,406.36
259		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	6254.87	R	6,254.87
		Pipeline TE09					
260		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R	10,667.02
261		700mm dia. GRP Double Bell REKA Coupling	No	2.00	3845.91	R	7,691.82
262		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
263		700x1100mm dia GRP reducer	No	1.00	28611.62	R	28,611.62
Carried forward /...						R	32,706

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	32,706,065.89
		Pipeline TE10					
264		900mm nominal dia. GRP equal tee piece	No	1.00	79733.78	R	79,733.78
265		900x1100mm dia GRP reducer	No	2.00	34893.90	R	69,787.80
		Pipeline TE11					
266		1100mm nominal dia. GRP equal tee piece	No	1.00	134918.83	R	134,918.83
267		1100mm dia. 7 deg. GRP bend	No	2.00	26732.35	R	53,464.70
268		1100mm dia. GRP Double Bell REKA Coupling	No	2.00	4312.41	R	8,624.82
269		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	12311.81	R	12,311.81
270		1100mm dia. 90 deg. GRP bend	No	1.00	55216.70	R	55,216.70
271		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	20830.09	R	20,830.09
		Pipeline TE12					
272		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
273		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	7476.40	R	22,429.20
274		500mm dia. GRP Double Bell REKA Coupling	No	6.00	2406.51	R	14,439.06
275		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R	13,219.08
		Pipeline TE13					
276		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
277		500mm dia. GRP Double Bell REKA Coupling	No	2.00	2406.51	R	4,813.02
278		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R	4,406.36
279		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R	7,476.40
		Pipeline TE15					
280		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
281		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	7476.40	R	22,429.20
282		500mm dia. GRP Double Bell REKA Coupling	No	6.00	2406.51	R	14,439.06
283		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R	13,219.08
Carried forward /...						R	33,28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 33,280,254.08
		Pipeline TE14				
284		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R 10,667.02
285		700mm dia. GRP Double Bell REKA Coupling	No	4.00	3845.91	R 15,383.64
286		700mm dia. 1000mm long GRP rocker pipe	No	2.00	7197.01	R 14,394.02
287		700mm dia. 52 deg. GRP bend	No	2.00	20396.02	R 40,792.04
288		700mm dia. 90 deg. GRP bend	No	1.00	20396.02	R 20,396.02
289		700mm dia. 47 deg. GRP bend	No	2.00	20396.02	R 40,792.04
290		700x900mm dia GRP reducer	No	1.00	21801.32	R 21,801.32
		Pipeline TE16				
291		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R 7,476.40
292		500mm dia. GRP Double Bell REKA Coupling	No	2.00	2406.51	R 4,813.02
293		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R 4,406.36
294		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	6254.87	R 6,254.87
		Pipeline TE17				
295		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R 10,667.02
296		700mm dia. GRP Double Bell REKA Coupling	No	2.00	3845.91	R 7,691.82
297		700mm dia. 1000mm long GRP rocker pipe	No	4.00	7197.01	R 28,788.04
298		700x900mm dia GRP reducer	No	1.00	21801.32	R 21,801.32
		Pipeline TE18				
299		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R 7,476.40
300		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	3.00	7476.40	R 22,429.20
301		500mm dia. GRP Double Bell REKA Coupling	No	6.00	3595.61	R 21,573.66
302		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R 13,219.08
Carried forward /...						R 33,601,07

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	33,601,077.37
		Pipeline TE19					
303		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	7476.40	R	7,476.40
304		500mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R	7,476.40
305		500mm dia. GRP Double Bell REKA Coupling	No	2.00	2406.51	R	4,813.02
306		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R	4,406.36
		Pipeline TE20					
307		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	10667.02	R	10,667.02
308		700mm dia. GRP Double Bell REKA Coupling	No	2.00	3845.91	R	7,691.82
309		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
310		700mm dia. 3 deg. GRP bend	No	1.00	14720.77	R	14,720.77
311		700x1100mm dia GRP reducer	No	1.00	21801.32	R	21,801.32
		Pipeline TE21					
312		900mm nominal dia. GRP equal tee piece	No	1.00	79900.65	R	79,900.65
313		900x1100mm dia GRP reducer	No	1.00	35060.77	R	35,060.77
		Pipeline TE22					
314		1100mm nominal dia. GRP equal tee piece	No	1.00	135085.70	R	135,085.70
315		1100mm dia. 7 deg. GRP bend	No	2.00	26899.22	R	53,798.44
316		1100mm dia. GRP Double Bell REKA Coupling	No	2.00	5560.28	R	11,120.56
317		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	12478.68	R	12,478.68
318		1100mm dia. 90 deg. GRP bend	No	1.00	55383.57	R	55,383.57
319		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	20996.96	R	20,996.96
Carried forward /...						R	34,091,152.82

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	34,091,152.82
		Pipeline ML01					
320		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
321		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
322		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
323		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R	25,031.06
324		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R	20,623.03
325		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
326		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R	11,450.75
327		600mm nominal dia grade stainless steel grade 304L puddle pipe special, flanged on one end,	No	1.00	71703.52	R	71,703.52
328		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
		Pipeline ML02					
329		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
330		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1251.51	R	1,251.51
331		600mm dia. 90 deg. GRP bend	No	2.00	20623.03	R	41,246.06
332		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
333		600mm nominal dia GRP double bell REKA coupling	No	4.00	1251.51	R	5,006.04
334		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
335		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=2035mm	No	1.00	71703.52	R	71,703.52
336		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
		Pipeline ML03					
337		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
338		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
339		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
340		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R	25,031.06
341		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R	20,623.03
342		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
Carried forward /...						R	34,79

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	34,799,867.32
343		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R	11,450.75
344		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
345		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
Pipeline ML04							
346		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
347		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
348		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
349		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R	25,031.06
350		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R	20,623.03
351		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
352		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R	11,450.75
353		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
354		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
Pipeline ML05							
355		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
356		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1251.51	R	1,251.51
357		600mm dia. 90 deg. GRP bend	No	2.00	20623.03	R	41,246.06
358		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
359		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
360		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
361		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
362		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
Carried forward /...						R	35,573,57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 35,573,572.00
		Pipeline ML06				
363		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R 9,650.88
364		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R 14,432.36
365		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R 12,448.22
366		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R 25,031.06
367		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R 20,623.03
368		600mm dia. 11.5 deg. GRP bend	No	2.00	12515.53	R 25,031.06
369		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R 11,450.75
370		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end,	No	1.00	57447.30	R 57,447.30
371		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R 122,394.86
		Pipeline ML07				
372		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R 9,650.88
373		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	9650.88	R 9,650.88
374		600mm dia. 90 deg GRP bend	No	2.00	20623.03	R 41,246.06
375		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R 25,031.06
376		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R 14,432.36
377		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R 12,448.22
378		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=2035mm	No	1.00	71703.52	R 71,703.52
379		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R 122,394.86
Carried forward /...						R 36,178,639.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	36,178,639.36
		Pipeline ML08					
380		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
381		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1251.51	R	1,251.51
382		600mm dia. 90 deg. GRP bend	No	2.00	20623.03	R	41,246.06
383		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
384		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
385		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
386		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end,	No	1.00	57447.30	R	57,447.30
387		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
		Pipeline ML09					
388		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
389		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
390		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
391		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R	25,031.06
392		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R	20,623.03
393		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
394		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R	11,450.75
395		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
396		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
Carried forward /...						R	36,761,051.

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /....						R	36,761,051.13
		Pipeline ML10					
397		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
398		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
399		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
400		600mm dia. 8 deg. GRP bend	No	2.00	12515.53	R	25,031.06
401		600mm dia. 90 deg. GRP bend	No	1.00	20623.03	R	20,623.03
402		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
403		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	11450.75	R	11,450.75
404		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
405		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
		Pipeline ML11					
406		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
407		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1251.51	R	1,251.51
408		600mm dia. 90 deg. GRP bend	No	2.00	20623.03	R	41,246.06
409		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
410		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
411		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
412		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
413		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122501.88	R	122,501.88
		Pipeline ML12					
414		600mm nominal GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	9650.88	R	9,650.88
415		600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1251.51	R	1,251.51
416		600mm dia. 90 deg. GRP bend	No	2.00	20623.03	R	41,246.06
Carried forward /...						R	37,395,718.1

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	37,395,718.37
417		600mm dia. 11.25 deg. GRP bend	No	2.00	12515.53	R	25,031.06
418		600mm nominal dia GRP double bell REKA	No	4.00	3608.09	R	14,432.36
419		600mm dia. 1000mm long GRP rocker pipe	No	2.00	6224.11	R	12,448.22
420		600mm nominal dia grade 304L stainless steel (SS) puddle pipe special, flanged on one end, L=1090mm	No	1.00	57447.30	R	57,447.30
421		600mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	122394.86	R	122,394.86
Pipeline ML13							
422		1400mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	26066.85	R	26,066.85
423		1400mm nominal dia GRP spool piece, flanged on one end, L=800mm	No	1.00	97889.57	R	97,889.57
424		1400mm nominal dia GRP double bell REKA	No	4.00	26066.85	R	104,267.40
425		1400mm dia. 1400mm long GRP rocker pipe	No	2.00	21829.33	R	43,658.66
426		1400mm dia. 90 deg. GRP bend	No	1.00	91672.74	R	91,672.74
427		1400mm dia. 30 deg. GRP bend	No	1.00	40595.49	R	40,595.49
428		1400mm dia. 60 deg. GRP bend	No	1.00	65642.26	R	65,642.26
429		1400mm nominal GRP REKA Coupling with puddle flange special, L=500mm	No	2.00	10597.74	R	21,195.48
430		1400mm dia. GRP blank flange	No	1.00	38218.37	R	38,218.37
Pipeline ML14							
431		1400mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	26066.85	R	26,066.85
432		1400mm nominal dia GRP double bell REKA	No	4.00	6695.33	R	26,781.32
433		1400mm dia. 1400mm long GRP rocker pipe	No	2.00	21829.33	R	43,658.66
434		1400mm dia. 90 deg. GRP bend	No	1.00	91672.74	R	91,672.74
435		1400mm dia. 30 deg. GRP bend	No	1.00	40595.49	R	40,595.49
436		1400mm dia. 60 deg. GRP bend	No	1.00	65642.26	R	65,642.26
437		1400mm nominal GRP REKA Coupling with puddle flange special, L=500mm	No	1.00	10597.74	R	10,597.74
Carried forward /...						R	38,461,694.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	38,461,694.05
		Pipeline ML15					
438		1400mm nominal dia. GRP REKA Coupling with puddle flange special, L=500mm	No	2.00	26066.85	R	52,133.70
439		1400mm nominal dia GRP spool piece, flanged on one end, L=800mm	No	1.00	97889.57	R	97,889.57
440		1400mm nominal dia GRP double bell REKA	No	4.00	6695.33	R	26,781.32
441		1400mm dia. 1400mm long GRP rocker pipe	No	2.00	21829.33	R	43,658.66
442		1400mm dia. 15 deg. GRP bend	No	2.00	40595.49	R	81,190.98
443		1400mm dia. 30 deg. GRP bend	No	2.00	40595.49	R	81,190.98
444		1400mm dia. 60 deg. GRP bend	No	2.00	65642.26	R	131,284.52
445		1400mm nominal dia. GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	26066.85	R	26,066.85
446		1400mm dia. GRP blank flange	No	1.00	38218.37	R	38,218.37
		Pipeline ML16					
447		1400mm nominal dia. GRP REKA Coupling with puddle flange special, L=500mm	No	1.00	26066.85	R	26,066.85
448		1400mm nominal dia GRP double bell REKA	No	4.00	6695.33	R	26,781.32
449		1400mm dia. 1400mm long GRP rocker pipe	No	2.00	21829.33	R	43,658.66
450		1400mm dia. 45 deg. GRP bend	No	2.00	40595.49	R	81,190.98
451		1400mm dia. 60 deg. GRP bend	No	2.00	65642.26	R	131,284.52
452		1400mm dia. 30 deg. GRP bend	No	2.00	40595.49	R	81,190.98
453		1400mm nominal dia. GRP puddle pipe special, both ended plain ended, L=350mm	No	1.00	10597.74	R	10,597.74
		Pipeline RS01					
454		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	20996.96	R	20,996.96
455		1100mm dia. nominal dia GRP double bell REKA	No	4.00	5560.28	R	22,241.12
456		1100mm dia. 1100mm long GRP rocker pipe	No	2.00	12478.68	R	24,957.36
457		1100mm dia. 11.25 deg. GRP bend	No	1.00	40325.24	R	40,325.24
458		1100mm dia. 45 deg. GRP bend	No	1.00	40325.24	R	40,325.24
459		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=600mm	No	1.00	26207.38	R	26,207.38
Carried forward /...						R	39,615,933.35

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	39,615,933.35
		Pipeline RS02					
460		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	20996.96	R	20,996.96
461		1100mm dia. nominal dia GRP double bell REKA	No	4.00	5560.28	R	22,241.12
462		1100mm dia. 1100mm long GRP rocker pipe	No	2.00	12478.68	R	24,957.36
463		1100mm dia. 11.25 deg. GRP bend	No	1.00	40325.24	R	40,325.24
464		1100mm dia. 45 deg. GRP bend	No	1.00	40325.24	R	40,325.24
465		1100mm nominal dia. GRP REKA Coupling with puddle flange special, L=600mm	No	1.00	26207.38	R	26,207.38
		Pipeline RS03					
466		700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=900mm	No	1.00	77746.31	R	77,746.31
467		700mm dia. 90 deg. stainless steel Grade 316L bend, flanged on both ends	No	1.00	129187.86	R	129,187.86
468		700mm dia. stainless steel Grade 316L spool piece special, flanged on one end, L=5290mm	No	1.00	163436.10	R	163,436.10
469		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10061.66	R	20,123.32
470		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
471		700mm dia. nominal dia GRP double bell REKA	No	2.00	3845.91	R	7,691.82
472		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
473		700mm dia. 8 deg. GRP bend	No	2.00	14720.77	R	29,441.54
474		700mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end,	No	1.00	72087.28	R	72,087.28
475		700mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	164518.18	R	164,518.18
476		700mm nominal dia stainless steel Grade 316L puddle pipe special, flanged on one end, L=800mm	No	2.00	75301.09	R	150,602.18
477		700mm dia. GRP blank flange	No	2.00	20472.77	R	40,945.54
		Pipeline RS04					
478		700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=900mm	No	1.00	77746.31	R	77,746.31
479		700mm dia. 90 deg. stainless steel Grade 316L bend, flanged on both ends	No	1.00	129187.86	R	129,187.86
480		700mm dia. stainless steel Grade 316L spool piece special, flanged on one end, L=5290mm	No	1.00	163436.10	R	163,436.10
Carried forward /...						R	4

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	41,050,826.92
481		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10061.66	R	20,123.32
482		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
483		700mm dia. nominal dia GRP double bell REKA	No	2.00	3845.91	R	7,691.82
484		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
485		700mm dia. 8 deg. GRP bend	No	2.00	14720.77	R	29,441.54
486		700mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	72087.28	R	72,087.28
487		700mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged Pipeline RS05	No	1.00	164518.18	R	164,518.18
488		700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=900mm	No	1.00	77746.31	R	77,746.31
489		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, flanged on both ends	No	1.00	129187.86	R	129,187.86
490		700mm dia. Grade 316L Stainless Steel spool piece special, flanged on one end, L=5290mm	No	1.00	163436.10	R	163,436.10
491		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10061.66	R	20,123.32
492		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
493		700mm dia. nominal dia GRP double bell REKA	No	2.00	3845.91	R	7,691.82
494		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
495		700mm dia. 8 deg. GRP bend	No	2.00	14720.77	R	29,441.54
496		700mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	72087.28	R	72,087.28
497		700mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged Pipeline RS06	No	1.00	164518.18	R	164,518.18
498		700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=900mm	No	1.00	77746.31	R	77,746.31
499		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, flanged on both ends	No	1.00	129187.86	R	129,187.86
Carried forward /...						R	42,283,235.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	42,283,235.38
500		700mm dia. Grade 316L Stainless Steel spool piece special, flanged on one end, L=5290mm	No	1.00	163436.10	R	163,436.10
501		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10061.66	R	20,123.32
502		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
503		700mm dia. nominal dia GRP double bell REKA	No	2.00	3845.91	R	7,691.82
504		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
505		700mm dia. 8 deg. GRP bend	No	2.00	14720.77	R	29,441.54
506		700mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	72087.28	R	72,087.28
507		700mm nominal dia. stainless steel grade 304L 90 deg duckfoot bend, both ends flanged	No	1.00	164518.18	R	164,518.18
508		Pipeline RS07 700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	75301.09	R	75,301.09
509		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, flanged on both ends	No	1.00	94453.17	R	94,453.17
510		700mm dia. Grade 316L Stainless Steel spool piece special, flanged on one end, L=3850mm	No	1.00	128211.72	R	128,211.72
511		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	10061.66	R	10,061.66
512		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
513		700mm dia. nominal dia GRP double bell REKA coupling	No	2.00	3845.91	R	7,691.82
514		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7197.01	R	7,197.01
515		700x700mm dia 60 deg. GRP lateral (wyes or equivalent)	No	1.00	20396.02	R	20,396.02
516		700mm dia. GRP blank flange	No	1.00	20472.77	R	20,472.77
517		Pipeline RS08 700x1000mm dia. GRP reducer	No	1.00	28959.21	R	28,959.21
518		1000mm dia. 30 deg. GRP bend	No	2.00	21371.37	R	42,742.74
519		1000mm dia. 60 deg. GRP bend	No	2.00	33402.12	R	66,804.24
520		1000mm dia. 40 deg. GRP bend	No	2.00	33402.12	R	66,804.24
521		1000mm dia. nominal dia GRP double bell REKA	No	2.00	5123.16	R	10,246.32
522		1000mm dia. 1000mm long GRP rocker pipe	No	1.00	11176.76	R	11,176.76
523		1000mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	18332.98	R	18,332.98
Carried forward /...						R	43,409,568.10

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	43,409,568.10
524		Pipeline RS09 700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	75551.39	R	75,551.39
525		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, both ends flanged	No	1.00	94703.47	R	94,703.47
526		700mm dia. stainless steel Grade 316L spool piece special, flanged on one end, L=5635mm	No	1.00	172124.69	R	172,124.69
527		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	10311.96	R	10,311.96
528		700mm dia. 90 deg. GRP bend	No	1.00	26743.16	R	26,743.16
529		700mm dia. 1000mm long GRP rocker pipe	No	2.00	7447.31	R	14,894.62
530		700mm dia. nominal dia GRP double bell REKA	No	4.00	4096.21	R	16,384.84
531		700mm dia. 45 deg. GRP bend	No	1.00	20646.32	R	20,646.32
532		700mm dia. 50 deg. GRP bend	No	2.00	20646.32	R	41,292.64
533		700mm dia. 60 deg. GRP bend	No	1.00	20646.32	R	20,646.32
534		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	11511.87	R	11,511.87
535		Pipeline RS10 700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	75551.39	R	75,551.39
536		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, both ends flanged	No	1.00	94703.47	R	94,703.47
537		700mm dia. stainless steel Grade 316L spool piece special, flanged on one end, L=3825mm	No	1.00	127850.17	R	127,850.17
538		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	10311.96	R	10,311.96
539		700mm dia. 90 deg. GRP bend	No	1.00	26743.16	R	26,743.16
540		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7447.31	R	7,447.31
541		700mm dia. nominal dia GRP double bell REKA	No	2.00	4096.21	R	8,192.42
542		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	11511.87	R	11,511.87
543		Pipeline RS11 700mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end. L=800mm	No	1.00	75551.39	R	75,551.39
544		700mm dia. 90 deg. Grade 316L Stainless Steel Bend, flanged on both ends	No	1.00	94703.47	R	94,703.47
Carried forward /...						R	44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	44,446,945.99
545		700mm dia. Grade 316L Stainless Steel spool piece special, flanged on one end, L=3850mm	No	1.00	128462.02	R	128,462.02
546		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	10311.96	R	10,311.96
547		700mm dia. 90 deg. GRP bend	No	1.00	26743.16	R	26,743.16
548		700mm dia. nominal dia GRP double bell REKA	No	2.00	4096.21	R	8,192.42
549		700mm dia. 1000mm long GRP rocker pipe	No	1.00	7447.31	R	7,447.31
550		700x700mm dia 60 deg. GRP lateral (wyres or equivalent)	No	1.00	79733.78	R	79,733.78
551		700mm dia. GRP blank flange	No	1.00	8452.64	R	8,452.64
		Pipeline RS12					
552		700x1000mm dia. GRP reducer	No	1.00	28959.21	R	28,959.21
553		1000mm dia. 45 deg. GRP bend	No	2.00	40158.37	R	80,316.74
554		1000mm dia. 60 deg. GRP bend	No	2.00	33402.12	R	66,804.24
555		1000mm dia. 40 deg. GRP bend	No	2.00	33402.12	R	66,804.24
556		1000mm dia. nominal dia GRP double bell REKA coupling	No	2.00	5123.16	R	10,246.32
557		1000mm dia. 1000mm long GRP rocker pipe	No	1.00	12311.81	R	12,311.81
558		1000mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	18527.56	R	18,527.56
		Pipeline RS13					
559		1600mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=600mm	No	1.00	277603.47	R	277,603.47
560		1600mm dia. 90 deg. stainless steel bend grade 316L, flanged on both ends	No	1.00	459069.86	R	459,069.86
561		1600mm dia. Grade 316L stainless steel spool piece special, flanged on one end, L=7350mm	No	1.00	927694.17	R	927,694.17
562		1600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	33582.85	R	33,582.85
563		1600mm dia. 60 deg. GRP bend	No	1.00	89523.52	R	89,523.52
564		1600mm dia. 90 deg. GRP bend	No	1.00	120277.97	R	120,277.97
565		1600mm dia. GRP double bell REKA coupling	No	2.00	8394.47	R	16,788.94
566		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	32089.99	R	32,089.99
567		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	50283.22	R	50,283.22
		Pipeline RS14					
568		1300mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	10426.75	R	10,426.75
Carried forward /...						R	47,017,600.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	47,017,600.14
569		1300mm dia. nominal dia GRP double bell REKA coupling	No	4.00	6338.60	R	25,354.40
570		1300mm dia. 1300mm long GRP rocker pipe	No	2.00	17862.06	R	35,724.12
571		1300mm dia. 60 deg. GRP bend	No	1.00	57902.30	R	57,902.30
572		1300mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	9592.41	R	9,592.41
Pipeline RS15							
573		1300mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	9592.41	R	9,592.41
574		1300mm dia. nominal dia GRP double bell REKA	No	4.00	6338.60	R	25,354.40
575		1300mm dia. 1300mm long GRP rocker pipe	No	2.00	17862.06	R	35,724.12
576		1300mm dia. 60 deg. GRP bend	No	1.00	57902.30	R	57,902.30
577		1300mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	9592.41	R	9,592.41
Pipeline RS16							
578		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=350mm	No	3.00	17829.63	R	53,488.89
579		900mm dia. nominal dia GRP double bell REKA	No	4.00	4965.73	R	19,862.92
580		900mm dia. 1000mm long GRP rocker pipe	No	2.00	10208.58	R	20,417.16
581		900mm dia. 90 deg. GRP bend	No	2.00	37611.93	R	75,223.86
582		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	25018.28	R	25,018.28
583		900mm nominal dia GRP spool piece, flanged on one end, L=800mm	No	2.00	18380.94	R	36,761.88
584		900mm dia. GRP blank flange	No	2.00	24132.94	R	48,265.88
Pipeline RS17							
585		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	17829.63	R	17,829.63
586		900mm dia. nominal dia GRP double bell REKA	No	4.00	4965.73	R	19,862.92
587		900mm dia. 1000mm long GRP rocker pipe	No	2.00	10208.58	R	20,417.16
588		900mm dia. 90 deg. GRP bend	No	2.00	37611.93	R	75,223.86
589		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	25018.28	R	25,018.28
Pipeline RS18							
590		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	17829.63	R	17,829.63
Carried forward /...						R	47,739,559.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	47,739,559.36
591		900mm dia. 10 deg. GRP bend	No	2.00	20294.31	R	40,588.62
592		900mm dia. nominal dia GRP double bell REKA	No	2.00	4965.73	R	9,931.46
593		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	25018.28	R	25,018.28
594		900mm dia. 1000mm long GRP rocker pipe	No	1.00	10208.58	R	10,208.58
Pipeline RS19							
595		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=350mm	No	1.00	17829.63	R	17,829.63
596		900mm dia. 10 deg. GRP bend	No	2.00	20294.31	R	40,588.62
597		900mm dia. nominal dia GRP double bell REKA	No	2.00	4965.73	R	9,931.46
598		900mm nominal dia. GRP REKA Coupling with puddle flange special, L=950mm	No	1.00	25018.28	R	25,018.28
599		900mm dia. 1000mm long GRP rocker pipe	No	1.00	10208.58	R	10,208.58
Pipeline IB01							
600		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=600mm	No	1.00	49254.30	R	49,254.30
601		1600mm dia. nominal dia GRP double bell REKA coupling	No	2.00	7560.13	R	15,120.26
602		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	10208.58	R	10,208.58
603		1600mm dia. 90 deg. GRP bend	No	1.00	119443.63	R	119,443.63
604		1600x1000mm dia. GRP reducer	No	1.00	57988.78	R	57,988.78
605		1000mm nominal dia. GRP equal tee, L=1600mm	No	1.00	100580.18	R	100,580.18
Pipeline IB02							
606		1000mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	136594.78	R	136,594.78
607		1000mm dia. 90 deg. stainless steel bend grade 316L, flanged on both ends	No	1.00	233520.48	R	233,520.48
608		1000mm dia. grade 316L stainless steel spool piece special, flanged on one end, L=2990mm	No	1.00	269278.88	R	269,278.88
609		1000mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	32772.29	R	32,772.29
610		1000mm dia. 90 deg. GRP bend	No	1.00	44562.76	R	44,562.76
611		1000mm dia. 1000mm long GRP rocker pipe	No	1.00	12478.68	R	12,478.68
612		1000mm dia. GRP double bell REKA coupling	No	2.00	5290.03	R	10,580.06
Carried forward /...						R	49,021,266.53

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	49,021,266.53
		Pipeline IB03					
613		1000x1600mm dia. GRP reducer	No	1.00	57988.78	R	57,988.78
614		1600mm nominal dia. GRP equal tee, L=1620mm	No	1.00	135085.70	R	135,085.70
		Pipeline IB04					
615		1600mm nominal dia. Grade 316L Stainless steel (SS) puddle pipe special, flanged on one end, L=	No	1.00	298980.24	R	298,980.24
616		1600mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	33582.85	R	33,582.85
617		1600mm dia. 90 deg. Grade 316L Stainless steel (SS) bend, flanged on both ends	No	1.00	488958.43	R	488,958.43
618		1600mm dia. 90 deg. Grade 316L Stainless steel (SS) bend, flanged on one end	No	1.00	374396.21	R	374,396.21
619		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	32089.99	R	32,089.99
620		1600mm dia. GRP double bell REKA coupling	No	2.00	8394.47	R	16,788.94
		Pipeline IB05					
621		1600mm dia. nominal dia GRP double bell REKA	No	2.00	8394.47	R	16,788.94
622		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	32089.99	R	32,089.99
623		1600mm dia. 30 deg. GRP bend	No	1.00	30327.96	R	30,327.96
624		1600mm dia. 60 deg. GRP bend	No	3.00	89523.52	R	268,570.56
625		1600mm dia. 11 deg. GRP bend	No	4.00	27744.37	R	110,977.48
626		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	58866.36	R	58,866.36
		Pipeline IB06					
627		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	2.00	4816.36	R	9,632.72
628		1600mm dia. nominal dia GRP double bell REKA	No	4.00	8394.47	R	33,577.88
629		1600mm dia. 1600mm long GRP rocker pipe	No	2.00	32089.99	R	64,179.98
630		1600mm dia. 23 deg. GRP bend	No	2.00	29030.76	R	58,061.52
		Pipeline IB07					
631		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	2.00	50088.64	R	100,177.28
632		1600mm dia. nominal dia GRP double bell REKA	No	4.00	8394.47	R	33,577.88
Carried forward /...						R	51,275,966.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	51,275,966.22
633		1600mm dia. 1600mm long GRP rocker pipe	No	2.00	32089.99	R	64,179.98
634		1600mm dia. 45 deg. GRP bend	No	2.00	89523.52	R	179,047.04
635		1600mm dia. 49 deg. GRP bend	No	2.00	89523.52	R	179,047.04
636		1600mm dia. 90 deg. GRP bend	No	1.00	120277.97	R	120,277.97
Pipeline IB08							
637		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	50088.64	R	50,088.64
638		1600mm dia. nominal dia GRP double bell REKA	No	2.00	8394.47	R	16,788.94
639		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	32089.99	R	32,089.99
640		1600mm dia. 90 deg. GRP bend	No	1.00	120277.97	R	120,277.97
641		1600mm dia. 23 deg. GRP bend	No	4.00	29030.76	R	116,123.04
Pipeline IB09							
642		1600mm nominal dia. GRP REKA Coupling with puddle flange special, L=300mm	No	1.00	50088.64	R	50,088.64
643		1600mm dia. GRP double bell REKA coupling	No	2.00	8394.47	R	16,788.94
644		1600mm dia. 1600mm long GRP rocker pipe	No	1.00	32089.99	R	32,089.99
645		1600mm dia. 90 deg. GRP bend	No	1.00	120277.97	R	120,277.97
646		1600mm dia. 23 deg. GRP bend	No	4.00	29030.76	R	116,123.04
Pipeline IB10							
647		250mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=700mm	No	2.00	10717.68	R	21,435.36
648		250mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	4110.61	R	8,221.22
649		250mm dia. 45 deg. uPVC bend	No	2.00	1794.03	R	3,588.06
650		250mm dia. 1000mm long uPVC rocker pipe	No	2.00	570.33	R	1,140.66
651		250mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	3291.21	R	6,582.42
Carried forward /...						R	52,530,223.13

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	52,530,223.13
		Pipeline IB11					
652		250mm nominal dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	2.00	10267.99	R	20,535.98
653		250mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	4110.61	R	8,221.22
654		250mm dia. 45 deg. uPVC bend	No	2.00	431.97	R	863.94
655		250mm dia. 1000mm long uPVC rocker pipe	No	2.00	431.97	R	863.94
656		250mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	3291.21	R	6,582.42
		Pipeline IB12					
657		250mm nominal dia. Grade 304L Stainless Steel puddle pipe, L=700mm	No	2.00	8533.20	R	17,066.40
658		250mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	4254.60	R	8,509.20
659		250mm dia. 22.5 deg. uPVC bend	No	2.00	575.96	R	1,151.92
660		250mm dia. 1000mm uPVC rocker pipe	No	2.00	575.96	R	1,151.92
661		250mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	3435.20	R	6,870.40
		Pipeline IB13					
662		700mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	10061.66	R	10,061.66
663		700mm dia. GRP double bell REKA coupling	No	4.00	3845.91	R	15,383.64
664		700mm dia. 1000mm long GRP rocker pipe	No	2.00	7197.01	R	14,394.02
665		700mm dia. 23 deg. GRP bend	No	1.00	14720.77	R	14,720.77
666		700mm dia. 24 deg. GRP bend	No	1.00	14720.77	R	14,720.77
667		700mm dia. 90 deg. GRP bend	No	1.00	26492.86	R	26,492.86
668		700mm dia. 30 deg. GRP bend	No	2.00	20396.02	R	40,792.04
669		700mm dia. 60 deg. GRP bend	No	2.00	20396.02	R	40,792.04
670		700mm dia. 18 deg. GRP bend	No	2.00	14720.77	R	29,441.54
671		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=200mm	No	1.00	11261.57	R	11,261.57
		Pipeline IB14					
672		700mm nominal dia. GRP REKA Coupling with puddle flange special, L=200mm	No	1.00	11261.57	R	11,261.57
Carried forward /...						R	52,831,362.95

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	52,831,362.95
673		700mm dia. GRP double bell REKA coupling	No	4.00	3845.91	R	15,383.64
674		700mm dia. 1000mm long GRP rocker pipe	No	2.00	7197.01	R	14,394.02
675		700mm dia. 15 deg. GRP bend	No	2.00	14720.77	R	29,441.54
676		700mm dia. 90 deg. GRP bend	No	3.00	26492.86	R	79,478.58
677		700mm dia. 40 deg. GRP bend	No	1.00	20396.02	R	20,396.02
678		700mm dia. 50 deg. GRP bend	No	1.00	20396.02	R	20,396.02
679		700mm nominal dia. GRP REKA Coupling with puddle flange special. L=600mm	No	1.00	11261.57	R	11,261.57
Pipeline IB15							
680		1300mm nominal dia. GRP REKA Coupling with puddle flange special. L=300mm	No	1.00	9175.24	R	9,175.24
681		1300mm dia. GRP double bell REKA coupling	No	2.00	10115.71	R	20,231.42
682		1300mm dia. 1300mm long GRP rocker pipe	No	1.00	17444.89	R	17,444.89
683		1300mm dia. 23 deg. GRP bend	No	2.00	36811.99	R	73,623.98
Zandvliet Pipeline 1							
684		400mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on both ends,	No	1.00	37956.27	R	37,956.27
685		400mm dia. 90 deg. stainless steel bend grade 316L, flanged on both ends	No	1.00	6808.34	R	6,808.34
686		400mm dia. Grade 316L stainless steel spool piece special, flanged on both ends, L=1200mm	No	1.00	36220.19	R	36,220.19
687		400mm dia. 90 deg. stainless steel bend grade 316L, flanged on one end	No	1.00	34779.22	R	34,779.22
688		400mm dia. 45 deg. HDPE bend	No	6.00	6249.46	R	37,496.76
689		400mm dia. HDPE stub with stainless steel grade 304L backing ring to suit puddle pipe	No	1.00	2892.96	R	2,892.96
Zandvliet Pipeline 2							
690		400mm nominal dia. stainless steel grade 316L puddle pipe special, flanged on both ends, L=900mm	No	1.00	37956.27	R	37,956.27
691		400mm dia. 90 deg. stainless steel bend grade 316L, flanged on both ends	No	1.00	34779.22	R	34,779.22
692		400mm dia. Grade 316L stainless steel spool piece special, flanged on both ends, L=1200mm	No	1.00	36220.19	R	36,220.19
693		400mm dia. 90 deg. stainless steel bend grade 316L, flanged on one end	No	1.00	27364.64	R	27,364.64
694		400mm dia. 22.5 deg. HDPE bend	No	2.00	6249.46	R	12,498.92
695		400mm dia. 45 deg. HDPE bend	No	3.00	6249.46	R	18,748.38
696		400mm dia. HDPE stub with stainless steel grade 304L backing ring to suit puddle pipe	No	1.00	1001.21	R	1,001.21
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	53

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 LB	BEDDING (PROCESS PIPELINES)					
		as specified in SANS 1200 LB and in the project specifications (all process pipes laid on bedding for flexible pipes)					
	PSLB 8.2.1	Provision of bedding from trench excavations:					
697		(a) Selected granular material	m ³	1300.00	121.22	R	157,586.00
698		(b) Selected fill material	m ³	319.00	121.22	R	38,669.18
	PSLB 8.2.2	Supply only of bedding by importation					
	PSLB 8.2.2	From other necessary excavations:					
699		(a) Selected granular material	m ³	650.00	121.22	R	78,793.00
700		(b) Selected fill material	m ³	160.00	121.22	R	19,395.20
	8.2.2.3	From commercial sources:					
701		(a) Selected granular material	m ³	1300.00	121.22	R	157,586.00
702		(b) Selected fill material	m ³	319.00	121.22	R	38,669.18
	8.2.4	Encasing of pipes in concrete					
703		Class 15 Mpa/19	m ³	60.00	1715.36	R	102,921.60
704	PSLB 8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m ³	10.00	270.94	R	2,709.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	596

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 DB		EARTHWORKS (PIPE TRENCHES)				R 3,880,966.65
SANS 1200 L		MEDIUM-PRESSURE PIPELINES				R 53,467,312.44
SANS 1200 LB		BEDDING (PROCESS PIPELINES)				R 596,329.56
TOTAL OF BILL C44 CARRIED TO SUMMARY						R 57,944,608.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C45 INTERCONNECTING PIPEWORK - SLUDGE STREAM					
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
		as specified in SANS 1200DB and in project specifications					
	PSDB 8.3.2	Excavation:					
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus					
		(i) Pipes over 160 mm dia and up to 1400 mm dia:					
		Pipeline SC01					
1		Up to 1.5 m	m	60.00	102.94	R	6,176.40
		Pipeline SC02					
2		Up to 1.5 m	m	7.00	102.94	R	720.58
		Pipeline SC03					
3		Up to 1.5 m	m	43.00	102.94	R	4,426.42
4		Over 1.5 m up to 2.5 m	m	2.00	237.62	R	475.24
5		Over 2.5 m	m	2.00	594.10	R	1,188.20
		Pipeline SC04					
6		Up to 1.5 m	m	7.00	102.94	R	720.58
7		Over 1.5 m up to 2.5 m	m	5.00	237.62	R	1,188.10
		Pipeline SC05					
8		Up to 1.5 m	m	10.00	106.79	R	1,067.90
9		Over 1.5 m up to 2.5 m	m	42.00	243.85	R	10,241.70
		Pipeline SC07					
10		Up to 1.5 m	m	7.00	102.94	R	720.58
		Pipeline SC08					
11		Up to 1.5 m	m	7.00	102.94	R	720.58
		Pipeline SC09					
12		Up to 1.5 m	m	23.00	106.79	R	2,456.17
13		Over 1.5 m up to 2.5 m	m	30.00	243.85	R	7,315.50
		Pipeline SC10					
14		Up to 1.5 m	m	7.00	102.94	R	720.58
Carried forward /...						R	38,138.53

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	38,138.53
15		Pipeline SC11 Up to 1.5 m	m	7.00	102.94	R	720.58
16		Pipeline SC13 Up to 1.5 m	m	7.00	102.94	R	720.58
17		Pipeline SC14 Up to 1.5 m	m	7.00	102.94	R	720.58
18		Pipeline SC19 Up to 1.5 m	m	20.00	102.94	R	2,058.80
19		Over 1.5 m up to 2.5 m	m	33.00	237.62	R	7,841.46
20		Pipeline SC20 Up to 1.5 m	m	6.00	102.94	R	617.64
21		Over 1.5 m up to 2.5 m	m	1.00	237.62	R	237.62
22		Pipeline SC22 Up to 1.5 m	m	7.00	102.94	R	720.58
23		Pipeline SC23 Up to 1.5 m	m	7.00	106.79	R	747.53
24		Pipeline SC25 Up to 1.5 m	m	25.00	106.79	R	2,669.75
25		Pipeline SC26 Up to 1.5 m	m	80.00	106.79	R	8,543.20
26		Over 1.5 m up to 2.5 m	m	18.00	243.85	R	4,389.30
27		Pipeline DS01 Up to 1.5 m	m	28.00	106.79	R	2,990.12
28		Over 1.5 m up to 2.5 m	m	12.00	243.85	R	2,926.20
29		Pipeline DS02 Over 1.5 m up to 2.5 m	m	42.00	243.85	R	10,241.70
30		Pipeline DS03 Over 1.5 m up to 2.5 m	m	9.00	243.85	R	2,194.65
Carried forward /...						R	86,478.82

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	86,478.82
		Pipeline DS04					
31		Over 1.5 m up to 2.5 m	m	3.00	243.85	R	731.55
		Pipeline DS05					
32		Over 1.5 m up to 2.5 m	m	3.00	243.85	R	731.55
		Pipeline DS06					
33		Over 4.5 m up to 5.5 m	m	30.00	696.74	R	20,902.20
		Pipeline DS07					
34		Over 4.5 m up to 5.5 m	m	3.00	696.74	R	2,090.22
		Pipeline DS08					
35		Over 4.5 m up to 5.5 m	m	20.00	696.74	R	13,934.80
36		Over 5.5 m up to 6.5 m	m	7.00	696.74	R	4,877.18
		Pipeline PS01					
37		Over 1.5 m up to 2.5 m	m	7.44	243.85	R	1,814.24
38		Over 3.5 m up to 4.5 m	m	2.88	696.74	R	2,006.61
39		Over 4.5 m up to 5.5 m	m	10.00	696.74	R	6,967.40
		Pipeline PS02					
40		Over 1.5 m up to 2.5 m	m	7.44	243.85	R	1,814.24
41		Over 3.5 m up to 4.5 m	m	2.88	696.74	R	2,006.61
42		Over 4.5 m up to 5.5 m	m	10.00	696.74	R	6,967.40
		Pipeline PS03					
43		Over 1.5 m up to 2.5 m	m	10.00	243.85	R	2,438.50
44		Over 3.5 m up to 4.5 m	m	2.88	696.74	R	2,006.61
45		Over 4.5 m up to 5.5 m	m	10.00	696.74	R	6,967.40
		Pipeline PS04					
46		Over 1.5 m up to 2.5 m	m	10.00	243.85	R	2,438.50
47		Over 3.5 m up to 4.5 m	m	2.88	696.74	R	2,006.61
48		Over 4.5 m up to 5.5 m	m	10.00	696.74	R	6,967.40
		Pipeline PS05					
49		Over 1.5 m up to 2.5 m	m	61.94	243.85	R	15,104.07
50		Over 2.5 m up to 3.5 m	m	20.00	696.74	R	13,934.80
Carried forward /...						R	203,186.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 203,186.72
51		Pipeline PS06 Over 1.5 m up to 2.5 m	m	77.72	243.85	R 18,952.02
52		Pipeline PS07 Up to 1.5 m	m	116.89	106.79	R 12,482.68
53		Pipeline PS08 Over 1.5 m up to 2.5 m	m	62.18	243.85	R 15,162.59
54		Pipeline SC06 Over 1.5 m up to 2.5 m	m	20.00	259.43	R 5,188.60
55		Over 2.5 m up to 3.5 m	m	19.00	724.24	R 13,760.56
56		Pipeline SC12 Over 1.5 m up to 2.5 m	m	44.00	249.61	R 10,982.84
57		Pipeline SC15 Over 1.5 m up to 2.5 m	m	25.00	249.61	R 6,240.25
58		Pipeline SC16 Over 1.5 m up to 2.5 m	m	72.00	249.61	R 17,971.92
59		Pipeline SS01 Over 1.5 m up to 2.5 m	m	10.00	290.60	R 2,906.00
60		Over 4.5 m up to 5.5 m	m	4.00	779.24	R 3,116.96
61		Pipeline SS02 Over 1.5 m up to 2.5 m	m	10.00	290.60	R 2,906.00
62		Over 4.5 m up to 5.5 m	m	4.00	779.24	R 3,116.96
63		Pipeline SS03 Over 1.5 m up to 2.5 m	m	12.00	290.60	R 3,487.20
64		Over 4.5 m up to 5.5 m	m	4.00	779.24	R 3,116.96
65		Pipeline SS04 Over 1.5 m up to 2.5 m	m	58.00	290.60	R 16,854.80
66		Over 4.5 m up to 5.5 m	m	4.00	779.24	R 3,116.96
67		Pipeline SS05 Over 1.5 m up to 2.5 m	m	54.00	290.60	R 15,692.40
Carried forward /...						R 358,242.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	358,242.43
		Pipeline SS06					
68		Over 1.5 m up to 2.5 m	m	12.00	290.60	R	3,487.20
69		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS07					
70		Over 2.5 m up to 3.5 m	m	58.00	779.24	R	45,195.92
71		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS08					
72		Over 1.5 m up to 2.5 m	m	12.00	290.60	R	3,487.20
73		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS09					
74		Over 1.5 m up to 2.5 m	m	9.00	290.60	R	2,615.40
75		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS10					
76		Over 1.5 m up to 2.5 m	m	58.00	290.60	R	16,854.80
		Pipeline SS16					
77		Over 1.5 m up to 2.5 m	m	18.00	290.60	R	5,230.80
78		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS17					
79		Over 1.5 m up to 2.5 m	m	18.00	290.60	R	5,230.80
80		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS18					
81		Over 1.5 m up to 2.5 m	m	14.00	290.60	R	4,068.40
82		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
		Pipeline SS19					
83		Over 1.5 m up to 2.5 m	m	14.00	290.60	R	4,068.40
84		Over 4.5 m up to 5.5 m	m	4.00	779.24	R	3,116.96
Carried forward /...						R	458,417.88

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	473,417.03
		Pipeline TS01 & TS03					
85		Up to 1.5 m	m	14.20	106.79	R	1,516.42
86		Over 1.5 m up to 2.5 m	m	46.72	243.85	R	11,392.67
87		Over 2.5 m up to 3.5 m	m	13.59	696.74	R	9,468.70
		Pipeline TS02					
88		Up to 1.5 m	m	1.20	106.79	R	128.15
89		Over 2.5 m up to 3.5 m	m	15.00	696.74	R	10,451.10
		Pipeline TS04					
90		Up to 1.5 m	m	45.00	106.79	R	4,805.55
91		Over 1.5 m up to 2.5 m	m	187.00	243.85	R	45,599.95
		Pipeline TS07					
92		Over 1.5 m up to 2.5 m	m	25.50	243.85	R	6,218.18
		Pipeline TS08					
93		Over 1.5 m up to 2.5 m	m	15.53	243.85	R	3,786.99
		Pipeline TS09					
39		Over 1.5 m up to 2.5 m	m	15.87	243.85	R	3,869.90
		Pipeline TS10					
94		Up to 1.5 m	m	9.00	106.79	R	961.11
		Pipeline WS01					
95		Over 1.5 m up to 2.5 m	m	4.00	259.43	R	1,037.72
96		Over 2.5 m up to 3.5 m	m	3.00	724.24	R	2,172.72
		Pipeline WS02					
97		Over 2.5 m up to 3.5 m	m	29.00	724.24	R	21,002.96
		Pipeline WS03					
98		Over 1.5 m up to 2.5 m	m	4.00	259.43	R	1,037.72
99		Over 2.5 m up to 3.5 m	m	3.00	724.24	R	2,172.72
		Pipeline WS04					
100		Over 1.5 m up to 2.5 m	m	13.00	259.43	R	3,372.59
Carried forward /...						R	602,412.17

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	602,412.17
		Pipeline WS05					
101		Over 1.5 m up to 2.5 m	m	4.00	259.43	R	1,037.72
102		Over 2.5 m up to 3.5 m	m	3.00	724.24	R	2,172.72
		Pipeline WS06					
103		Over 1.5 m up to 2.5 m	m	30.00	259.43	R	7,782.90
		Pipeline WS07					
104		Over 1.5 m up to 2.5 m	m	4.00	259.43	R	1,037.72
105		Over 2.5 m up to 3.5 m	m	3.00	724.24	R	2,172.72
		Pipeline WS08					
106		Over 1.5 m up to 2.5 m	m	16.00	259.43	R	4,150.88
		Pipeline WS09					
107		Over 1.5 m up to 2.5 m	m	5.00	259.43	R	1,297.15
		Pipeline WS10					
108		Over 1.5 m up to 2.5 m	m	102.00	259.43	R	26,461.86
		Pipeline WS11					
109		Up to 1.5 m	m	8.00	116.42	R	931.36
110		Over 1.5 m up to 2.5 m	m	172.00	259.43	R	44,621.96
		Pipeline WS12					
111		Up to 1.5 m	m	8.00	136.10	R	1,088.80
		Pipeline WS13					
112		Over 1.5 m up to 2.5 m	m	8.00	292.35	R	2,338.80
		Pipeline WS14					
113		Over 1.5 m up to 2.5 m	m	8.00	292.35	R	2,338.80
		Pipeline WS15					
114		Over 2.5 m up to 3.5 m	m	35.00	786.23	R	27,518.05
		Pipeline WS16					
115		Over 2.5 m up to 3.5 m	m	41.00	786.23	R	32,235.43
		Pipeline WS17					
116		Over 2.5 m up to 3.5 m	m	7.00	786.23	R	5,503.61
Carried forward /...						R	765,111.17

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 765,102.65
		Pipeline WS18				
117		Over 2.5 m up to 3.5 m	m	10.00	786.23	R 7,862.30
118		Over 3.5 m up to 4.5 m	m	38.00	786.23	R 29,876.74
		Pipeline WS19				
119		Over 2.5 m up to 3.5 m	m	35.00	786.23	R 27,518.05
		Pipeline WS20				
120		Over 2.5 m up to 3.5 m	m	7.00	786.23	R 5,503.61
		Pipeline WS21				
121		Over 2.5 m up to 3.5 m	m	15.00	786.23	R 11,793.45
		Pipeline WS22				
122		Over 2.5 m up to 3.5 m	m	18.00	786.23	R 14,152.14
		Pipeline SR01				
123		Over 1.5 m up to 2.5 m	m	7.56	243.85	R 1,843.51
		Pipeline SR02				
124		Over 1.5 m up to 2.5 m	m	7.56	243.85	R 1,843.51
		Pipeline SR03				
125		Over 1.5 m up to 2.5 m	m	15.00	243.85	R 3,657.75
126		Over 2.5 m up to 3.5 m	m	5.60	696.74	R 3,901.74
Carried forward /...						R 87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	873,055.45
127		Pipeline SR04 Over 1.5 m up to 2.5 m	m	217.90	243.85	R	53,134.92
128		Over 2.5 m up to 3.5 m	m	10.00	696.74	R	6,967.40
129		Pipeline SR05 Over 1.5 m up to 2.5 m	m	31.63	243.85	R	7,712.98
130		Over 2.5 m up to 3.5 m	m	10.00	696.74	R	6,967.40
131		Pipeline SR06 Over 1.5 m up to 2.5 m	m	56.18	243.85	R	13,699.49
132		Pipeline SR07 Over 1.5 m up to 2.5 m	m	8.79	243.85	R	2,143.44
133		Pipeline SR08 Over 1.5 m up to 2.5 m	m	8.62	243.85	R	2,101.99
134		Pipeline SR09 Over 1.5 m up to 2.5 m	m	32.30	243.85	R	7,876.36
135		Over 2.5 m up to 3.5 m	m	27.23	696.74	R	18,972.23
136	PSDB 8.3.2	(b) Extra over item PSDB 8.3.2 (a) above for: (1) Hard material	m ³	500.00			
137		(3) Hand excavation and backfill where ordered by the Engineer in: (a) Soft material	m ³	400.00	5.32	R	2,128.00
138		(b) Intermediate material	m ³	200.00			
139		(4) Backfill stabilized with 5% cement where directed by the Engineer	m ³	500.00	270.94	R	135,470.00
140		(5) Soilcrete backfill where directed by the Engineer	m ³	250.00	1381.78	R	345,445.00
Carried forward /...						R	1,475,674.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,475,674.64
141		(6) Mass concrete Class 15 MPa/19 mm in encasing around pipes under road crossings and pavements where directed by the Engineer	m ³	200.00	1715.36	R	343,072.00
142		(8) Backfill with clean sand compacted to 100% Modified AASHTO density	m	400.00	121.22	R	48,488.00
143		(c) Excavate and dispose of unsuitable material from trench bottom	m ³	10.00			
	PSDB 8.3.3	Excavation ancillaries					
	8.3.3.1	Make up deficiency in backfill material:					
144		(a) From other necessary excavations on site	m ³	150.00	36.23	R	5,434.50
145		(c) By importation from commercial or off site sources selected by the Contractor	m ³	100.00	169.09	R	16,909.00
146	PSDB 8.3.3.3	Compaction in road reserves	m ³	100.00	63.41	R	6,341.00
	PSDB 8.3.4	Particular items:					
	PSDB 8.3.4 (a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:					
147		(i) Up to 1.5 m	m	990.00			
148		(ii) Over 1.5 m up to 2.5 m	m	410.00			
149		(iii) Over 2.5 m up to 3.5 m	m	300.00			
150		(iii) Over 3.5 m up to 4.5 m	m	200.00			
151		(iii) Over 4.5 m up to 5.5 m	m	150.00			
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,895,919.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES					
		as specified in SANS 1200L and in project specifications					
	8.2.1	(a) Supply, lay, joint and bed, below ground on Class C bedding of PVC-U SANS 966 Class 9 pipes complete with couplings:					
		Pipeline SC01					
152		160mm dia	m	60.00	195.96	R	11,757.60
		Pipeline SC02					
153		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC03					
154		160mm dia	m	53.00	195.96	R	10,385.88
		Pipeline SC04					
155		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC05					
156		200mm dia	m	52.00	289.28	R	15,042.56
		Pipeline SC06					
157		315mm dia	m	40.00	792.29	R	31,691.60
		Pipeline SC07					
158		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC08					
159		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC09					
160		200mm dia	m	53.00	289.28	R	15,331.84
		Pipeline SC10					
161		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC11					
162		160mm dia	m	7.00	195.96	R	1,371.72
		Pipeline SC12					
163		250mm dia	m	53.00	427.99	R	22,683.47
		Pipeline SC13					
164		160mm dia	m	7.00	195.96	R	1,371.72
Carried forward /...						R	116,494.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 116,494.99
165		Pipeline SC14 160mm dia	m	7.00	195.96	R 1,371.72
166		Pipeline SC15 250mm dia	m	25.00	427.99	R 10,699.75
167		Pipeline SC16 250mm dia	m	71.00	427.99	R 30,387.29
168		Pipeline SC17 160mm dia	m	7.00	195.96	R 1,371.72
169		Pipeline SC19 160mm dia	m	53.00	195.96	R 10,385.88
170		Pipeline SC20 160mm dia	m	7.00	195.96	R 1,371.72
171		Pipeline SC22 160mm dia	m	53.00	195.96	R 10,385.88
172		Pipeline SC23 200mm dia	m	7.00	274.88	R 1,924.16
173		Pipeline SC25 200mm dia	m	25.00	274.88	R 6,872.00
174		Pipeline SC26 200mm dia	m	98.00	399.19	R 39,120.62
175		Pipeline DS01 200mm dia	m	38.00	274.88	R 10,445.44
176		Pipeline DS02 200mm dia	m	39.00	274.88	R 10,720.32
177		Pipeline DS03 200mm dia	m	9.00	274.88	R 2,473.92
178		Pipeline DS04 200mm dia	m	2.00	274.88	R 549.76
179		Pipeline DS05 200mm dia	m	2.00	274.88	R 549.76
Carried forward /...						R 255,124.93

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 255,124.93
180		Pipeline DS06 200mm dia	m	29.00	274.88	R 7,971.52
181		Pipeline DS07 200mm dia	m	2.00	274.88	R 549.76
182		Pipeline DS08 200mm dia	m	30.00	274.88	R 8,246.40
183		Pipeline PS01 200mm dia	m	27.80	274.88	R 7,641.66
184		Pipeline PS02 200mm dia	m	27.80	274.88	R 7,641.66
185		Pipeline PS03 200mm dia	m	30.13	274.88	R 8,282.13
186		Pipeline PS04 200mm dia	m	30.00	274.88	R 8,246.40
187		Pipeline PS05 200mm dia	m	81.94	274.88	R 22,523.67
188		Pipeline PS06 200mm dia	m	77.72	274.88	R 21,363.67
189		Pipeline PS07 200mm dia	m	116.89	274.88	R 32,130.72
190		Pipeline PS08 200mm dia	m	62.18	274.88	R 17,092.04
191		Pipeline TS01 200mm dia	m	23.00	274.88	R 6,322.24
192		Pipeline TS02 200mm dia	m	23.00	274.88	R 6,322.24
193		Pipeline TS03 200mm dia	m	52.00	274.88	R 14,293.76
194		Pipeline TS04 200mm dia	m	232.00	274.88	R 63,772.16
Carried forward /...						R 487.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 487,524.97
195		Pipeline TS05 200mm dia	m	5.00	274.88	R 1,374.40
196		Pipeline TS06 200mm dia	m	5.00	274.88	R 1,374.40
197		Pipeline TS07 200mm dia	m	32.00	274.88	R 8,796.16
198		Pipeline TS08 200mm dia	m	20.00	274.88	R 5,497.60
199		Pipeline TS09 200mm dia	m	19.00	274.88	R 5,222.72
200		Pipeline TS10 200mm dia	m	11.00	274.88	R 3,023.68
201		Pipeline SR01 200mm dia	m	7.56	274.88	R 2,078.09
202		Pipeline SR02 200mm dia	m	7.50	274.88	R 2,061.60
203		Pipeline SR03 200mm dia	m	15.00	274.88	R 4,123.20
204		Pipeline SR04 200mm dia	m	226.00	274.88	R 62,122.88
205		Pipeline SR05 200mm dia	m	41.60	274.88	R 11,435.01
206		Pipeline SR06 200mm dia	m	56.20	274.88	R 15,448.26
207		Pipeline SR07 200mm dia	m	8.80	274.88	R 2,418.94
208		Pipeline SR08 200mm dia	m	8.62	274.88	R 2,369.47
209		Pipeline SR09 200mm dia	m	59.90	274.88	R 16,465.31
Carried forward /...						R 631,336.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 631,336.69
	8.2.2	Extra over item 8.2.1(b) for supplying, laying, jointing and bedding, below ground of fittings, specials, and valves complete with couplings (with stainless steel bolts) and corrosion protection as per specification:				
		Pipeline DS01				
210		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=12170mm	No	1.00	68102.65	R 68,102.65
211		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R 2,795.12
212		200mm dia. 90 deg. stainless steel grade 304L bend, flanged on both ends	No	3.00	8387.13	R 25,161.39
213		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	1.00	4549.58	R 4,549.58
214		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	3.00	2689.18	R 8,067.54
215		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R 562.85
		Pipeline DS02				
216		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=12170mm	No	1.00	68113.46	R 68,113.46
217		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R 2,795.12
218		200mm dia. 90 deg. stainless steel grade 304L bend, flanged on both ends	No	3.00	8387.13	R 25,161.39
219		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	1.00	6294.32	R 6,294.32
220		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	3.00	2689.18	R 8,067.54
221		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R 562.85
		Pipeline DS03				
222		200mm dia. 106 deg. Stainless steel grade 304L Y-junction piece, flanged on all ends	No	1.00	15404.98	R 15,404.98
223		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R 2,689.18
224		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R 562.85
225		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	4.00	2894.57	R 11,578.28
226		200mm dia. 90 deg. stainless steel grade 316L bend, flanged on both ends	No	1.00	9758.92	R 9,758.92
Carried forward /...						R 891,56

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 891,564.71
227		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end,	No	1.00	28091.60	R 28,091.60
228		200mm dia. stainless steel grade 316L spool piece, flanged on both ends, L=3000mm	No	1.00	20775.39	R 20,775.39
Pipeline DS04						
229		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=4635mm	No	1.00	29048.29	R 29,048.29
230		200mm dia. 60 deg. stainless steel grade 316L bend, flanged on one end	No	1.00	7899.60	R 7,899.60
231		200mm dia. stainless steel grade 316L spool piece, plain ended, L=500mm	No	1.00	8511.45	R 8,511.45
232		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R 5,378.36
233		200mm dia. 45 deg. stainless steel grade 304L bend, flanged on one end	No	1.00	4748.49	R 4,748.49
234		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1045mm	No	1.00	9964.31	R 9,964.31
Pipeline DS05						
235		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end,	No	1.00	29048.29	R 29,048.29
236		200mm dia. 60 deg. stainless steel grade 316L bend, flanged on one end	No	1.00	7899.60	R 7,899.60
237		200mm dia. stainless steel grade 316L spool piece, plain ended, L=500mm	No	1.00	8511.45	R 8,511.45
238		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R 5,378.36
239		200mm dia. 45 deg. stainless steel grade 304L bend, flanged on one end	No	1.00	7497.47	R 7,497.47
240		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1045mm	No	1.00	9964.31	R 9,964.31
Pipeline DS06						
241		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	10201.05	R 10,201.05
242		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R 2,795.12
243		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R 562.85
244		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R 5,378.36
245		200mm dia. 60 deg. stainless steel grade 304L bend, flanged on both ends	No	1.00	9561.10	R 9,561.10
Pipeline DS07						
246		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	10201.05	R 10,201.05
Carried forward /...						R 1,112,981.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,112,981.21
247		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R	2,795.12
248		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
249		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R	5,378.36
		Pipeline DS08					
250		200mm dia. stainless steel grade 304L T-junction piece, flanged on all ends	No	1.00	15954.13	R	15,954.13
251		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R	2,795.12
252		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
253		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	3.00	2689.18	R	8,067.54
254		200mm dia. 90 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
255		200mm dia. stainless steel grade 304L spool piece, flanged on one end, L=900mm	No	1.00	7547.20	R	7,547.20
		Pipeline PS01					
256		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1285mm	No	1.00	10996.67	R	10,996.67
257		200mm dia. 8 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	8914.66	R	8,914.66
258		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	3.00	2795.12	R	8,385.36
259		200mm dia. 1000mm long uPVC rocker pipe	No	4.00	562.85	R	2,251.40
260		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	2689.18	R	16,135.08
261		200mm dia. 8 deg. stainless steel grade 304L bend, plain ended	No	2.00	4788.48	R	9,576.96
262		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
263		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=4560mm	No	1.00	28679.66	R	28,679.66
264		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1135m	No	1.00	11878.76	R	11,878.76
265		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	1.00	10418.33	R	10,418.33
266		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
267		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, L=4240mm	No	1.00	4157.18	R	4,157.18
Carried forward /...						R	1,273,965.24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,273,965.24
		Pipeline PS02				
268		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1285mm	No	1.00	10996.67	R 10,996.67
269		200mm dia. 8 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	8914.66	R 8,914.66
270		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	3.00	2795.12	R 8,385.36
271		200mm dia. 1000mm long uPVC rocker pipe	No	4.00	562.85	R 2,251.40
272		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	2689.18	R 16,135.08
273		200mm dia. 8 deg. stainless steel grade 304L bend, plain ended	No	2.00	4788.48	R 9,576.96
274		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R 2,963.40
275		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=4560mm	No	1.00	28679.66	R 28,679.66
276		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1135m	No	1.00	11878.76	R 11,878.76
277		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	1.00	10418.33	R 10,418.33
278		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R 1,481.70
279		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, L=4240mm	No	1.00	26858.18	R 26,858.18
		Pipeline PS03				
280		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1285mm	No	1.00	10255.10	R 10,255.10
281		200mm dia. 8 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	8770.89	R 8,770.89
282		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	3.00	4643.63	R 13,930.89
283		200mm dia. 1000mm long uPVC rocker pipe	No	4.00	562.85	R 2,251.40
284		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	2689.18	R 16,135.08
285		200mm dia. 8 deg. stainless steel grade 304L bend, plain ended	No	2.00	3956.11	R 7,912.22
286		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R 2,963.40
287		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=4560mm	No	1.00	28279.69	R 28,279.69
288		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1135mm	No	1.00	11169.63	R 11,169.63
Carried forward /...						R 1,514,173.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,514,173.70
289		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	1.00	10378.33	R	10,378.33
290		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
291		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, L=4240mm	No	1.00	26486.32	R	26,486.32
Pipeline PS04							
292		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1285mm	No	1.00	10255.10	R	10,255.10
293		200mm dia. 8 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	8770.89	R	8,770.89
294		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	3.00	2795.12	R	8,385.36
295		200mm dia. 1000mm long uPVC rocker pipe	No	4.00	562.85	R	2,251.40
296		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	2689.18	R	16,135.08
297		200mm dia. 8 deg. stainless steel grade 304L bend, plain ended	No	2.00	3956.11	R	7,912.22
298		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
299		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=4560mm	No	1.00	28279.69	R	28,279.69
300		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1135mm	No	1.00	11169.63	R	11,169.63
301		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	1.00	10378.33	R	10,378.33
302		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
303		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, L=4240mm	No	1.00	26486.32	R	26,486.32
Pipeline PS05							
304		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=700mm	No	1.00	8074.72	R	8,074.72
305		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R	2,795.12
306		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
307		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R	5,378.36
308		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	1.00	5202.51	R	5,202.51
Carried forward /...						R	1,709,002.73

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,709,002.73
309		200mm dia. 45 deg. PVC-u bend	No	4.00	1481.70	R	5,926.80
310		200mm dia. 90 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
311		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, plain ended, L=1500mm	No	1.00	13286.22	R	13,286.22
		Pipeline PS06					
312		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=700mm	No	1.00	8074.72	R	8,074.72
313		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R	2,795.12
314		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
315		200mm nominal dia viking johnson coupling (fusion- bonded epoxy coated)	No	3.00	2689.18	R	8,067.54
316		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	1.00	5202.51	R	5,202.51
317		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
318		200mm nominal dia stainless steel grade 316L spool piece, flanged on both ends, plain ended, L=1500mm	No	1.00	13286.22	R	13,286.22
		Pipeline PS07					
319		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=700mm	No	1.00	9683.25	R	9,683.25
320		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
321		200mm nominal dia viking johnson coupling (fusion- bonded epoxy coated)	No	6.00	2689.18	R	16,135.08
322		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	2.00	5202.51	R	10,405.02
323		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
324		200mm nominal dia stainless steel grade 304L spool piece, both ends flanged, L=1500mm	No	1.00	11327.45	R	11,327.45
		Pipeline PS08					
325		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=700mm	No	1.00	8074.72	R	8,074.72
326		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
327		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
Carried forward /...						R	1,840.982

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,840,982.06
328		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	5.00	2689.18	R	13,445.90
329		200mm dia. 30 deg. stainless steel grade 304L bend, plain ended	No	2.00	5202.51	R	10,405.02
330		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
331		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=1500mm	No	1.00	13286.22	R	13,286.22
Pipeline TS01 & TS03							
332		200mm nominal dia stainless steel grade 304L puddl pipe special, flanged on one end, L=820mm	No	1.00	8522.26	R	8,522.26
333		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
334		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R	1,125.70
335		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	6.00	2689.18	R	16,135.08
336		200mm dia. 11.25 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
337		200mm dia. 30 deg. stainless steel grade 304L bend, plain ended	No	1.00	5202.51	R	5,202.51
338		200mm dia. 60 deg. Stainless steel grade 304L Y-junction piece, plain ended	No	1.00	8636.84	R	8,636.84
339		200mm dia. 45 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
340		200mm dia. 90 deg. PVC-u bend	No	3.00	1481.70	R	4,445.10
341		200mm nominal dia stainless steel grade 304L puddl pipe special, flanged on one end, L=700mm	No	1.00	8074.72	R	8,074.72
Pipeline TS02							
342		200mm nominal dia stainless steel grade 304L puddl pipe special, flanged on one end, L=820mm	No	1.00	8522.26	R	8,522.26
343		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2795.12	R	2,795.12
344		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
345		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R	5,378.36
346		200mm dia. 11.25 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
Pipeline TS04							
347		200mm nominal dia stainless steel grade 304L puddl pipe special, flanged on one end, L=700mm	No	1.00	8074.72	R	8,074.72
348		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
Carried forward /...						R	1,978,628.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,978,628.80
349		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R	1,125.70
350		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	3.00	2689.18	R	8,067.54
351		200mm dia. 90 deg. PVC-u bend	No	4.00	1481.70	R	5,926.80
352		200mm dia. 45 deg. PVC-u bend	No	6.00	1481.70	R	8,890.20
353		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=5640mm	No	1.00	33231.76	R	33,231.76
354		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1780mm	No	1.00	14886.10	R	14,886.10
Pipeline TS05							
355		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	10165.38	R	10,165.38
356		200mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=3065mm	No	1.00	20826.20	R	20,826.20
357		200mm dia. 45 deg. stainless steel grade 316L bend, plain ended	No	1.00	5202.51	R	5,202.51
358		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	4.00	2689.18	R	10,756.72
359		200mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=5100mm	No	1.00	30629.79	R	30,629.79
360		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	10165.38	R	10,165.38
Pipeline TS06							
361		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	10165.38	R	10,165.38
362		200mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=3065mm	No	1.00	20826.20	R	20,826.20
363		200mm dia. 45 deg. stainless steel grade 316L bend, plain ended	No	1.00	5202.51	R	5,202.51
364		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	4.00	2689.18	R	10,756.72
365		200mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=5100mm	No	1.00	30629.79	R	30,629.79
366		200mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=800mm	No	1.00	10165.38	R	10,165.38
Pipeline TS07							
367		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=1180mm	No	1.00	11744.72	R	11,744.72
Carried forward /...						R	2,237.9

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,237,993.58
368		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	4.00	10378.33	R 41,513.32
369		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=1820mm	No	1.00	14827.73	R 14,827.73
370		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R 5,590.24
371		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R 5,378.36
372		200mm dia. 90 deg. PVC-u bend	No	1.00	1481.70	R 1,481.70
373		200mm dia. 45 deg. PVC-u bend	No	2.00	1481.70	R 2,963.40
374		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=3870mm	No	1.00	24703.75	R 24,703.75
375		200mm nominal dia stainless steel grade 316L puddle pipe special, both ends flanged, L=900mm	No	1.00	12872.20	R 12,872.20
376		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R 1,125.70
Pipeline TS08						
377		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=1180mm	No	1.00	11744.72	R 11,744.72
378		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	2.00	10378.33	R 20,756.66
379		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=1820mm	No	1.00	14827.73	R 14,827.73
380		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R 5,590.24
381		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R 5,378.36
382		200mm dia. 90 deg. PVC-u bend	No	3.00	1481.70	R 4,445.10
383		200mm dia. 45 deg. PVC-u bend	No	2.00	1481.70	R 2,963.40
384		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=3870mm	No	1.00	24703.75	R 24,703.75
385		200mm nominal dia stainless steel grade 316L puddle pipe special, both ends flanged, L=900mm	No	1.00	12872.20	R 12,872.20
386		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R 1,125.70
Pipeline TS09						
387		200mm nominal dia stainless steel grade 316L	No	1.00	10471.30	R 10,471.30
388		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R 5,590.24
Carried forward /...						R 2,468,919.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward / ...						R	2,468,919.38
389		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	4.00	2689.18	R	10,756.72
390		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	2.00	10403.20	R	20,806.40
391		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=420mm	No	2.00	8106.07	R	16,212.14
392		200mm dia. 90 deg. PVC-u bend	No	3.00	1481.70	R	4,445.10
393		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
394		200mm nominal dia stainless steel grade 316L puddle pipe special, both ends flanged, L=1180mm	No	1.00	14881.78	R	14,881.78
395		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R	1,125.70
		Pipeline TS10					
396		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=400mm	No	1.00	8008.78	R	8,008.78
397		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
398		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	4.00	2689.18	R	10,756.72
399		200mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	2.00	10403.20	R	20,806.40
400		200mm nominal dia stainless steel grade 316L spool piece, both ends flanged, L=420mm	No	2.00	8106.07	R	16,212.14
401		200mm dia. 90 deg. PVC-u bend	No	3.00	1481.70	R	4,445.10
402		200mm dia. 45 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
403		200mm nominal dia stainless steel grade 316L puddle pipe special, both ends flanged, L=1180mm	No	1.00	14881.78	R	14,881.78
404		200mm dia. 1000mm long uPVC rocker pipe	No	2.00	562.85	R	1,125.70
		Pipeline SR01					
405		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=550mm	No	1.00	8254.17	R	8,254.17
406		200mm dia. 90 deg. stainless steel grade 304L bend, flanged on one end	No	2.00	10423.74	R	20,847.48
407		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
408		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	67154.62	R	67,154.62
409		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R	2,689.18
Carried forward / ...						R	2,726,473.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,726,473.17
410		200mm dia. 90 deg. Stainless steel grade 304L Y-junction piece, flanged on all ends Pipeline SR02	No	1.00	16504.36	R	16,504.36
411		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=550mm	No	1.00	8215.25	R	8,215.25
412		200mm dia. 90 deg. stainless steel grade 304L bend, flanged on one end	No	2.00	10423.74	R	20,847.48
413		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
414		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
415		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated) Pipeline SR03	No	1.00	2689.18	R	2,689.18
416		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
417		200mm dia. 75 deg. Stainless steel grade 304L Y-junction piece, flanged on all ends Pipeline SR04	No	1.00	16504.36	R	16,504.36
418		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
419		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	5.00	2689.18	R	13,445.90
420		200mm dia. 30 deg. stainless steel grade 304L bend, plain ended	No	2.00	3835.04	R	7,670.08
421		200mm dia. 90 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
422		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
423		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1200mm Pipeline SR05	No	1.00	10761.01	R	10,761.01
424		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	8410.91	R	8,410.91
425		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
426		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	67154.62	R	67,154.62
427		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	3.00	2689.18	R	8,067.54
428		200mm dia. 60 deg. stainless steel grade 304L bend, plain ended	No	1.00	5278.18	R	5,278.18
Carried forward /...						R	2,936,990.

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,936,990.40
429		200mm dia. 45 deg. Stainless steel grade 304L Y-junction piece, flanged on all ends. Pipeline SR06	No	1.00	13965.09	R	13,965.09
430		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
431		200mm dia. 45 deg. Stainless steel grade 304L Angle tee piece, flanged on all ends, L=610mm Pipeline SR07	No	1.00	13749.97	R	13,749.97
432		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	10368.61	R	10,368.61
433		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
434		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
435		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated) Pipeline SR08	No	1.00	2689.18	R	2,689.18
436		200mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	10368.61	R	10,368.61
437		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
438		200mm dia. 1000mm long uPVC rocker pipe	No	1.00	562.85	R	562.85
439		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated) Pipeline SR09	No	1.00	2689.18	R	2,689.18
440		200mm dia. 45 deg. PVC-u bend	No	2.00	1481.70	R	2,963.40
441		200mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	2.00	2795.12	R	5,590.24
Carried forward /...						R	3,017,271.10

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,017,271.10
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES					
		as specified in SANS 1200L and in project specifications					
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of GRP pipes Class PN6 SN5000 manufactured to SANS 1748, complete with REKA couplings:					
		Pipeline SS01					
442		500mm dia	m	29.00	2312.73	R	67,069.17
		Pipeline SS02					
443		500mm dia	m	29.00	2312.73	R	67,069.17
		Pipeline SS03					
444		500mm dia	m	33.00	2312.73	R	76,320.09
		Pipeline SS04					
445		500mm dia	m	78.00	2312.73	R	180,392.94
		Pipeline SS05					
446		500mm dia	m	54.00	2312.73	R	124,887.42
		Pipeline SS06					
447		500mm dia	m	33.00	2312.73	R	76,320.09
		Pipeline SS07					
448		500mm dia	m	78.00	2312.73	R	180,392.94
		Pipeline SS08					
449		500mm dia	m	33.00	2312.73	R	76,320.09
		Pipeline SS09					
450		500mm dia	m	29.00	2312.73	R	67,069.17
		Pipeline SS10					
451		500mm dia	m	58.00	2312.73	R	134,138.34
		Pipeline SS16					
452		500mm dia	m	38.00	2312.73	R	87,883.74
		Pipeline SS17					
453		500mm dia	m	38.00	2312.73	R	87,883.74
Carried forward /...						R	4,243,018.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 4,243,018.00
454		Pipeline SS18 500mm dia	m	35.00	2312.73	R 80,945.55
455		Pipeline SS19 500mm dia	m	35.00	2312.73	R 80,945.55
456		Pipeline WS01 300mm dia	m	7.00	1331.30	R 9,319.10
457		Pipeline WS02 300mm dia	m	29.00	1331.30	R 38,607.70
458		Pipeline WS03 300mm dia	m	10.00	1331.30	R 13,313.00
459		Pipeline WS04 300mm dia	m	27.00	1331.30	R 35,945.10
460		Pipeline WS05 300mm dia	m	6.00	1331.30	R 7,987.80
461		Pipeline WS06 300mm dia	m	30.00	1331.30	R 39,939.00
462		Pipeline WS07 300mm dia	m	6.00	1331.30	R 7,987.80
463		Pipeline WS08 300mm dia	m	26.00	1331.30	R 34,613.80
464		Pipeline WS09 300mm dia	m	4.00	1331.30	R 5,325.20
465		Pipeline WS10 300mm dia	m	101.00	1331.30	R 134,461.30
466		Pipeline WS11 300mm dia	m	172.00	1331.30	R 228,983.60
467		Pipeline WS12 450mm dia	m	2.00	1953.66	R 3,907.32
468		Pipeline WS13 450mm dia	m	2.00	1953.66	R 3,907.32
Carried forward /...						R 4,969,775.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	4,969,207.14
469		Pipeline WS14 450mm dia	m	2.00	1953.66	R	3,907.32
470		Pipeline WS15 450mm dia	m	2.00	1953.66	R	3,907.32
471		Pipeline WS16 450mm dia	m	40.00	1953.66	R	78,146.40
472		Pipeline WS17 450mm dia	m	12.00	1953.66	R	23,443.92
473		Pipeline WS18 450mm dia	m	47.00	1953.66	R	91,822.02
474		Pipeline WS19 450mm dia	m	39.00	1953.66	R	76,192.74
475		Pipeline WS20 450mm dia	m	12.00	1953.66	R	23,443.92
476		Pipeline WS21 450mm dia	m	13.00	1953.66	R	25,397.58
477		Pipeline WS22 450mm dia	m	20.00	1953.66	R	39,073.20
478		Pipelines AR01 - AR04 1100mm dia	m	400.00	7544.16	R	3,017,664.00
479		Pipelines RR01 - RR04 450mm dia	m	240.00	1953.66	R	468,878.40
480	8.2.2	Extra over item 8.2.1(b) for supplying, laying, jointing and bedding, below ground of fittings, specials, and valves complete with couplings (with stainless steel bolts) and corrosion protection as per specification: Pipeline SC01 150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
481		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
482		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	6034.88	R	6,034.88
483		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	581.23	R	581.23
484		160mm dia. 11 25 deg. PVC-u bend	No	2.00	900.13	R	1,800.26
Carried forward /...						R	8,837,680.65

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	8,837,680.65
485		160mm dia. 90 deg. PVC-u bend	No	1.00	900.13	R	900.13
486		160mm. Dia equal tee. PVC-u special	No	1.00	2167.06	R	2,167.06
		Pipeline SC02					
487		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
488		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
489		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R	483.94
490		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2167.06	R	2,167.06
491		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R	1,800.26
		Pipeline SC03					
492		160mm dia. 45 deg. PVC-u bend	No	4.00	900.13	R	3,600.52
493		160mm. Dia equal tee. PVC-u special	No	1.00	1675.20	R	1,675.20
		Pipeline SC04					
494		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
495		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
496		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R	483.94
497		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R	2,689.18
498		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R	1,800.26
		Pipeline SC05					
499		160x200mm dia reducer, PVC-u special	No	1.00	1675.20	R	1,675.20
500		200mm dia. 90 deg. PVC-u bend	No	1.00	1481.70	R	1,481.70
501		200x250mm dia. Stainless steel grade 304L reducer, flanged on one end	No	1.00	7466.12	R	7,466.12
502		300mm dia. Stainless steel grade 304L gussetted equal tee, plain on one end	No	1.00	33910.62	R	33,910.62
		Pipeline SC06					
503		300mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2689.18	R	5,378.36
504		315mm dia. 90 deg. PVC-u bend	No	1.00	6031.63	R	6,031.63
505		315mm dia. 1000mm long uPVC rocker pipe	No	1.00	1051.47	R	1,051.47
Carried forward /...						R	8,928,803.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	8,928,803.94
506		300mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
507		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=700mm	No	1.00	18892.29	R	18,892.29
Pipeline SC07							
508		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
509		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
510		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R	483.94
511		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R	2,689.18
512		160mm dia. 11.25 deg. PVC-u bend	No	2.00	900.13	R	1,800.26
513		160x200mm dia reducer, PVC-u special	No	1.00	1919.51	R	1,919.51
514		200mm Dia equal tee. PVC-u special	No	1.00	2466.50	R	2,466.50
Pipeline SC08							
515		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
516		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	2362.72	R	2,362.72
517		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R	483.94
518		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2167.06	R	2,167.06
519		160mm dia. 11.25 deg. PVC-u bend	No	2.00	900.13	R	1,800.26
520		160x200mm dia reducer, PVC-u special	No	1.00	1919.51	R	1,919.51
Pipeline SC09							
521		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R	2,689.18
522		150x200mm dia. Stainless steel grade 304L unequal cross, plain ended	No	1.00	14288.31	R	14,288.31
Pipeline SC10							
523		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R	5,817.60
524		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R	1,913.02
525		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R	483.94
Carried forward /...						R	9,007,341.80

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 9,007,341.80
526		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2167.06	R 4,334.12
527		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
Pipeline SC11						
528		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
529		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
530		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
531		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2167.06	R 4,334.12
532		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
Pipeline SC12						
533		200x250mm dia reducer, PVC-u special	No	1.00	2161.65	R 2,161.65
534		160mm dia. 45 deg. PVC-u bend	No	4.00	900.13	R 3,600.52
535		150x250mm dia Stainless steel grade 304L unequal cross, plain ended	No	1.00	27483.00	R 27,483.00
Pipeline SC13						
536		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
537		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
538		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
539		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2167.06	R 4,334.12
540		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
Pipeline SC14						
541		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
542		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
543		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
544		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	2.00	2167.06	R 4,334.12
545		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
Carried forward /...						R 9,089,768.17

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 9,089,768.17
		Pipeline SC15				
546		250mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	3204.82	R 3,204.82
547		250m. Dia equal tee. PVC-u special	No	1.00	3547.50	R 3,547.50
		Pipeline SC16				
548		250mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	3204.82	R 3,204.82
		Pipeline SC17				
549		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
550		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
551		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
552		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2167.06	R 2,167.06
		Pipeline SC19				
553		160mm dia. 90 deg. PVC-u bend	No	1.00	900.13	R 900.13
554		160m. Dia equal tee. PVC-u special	No	1.00	1675.20	R 1,675.20
		Pipeline SC20				
555		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
556		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
557		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
558		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2167.06	R 2,167.06
559		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
		Pipeline SC22				
560		160m. Dia equal tee. PVC-u special	No	1.00	1675.20	R 1,675.20
		Pipeline SC23				
561		150mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=600mm	No	1.00	5817.60	R 5,817.60
562		150mm nominal dia. SG iron flange adaptor suited for uPVC pipes	No	1.00	1913.02	R 1,913.02
Carried forward /...						R 9,134,269.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 9,134,269.96
563		160mm dia. 1000mm long uPVC rocker pipe	No	1.00	483.94	R 483.94
564		160mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2167.06	R 2,167.06
565		160mm dia. 22.5 deg. PVC-u bend	No	2.00	900.13	R 1,800.26
		Pipeline SC25				
566		160x200mm dia reducer, PVC-u special	No	1.00	1675.20	R 1,675.20
567		200mm dia. 90 deg. PVC-u bend	No	2.00	1481.70	R 2,963.40
		Pipeline SC26				
568		200mm nominal dia viking johnson coupling (fusion-bonded epoxy coated)	No	1.00	2689.18	R 2,689.18
569		200x250mm dia reducer, PVC-u special	No	1.00	2161.65	R 2,161.65
		Pipeline SS01				
570		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	18781.80	R 18,781.80
571		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	51129.64	R 51,129.64
572		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	8978.21	R 17,956.42
573		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10588.90	R 21,177.80
574		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	10934.82	R 21,869.64
575		500mm dia. long barrel GRP REKA coupling	No	8.00	9529.52	R 76,236.16
576		500mm dia. 1000mm long GRP rocker pipe	No	4.00	5908.17	R 23,632.68
577		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	17291.10	R 17,291.10
578		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	10934.82	R 21,869.64
579		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	13994.05	R 13,994.05
		Pipeline SS02				
580		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	18781.80	R 18,781.80
581		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	51129.64	R 51,129.64
582		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	8978.21	R 8,978.21
583		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10588.90	R 21,177.80
Carried forward /...						R 9,532,217.03

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,532,217.03
584		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	10934.82	R	21,869.64
585		500mm dia. long barrel GRP REKA coupling	No	6.00	9529.52	R	57,177.12
586		500mm dia. 1000mm long GRP rocker pipe	No	3.00	5908.17	R	17,724.51
587		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	17291.10	R	17,291.10
588		500mm dia. 12 deg. GRP bend, plain ended	No	2.00	10934.82	R	21,869.64
589		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	13994.05	R	13,994.05
Pipeline SS03							
590		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	18781.80	R	18,781.80
591		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	52013.90	R	52,013.90
592		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	8978.21	R	17,956.42
593		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10588.90	R	21,177.80
594		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	10934.82	R	21,869.64
595		500mm dia. long barrel GRP REKA coupling	No	8.00	9529.52	R	76,236.16
596		500mm dia. 1000mm long GRP rocker pipe	No	4.00	5908.17	R	23,632.68
597		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	17291.10	R	17,291.10
598		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	10934.82	R	21,869.64
599		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	13994.05	R	13,994.05
Pipeline SS04							
600		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	18781.80	R	18,781.80
601		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	51129.64	R	51,129.64
602		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	8978.21	R	8,978.21
603		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	10588.90	R	21,177.80
604		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	10934.82	R	21,869.64
605		500mm dia. long barrel GRP REKA coupling	No	6.00	9529.52	R	57,177.12
606		500mm dia. 1000mm long GRP rocker pipe	No	3.00	5908.17	R	17,724.51
607		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	13994.05	R	13,994.05
608		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	17291.10	R	17,291.10
Carried forward /...						R	10,195,090.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,195,090.15
		Pipeline SS05				
609		500mm dia. equal tee. GRP special	No	1.00	8978.21	R 8,978.21
610		500mm dia. long barrel GRP REKA coupling	No	2.00	8027.71	R 16,055.42
611		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R 4,406.36
612		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R 7,476.40
		Pipeline SS06				
613		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	17279.99	R 17,279.99
614		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
615		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	7476.40	R 14,952.80
616		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
617		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
618		500mm dia. long barrel GRP REKA coupling	No	8.00	8027.71	R 64,221.68
619		500mm dia. 1000mm long GRP rocker pipe	No	4.00	4406.36	R 17,625.44
620		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
621		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
622		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R 12,492.24
		Pipeline SS07				
623		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	17279.99	R 17,279.99
624		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
625		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R 7,476.40
626		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
627		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
628		500mm dia. long barrel GRP REKA coupling	No	6.00	8027.71	R 48,166.26
629		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R 13,219.08
630		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R 12,492.24
631		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
Carried forward /...						R 10,680,933.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,680,993.32
		Pipeline SS08				
632		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	17279.99	R 17,279.99
633		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
634		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	7476.40	R 14,952.80
635		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
636		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
637		500mm dia. long barrel GRP REKA coupling	No	8.00	8027.71	R 64,221.68
638		500mm dia. 1000mm long GRP rocker pipe	No	4.00	4406.36	R 17,625.44
639		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
640		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
641		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R 12,492.24
		Pipeline SS09				
642		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	17279.99	R 17,279.99
643		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
644		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R 7,476.40
645		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
646		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
647		500mm dia. long barrel GRP REKA coupling	No	6.00	8027.71	R 48,166.26
648		500mm dia. 1000mm long GRP rocker pipe	No	3.00	4406.36	R 13,219.08
649		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
650		500mm dia. 12 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
651		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R 12,492.24
		Pipeline SS10				
652		500mm dia. equal tee, GRP special	No	1.00	22123.95	R 22,123.95
653		500mm dia. long barrel GRP REKA coupling	No	2.00	8027.71	R 16,055.42
Carried forward /...						R 11,187,025.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 11,187,025.49
654		500mm dia. 1000mm long GRP rocker pipe	No	1.00	4406.36	R 4,406.36
655		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	8027.71	R 8,027.71
Pipeline SS16						
656		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	13625.13	R 13,625.13
657		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
658		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	7476.40	R 14,952.80
659		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
660		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
661		500mm dia. long barrel GRP REKA coupling	No	8.00	8027.71	R 64,221.68
662		500mm dia. 1000mm long GRP rocker pipe	No	4.00	4406.36	R 17,625.44
663		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
664		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
665		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R 12,492.24
Pipeline SS17						
666		500mm nominal dia stainless steel grade 304L puddle pipe special, plain ended, L=700mm	No	1.00	17279.99	R 17,279.99
667		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	49627.83	R 49,627.83
668		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	2.00	7476.40	R 14,952.80
669		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	2.00	9087.09	R 18,174.18
670		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	8027.71	R 16,055.42
671		500mm dia. long barrel GRP REKA coupling	No	8.00	9433.01	R 75,464.08
672		500mm dia. 1000mm long GRP rocker pipe	No	4.00	4406.36	R 17,625.44
673		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R 15,789.29
674		500mm dia. 10 deg. GRP bend, plain ended	No	2.00	9433.01	R 18,866.02
Carried forward /...						R 11,687,535.24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	11,687,535.24
675		500mm dia. 45 deg. GRP bend, plain ended Pipeline SS18	No	1.00	12492.24	R	12,492.24
676		500mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=700mm	No	2.00	28704.00	R	57,408.00
677		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	54940.95	R	54,940.95
678		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R	7,476.40
679		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	3.00	9087.09	R	27,261.27
680		500mm dia. long barrel GRP REKA coupling	No	10.00	8027.71	R	80,277.10
681		500mm dia. 1000mm long GRP rocker pipe	No	2.00	4406.36	R	8,812.72
682		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R	18,866.02
683		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R	15,789.29
684		500mm dia. 11.25 deg. GRP bend, plain ended	No	2.00	9433.01	R	18,866.02
685		500mm dia. 45 deg. GRP bend, plain ended Pipeline SS19	No	1.00	12492.24	R	12,492.24
686		500mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=700mm	No	2.00	28013.24	R	56,026.48
687		500mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=850mm	No	1.00	54940.95	R	54,940.95
688		500mm nominal dia GRP REKA Coupling with puddle flange special, L=250mm	No	1.00	7476.40	R	7,476.40
689		500mm nominal dia. step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	3.00	9087.09	R	27,261.27
690		500mm dia. long barrel GRP REKA coupling	No	10.00	8027.71	R	80,277.10
691		500mm dia. 1000mm long GRP rocker pipe	No	2.00	4406.36	R	8,812.72
692		500mm dia. 8 deg. GRP bend, plain ended	No	2.00	9433.01	R	18,866.02
693		500mm dia. 90 deg. GRP bend, plain ended	No	1.00	15789.29	R	15,789.29
694		500mm dia. 11.25 deg. GRP bend, plain ended	No	2.00	9433.01	R	18,866.02
695		500mm dia. 45 deg. GRP bend, plain ended	No	1.00	12492.24	R	12,492.24
Carried forward /...						R	12,303,025.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	12,303,025.98
		Pipeline WS01					
696		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1000mm	No	1.00	15405.53	R	15,405.53
697		300mm dia. 90 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	26434.98	R	26,434.98
698		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1500mm	No	1.00	30134.16	R	30,134.16
699		300mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	6386.75	R	6,386.75
700		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
701		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
702		300mm dia. 52 deg. GRP bend	No	2.00	7660.17	R	15,320.34
		Pipeline WS02					
703		300mm dia. 90 deg. GRP bend	No	1.00	9206.00	R	9,206.00
		Pipeline WS03					
704		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1000mm	No	1.00	15405.53	R	15,405.53
705		300mm dia. 90 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	17513.48	R	17,513.48
706		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1500mm	No	1.00	21212.67	R	21,212.67
707		300mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	6386.75	R	6,386.75
708		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
709		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
710		300mm dia. 52 deg. GRP bend	No	2.00	7660.17	R	15,320.34
		Pipeline WS04					
711		300mm dia. GRP equal Tee	No	1.00	10654.54	R	10,654.54
712		300mm dia. 45 deg. GRP bend	No	4.00	7660.17	R	30,640.68
		Pipeline WS05					
713		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1000mm	No	1.00	17283.23	R	17,283.23
714		300mm dia. 90 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	17513.48	R	17,513.48
Carried forward /...						R	12,572,283.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	12,572,283.50
715		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1500mm	No	1.00	21212.67	R	21,212.67
716		300mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	6386.75	R	6,386.75
717		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
718		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
719		300mm dia. 52 deg. GRP bend	No	2.00	7660.17	R	15,320.34
		Pipeline WS06					
720		300mm dia. GRP equal Tee	No	1.00	10654.54	R	10,654.54
		Pipeline WS07					
721		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1000mm	No	1.00	17283.23	R	17,283.23
722		300mm dia. 90 deg. stainless steel grade 304L bend, both ends flanged	No	1.00	17513.48	R	17,513.48
723		300mm nominal dia stainless steel grade 304L puddle pipe special, flanged on one end, L=1500mm	No	1.00	21212.67	R	21,212.67
724		300mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	6386.75	R	6,386.75
725		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
726		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
727		300mm dia. 52 deg. GRP bend	No	2.00	7660.17	R	15,320.34
		Pipeline WS08					
728		300mm dia. GRP equal Tee	No	1.00	10654.54	R	10,654.54
729		300mm dia. 45 deg. GRP bend	No	4.00	7660.17	R	30,640.68
		Pipeline WS09					
730		300mm nominal dia. GRP REKA Coupling with puddle flange special L = 250mm	No	1.00	5260.35	R	5,260.35
731		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
732		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
Carried forward /...						R	12,771,788.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	12,771,788.43
		Pipeline WS10					
733		300mm dia. GRP equal Tee	No	1.00	10654.54	R	10,654.54
734		300mm dia. 60 deg. GRP bend	No	1.00	7660.17	R	7,660.17
735		300mm dia. 30 deg. GRP bend	No	1.00	6557.55	R	6,557.55
736		300mm nominal dia GRP double bell coupling	No	2.00	2038.97	R	4,077.94
737		300mm dia. 1000mm long GRP rocker pipe	No	1.00	3141.59	R	3,141.59
738		300mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	5260.35	R	5,260.35
		Pipeline WS11					
739		300mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	5260.35	R	5,260.35
740		300mm nominal dia GRP double bell coupling	No	4.00	2038.97	R	8,155.88
741		300mm dia. 1000mm long GRP rocker pipe	No	2.00	3141.59	R	6,283.18
742		300mm dia. 90 deg. GRP bend	No	2.00	9206.00	R	18,412.00
743		300mm dia. 45 deg. GRP bend	No	6.00	7660.17	R	45,961.02
744		300mm dia. 10 deg. GRP bend	No	1.00	6557.55	R	6,557.55
745		300mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=4650mm	No	1.00	46711.29	R	46,711.29
746		300mm nominal dia stainless steel grade 316L puddle pipe special, flanged on one end, L=1135mm	No	1.00	20855.94	R	20,855.94
747		300mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	6386.75	R	6,386.75
		Pipeline WS12					
748		450mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=2405mm	No	1.00	44292.02	R	44,292.02
749		450mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	7897.99	R	7,897.99
750		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R	12,600.34
751		450mm dia. 10 deg. GRP bend	No	1.00	10027.56	R	10,027.56
752		450mm dia. 45 deg. GRP bend	No	1.00	10027.56	R	10,027.56
Carried forward /...						R	13,058,570.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 13,058,570.00
753		450mm nominal dia GRP double bell coupling	No	4.00	2255.17	R 9,020.68
754		450mm dia. 1000mm long GRP rocker pipe	No	2.00	3930.72	R 7,861.44
755		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	8027.71	R 8,027.71
Pipeline WS13						
756		450mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=2405mm	No	1.00	40108.55	R 40,108.55
757		450mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1001.21	R 1,001.21
758		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R 12,600.34
759		450mm dia. 10 deg. GRP bend	No	1.00	10027.56	R 10,027.56
760		450mm dia. 45 deg. GRP bend	No	1.00	10027.56	R 10,027.56
761		450mm nominal dia GRP double bell coupling	No	4.00	2255.17	R 9,020.68
762		450mm dia. 1000mm long GRP rocker pipe	No	2.00	3930.72	R 7,861.44
763		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	8027.71	R 8,027.71
Pipeline WS14						
764		450mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=2405mm	No	1.00	40108.55	R 40,108.55
765		450mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1001.21	R 1,001.21
766		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R 12,600.34
767		450mm dia. 10 deg. GRP bend	No	1.00	10027.56	R 10,027.56
768		450mm dia. 45 deg. GRP bend	No	1.00	10027.56	R 10,027.56
769		450mm nominal dia GRP double bell coupling	No	4.00	2255.17	R 9,020.68
770		450mm dia. 1000mm long GRP rocker pipe	No	2.00	3930.72	R 7,861.44
771		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	8027.71	R 8,027.71
Pipeline WS15						
772		450mm nominal dia stainless steel grade 316L puddle pipe special, plain ended, L=2405mm	No	1.00	40108.55	R 40,108.55
Carried forward /...						R 13,320,938.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /						R	13,320,938.48
773		450mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	1001.21	R	1,001.21
774		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R	12,600.34
775		450mm dia. 10 deg. GRP bend	No	1.00	10027.56	R	10,027.56
776		450mm dia. 45 deg. GRP bend	No	1.00	10027.56	R	10,027.56
777		450mm nominal dia GRP double bell coupling	No	4.00	2255.17	R	9,020.68
778		450mm dia. 1000mm long GRP rocker pipe	No	2.00	3930.72	R	7,861.44
779		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 300mm	No	1.00	8027.71	R	8,027.71
Pipeline WS16							
780		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 350mm	No	1.00	8027.71	R	8,027.71
781		450mm nominal dia GRP double bell coupling	No	2.00	2255.17	R	4,510.34
782		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R	3,930.72
783		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R	12,600.34
Pipeline WS17							
784		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 350mm	No	1.00	8027.71	R	8,027.71
785		450mm nominal dia GRP double bell coupling	No	2.00	2255.17	R	4,510.34
786		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R	3,930.72
Pipeline WS18							
787		450mm nominal dia GRP equal Tee	No	1.00	19897.09	R	19,897.09
788		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R	12,600.34
Pipeline WS19							
789		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 350mm	No	1.00	8027.71	R	8,027.71
790		450mm nominal dia GRP double bell coupling	No	2.00	2255.17	R	4,510.34
791		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R	3,930.72
792		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R	12,600.34
Pipeline WS20							
793		450mm nominal dia. GRP REKA Coupling with puddle flange special L = 350mm	No	1.00	8027.71	R	8,027.71
Carried forward /						R	13,494,637.11

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 13,494,637.11
794		450mm nominal dia GRP double bell coupling	No	2.00	1120.12	R 2,240.24
795		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
Pipeline WS21						
796		450mm nominal dia GRP equal Tee	No	1.00	19897.09	R 19,897.09
797		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R 12,600.34
Pipeline WS22						
798		450mm nominal dia GRP equal Tee	No	1.00	19897.09	R 19,897.09
799		450mm nominal dia GRP double bell coupling	No	2.00	2255.17	R 4,510.34
800		450mm dia. 90 deg. GRP bend	No	1.00	12600.34	R 12,600.34
801		450mm dia. 10 deg. GRP bend	No	1.00	10027.56	R 10,027.56
802		450mm nominal dia stainless steel grade 316L spool piece, flanged on one end, L=355mm	No	1.00	32710.18	R 32,710.18
803		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
804		450mm nominal dia step viking johnson coupling double bolt set, long barrel on GRP side (fusion-bonded epoxy coated)	No	1.00	7897.99	R 7,897.99
805		450mm dia. 90 deg. stainless steel grade 316L bend, both ends flanged	No	1.00	58208.81	R 58,208.81
806		450mm nominal dia stainless steel grade 316L puddle pipe special, both ends flanged, L=1300mm	No	1.00	38592.98	R 38,592.98
Pipeline AR01						
807		1100mm nominal dia. GRP REKA coupling with puddle flange special, L=1300mm	No	1.00	21831.30	R 21,831.30
808		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	13313.02	R 13,313.02
809		1100mm dia. long barrel GRP REKA coupling	No	1.00	30587.40	R 30,587.40
810		1100mm dia. 90 deg. GRP bend, plain ended	No	3.00	56217.91	R 168,653.73
Pipeline AR02						
811		1100mm nominal dia. GRP REKA coupling with puddle flange special, L=1300mm	No	1.00	21831.30	R 21,831.30
812		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	13313.02	R 13,313.02
813		1100mm dia. long barrel GRP REKA coupling	No	1.00	21831.30	R 21,831.30
814		1100mm dia. 90 deg. GRP bend	No	3.00	56217.91	R 168,653.73
Carried forward /...						R 14,181,696.31

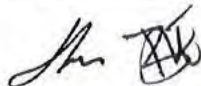
Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 14,181,696.31
		Pipeline AR03				
815		1100mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	35635.67	R 35,635.67
816		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	13313.02	R 13,313.02
817		1100mm dia. long barrel GRP REKA coupling	No	1.00	21831.30	R 21,831.30
818		1100mm dia. 90 deg. GRP bend	No	3.00	56217.91	R 168,653.73
		Pipeline AR04				
819		1100mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	21831.30	R 21,831.30
820		1100mm dia. 1100mm long GRP rocker pipe	No	1.00	13313.02	R 13,313.02
821		1100mm dia. long barrel GRP REKA coupling	No	1.00	21831.30	R 21,831.30
822		1100mm dia. 90 deg. GRP bend	No	3.00	56217.91	R 168,653.73
		Pipeline RR01				
823		450mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	7670.98	R 7,670.98
824		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
825		450mm dia. long barrel GRP REKA coupling	No	1.00	8027.71	R 8,027.71
826		450mm dia. 90 deg. GRP bend	No	3.00	12600.34	R 37,801.02
		Pipeline RR02				
827		450mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	7670.98	R 7,670.98
828		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
829		450mm dia. long barrel GRP REKA coupling	No	1.00	8027.71	R 8,027.71
830		450mm dia. 90 deg. GRP bend	No	3.00	12600.34	R 37,801.02
		Pipeline RR03				
831		450mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	7670.98	R 7,670.98
832		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
833		450mm dia. long barrel GRP REKA coupling	No	1.00	8027.71	R 8,027.71
834		450mm dia. 90 deg. GRP bend	No	3.00	12600.34	R 37,801.02
		Pipeline RR04				
835		450mm nominal dia. GRP puddle pipe special, both ended plain ended, L=1300mm	No	1.00	7670.98	R 7,670.98
836		450mm dia. 1000mm long GRP rocker pipe	No	1.00	3930.72	R 3,930.72
837		450mm dia. long barrel GRP REKA coupling	No	1.00	8027.71	R 8,027.71
838		450mm dia. 90 deg. GRP bend	No	3.00	12600.34	R 37,801.02
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 14,876,481.10

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 LB	BEDDING (SLUDGE PIPELINES) as specified in SANS 1200 LB and in the project specifications (all process pipes laid on bedding for flexible pipes)				
	PSLB 8.2.1	<u>Provision of bedding from trench excavations:</u>				
839		(a) Selected granular material	m ³	800.00	121.22	R 96,976.00
840		(b) Selected fill material	m ³	245.00	121.22	R 29,698.90
	PSLB 8.2.2	<u>Supply only of bedding by importation</u>				
	8.2.2.1	<u>From other necessary excavations:</u>				
841		(a) Selected granular material	m ³	400.00	121.22	R 48,488.00
842		(b) Selected fill material	m ³	125.00	121.22	R 15,152.50
	8.2.2.3	<u>From commercial sources:</u>				
843		(a) Selected granular material	m ³	800.00	121.22	R 96,976.00
844		(b) Selected fill material	m ³	400.00	121.22	R 48,488.00
	8.2.4	<u>Encasing of pipes in concrete</u>				
845		Class 15 MPa/19 mm	m ³	20.00	1715.36	R 34,307.20
846	PSLB 8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m ³	4.00	270.94	R 1,083.76
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 371,170.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R c
1200 DB		EARTHWORKS (PIPE TRENCHES)				R 1,895,919.14
SANS 1200 L		MEDIUM-PRESSURE PIPELINES				R 14,876,481.10
SANS 1200 LB		BEDDING (SLUDGE PIPELINES)				R 371,170.36
TOTAL OF BILL C45 CARRIED TO SUMMARY						R 17,143,570.61

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C46 POTABLE WATER RETICULATION				
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)				
		as specified in SANS 1200 DB and in project				
	PSDB 8.3.2	Excavation:				
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material:				
		(i) Pipes up to 125 mm dia for depths:				
1		Over 0.5 m up to 1.5 m	m	400.00	102.94	R 41,176.00
		(ii) Pipes over 200 mm dia and up to 700 mm				
2		Over 0.5 m up to 1.5 m	m	4500.00	102.94	R 463,230.00
	PSDB 8.3.2	(b) Extra over item PSDB 8.3.2 (a) above for:				
3		(1) Hard material	m³	264.27		
		(3) Hand excavation and backfill where ordered by the Engineer in:				
4		(a) Soft material	m³	48.05	5.32	R 255.63
5		(b) Intermediate material	m³	53.90		
6		(4) Backfill stabilized with 5% cement where directed by the Engineer	m³	53.90	270.94	R 14,603.67
7		(6) Mass concrete Class 20 MPa/19 mm in encasing around pipes under road crossings and pavements where directed by the Engineer	m³	49.00	1705.27	R 83,558.23
8		(8) Backfill with clean sand compacted to 100% Modified AASHTO density	m³	245.00	121.22	R 29,698.90
9		(c) Excavate and dispose of unsuitable material from trench bottom	m³	245.00		
	PSDB 8.3.3	Excavation ancillaries				
	8.3.3.1	Make up deficiency in backfill material:				
10		(a) From other necessary excavations on site	m³	420.43	36.23	R 15,232.18
11		(c) By importation from commercial or off site sources selected by the Contractor	m³	490.00	121.22	R 59,397.80
12	PSDB 8.3.3.3	Compaction in road reserves	m³	492.50	61.50	R 30,288.75
Carried forward /...						R 737,441.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						Rc
Brought forward /...						R737,441.15
	PSDB 8.3.4	Particular items:				
	PSDB 8.3.4 (a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:				
13		(i) Over 1,5 m up to 2,5 m	m	20.00		
14		(ii) Over 2,5 m up to 3,5 m	m	225.00		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R737,441.15



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SANS 1200 LB	BEDDING					
		as specified in SANS 1200 LB and in the project					
	PSLB 8.2.1	Provision of bedding from trench excavations:					
15		(a) Selected granular material	m³	132.00	121.22	R	16,001.04
16		(b) Selected fill material	m³	450.00	121.22	R	54,549.00
	PSLB 8.2.2	Supply only of bedding by importation					
	PSLB 8.2.2	From other necessary excavations:					
17		(a) Selected granular material	m³	132.00	121.22	R	16,001.04
18		(b) Selected fill material	m³	450.00	121.22	R	54,549.00
	8.2.2.3	From commercial sources:					
19		(a) Selected granular material	m³	176.00	121.22	R	21,334.72
20		(b) Selected fill material	m³	600.00	121.22	R	72,732.00
	8.2.4	Encasing of pipes in concrete					
21		Class 20 MPa/19 mm	m³	49.00	1705.27	R	83,558.23
22	PSLB 8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m²	10.00	270.94	R	2,709.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	321,434.43

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES				
		as specified in SANS 1200 L and in project				
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of HDPE pipes Class PN12.5 (blue stripe) according to SANS 1200 L, complete with couplings:				
23		32 mm dia HDPE Class 12.5 (blue stripe)	m	69.15	52.64	R 3,640.06
24		63 mm dia HDPE Class 12.5 (blue stripe)	m	277.65	36.58	R 10,156.44
25		140 mm dia HDPE Class 12.5 (blue stripe)	m	3394.03	232.18	R 788,025.89
26		200 mm dia HDPE Class 12.5 (blue stripe)	m	420.26	355.51	R 149,406.63
27		250 mm dia HDPE Class 12.5 (blue stripe)	m	649.69	641.36	R 416,685.18
	8.2.2	Extra-over Item 8.2.1 for supply, lay, bed of specials for HDPE Class 12.5 complete with couplings:				
		(i) Tees/Saddles (HDPE pipes):				
28		DN 63 x DN 63	No	1.00	96.06	R 96.06
29		DN 140 x DN 140	No	33.00	489.06	R 16,138.98
30		DN 250 x DN 140	No	3.00	3002.48	R 9,007.44
31		DN 250 x DN 250	No	5.00	1830.11	R 9,150.55
30		DN 250 x DN 90	No	1.00	3581.03	R 3,581.03
32		DN 200 x DN 140	No	3.00	1689.33	R 5,067.99
33		DN 250 x DN 200	No	1.00	2505.97	R 2,505.97
		(ii) Reducers (HDPE pipes):				
34		DN 140 x DN 32	No	2.00	316.73	R 633.46
35		DN 140 x DN 63	No	5.00	316.73	R 1,583.65
36		DN 140 x DN 90	No	1.00	316.73	R 316.73
37		DN 250 x DN 140	No	6.00	842.10	R 5,052.60
Carried forward 1...						R 1,421,048.65

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,421,048.65
		(iii) Bends (HDPE pipes):					
38		DN 140 mm x 45°	No	15.00	321.06	R	4,815.90
39		DN 140 mm x 90°	No	4.00	308.09	R	1,232.36
40		DN 200 mm x 90°	No	2.00	664.82	R	1,329.64
41		DN 250 mm x 45°	No	3.00	1518.81	R	4,556.43
	8.2.3	Extra-over Item 8.2.1 for supply, fix and bed of valves:					
42		DN 32 mm isolation valve	No	1.00	265.93	R	265.93
43		DN 63 mm isolation valve	No	3.00	4073.21	R	12,219.63
44		DN 140 mm isolation valve	No	17.00	6858.95	R	116,602.15
45		DN 200 mm isolation valve	No	4.00	9988.44	R	39,953.76
46		DN 250 mm isolation valve	No	1.00	20457.93	R	20,457.93
47		DN 140 mm non-return valve	No	1.00	22776.67	R	22,776.67
48		DN 250 mm non-return valve	No	1.00	45564.15	R	45,564.15
	8.2.3	Extra over 8.2.1 for supplying, fixing and bedding of fire hydrants including double fanged distance piece between hydrant and tee on main pipe:					
49		DN 140mm dia	No	17.00	4259.14	R	72,405.38
	8.2.3	Extra over 8.2.1 for supplying and installing flow meter including all pipework and fittings complete					
50		DN 250mm dia	Sum	1.00	5329.33	R	5,329.33
	8.2.3	Extra over 8.2.1 for supplying and installing booster pumps including all pipework and fittings complete					
51		DN 140mm dia	Sum	1.00	9691.17	R	9,691.17
52		DN 250mm dia	Sum	1.00	16458.23	R	16,458.23
	8.2.3	Extra over 8.2.1 for supplying an air valve pipework and fittings complete					
53		DN 250mm dia	Sum	1.00	26906.09	R	26,906.09
		Extra over 8.2.1 for supplying and installation of connection points complete with fittings and pipework for:					
54		a) 32 DN Connection					
55		b) 63 DN Connection	No	3.00	518.36	R	1,555.08
56		b) 140 DN Connection	No	3.00	575.96	R	1,727.88
			No	5.00	863.93	R	4,319.65
Carried forward /...						R	1,829,216.01

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,829,216.01
57	PSL 8.2.11	Anchor/Thrust blocks complete with concrete Grade 20 MPa/19 mm for potable water pipes	m²	20.00	1705.27	R 34,105.40
	8.2.13	Valve and hydrant chambers:				
58		a) Valve chamber	No	9.00	3245.80	R 29,212.20
59		b) Hydrant chamber	No	17.00	4121.67	R 70,068.39
60		c) Air Valve Chamber	No	1.00	33926.37	R 33,926.37
61		d) Flow meter chamber	No	1.00	33926.37	R 33,926.37
62	PSL 8.2.16	Supply and install 50mm dia standpipe complete for potable water	No	6.00	9188.50	R 55,131.00
63	PSL 8.2.18	Connection to existing main potable water supply pipe in Macassar Road	Sum	1.00	11473.80	R 11,473.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,097,059.54

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 DB		EARTHWORKS (PIPE TRENCHES)				R 737,441.15
SANS 1200 LB		BEDDING				R 321,434.43
SANS 1200 L		MEDIUM-PRESSURE PIPELINES				R 2,097,059.54
TOTAL OF BILL C46 CARRIED TO SUMMARY						R 3,155,935.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C47 SERVICE WATER RETICULATION					
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)					
		as specified in SANS 1200 DB and in project					
	PSDB 8.3.2	Excavation:					
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material:					
		(i) Pipes up to 125 mm dia for depths:					
1		Over 0.5 m up to 1.5 m	m	1050.00	102.94	R	108,087.00
		(ii) Pipes over 200 mm dia and up to 700 mm					
2		Over 0.5 m up to 1.5 m	m	3950.00	127.06	R	501,887.00
	PSDB 8.3.2	(b) Extra over item PSDB 8.3.2 (a) above for:					
3		(1) Hard material	m ³	25.00			
		(3) Hand excavation and backfill where ordered by the Engineer in:					
4		(a) Soft material	m ³	100.00	5.32	R	532.00
5		(b) Intermediate material	m ³	55.00			
6		(4) Backfill stabilized with 5% cement where directed by the Engineer	m ³	55.00	270.94	R	14,901.70
7		(6) Mass concrete Class 20 MPa/19 mm in encasing around pipes under road crossings and pavements where directed by the Engineer	m ³	50.00	1705.27	R	85,263.50
8		(8) Backfill with clean sand compacted to 100% Modified AASHTO density	m ³	250.00	121.22	R	30,305.00
9		(c) Excavate and dispose of unsuitable material	m ³	250.00			
	PSDB 8.3.3	Excavation ancillaries					
	8.3.3.1	Make up deficiency in backfill material:					
10		(a) From other necessary excavations on site	m ³	750.00	36.23	R	27,172.50
11		(c) By importation from commercial or off site sources selected by the Contractor	m ³	500.00	1.61	R	805.00
12	PSDB 8.3.3.3	Compaction in road reserves	m ³	125.00	61.50	R	7,687.50
	PSDB 8.3.4	Particular items:					
	PSDB 8.3.4 (a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:					
13		(i) Over 1,5 m up to 2,5 m	m	52.50			
14		(ii) Over 2,5 m up to 3,5 m	m	296.25			
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	776,641.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 LB	BEDDING				
		as specified in SANS 1200 LB and in the project				
	PSLB 8.2.1	Provision of bedding from trench excavations:				
15		(a) Selected granular material	m³	162.00	121.22	R 19,637.64
16		(b) Selected fill material	m³	540.00	121.22	R 65,458.80
	PSLB 8.2.2	Supply only of bedding by importation				
	PSLB 8.2.2	From other necessary excavations:				
17		(a) Selected granular material	m³	162.00	121.22	R 19,637.64
18		(b) Selected fill material	m³	540.00	121.22	R 65,458.80
	8.2.2.3	From commercial sources:				
19		(a) Selected granular material	m³	216.00	121.22	R 26,183.52
20		(b) Selected fill material	m³	720.00	121.22	R 87,278.40
	8.2.4	Encasing of pipes in concrete				
21		Class 20 MPa/19 mm	m³	62.50	1705.27	R 106,579.38
22	PSLB 8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m²	10.00	270.94	R 2,709.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 392,943.58

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES				
		as specified in SANS 1200DB and in project				
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of HDPE pipes Class PN16 (orange stripe) according to SANS 1200L, complete with couplings:				
23		32 mm dia HDPE Class 12.5 (orange stripe)	m	131.12	52.64	R 6,902.16
24		63 mm dia HDPE Class 12.5 (orange stripe)	m	861.56	87.98	R 75,800.05
25		90 mm dia HDPE Class 12.5 (orange stripe)	m	106.46	130.71	R 13,915.39
26		140 mm dia HDPE Class 12.5 (orange stripe)	m	168.99	246.58	R 41,669.55
27		250 mm dia HDPE Class 16 (orange stripe)	m	37.00	756.79	R 28,001.23
28		315 mm dia HDPE Class 16 (orange stripe)	m	12.00	1171.91	R 14,062.92
29		400 mm dia HDPE Class 16 (orange stripe)	m	360.00	1822.18	R 655,984.80
30		450 mm dia HDPE Class 16 (orange stripe)	m	155.00	2314.96	R 358,818.80
31		500 mm dia HDPE Class 16 (orange stripe)	m	32.00	2822.69	R 90,326.08
	8.2.2	Extra over item 8.2.1(a) for supplying, laying, jointing and bedding, below ground of fittings, specials, and valves complete with couplings (with stainless steel bolts) and corrosion protection as per specification:				
32		500mm dia. stainless steel grade 304L puddle pipe special, flanged on one end, L=1100mm	No	1.00	16215.00	R 16,215.00
33		500mm dia. HDPE stub with stainless steel grade 304L backing ring to suit puddle pipe	No	1.00	15815.03	R 15,815.03
	8.2.2	Extra-over Item 8.2.1 for supply, lay, bed of specials for HDPE Class 16 complete with couplings:				
		(i) Tees/Saddles (HDPE pipes):				
34		DN 140 x DN 140	No	10.00	488.61	R 4,886.10
35		DN 250 x DN 250	No	1.00	1932.83	R 1,932.83
36		DN 400 x DN 315	No	1.00	9824.13	R 9,824.13
37		DN 400 x DN 63	No	1.00	5405.00	R 5,405.00
38		DN 400 x DN 400	No	2.00	7101.09	R 14,202.18
39		DN 450 x DN 63	No	1.00	5405.00	R 5,405.00
40		DN 450 x DN 450	No	1.00	15997.84	R 15,997.84
41		DN 500 x DN 500	No	1.00	24863.00	R 24,863.00
Carried forward /...						R 1,400,027.09

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,400,027.09
		(ii) Reducers (HDPE pipes):					
42		DN 63 x DN 32	No	1.00	77.29	R	77.29
43		DN 90x DN 63	No	1.00	84.23	R	84.23
44		DN 250 x DN 90	No	1.00	681.03	R	681.03
45		DN 250 x DN 140	No	1.00	681.03	R	681.03
46		DN 315 x DN 63	No	1.00	1367.47	R	1,367.47
47		DN 315 x DN 250	No	1.00	713.46	R	713.46
48		DN 400 x DN 32	No	1.00	2194.43	R	2,194.43
49		DN 400 x DN 315	No	1.00	1253.96	R	1,253.96
50		DN 450 x DN 400	No	1.00	1464.76	R	1,464.76
51		DN 500 x DN 400	No	1.00	1680.96	R	1,680.96
52		DN 500 x DN 450	No	1.00	1680.96	R	1,680.96
53		DN 500 x DN 450	No	1.00	1680.96	R	1,680.96
		(iii) Bends (HDPE pipes):					
54		DN 32 mm x 45°	No	1.00	41.08	R	41.08
55		DN 32 mm x 90°	No	2.00	41.08	R	82.16
56		DN 63 mm x 45°	No	3.00	81.08	R	243.24
57		DN 140 mm x 45°	No	5.00	655.09	R	3,275.45
58		DN 140 mm x 90°	No	3.00	655.09	R	1,965.27
59		DN 250 mm x 45°	No	4.00	2167.41	R	8,669.64
60		DN 315 mm x 45°	No	2.00	4172.66	R	8,345.32
61		DN 315 mm x 90°	No	1.00	4172.66	R	4,172.66
62		DN 400 mm x 45°	No	1.00	524.29	R	524.29
63		DN 500 mm x 90°	No	2.00	122.15	R	244.30
		(iv) Lateral Bend (HDPE pipes):					
64		DN 315 mm	No	1.00	9632.79	R	9,632.79
	8.2.3	Extra-over Item 8.2.1 for supply, fix and bed of valves:					
65		DN 315 mm isolation valve	No	2.00	29792.36	R	59,584.72
66		DN 500 mm isolation valve	No	2.00	114856.25	R	229,712.50
Carried forward /...						R	1,740,081.05

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,740,081.05
	8.2.1	(b) Supply, lay, joint and bed, below ground, on flexible pipe bedding of HDPE pipes Class PN12.5 (orange stripe) according to SANS 1200L, complete with couplings					
67		32 mm dia HDPE Class 12.5 (orange stripe)	m	130.00	52.64	R	6,843.20
68		63 mm dia HDPE Class 12.5 (orange stripe)	m	860.00	87.98	R	75,662.80
69		90 mm dia HDPE Class 12.5 (orange stripe)	m	110.00	130.71	R	14,378.10
70		140 mm dia HDPE Class 12.5 (orange stripe)	m	2000.00	246.58	R	493,160.00
71		200 mm dia HDPE Class 12.5 (orange stripe)	m	170.00	441.31	R	75,022.70
72		250 mm dia HDPE Class 12.5 (orange stripe)	m	610.00	554.96	R	338,525.60
73		315 mm dia HDPE Class 12.5 (orange stripe)	m	620.00	1171.91	R	726,584.20
74		400 mm dia HDPE Class 12.5 (orange stripe)	m	20.00	1524.77	R	30,495.40
75		450 mm dia HDPE Class 12.5 (orange stripe)	m	420.00	1938.69	R	814,249.80
76		500 mm dia HDPE Class 12.5 (orange stripe)	m	620.00	2358.09	R	1,462,015.80
	8.2.2	Extra-over Item 8.2.1 for supply, lay, bed of specials for HDPE Class 12.5 complete with couplings:					
		(i) Tees/Saddles (HDPE pipes):					
77		DN 63 x DN 63	No	1.00	96.66	R	96.66
78		DN 140 x DN 63	No	15.00	1247.17	R	18,707.55
79		DN 140 x DN 90	No	1.00	1067.60	R	1,067.60
80		DN 140 x DN 140	No	15.00	489.06	R	7,335.90
81		DN 200 x DN 200	No	3.00	1192.86	R	3,578.58
82		DN 250 x DN 63	No	3.00	3760.46	R	11,281.38
83		DN 250 x DN 250	No	12.00	1830.11	R	21,961.32
84		DN 315 x DN 63	No	3.00	6399.84	R	19,199.52
85		DN 315 x DN 110	No	1.00	6079.83	R	6,079.83
86		DN 315 x DN 250	No	1.00	4583.55	R	4,583.55
87		DN 315 x DN 315	No	1.00	3583.52	R	3,583.52
88		DN 400 x DN 400	No	1.00	7101.76	R	7,101.76
		(ii) Reducers (HDPE pipes):					
89		DN 63 x DN 32	No	2.00	96.21	R	192.42
90		DN 90 x DN 63	No	1.00	105.94	R	105.94
91		DN 110 x DN 90	No	1.00	132.96	R	132.96
92		DN 200 x DN 140	No	3.00	308.09	R	924.27
Carried forward /...						R	5,882,951.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	5,882,951.41
92		DN 315 x DN 140	No	1.00	1064.79	R	1,064.79
93		DN 315 x DN 250	No	3.00	713.46	R	2,140.38
94		DN 350 x DN 200	No	6.00	713.46	R	4,280.76
95		DN 450 x DN 140	No	2.00	2329.56	R	4,659.12
96		DN 450 x DN 400	No	2.00	1464.76	R	2,929.52
		(iii) Bends (HDPE pipes):					
97		DN 32 mm x 45°	No	1.00	81.08	R	81.08
98		DN 32 mm x 90°	No	1.00	41.08	R	41.08
99		DN 63 mm x 45°	No	1.00	81.08	R	81.08
100		DN 63 mm x 90°	No	1.00	81.08	R	81.08
101		DN 140 mm x 45°	No	6.00	655.09	R	3,930.54
102		DN 140 mm x 90°	No	3.00	655.09	R	1,965.27
103		DN 250 mm x 45°	No	3.00	2167.41	R	6,502.23
104		DN 315 mm x 45°	No	1.00	4172.66	R	4,172.66
105		DN 315 mm x 90°	No	1.00	4172.66	R	4,172.66
	8.2.3	Extra-over Item 8.2.1 for supply, fix and bed of valves:					
106		DN 63 mm isolation valve	No	17.00	4073.21	R	69,244.57
107		DN 90 mm isolation valve	No	2.00	4411.56	R	8,823.12
108		DN 140 mm isolation valve	No	18.00	6858.95	R	123,461.10
109		DN 200 mm isolation valve	No	1.00	9988.44	R	9,988.44
110		DN 250 mm isolation valve	No	7.00	20457.93	R	143,205.51
111		DN 315 mm isolation valve	No	3.00	29792.36	R	89,377.08
		Extra over 8.2.1 for supplying and installation of connection points complete with fittings and pipework for:					
112		a) 32 DN Connection	No	3.00	41.08	R	123.24
113		b) 63 DN Connection	No	19.00	41.08	R	780.52
114		c) 90 DN Connection	No	1.00	59.46	R	59.46
115		b) 140 DN Connection	No	5.00	109.18	R	545.90
116		b) 200 DN Connection	No	4.00	170.80	R	683.20
117	PSL 8.2.11	Anchor/Thrust blocks complete with concrete Grade	m²	20.00	1705.27	R	34,105.40
Carried forward /...						R	6,399,451.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 6,399,451.20
118	8.2.13	Valve and hydrant chambers: a) Valve chamber	No	48.00	4121.67	R 197,840.16
119	PSL 8.2.16	Supply and install 50mm dia standpipe complete for service water	No	10.00	9188.50	R 91,885.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 6,689,176.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount Rc
Section		Description				Amount
SANS 1200 DB		EARTHWORKS (PIPE TRENCHES)				R776,641.20
SANS 1200 LB		BEDDING				R392,943.58
SANS 1200 L		MEDIUM-PRESSURE PIPELINES				R6,689,176.36
TOTAL OF BILL C47 CARRIED TO SUMMARY						R7,858,761.13

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C48 ON-SITE SEWAGE RETICULATION				
	SABS 1200 D	EARTHWORKS				
		as specified in SABS 1200 D and in the Scope of Works				
	8.3.3	Restricted Excavation:				
	PSD 8.3.3c	(a) Excavate for conservancy tank, in all materials, and use for backfill or berm or dispose, as ordered:				
1		(i) Backfill	m ³	5.00	531.59	R 2,657.95
2		(ii) Dispose	m ³	10.00	52.31	R 523.10
	8.3.3 b	(b) Extra-over items 1 and 2 for:				
3		(i) Hard rock excavation	m ³	1.00		
4	PSD 8.3.3 d	(ii) Hand excavation where ordered	m ³	5.00	5.32	R 26.60
5	PSD 8.3.3 e	(iii) Soilcrete backfill	m ³	3.00	1381.78	R 4,145.34
	PSD 8.3.3 f	Excavate unsuitable material from bottom of conservancy tank excavations and replace with selected material complying with PSD 3.2.4				
6		(i) using material from tank excavation	m ³	1.00	531.59	R 531.59
7		(ii) using material from other excavations on site	m ³	1.00	531.59	R 531.59
8		(iii) using material from commercial sources	m ³	5.00	531.59	R 2,657.95
	PSD 8.3.3 g	Backfill Conservancy tank using selected material complying with PSD 3.2.4				
9		(i) Material from other excavations on site	m ³	1.00	36.23	R 36.23
10		(ii) Material from commercial sources	m ³	15.00	282.63	R 4,239.45
	PSLD 8.2.16	Provide, test and install conservancy tank complete with internal specials as detailed on drawing 1001780-0000-DRG-CC-0028				
11		(a) 5 500 litre tank (Calcamite modular tank or similar approved)	No	1.00	62776.30	R 62,776.30
12	PSLD 8.2.17	Construction of rodding eye concrete surround - 500mm diameter x 200mm thick	No	1.00	145.85	R 145.85
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 78,271.95

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SABS 1200DB	EARTHWORKS (PIPE TRENCHES):					
		as specified in SABS 1200 DB and in the project specifications					
	8.3.2	Excavation:					
	PSDB 8.3.2	(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material:					
		(i) Trenches of width 800 mm to accommodate pipes up to 200mm diameter:					
13		(i) Depth exceeding 0m up to 1.0m	m	10.00	R 106.79	R	1,067.90
14		(ii) Depth exceeding 1.0m up to 1.5m	m	10.00	R 106.79	R	1,067.90
15		(iii) Depth exceeding 1.5m up to 2.0m	m	80.00	R 243.85	R	19,508.00
16		(iv) Depth exceeding 2.0m up to 2.5m	m	200.00	R 243.85	R	48,770.00
17		(v) Depth exceeding 2.5m up to 3.0m	m	200.00	R 688.11	R	137,622.00
18		(vi) Depth exceeding 3.0m up to 3.5m	m	10.00	R 688.11	R	6,881.10
19		(vii) Depth exceeding 3.5m up to 4.0m	m	120.00	R 688.11	R	82,573.20
20		(viii) Depth exceeding 4.0m up to 4.5m	m	80.00	R 688.11	R	55,048.80
21		(ix) Depth exceeding 4.5m up to 5.0m	m	10.00	R 688.11	R	6,881.10
22		(x) Depth exceeding 5.0 m up to 5.5m	m	60.00	R 688.11	R	41,286.60
23		(xi) Depth exceeding 5.5 m up to 6.0m	m	150.00	R 688.11	R	103,216.50
	PSDB 8.3.2	(b) Extra over item 8.3.2(a) above for:					
24		(2) Hard rock excavation	m³	210.00			
25		(3) Hand excavation where ordered	m³	100.00	R 5.32	R	532.00
26		(4) Backfill stabilised with 5% cement where ordered	m³	100.00	R 270.94	R	27,094.00
27		(5) Soilcrete backfill where ordered	m³	100.00	R 1,381.78	R	138,178.00
28		(6) Hand backfilling machine trenches where	m³	20.00	R 133.16	R	2,663.20
29		(7) Selective stockpiling of topsoil where ordered	m³	40.00	R 36.23	R	1,449.20
30		(8) Disposing of spoil material on a site provided by the Contractor	m³	1700.00	R 52.31	R	88,927.00
31	PSDB 8.3.2	(c) Excavate and dispose of unsuitable material from trench bottom	m³	200.00			
Carried forward /...						R	762,766.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	762,766.50
	8.3.3	Excavation ancillaries:					
	8.3.3.1	Make up deficiency in backfill material:					
32		(a) From other necessary excavations on site	m³	50.00	36.23	R	1,811.50
		(b) By importation from commercial or off-site					
33		(i) Subbase quality material complying with subclause 3.5 of SABS 1200 DB and PSDB 3.5	m³	200.00	282.63	R	56,526.00
34	PSDB 8.3.3.3	Compaction in road reserves (95% of modified AASHTO maximum dry density)	m³	200.00	121.22	R	24,244.00
	PSDB 8.3.4	Particular Items:					
	PSDB 8.3.4	Shore trench opposite structure or service or in unsuitable excavated materials on <u>both sides</u> of trench for depths:					
35		(i) Depth exceeding 1.0m up to 1.5m	m	5.00			
36		(ii) Depth exceeding 1.5m up to 2.0m	m	5.00			
37		(iii) Depth exceeding 2.0m up to 2.5m	m	5.00			
38		(iv) Depth exceeding 2.5m up to 3.0m	m	200.00			
39		(v) Depth exceeding 3.0m up to 3.5m	m	10.00			
40		(vi) Depth exceeding 3.5m up to 4.0m	m	200.00			
41		(vii) Depth exceeding 4.0m up to 4.5m	m	5.00			
42		(viii) Depth exceeding 4.5m up to 5.0m	m	20.00			
43		(ix) Depth exceeding 5.0 m up to 5.5m	m	60.00			
44		(x) Depth exceeding 5.5 m up to 6.0m	m	5.00			
	PSDB 8.3.5	Existing services that intersect or adjoin a pipe trench:					
		(a) Services that intersect a trench:					
45		(i) Existing building connections	No	10.00	531.59	R	5,315.90
46		(ii) Pipes up to 300 mm diameter	No	10.00	1063.17	R	10,631.70
47		(iii) Pipes above 300 mm diameter and up to 600	No	10.00	1594.76	R	15,947.60
48		(iv) Telecommunication cables in ducts	No	20.00	1063.17	R	21,263.40
49		(v) Existing electrical cabling	No	20.00	1063.17	R	21,263.40
Carried forward /...						R	919,770.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 919,770.00
		(b) Services that adjoin a trench:				
50		(i) Existing building connections	m	100.00		
51		(ii) Pipes up to 300 mm diameter	m	150.00		
52		(iii) Pipes above 300 mm diameter and up to 600 mm diameter	m	100.00		
53		(iv) Telecommunication cables in ducts	m	200.00		
54		(v) Existing electrical cabling	m	100.00		
	PSDB 8.3.6.1	Reinstate road surfaces				
55		(a) Gravel on Shoulders	m ²	100.00	R 104.63	R 10,463.00
56		(b) Asphalt (min thickness 40mm)	m ²	30.00	R 670.22	R 20,106.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 950,339.60

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SABS 1200LB	BEDDING (PIPES) as specified in SABS 1200 LB and in the project specifications					
	PSLB 8.2.1	(a) Provision of bedding from trench excavation:					
57		- Selected granular material	m ³	20.00	R 121.22	R	2,424.40
58		- Selected fill material	m ³	20.00	R 121.22	R	2,424.40
	PSLB 8.2.2	(b) Supply only of bedding by importation:					
	8.2.2.1	(i) From other necessary excavations and stockpiles:					
59		- Selected granular material	m ³	20.00	R 121.22	R	2,424.40
60		- Selected fill material	m ³	20.00	R 121.22	R	2,424.40
	8.2.2.3	(ii) From commercial sources:					
61		- Selected granular material	m ³	350.00	R 121.22	R	42,427.00
62		- Selected fill material	m ³	20.00	R 121.22	R	2,424.40
	8.2.3	Concrete bedding cradle					
63		Class A, 20MPa/20, section 600x300mm, shuttered on both sides with pipes tied down to prevent floating	m ³	20.00	R 1,705.27	R	34,105.40
	8.2.4	Encasing of pipes in 20MPa/20 Concrete:					
64		- 160mm diameter pipes	m ³	10.00	R 1,705.27	R	17,052.70
65		- 200mm diameter pipes	m ³	10.00	R 1,705.27	R	17,052.70
66	PSLB 8.2.6	Extra over items PSLB 8.2.1 and PSLB 8.2.2 for bedding stabilized with 5% cement	m ³	20.00	R 270.94	R	5,418.80
	PSLB 8.2.7	Provision of stone/geofabric to deal with water:					
67		(i) 19mm crushed stone	m ³	60.00	R 651.08	R	39,064.80
68		(ii) Geofabric (Bidim A2 or equivalent approved)	m ²	2500.00	R 23.45	R	58,625.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	225,868.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200LD	SEWERS:				
		as specified in SABS 1200 LD and in the project specifications				
	8.2.1	Supply, lay, joint, bed and test pipeline:				
		(a) uPVC Class 34 solid wall pipes including				
69		- 110mm	m	100.00	R 122.80	R 12,280.00
70		- 160mm	m	100.00	R 206.38	R 20,638.00
71		- 200mm	m	1000.00	R 292.84	R 292,840.00
	8.2.2	Extra over item 8.2.1 above for specials:				
		(a) uPVC class 34 solid wall sewer specials (Marley or equivalent to SABS 791):				
		(i) 45° Reducing Y-junctions of nominal diameters indicated for erf sewer connections:				
72		- 160mm x 110mm (plain)	No	2.00	R 151.34	R 302.68
73		- 160mm x 110mm (access)	No	2.00	R 273.49	R 546.98
74		- 200mm x 160mm (plain)	No	6.00	R 545.91	R 3,275.46
75		- 200mm x 110mm (plain)	No	8.00	R 545.91	R 4,367.28
		(ii) 45° Y-junctions of nominal diameters indicated for erf sewer connections:				
76		- 110mm x 110mm (plain)	No	2.00	R 151.34	R 302.68
77		- 110mm x 110mm (access)	No	2.00	R 91.89	R 183.78
78		- 160mm x 160mm (plain)	No	4.00	R 380.51	R 1,522.04
79		- 160mm x 160mm (access)	No	4.00	R 594.55	R 2,378.20
80		- 200mm x 200mm (access)	No	8.00	R 839.94	R 6,719.52
		(iii) Bends of diameters and angles indicated:				
81		- 110mm x 22.5°	No	4.00	R 91.89	R 367.56
82		- 110mm x 45°	No	6.00	R 140.53	R 843.18
83		- 110mm x 90°	No	2.00	R 140.53	R 281.06
84		- 160mm x 22.5°	No	6.00	R 259.44	R 1,556.64
85		- 160mm x 45°	No	4.00	R 302.68	R 1,210.72
86		- 160mm x 90°	No	2.00	R 345.92	R 691.84
Carried forward /						R 350,307.62

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 350,307.62
87		- 200mm x 22.5°	No	6.00	R 449.70	R 2,698.20
88		- 200mm x 45°	No	4.00	R 562.12	R 2,248.48
89		- 200mm x 90°	No	2.00	R 731.84	R 1,463.68
		(iv) Female stopend solvent welded to end of erf sewer connection pipe of diameter indicated:				
90		- 110mm	No	2.00	R 8.65	R 17.30
91		- 160mm	No	2.00	R 32.43	R 64.86
92		- 200mm	No	2.00	R 137.29	R 274.58
		(v) Male stopend solvent welded to end of erf sewer connection pipe of diameter indicated:				
93		- 110mm	No	2.00	R 37.84	R 75.68
94		- 160mm	No	6.00	R 81.08	R 486.48
		(b) Cast Iron specials:				
95		(i) 160mm rodding eye with ABC cover	No	2.00	R 731.84	R 1,463.68
96		(ii) 200mm rodding eye with ABC cover	No	4.00	R 260.52	R 1,042.08
	PSLD 8.2.3	Manholes:				
		(a) Precast concrete manholes complete as detailed on drawings				
97		(i) Depth up to 1.0m	No	1.00	R 23,316.08	R 23,316.08
98		(ii) Depth exceeding 1.0m up to 1.5m	No	4.00	R 23,993.87	R 95,975.48
99		(iii) Depth exceeding 1.5m up to 2.0m	No	2.00	R 29,818.21	R 59,636.42
100		(iv) Depth exceeding 2.0m up to 2.5m	No	3.00	R 30,495.99	R 91,487.97
101		(v) Depth exceeding 2.5m up to 3.0m	No	3.00	R 31,813.73	R 95,441.19
102		(vi) Depth exceeding 3.0m up to 3.5m	No	5.00	R 33,082.83	R 165,414.15
103		(vii) Depth exceeding 3.5m up to 4.0m	No	5.00	R 38,315.86	R 191,579.30
104		(viii) Depth exceeding 4.0m up to 4.5m	No	1.00	R 39,584.95	R 39,584.95
105		(ix) Depth exceeding 4.5m up to 5.0m	No	5.00	R 43,500.24	R 217,501.20
106		(x) Depth exceeding 5.0m up to 5.5m	No	5.00	R 46,087.07	R 230,435.35
107		(x) Depth exceeding 5.5m up to 6.0m	No	1.00	R 51,320.11	R 51,320.11
Carried forward /...						R 1,621,834.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 1,621,834.84
	8.2.4	Extra over Items 8.2.2 and 8.2.3 for the construction of ramps and backdrops as detailed on drawings				
		(a) Ramps for pipes of diameters stated:				
108		(i) 160mm uPVC	No	2.00	R 2,927.68	R 5,855.36
109		(ii) 200mm uPVC	No	2.00	R 3,791.61	R 7,583.22
		(b) Backdrops:				
		(i) For diameters up to 200mm uPVC pipes:				
110		- From 2.5m to 3.0m	No	1.00	3791.61	R 3,791.61
111		- From 3.0m to 3.5m	No	1.00	4133.20	R 4,133.20
112		- From 3.5m to 4.0m	No	1.00	4474.80	R 4,474.80
113		- From 4.0m to 4.5m	No	1.00	5338.73	R 5,338.73
114		- From 4.5m to 5.0m	No	1.00	5680.33	R 5,680.33
	PSLD 8.2.11	Connection to existing sewer at sewer / inlet works sump:				
115		Breaking into existing manhole / chamber, install new pipes and make good	No	2.00	5669.77	R 11,339.54
	8.2.12	Raising or lowering of existing manholes, all types:				
116		(i) Raise/lower 0m up to 0.5m	No	5.00	5233.03	R 26,165.15
117		(ii) Raise/lower 0.5m up to 1.0m	No	2.00	6502.12	R 13,004.24
118	PSLD 8.2.13	Breaking into existing sewer and building a new manhole	No	2.00	31251.61	R 62,503.22
119	PSLD 8.2.14	Watertightness of Manholes	No	20.00	1727.87	R 34,557.40
120	PSLD 8.2.15	Construction of rodding eye concrete surround - 500mm diameter x 200mm thick	No	10.00	8108.28	R 81,082.80
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,887,344.44

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200G	CONCRETE (STRUCTURAL)				
		as specified in SABS 1200 G and in the project specification				
	PSG 8.2	Scheduled formwork items				
	8.2.5	Narrow widths (up to 300mm)				
		a) Vertical to				
121		i) Concrete Area	m	750.00	R 113.89	R 85,417.50
	PSG 8.3	Scheduled Reinforcement Items				
	8.3.1	(a) Steel Bars				
		(i) High tensile steel bars				
122		(i) Concrete Channel	t	3.50	R 18,085.37	R 63,298.80
	8.3.1	(a) High-Tensile Welded Mesh				
123		(ii) High tensile welded mesh Ref 395	m²	650.00	R 83.73	R 54,424.50
	PSG 8.4	Scheduled Concrete Items				
	8.4.1	(a) Grade 30/20:				
124		(i) Concrete Channel	m³	95.00	R 1,944.68	R 184,744.60
	8.4.4	Unformed Surface Finishes				
125		(a) Wood floated finish	m²	600.00	R 37.33	R 22,398.00
126		(b) Steel floated finish	m²	250.00	R 44.21	R 11,052.50
	PSG 8.5	Joints				
127		(i) 10mm wide isolation joints as detailed on the drawings	m	500.00	R 337.08	R 168,540.00
128		(ii) 15mm wide expansion joints as detailed on the drawings	m	400.00	R 370.79	R 148,316.00
	SANS 1200 A	Sums stated provisionally by the Engineer:				
129		Supply and install RECTAGRID RS40 (40 x 5.5), or equivalent, complete with 50 x 50 x 5mm angle frame and split end lugs	Prov Sum	1.00	R 190,000.00	R 190,000.00
130		Charges required by Contractor on sub-item above	%	190000.00	10.00%	R 19,000.00
131		Miscellaneous chambers (Hardstand waste collection chamber)	Prov Sum	1.00	R 65,000.00	R 65,000.00
132		Charges required by Contractor on sub-item above	%	65000.00	10.00%	R 6,500.00
133		Miscellaneous chambers (Three chamber grease trap complete including covers, frames)	Prov Sum	1.00	R 85,000.00	R 85,000.00
134		Charges required by Contractor on sub-item above	%	85000.00	10.00%	R 8,500.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,112,191.90

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 78,271.95
SANS 1200 DB		EARTHWORKS (PIPE TRENCHES)				R 950,339.60
SANS 1200 LB		BEDDING				R 225,868.40
SANS 1200 DL		SEWERS				R 1,887,344.44
SABS 1200 G		CONCRETE (STRUCTURAL)				R 1,112,191.90
TOTAL OF BILL C48 CARRIED TO SUMMARY						R 4,254,016.29

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C49 STORMWATER DRAINAGE				
	SABS 1200DB	EARTHWORKS (PIPE TRENCHES):				
		as specified in SABS 1200 DB and in the project specification				
	8.3.2	Excavation:				
	PSDB 8.3.2(a)	(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus				
		(i) Trenches of width 1000mm to accommodate pipes up to 375mm diameter for depths:				
1		(i) Depth up to 1.0m	m	5.00	126.04	R 630.20
2		(ii) Depth exceeding 1.0m up to 1.5m	m	440.00	126.04	R 55,457.60
3		(iii) Depth exceeding 1.5m up to 2.0m	m	590.00	279.09	R 164,663.10
4		(iv) Depth exceeding 2.0m up to 2.5m	m	300.00	279.09	R 83,727.00
5		(vii) Depth exceeding 2.5m up to 3.0m	m	5.00	751.74	R 3,758.70
6		(viii) Depth exceeding 3.0m up to 3.5m	m	5.00	751.74	R 3,758.70
7		(ix) Depth exceeding 3.5m up to 4.0m	m	150.00	751.74	R 112,761.00
		(ii) Trenches of width 1200mm to accommodate pipes from 375mm up to 600mm diameter for depths:				
8		(i) Depth up to 1.0m	m	5.00	134.90	R 674.50
9		(ii) Depth exceeding 1.0m up to 1.5m	m	920.00	134.90	R 124,108.00
10		(iii) Depth exceeding 1.5m up to 2.0m	m	550.00	287.55	R 158,152.50
11		(iv) Depth exceeding 2.0m up to 2.5m	m	370.00	287.55	R 106,393.50
12		(v) Depth exceeding 2.5m up to 3.0m	m	5.00	767.03	R 3,835.15
13		(vi) Depth exceeding 3.0m up to 3.5m	m	5.00	767.03	R 3,835.15
14		(vii) Depth exceeding 3.5m up to 4.0m	m	5.00	859.43	R 4,297.15
15		(viii) Depth exceeding 4.0m up to 4.5m	m	5.00	859.43	R 4,297.15
16		(ix) Depth exceeding 4.5m up to 5.0m	m	5.00	955.19	R 4,775.95
Carried forward / ...						R 835,125.35

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	835,125.35
		(iii) Trenches of width 1850mm to accommodate pipes from 600mm up to 1050mm diameter for depths:					
17		(i) Depth up to 1.0m	m	5.00	192.90	R	964.50
18		(ii) Depth exceeding 1.0m up to 1.5m	m	280.00	192.90	R	54,012.00
19		(iii) Depth exceeding 1.5m up to 2.0m	m	30.00	382.07	R	11,462.10
20		(iv) Depth exceeding 2.0m up to 2.5m	m	5.00	382.07	R	1,910.35
21		(v) Depth exceeding 2.5m up to 3.0m	m	5.00	439.76	R	2,198.80
22		(vi) Depth exceeding 3.0m up to 3.5m	m	5.00	439.76	R	2,198.80
23		(vii) Depth exceeding 3.5m up to 4.0m	m	5.00	503.23	R	2,516.15
24		(viii) Depth exceeding 4.0m up to 4.5m	m	5.00	503.23	R	2,516.15
25		(ix) Depth exceeding 4.5m up to 5.0m	m	5.00	569.01	R	2,845.05
		(iv) Trenches of width 2500mm to accommodate pipes from 1050mm up to 1500mm diameter for depths:					
26		(i) Depth up to 1.0m	m	180.00	250.78	R	45,140.40
27		(ii) Depth exceeding 1.0m up to 1.5m	m	100.00	250.78	R	25,078.00
28		(iii) Depth exceeding 1.5m up to 2.0m	m	5.00	476.08	R	2,380.40
29		(iv) Depth exceeding 2.0m up to 2.5m	m	5.00	476.08	R	2,380.40
30		(v) Depth exceeding 2.5m up to 3.0m	m	5.00	1103.16	R	5,515.80
31		(vi) Depth exceeding 3.0m up to 3.5m	m	5.00	1103.16	R	5,515.80
32		(vii) Depth exceeding 3.5m up to 4.0m	m	5.00	1199.76	R	5,998.80
33		(viii) Depth exceeding 4.0m up to 4.5m	m	5.00	1199.76	R	5,998.80
34		(ix) Depth exceeding 4.5m up to 5.0m	m	5.00	1299.87	R	6,499.35
Carried forward /...						R	1,020,257.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,020,257.00
	PSDB 8.3.2(b)	(b) Extra over item 8.3.2 (a) above for:				
35		(2) Hard rock excavation	m³	500.00		
36		(3) Hand excavation where ordered	m³	500.00	5.32	R 2,660.00
37		(4) Backfill stabilised with 5% cement where	m³		270.94	Rate only
38		(5) Soilcrete backfill where ordered	m³		1381.78	Rate only
39		(6) Hand backfilling machine trenches where	m³	200.00	82.53	R 16,506.00
40		(7) Selective stockpiling of topsoil where ordered	m³	500.00	36.23	R 18,115.00
41		(8) Disposing of spoil material on a site provided by the Contractor	m³	6000.00	5.23	R 31,380.00
42	8.3.2 (c)	(c) Excavate and dispose of unsuitable material from trench bottom	m³	500.00		
	8.3.3	Excavation ancillaries:				
	PSDB 8.3.3.1	Make up deficiency in backfill material:				
43		(a) From other necessary excavations on site	m³	500.00	36.23	R 18,115.00
		(b) By importation from commercial or off-site				
44		(i) Subbase quality material complying with subclause 3.5 of SABS 1200 DB and PSDB 3.5	m³	200.00	121.22	R 24,244.00
45	PSDB 8.3.3.3	Compaction in road reserves (95% of modified AASHTO maximum dry density)	m³	200.00	121.22	R 24,244.00
	8.3.4 (a)	Particular items:				
	PSDB 8.3.4(a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:				
46		(i) Depth exceeding 1.0m up to 1.5m	m	10.00		
47		(ii) Depth exceeding 1.5m up to 2.0m	m	1700.00		
48		(iii) Depth exceeding 2.0m up to 2.5m	m	1180.00		
49		(iv) Depth exceeding 2.5m up to 3.0m	m	690.00		
50		(v) Depth exceeding 3.0m up to 3.5m	m	10.00		
51		(vi) Depth exceeding 3.5m up to 4.0m	m	10.00		
52		(vii) Depth exceeding 4.0m up to 4.5m	m	200.00		
53		(viii) Depth exceeding 4.5m up to 5.0m	m	10.00		
Carried forward /...						R 1,155,521.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,155,521.00
	PSDB 8.3.5	Existing services that intersect or adjoin a pipe trench:				
		(a) Services that intersect a trench:				
54		(i) Existing building connections	No	10.00	531.59	R 5,315.90
55		(ii) Pipes up to 300 mm diameter	No	10.00	1063.17	R 10,631.70
56		(iii) Pipes above 300 mm diameter and up to 600 mm diameter	No	10.00	1594.76	R 15,947.60
57		(iv) Telecommunication cables in ducts	No	20.00	1063.17	R 21,263.40
58		(v) Existing electrical cabling	No	20.00	1063.17	R 21,263.40
		(b) Services that adjoin a trench:				
59		(i) Existing building connections	m	100.00		
60		(ii) Pipes up to 300 mm diameter	m	150.00		
61		(iii) Pipes above 300 mm diameter and up to 600 mm diameter	m	100.00		
62		(iv) Telecommunication cables in ducts	m	200.00		
63		(v) Existing electrical cabling	m	100.00		
	PSDB 8.3.6.1	Reinstate road surfaces				
64		(a) Gravel on Shoulders	m ²	200.00	104.63	R 20,926.00
65		(b) Asphalt (min thickness 40mm)	m ²	200.00	383.76	R 76,752.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,327,621.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SABS 1200DB	EARTHWORKS (SUB-SOIL DRAINAGE)					
		as specified in SABS 1200 DB and in the project specification					
	8.3.2	Excavation:					
	PSDB 8.3.2	(a) Excavate in all materials for trenches,					
		(i) Trenches of width 600mm to accommodate pipes up to 110mm diameter for depths:					
66		(i) Depth up to 1.0m	m	200.00	102.94	R	20,588.00
67		(ii) Depth exceeding 1.0m up to 1.5m	m	3.00	102.94	R	308.82
	SABS 1200LB	BEDDING (PIPES FOR SUB-SOIL DRAINAGE)					
		as specified in SABS 1200 LB and in the project specification					
	8.2.1	Provision of bedding from trench excavation:					
68		(a) Selected granular material	m ³	10.00	121.22	R	1,212.20
69		(b) Selected fill material	m ³	10	121.22	R	1,212.20
	PSLB 8.2.2	(b) Supply only of bedding by importation:					
	8.2.2.3	(ii) From commercial sources:					
70	PSLB 8.2.7	- 19.0 mm concrete stone to SABS 1083	m ³	2700.00	648.54	R	1,751,058.00
71	PSLB 8.2.7	- Supply and install geofabric material (Kaytech A2 or equivalent)	m ²	19200.00	13.08	R	251,136.00
	SABS 1200LE	STORMWATER DRAINAGE (PIPES FOR SUB-SOIL DRAINAGE)					
	PSLE 8.2.14	Supply and install subsurface drains complete:					
72		Supply, lay, joint and bed 110mm dia Class 6 uPVC	m	6000.00	84.27	R	505,620.00
		(b) Extra over item 8.2.14 for the supply, lay, bed and jointing of 110mm dia specials:					
73		90° Bend	No	10.00	140.53	R	1,405.30
74		45° Bend	No	10.00	140.53	R	1,405.30
75		22.5° Bend	No	10.00	91.89	R	918.90
76		(c) 20mm concrete stone to SABS 1083	m ³	2700.00	110.72	R	298,944.00
77		Supply and install geofabric material (Kaytech A2 or similar approved)	m ²	16200.00	10.37	R	167,994.00
78	PSLE 8.2.15	Rodding eye complete as detailed on drawings (As detailed on drawing 1001780-0000-DRG-CC-0229)	No	10.00	2110.54	R	21,105.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,022,908.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200D	EARHTWORKS (GABIONS AND PITCHING):				
	PSD 8.3.3	Restricted excavation:				
79		Excavations for gabions and reno mattresses	m³	1000.00	36.23	R 36,230.00
	SABS 1200DK	GABIONS AND PITCHING				
		as specified in SABS 1200 DK and in the project specification				
80	PSDK 8.2.1	Surface preparation for bedding of gabions	m²	650.00	39.86	R 25,909.00
	8.2.2	Gabions:				
		Gabion boxes with Mesh Type 80 with Class A Galfan and PVC coated wire and diaphragm spacings of 1m (as applicable), of sizes indicated:				
81		(a) 2m x 1m x 1m	m³	80.00	3070.49	R 245,639.20
82		(b) 3m x 1m x 1m	m³	120.00	2405.40	R 288,648.00
		Gabion mattresses with Mesh Type 60 with Class A Galfan and PVC coated wire and diaphragm spacings of 1m (as applicable), of sizes indicated:				
83		(a) 3m x 1m x 0.3m	m³	80.00	2519.15	R 201,532.00
84		(b) 2m x 1m x 0.3m	m³	50.00	2624.84	R 131,242.00
	8.2.4	Geotextile:				
85		Supply and installation of non-woven geotextile (min. 210g/m²) and strength of 10KN/m in all directions	m²	650.00	29.89	R 19,428.50
	8.2.5	Pitching:				
86		(a) Grouted pitching	m²	500.00	438.10	R 219,050.00
87	PSDK 8.2.12	Cutting and adjusting mattresses to fit around	m	250.00	45.00	R 11,250.00
88	PSDK 8.2.13	Excavation and concrete backfill of footing trenches for pitching	m³	250.00	2476.27	R 619,067.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,797,996.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
	SABS 1200MK	KERBING AND CHANNELLING				
		as specified in SABS 1200 MK and in the project specification				
	8.2.7	Trimming and compaction to 90% of modified AASHTO maximum density of surface area of unlined open drains and areas to be concrete lined:				
89		(a) Soft material	m²	100.00	121.93	R 12,193.00
90		(b) Hard material	m²	100.00	121.93	R 12,193.00
	PSMK 8.2.8	20MPa/19 concrete lining to:				
91		- Channel - 150mm thick, 1.5m wide	m²	400.00	300.00	R 120,000.00
92		- Channel - 150mm thick, 2.0m wide	m²	500.00	300.00	R 150,000.00
	8.2.10	Sealed joints in concrete lining (type or description stated):				
93		(a) 15mm wide expansion joints as detailed on the	m	100.00	337.08	R 33,708.00
94	PSMK 8.2.14	Extra over items PSMK 8.2.8 for concrete channels with energy dissipating blocks	m²	20.00	1033.41	R 20,668.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 348,762.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SABS 1200LB	BEDDING (PIPES)					
		as specified in SABS 1200 LB and in the project specification					
	8.2.1	(a) Provision of bedding from trench excavation:					
95		- Selected granular material	m ³	50.00	121.22	R	6,061.00
96		- Selected fill material	m ³	50.00	121.22	R	6,061.00
		(b) Supply only of bedding by importation:					
	8.2.2.1	(i) From other necessary excavations and stockpiles:					
97		- Selected granular material	m ³	50.00	121.22	R	6,061.00
98		- Selected fill material	m ³	50.00	121.22	R	6,061.00
	PSLB 8.2.2	(ii) From commercial sources:					
99		- Selected granular material	m ³	4200.00	121.22	R	509,124.00
100		- Selected fill material	m ³	50.00	121.22	R	6,061.00
	8.2.3	Concrete bedding cradle					
101		Class A, 20MPa/20, section 600x300mm, shuttered on both sides with pipes tied down to prevent	m ³	50.00	1705.27	R	85,263.50
102	8.2.4	Encasing of pipes in concrete	m ³	75.00	1705.27	R	127,895.25
103	8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m ³	100.00	270.94	R	27,094.00
104	PSLB 8.2.7	- Supply and install geofabric material (Kaytech A2 or similar approved)	m	420.00	31.08	R	13,053.60
105	PSLB 8.2.7	- 6.7 mm concrete stone to SABS 1083	m ³	100.00	828.54	R	82,854.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	875,589.35

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SABS 1200 LD	SEWERS (SECONDARY STORMWATER SYSTEM):					
		as specified in SABS 1200 LD and in the project specification					
		(b) uPVC Class 34 solid wall pipes including approved couplings in bedding for flexible pipes of outside diameters stated:					
106		- 160mm	m	200.00	194.04	R	38,808.00
107		- 200mm	m	100.00	271.24	R	27,124.00
108		- 250mm	m	250.00	397.70	R	99,425.00
	SABS 1200LE	STORMWATER DRAINAGE					
		as specified in SABS 1200 LE and in the project specification					
	8.2.1	Supply, lay, joint, bed and test pipeline:					
		(a) Reinforced concrete pipes type SC Spigot & Socket pipes with rubber ring joints on sand bedding of diameters and class indicated:					
109		- 300mm class 100D	m	100.00	915.45	R	91,545.00
110		- 375mm class 100D	m	1000.00	921.93	R	921,930.00
111		- 450mm class 100D	m	1400.00	1133.56	R	1,586,984.00
112		- 525mm class 100D	m	500.00	1454.79	R	727,395.00
113		- 600mm class 100D	m	50.00	1762.38	R	88,119.00
114		- 675mm class 100D	m	50.00	2200.60	R	110,030.00
115		- 750mm class 100D	m	100.00	2634.66	R	263,466.00
116		- 825mm class 100D	m	50.00	3187.39	R	159,369.50
117		- 900mm class 100D	m	100.00	3994.74	R	399,474.00
118		- 1050mm class 100D	m	350.00	4670.37	R	1,634,629.50
119		- 1200mm class 100D	m	125.00	5608.67	R	701,083.75
120		- 1350mm class 100D	m	275.00	6865.88	R	1,888,117.00
121		- 1500mm class 100D	m	20.00	9377.49	R	187,549.80
Carried forward /...						R	8,925,049.55

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,925,049.55
	8.2.4	Extra over item (a) above for cutting end units for culverts on site				
		(a) Straight cut for pipes of diameter indicated:				
122		- 300mm	No	20.00	259.18	R 5,183.60
123		- 375mm	No	20.00	287.98	R 5,759.60
124		- 450mm	No	15.00	323.97	R 4,859.55
125		- 525mm	No	4.00	370.26	R 1,481.04
126		- 600mm	No	4.00	431.97	R 1,727.88
127		- 675mm	No	4.00	518.36	R 2,073.44
128		- 750mm	No	4.00	647.95	R 2,591.80
129		- 825mm	No	4.00	863.93	R 3,455.72
130		- 900mm	No	4.00	1036.72	R 4,146.88
131		- 1050mm	No	4.00	1295.90	R 5,183.60
132		- 1200mm	No	4.00	1727.87	R 6,911.48
133		- 1350mm	No	6.00	1727.87	R 10,367.22
134		- 1500mm	No	6.00	1727.87	R 10,367.22
		(b) Skew cut for pipes of diameter indicated:				
135		- 300mm	No	10.00	259.18	R 2,591.80
136		- 375mm	No	10.00	287.98	R 2,879.80
137		- 450mm	No	2.00	323.97	R 647.94
138		- 525mm	No	2.00	370.26	R 740.52
139		- 600mm	No	2.00	431.97	R 863.94
140		- 675mm	No	2.00	518.36	R 1,036.72
141		- 750mm	No	2.00	647.95	R 1,295.90
142		- 825mm	No	2.00	863.93	R 1,727.86
143		- 900mm	No	2.00	863.93	R 1,727.86
144		- 1050mm	No	2.00	1036.72	R 2,073.44
145		- 1200mm	No	2.00	1295.90	R 2,591.80
146		- 1350mm	No	2.00	1295.90	R 2,591.80
147		- 1500mm	No	2.00	1727.87	R 3,455.74
Carried forward /...						R 9,013,383.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,013,383.70
	PSLE 8.2.8	Supply and install Manhole, Catchpits and the Like					
		(a) Manholes:					
		(i) Precast concrete manholes complete with step irons, covers and frames for pipes of up to 675mm diameter as detailed on drawings					
148		- Depth up to 1.0m	No	1.00	25226.72	R	25,226.72
149		- Depth exceeding 1.0m up to 1.5m	No	2.00	23634.22	R	47,268.44
150		- Depth exceeding 1.5m up to 2.0m	No	10.00	32028.11	R	320,281.10
151		- Depth exceeding 2.0m up to 2.5m	No	20.00	33775.00	R	675,500.00
152		- Depth exceeding 2.5m up to 3.0m	No	12.00	38829.50	R	465,954.00
153		- Depth exceeding 3.0m up to 3.5m	No	20.00	40576.39	R	811,527.80
154		- Depth exceeding 3.5m up to 4.0m	No	10.00	42377.34	R	423,773.40
155		- Depth exceeding 4.0m up to 4.5m	No	6.00	47377.78	R	284,266.68
		(ii) Precast concrete manholes complete with step irons, covers and frames for pipes from 700mm of up to 950mm diameter:					
156		- Depth up to 1.0m	No	1.00	33894.48	R	33,894.48
157		- Depth exceeding 1.0m up to 1.5m	No	1.00	36973.17	R	36,973.17
158		- Depth exceeding 1.5m up to 2.0m	No	1.00	40154.55	R	40,154.55
159		- Depth exceeding 2.0m up to 2.5m	No	1.00	46486.78	R	46,486.78
160		- Depth exceeding 2.5m up to 3.0m	No	6.00	49868.17	R	298,009.02
161		- Depth exceeding 3.0m up to 3.5m	No	4.00	56000.40	R	224,001.60
162		- Depth exceeding 3.5m up to 4.0m	No	4.00	59181.78	R	236,727.12
163		- Depth exceeding 4.0m up to 4.5m	No	4.00	68767.56	R	275,070.24
		(iii) Precast concrete manholes complete with step irons, covers and frames for pipes from 1050mm of up to 1500mm diameter as detailed on drawings					
164		- Depth up to 1.0m	No	1.00	46842.88	R	46,842.88
165		- Depth exceeding 1.0m up to 1.5m	No	1.00	52114.92	R	52,114.92
166		- Depth exceeding 1.5m up to 2.0m	No	1.00	57065.90	R	57,065.90
167		- Depth exceeding 2.0m up to 2.5m	No	1.00	65591.48	R	65,591.48
Carried forward /...						R	13,480,113.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	13,480,113.98
168		- Depth exceeding 2.5m up to 3.0m	No	4.00	65591.48	R	262,365.92
169		- Depth exceeding 3.0m up to 3.5m	No	4.00	73796.01	R	295,184.04
170		- Depth exceeding 3.5m up to 4.0m	No	4.00	79068.04	R	316,272.16
171		- Depth exceeding 4.0m up to 4.5m	No	4.00	87272.57	R	349,090.28
		(b) Catchpits:					
		(i) Brickwork catchpits (Type A1) including step irons, covers and frames, as well as inlet kerbs and channeling for pipes of 300mm to 600mm diameter (completed as detailed on drawing 1001780-0000-DRG-CC-0224):					
172		- Depth up to 1.0m	No	10.00	23771.05	R	237,710.50
173		- Depth exceeding 1.0m up to 1.5m	No	6.00	26189.75	R	157,138.50
174		- Depth exceeding 1.5m up to 2.0m	No	6.00	31696.14	R	190,176.84
175		- Depth exceeding 2.0m up to 2.5m	No	2.00	34031.91	R	68,063.82
176		- Depth exceeding 2.5m up to 3.0m	No	8.00	36367.68	R	290,941.44
		(ii) Brickwork catchpits (Type A2) including step irons, covers and frames, as well as inlet kerbs and channeling for pipes of 300mm to 600mm diameter (completed as detailed on drawing 1001780-0000-DRG-CC-0225):					
177		- Depth up to 1.0m	No	10.00	32692.62	R	326,926.20
178		- Depth exceeding 1.0m up to 1.5m	No	6.00	38595.69	R	231,574.14
179		- Depth exceeding 1.5m up to 2.0m	No	5.00	42303.25	R	211,516.25
180		- Depth exceeding 2.0m up to 2.5m	No	5.00	45481.80	R	227,409.00
181		- Depth exceeding 2.5m up to 3.0m	No	6.00	48660.34	R	291,962.04
		(c) Grid Inlets:					
		(i) Brickwork catchpits (Type C1) including step irons, covers and frames, as well as inlet kerbs and channeling for pipes of 300mm to 600mm diameter:					
182		- Depth up to 1.0m	No	2.00	23581.09	R	47,162.18
183		- Depth exceeding 1.0m up to 1.5m	No	2.00	25899.83	R	51,799.66
184		- Depth exceeding 1.5m up to 2.0m	No	2.00	31472.12	R	62,944.24
185		- Depth exceeding 2.0m up to 2.5m	No	4.00	33790.87	R	135,163.48
186		- Depth exceeding 2.5m up to 3.0m	No	1.00	39363.16	R	39,363.16
Carried forward /...						R	17,272,877.83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 17,272,877.83
		(ii) Brickwork catchpits (Type C2) including step irons, covers and frames, as well as inlet kerbs and channeling for pipes of 300mm to 600mm diameter (completed as detailed on drawing 1001780-0000-DRG-CC-0226):				
187		- Depth up to 1.0m	No	2.00	29808.40	R 59,616.80
188		- Depth exceeding 1.0m up to 1.5m	No	2.00	32072.08	R 64,144.16
189		- Depth exceeding 1.5m up to 2.0m	No	3.00	35325.62	R 105,976.86
190		- Depth exceeding 2.0m up to 2.5m	No	5.00	37644.37	R 188,221.85
191		- Depth exceeding 2.5m up to 3.0m	No	3.00	42281.86	R 126,845.58
		(d) Headwalls				
		(i) Concrete stormwater drainage headwall and apron slab complete as detailed on the drawings for pipes of diameter stated for depths up to 2.5m:				
192		- 450mm	No	1.00	23317.85	R 23,317.85
193		- 600mm	No	1.00	26160.07	R 26,160.07
194		- 1050mm	No	1.00	31079.36	R 31,079.36
195		- 1350mm	No	2.00	39639.33	R 79,278.66
	8.2.13	The raising or lowering of existing manholes, (all				
196		(i) Raise/lower 0m up to 0.5m	No	4.00	16543.62	R 66,174.48
197		(ii) Raise/lower 0.5m up to 1.0m	No	6.00	19197.21	R 115,183.26
	PSLE 8.2.16	Break into existing stormwater pipe, install new pipe and build new manhole:				
198		(a) 375mm dia RC pipe	No	1.00	11556.66	R 11,556.66
199		(b) 450mm dia RC pipe	No	1.00	11556.66	R 11,556.66
200		(c) 900mm dia RC pipe	No	1.00	23113.32	R 23,113.32
	SANS 1200 A	Sums stated provisionally by the Engineer:				
201		Stormwater Collection Chamber	Prov Sum	1.00	225000.00	R 225,000.00
202		Contractor's overheads, charges and profit on item above (State % and extend as an amount)	%	225000.00	10.00%	R 22,500.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 18,452,603.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R c
						Amount
1200DB		EARTHWORKS (PIPE TRENCHES)				R 1,327,621.00
1200DB		EARTHWORKS (SUB-SOIL DRAINAGE)				R 3,022,908.12
1200D		EARTHWORKS (GABIONS AND PITCHING)				R 1,797,996.20
1200MK		KERBING AND CHANNELLING				R 348,762.20
1200LB		BEDDING (PIPES)				R 875,589.35
1200 LD		SEWERS (SECONDARY STORMWATER SYSTEM).				R 18,452,603.40
TOTAL OF BILL C49 CARRIED TO SUMMARY						R 25,825,480.27

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C50 ROADWORKS				
	SABS 1200DM	EARTHWORKS (ROAD SUBGRADE)				
		as specified in SABS 1200 DM and in the project specification				
		Preparation of site:				
	PSDM 8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of material to:				
1		(i) Minimum 90% of modified AASHTO density (100% for sand) for roads, 150mm thick	m³	50.00	61.50	R 3,075.00
2		(ii) Minimum 93% of modified AASHTO density (100% for sand) for roads, 150mm thick	m³	18300.00	26.10	R 477,630.00
	PSDM 8.3.3	(b) In-place treatment of roadbed in hard rock material by:				
3		(i) Ripping	m³	200.00	6.15	R 1,230.00
	PSDM 8.3.4	Cut to fill, borrow to fill:				
4		(a) Cut to fill compacted to 93% of modified AASHTO maximum density	m³	1850.00	62.34	R 115,329.00
5		(b) Borrow to fill from commercial or off site sources located by the Contractor compacted to 93% of modified AASHTO maximum density	m³	1500.00	62.34	R 93,510.00
	PSDM 8.3.5	Selected layers:				
		(a) Using material cut from site and compacted to:				
6		(i) 150mm selected subgrade (SSG), G9 selected layer compacted to 93% of modified AASHTO maximum density	m³	500.00	62.34	R 31,170.00
7		(ii) 150mm selected subgrade (SSG), G7 selected layer compacted to 93% of modified AASHTO maximum density	m³	500.00	62.34	R 31,170.00
Carried forward /...						R 753,114.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 753,114.00
		(b) Using material from commercial or off site sources located by the Contractor:				
8		(i) 150mm selected subgrade (SSG), G9 selected layer compacted to 93% of modified AASHTO maximum density	m³	100.00	227.86	R 22,786.00
9		(ii) 150mm selected subgrade (SSG), G7 selected layer compacted to 93% of modified AASHTO maximum density	m³	18000.00	141.12	R 2,540,160.00
10	PSDM 8.3.6	Extra over items (a) and (b) above for excavating and breaking down material in hard excavation	m³	10.00	78.31	R 783.10
	8.3.7	Cut to spoil from:				
11		(a) Soft excavation	m³	43200.00	36.23	R 1,565,136.00
12		(b) Hard excavation	m³	4400.00		
13	PSDM 8.3.11	Extra over item PSDM 8.3.7 for temporary stockpiling of material	m³	1500.00	36.23	R 54,345.00
	PSDM 8.3.13	Surface finishes:				
		(a) Topsoiling				
14		(i) From Stockpile	m²	35100.00	17.38	R 610,038.00
15		(ii) From Commercial Sources	m²	8800.00	59.46	R 523,248.00
		(b) Grassing or other vegetation cover:				
16		(i) Planting of Grass sods	m²	10560.00	56.21	R 593,577.60
17		(ii) Hydroseeding	m²	15780.00	3.78	R 59,648.40
18		(iii) Trim, shape and roll verge	m²	43770.00	13.75	R 601,837.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,324,673.60

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200ME	SUBBASE				
		as specified in SABS 1200 ME and in the project specification				
	PSME 8.3.2	Construct subbase using material from stockpile:				
19		(i) Construct subbase using material from stockpile	m³	100.00	62.34	R 6,234.00
	PSME 8.3.3	Construct the subbase with material from commercial sources:				
20		(a) 150mm Subbase (G5) beneath pedestrian walkways, compacted to 95% of modified AASHTO maximum density	m³	3300.00	525.88	R 1,735,404.00
21		(b) 150mm Subbase (G5) compacted to 95% of modified AASHTO maximum density	m³	12700.00	525.88	R 6,678,676.00
22		(c) 150mm cemented natural gravel sub-base, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m³	1500.00	518.10	R 777,150.00
23		(d) 200mm cemented natural gravel sub-base, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m³	8000.00	518.10	R 4,144,800.00
24		(e) 250mm cemented natural gravel sub-base, crushed (G5), Subbase compacted to 97% of modified AASHTO maximum density (C4) - Roads	m³	7600.00	518.10	R 3,937,560.00
25		(f) 200mm Gravel Wearing Course, Type 1, compacted to 95% of modified AASHTO maximum density	m³	1100.00	518.10	R 569,910.00
	8.3.5	Process subbase material by the following processes, as relevant, and use in the subbase:				
26		- Stabilization	m³	17100.00	36.00	R 615,600.00
	8.3.8	Stabilizing agent:				
27		- Portland cement (CEM II - 32.5N)	t	1180.00	2177.13	R 2,569,013.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 21,034,347.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
	SABS 1200MF	BASE					
		as specified in SABS 1200 MF and in the project specification					
28	PSMF 8.3.3	150mm (G2) base course with material from commercial sources and compact to 88% of bulk relative density	m ³	700.00	850.76	R	595,532.00
29	PSMF 8.3.3	150mm (G3) base course with material from commercial sources and compact to 98% of modified AASHTO maximum density	m ³	75.00	759.81	R	56,985.75
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	652,517.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200MH	ASPHALT BASE AND SURFACING				
		as specified in SABS 1200 MH and in the project specification				
	PSMH 8.5.1	Prime coat:				
30		(a) Colprime E TM at 1.0t/m ² for AE-2 binder	m ²	4300.00	21.62	R 92,966.00
31		(b) MC 30 cut back bitumen	m ²	1000.00	27.03	R 27,030.00
	PSMH 8.5.3	Tack coat:				
32		(a) 30% anionic stable grade emulsion	m ²	8000.00	9.19	R 73,520.00
	PSMH 8.5.4	Asphalt:				
33		(a) Medium continuously graded 40mm thickness asphalt surfacing using type AE-2 modified binder and 13.2mm maximum stone size compacted to 93% Rice Density	m ²	4300.00	227.01	R 976,143.00
34		(b) Medium continuously graded 40mm thickness asphalt surfacing using 60/70 penetration grade binder and 13.2mm maximum stone size compacted to 93% Rice Density	m ²	500.00	281.06	R 140,530.00
35		(c) Medium continuously graded 20mm nominal thickness asphalt surfacing using 80/100 penetration bitumen and quarzitic aggregate / type IVa (Asphalt Institute) hot mix for pedestrian sidewalks	m ²	750.00	156.75	R 117,562.50
	8.5.5	Variations in quantities of prime and tack coat and bituminous binder:				
36		(a) Prime coat (Colprime E TM at 1.0t/m ² for AE-2 binder)	t	1000.00	12.97	R 12,970.00
37		(b) Prime coat (MC 30 cut back bitumen)	t	500.00	16.22	R 8,110.00
38		(c) Tack coat (30% anionic stable grade emulsion)	t	1000.00	8.65	R 8,650.00
39		(d) Bituminous Binder (60/70 penetration bitumen binder)	t	500.00	17.08	R 8,540.00
40		(e) Bituminous Binder (80/100 penetration bitumen binder)	t	500.00	17.08	R 8,540.00
	PSMH 8.5.9	Variations in active mineral filler content:				
41		(a) Portland cement (CEM II - 32.5)	t	10.00	2270.10	R 22,701.00
42		(b) Lime	t	10.00	2540.35	R 25,403.50
	PSMH 8.5.10	Allowance for trial/testing:				
43		(a) Asphalt 20mm thick	m ²	50.00	162.15	R 8,107.50
44		(b) Asphalt 40mm thick	m ²	200.00	270.25	R 54,050.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,584,823.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200 MJ	SEGMENTED PAVING				
		as specified in SANS 1200 MJ and in the project specification				
	8.2.2	Construction of paving complete:				
45		(a) 50mm concrete bevelled edge paving units (Type S-C) on 20mm clean sand, pedestrian trafficked areas complete in 90 degree herringbone pattern	m ²	19600.00	212.96	R 4,174,016.00
46		(b) 60mm concrete interlocking concrete paving units, class 2.6/40 (Type S-A), vehicular trafficked areas complete in 90 degree herringbone pattern	m ²	500.00	224.65	R 112,425.00
47		(c) 80mm concrete interlocking concrete paving units, class 2.6/40 (Type S-A), vehicular trafficked areas complete in 90 degree herringbone pattern	m ²	44700.00	247.55	R 11,065,485.00
	8.2.3	Cutting units to fit edge restraints:				
		For 50mm brick paving:				
48		(a) Straight cutting	m	15672.00	15.13	R 237,117.36
49		(b) Circular cutting	m	10448.00	32.43	R 338,828.64
		For 60mm concrete paving:				
50		(a) Straight cutting	m	300.00	15.13	R 4,539.00
51		(b) Circular cutting	m	200.00	32.43	R 6,486.00
		For 80mm concrete paving:				
52		(a) Straight cutting	m	8734.00	15.13	R 132,145.42
53		(b) Circular cutting	m	5823.00	32.43	R 188,839.89
54	8.2.4	Rolling to locked up condition as specified in PSMJ 5.6	m ²	64800.00	Included	
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 16,259,882.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200MK	KERBING AND CHANNELLING				
		as specified in SABS 1200 MK and in the project specification				
	PSMK 8.1 PSMK 8.2.1	Concrete kerbing:				
		(a) Precast barrier kerbing (Type BK2) as detailed on drawings for curvatures indicated:				
55		(i) Radius up to 1m	m	360.00	254.04	R 91,454.40
56		(ii) Radius exceeding 1m up to 4m	m	720.00	243.23	R 175,125.60
57		(iii) Radius exceeding 4m up to 20m	m	720.00	243.23	R 175,125.60
58		(iv) Radius exceeding 20m	m	4800.00	214.04	R 1,027,392.00
		(b) Mountable kerb (Type MK10) as detailed on drawings for curvatures indicated:				
59		(i) Radius up to 1m	m	50.00	254.04	R 12,702.00
60		(ii) Radius exceeding 1m up to 4m	m	50.00	243.23	R 12,161.50
61		(iii) Radius exceeding 4m up to 20m	m	50.00	243.23	R 12,161.50
62		(iv) Radius exceeding 20m	m	200.00	214.04	R 42,808.00
		(c) Precast edging kerb (Type E3) as detailed on drawings for curvatures indicated:				
63		(i) Radius up to 1m	m	50.00	227.01	R 11,350.50
64		(ii) Radius exceeding 1m up to 4m	m	100.00	227.01	R 22,701.00
65		(iii) Radius exceeding 4m up to 20m	m	100.00	227.01	R 22,701.00
66		(iv) Radius exceeding 20m	m	650.00	216.20	R 140,530.00
		(d) Back to back Channelling (Type C1 + C1) as detailed on drawings for curvatures indicated:				
67		(i) Radius up to 1m	m	50.00	310.25	R 15,512.50
68		(ii) Radius exceeding 1m up to 4m	m	100.00	299.44	R 29,944.00
69		(iii) Radius exceeding 4m up to 20m	m	250.00	299.44	R 74,860.00
70		(iv) Radius exceeding 20m	m	500.00	268.09	R 134,045.00
Carried forward / ...						R 2,000,574.60

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward / ...						R 2,000,574.60
	8.2.2	Concrete kerbing and Channeling combined:				
		(a) Precast barrier kerbing and Channel (Type BK2 + C1) as detailed on drawings for curvatures indicated:				
71		(i) Radius up to 1m	m	200.00	310.25	R 62,050.00
72		(ii) Radius exceeding 1m up to 4m	m	400.00	299.44	R 119,776.00
73		(iii) Radius exceeding 4m up to 20m	m	600.00	299.44	R 179,664.00
74		(iv) Radius exceeding 20m	m	2600.00	268.09	R 697,034.00
		(b) Mountable kerb and Channel (Type MK10 + C1) as detailed on drawings for curvatures indicated:				
75		(i) Radius up to 1m	m	50.00	310.25	R 15,512.50
76		(ii) Radius exceeding 1m up to 4m	m	50.00	299.44	R 14,972.00
77		(iii) Radius exceeding 4m up to 20m	m	50.00	299.44	R 14,972.00
78		(iv) Radius exceeding 20m	m	200.00	268.09	R 53,618.00
	8.2.3	Tests on cast in-situ or extruded kerbing and channeling:				
79		(a) Core strength test	No	20.00	843.18	R 16,863.60
80		(b) Set of three cubes	No	20.00	1688.52	R 33,770.40
Carried forward / ...						R 3,208,807.10

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	3,208,807.10
	8.2.6.1	Ancillaries					
		(a) Inlet, outlet, transition and similar structures:					
81		(i) 1m long transition piece between BK2 and MK10	No	10.00	655.10	R	6,551.00
82		(i) 1m long transition piece between BK2 and E3	No	20.00	655.10	R	13,102.00
83		Construct pedestrian slopes, complete as detailed on drawings	No	40.00	1589.14	R	63,565.60
84		Extra over item 8.2.6.1(a) for additional ramp widths	m	50.00	716.78	R	35,839.00
	8.2.7	Trimming and compaction to 90% of modified AASHTO maximum density of surface area of unlined open drains and areas to be concrete lined:					
85		(a) Soft material	m ³	1500.00	120.86	R	181,290.00
86		(c) Hard material	m ³		604.28		Rate Only
	8.2.8	20MPa/20 concrete lining to:					
87		- Channel 150mm thick, 1.5m wide	m ²	10.00	300.00	R	3,000.00
88		- Channel 150mm thick, 2.0m wide	m ²	900.00	300.00	R	270,000.00
89		- Channel 150mm thick, 3.0m wide	m ²	10.00	300.00	R	3,000.00
90		- Channel crossdrains 150mm thick, varying widths	m ²	10.00	300.00	R	3,000.00
	8.2.10	Sealed joints in concrete lining of open drains (type or description stated):					
91		- 15mm wide expansion joints as detailed on the drawings	m	230.00	254.14	R	58,452.20
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,846,606.90

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SABS 1200MM	ANCILLARY ROADWORKS				
		as specified in SABS 1200MM and in the project specification				
		PERMANENT ROAD SIGNS:				
	8.3.1	Sign faces with painted / galvanized background with painted symbols, characters, legend, and borders in engineering grade retroreflective material with signboards constructed from:				
		(a) Aluminium sheet (2,0mm thick), of area:				
92		(i) Up to 2m ²	m ²	50.00	1424.76	R 71,238.00
93		(ii) 2m ² up to 10m ²	m ²	50.00	1178.29	R 58,914.50
	8.3.2	Provision and application of retro-reflective material				
94		(a) Engineering grade retro-reflective background	m ²	100.00	183.77	R 18,377.00
	8.3.3	Sign supports				
95		(a) Steel tubing galvanized	No	6.00	802.10	R 4,812.60
	8.3.4	Excavation and backfilling for sign supports:				
96		(a) Backfill with grade 10 concrete	m ³	10.00	1586.09	R 15,860.90
	8.3.6	Statutory signs, street names, and the like, supplied and erected complete				
97		(a) R1 – Stop sign	No	8.00	1026.95	R 8,215.60
98		(b) R2 - Yield sign	No	4.00	1070.19	R 4,280.76
99		(c) R201 - Speed limit sign	No	6.00	989.12	R 5,934.72
100		(d) W401 - Danger plate	No	6.00	450.78	R 2,704.68
101		(e) W402 - Danger plate	No	2.00	450.78	R 901.56
		ROAD MARKINGS:				
	8.4.1	Non-reflectorized road marking paint applied at nominal rate of 0.42ℓ/m²:				
102		(a) White lines, 100mm wide (broken or unbroken)	m	5000.00	6.49	R 32,450.00
103		(b) White lines, 200mm wide (broken or unbroken)	m	385.00	12.97	R 4,993.45
104		(c) White lines, 300mm wide (broken or unbroken)	m	80.00	19.46	R 1,556.80
105		(d) White characters and symbols	m ²	385.00	59.46	R 22,892.10
Carried forward / c.s.						R 253,132.67

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	253,132.67
106		(e) Yellow characters and symbols	m ²	800.00	59.46	R	47,568.00
107		(f) Yellow lines, 100 mm (broken or unbroken)	m	4700.00	8.65	R	40,655.00
108		(g) Traffic island markings (any colour)	m ²	385.00	59.46	R	22,892.10
	8.4.2	Variation in rate of application from that stated above in items 8.4.1					
109		(a) White paint	ℓ	400.00	59.46	R	23,784.00
110		(b) Yellow paint	ℓ	670.00	70.27	R	47,080.90
	8.4.4	Setting out and premarking					
111		(a) Lines (excluding traffic island markings, characters, and symbols)	km	11.00	648.60	R	7,134.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	442,247.27

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SABS 1200G	CONCRETE (CONCRETE HARDSTANDS)					
		as specified in SABS 1200 G and in the project specification					
	8.2	Scheduled formwork items					
	8.2.5	Narrow widths (up to 300mm)					
		a) Vertical to					
112		i) Concrete Area	m	2500.00	113.89	R	284,725.00
	8.3	Scheduled reinforcement items					
113	8.3.2	i) High tensile welded mesh Ref 395	m²	2000.00	83.73	R	167,460.00
Carried forward /...						R	452,185.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 452,185.00
	SPE-CC-003	CONCRETE PAVEMENT (THICKNESS AND DESIGN FLEXURAL STRENGTH INDICATED) EXCLUDING TEXTURING AND CURING				
		as specified in Particular Specification (SPEC-CC-003)				
	6.1	CONCRETE PAVEMENT (THICKNESS AND DESIGN FLEXURAL STRENGTH INDICATED) EXCLUDING TEXTURING AND CURING				
114	6.1 (.01)	(a) 220mm Thick 4.5MPa Flexural strength concrete	m²	8500.00	427.83	R 3,636,555.00
	6.2	TEXTURING AND CURING OF CONCRETE PAVEMENT				
115	6.2 (.01)	(a) Texturing	m²	8500.00	44.21	R 375,785.00
116	6.2 (.02)	(b) Curing	m²	8500.00	23.47	R 199,495.00
	6.3	VARIATION IN THE RATE OF APPLICATION OF THE CURING COMPOUND				
117	6.3 (.01)	(a) Variation in the rate of application of the curing	ℓ	1000.00	15.98	R 15,980.00
	6.4	JOINTS				
118	6.4 (.01)	(a) Isolation Joints (IJ)	m	1000.00	337.08	R 337,080.00
119	6.4 (.02)	(b) Saw Cut Joints (SJ)	m	4100.00	88.10	R 361,210.00
120	6.4 (.03)	(c) Protected Edge Joints (PEJ)	m	600.00	337.08	R 202,248.00
121	6.4 (.04)	(d) Diamond Plate Dowels (114.3 x 114.3 x 6.35mm thick diamond dowel plates spaced at 400mm centres with dowel pocket formers (DDJ)	m	1200.00	337.81	R 405,372.00
122	6.4 (.05)	(e) Dowel bars (diameter, length, and joint type to be indicated)	No	852.00	570.57	R 372,011.64
123	6.4 (.06)	(f) Tie bars (diameter, length, and joint type to be indicated)	No	280.00	570.57	R 159,759.60
124	6.4 (.07)	(g) Extra over items (a) to (d) above for joint sealant	m	6400.00	72.81	R 465,984.00
	6.5	CORING AND TESTING OF CORES				
125	6.5 (.01)	(a) 100mm cores drilled from pavement	No	20.00	486.45	R 9,729.00
126	6.5 (.02)	(b) 150mm cores drilled from pavement and tested for Compressive Strength	No	50.00	810.75	R 40,537.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,033,931.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				Amount	
SANS 1200 DM		EARTHWORKS (ROAD SUBGRADE)					7,324,673.60
SANS 1200ME		SUBBASE					21,034,347.40
SANS 1200MF		BASE					652,517.75
SANS 1200MH		ASPHALT BASE AND SURFACING					1,584,823.50
SANS 1200 MJ		SEGMENTED PAVING					16,259,882.31
SABS 1200MK		KERBING AND CHANNELLING					3,846,606.90
SANS 1200MM		ANCILLARY ROADWORKS					442,247.27
SANS 1200G		CONCRETE (STRUCTURAL)					7,033,931.74
TOTAL OF BILL C50 CARRIED TO SUMMARY							R 58,179,030.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C51 SLEEVES					
	SABS 1200LC	CABLE DUCTS					
		as specified in SABS 1200 LC and in the project specification					
	8.2.2	Excavation:					
		(a) Excavate in all materials for trenches, backfill, compact, and dispose of surplus					
		(i) Trenches of width 650 mm for depths:					
1		- Depth up to 1m	m	100.00	102.94	R	10,294.00
2		- Depth exceeding 1.0m up to 2.0m	m	50.00	237.62	R	11,881.00
3		- Depth exceeding 2.0m up to 3.0m	m	10.00	685.74	R	6,857.40
		(ii) Trenches of width 800 mm for depths:					
4		- Depth up to 1m	m	400.00	106.79	R	42,716.00
5		- Depth exceeding 1.0m up to 2.0m	m	600.00	243.85	R	146,310.00
6		- Depth exceeding 2.0m up to 3.0m	m	10.00	696.74	R	6,967.40
		(iii) Trenches of width 1050 mm for depths:					
7		- Depth up to 1m	m	250.00	116.42	R	29,105.00
8		- Depth exceeding 1.0m up to 2.0m	m	850.00	259.43	R	220,515.50
9		- Depth exceeding 2.0m up to 3.0m	m	10.00	724.24	R	7,242.40
	PSLC 8.2.2	(b) Extra over item (a) above for:					
10		(i) Hard rock excavation	m ³	200.00			
11		(ii) Hand excavation where ordered	m ³	100.00	5.32	R	532.00
12		(iii) Soilcrete backfill where ordered	m ³	100.00	1381.78	R	138,178.00
13	8.2.2	(c) Excavate and dispose of unsuitable material from trench bottom	m ³	200.00			
Carried forward / ...						R	620,598.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	620,598.70
	PSLC 8.2.5	Supply, lay, bed and prove duct (bedding as for flexible pipes):					
		(a) uPVC Class 34 heavy duty to SANS 791 sleeve pipes using spigot and socket rubber rings joints laid in combined trench with bedding for flexible pipes of diameters stated:					
14		(i) 110 mm dia sleeves	m	50.00	102.64	R	5,132.00
15		(ii) 160 mm dia sleeves	m	100.00	177.59	R	17,759.00
		(b) uPVC Class 400KPa to SANS 1601 sleeve pipes using spigot and socket rubber rings joints laid in combined trench with bedding for flexible pipes of diameters stated:					
16		(i) 110 mm dia sleeves	m	5500.00	102.64	R	564,520.00
17		(ii) 160 mm dia sleeves	m	6500.00	177.59	R	1,154,335.00
18		(iii) 200 mm dia sleeves	m	50.00	256.85	R	12,842.50
19		(iv) 250 mm dia sleeves	m	50.00	380.43	R	19,021.50
		(c) HDPE Type N 450 (Kableflex or similar approved) sleeve pipes laid in combined trench with bedding for flexible pipes of diameters stated:					
20		(i) 75 mm dia sleeves	m	50.00	70.22	R	3,511.00
21		(ii) 110 mm dia sleeves	m	150.00	84.27	R	12,640.50
22		(iii) 160 mm dia sleeves	m	200.00	122.46	R	24,492.00
		(d) Service ducts: Concrete spigot & socket pipes (Incl, Rubber Ring) or equivalent of diameters and class stated with bedding for flexible pipes of diameters stated:					
23		(i) 450mm class 100D	m	50.00	960.02	R	48,001.00
24		(ii) 600mm class 100D	m	50.00	1363.23	R	68,161.50
Carried forward /...						R	2,551,014.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 2,551,014.70
	8.2.6	Provision of selected granular material complying with PSLC3.2				
		From commercial or off site sources located by the Contractor				
		(a) From other necessary excavations and stockpiles:				
25		- Selected granular material	m³	50.00	157.46	R 7,873.00
		(b) From commercial sources:				
26		- Selected granular material	m³	700.00	121.22	R 84,854.00
	8.2.7	Draw pits/manholes:				
27		(a) Construct duct manhole as per detail Drawing No 1001780-0000-DRG-CC-0232 (Type 4 M/D cover and frame)	No	40.00	21706.09	R 868,243.60
28		(b) Construct duct manhole as per detail Drawing No 1001780-0000-DRG-CC-0232 (Type 2A H/D cover and frame)	No	10.00	20436.46	R 204,364.60
	8.2.8	Cable markers				
		(a) All ducts:				
29		(i) Route markers to detail on drawings	No	5.00	2010.40	R 10,052.00
30		(ii) Kerb markers to detail on drawings	No	300.00	554.60	R 166,380.00
31	PSLC 8.2.10	Break in existing duct manhole and connect new	No	5.00	5183.60	R 25,918.00
32	PSLC 8.2.11	Joining new duct to existing duct	No	2.00	2591.80	R 5,183.60
	PSLC 8.2.12	Imported backfill (source and quality stated):				
33		(i) Subbase quality material complying with subclause 3.5 of SABS 1200 DB and PSDB 3.5	m³	100.00	495.54	R 49,554.00
34	PSLC 8.2.13	Compaction in road crossings (95% of modified AASHTO maximum density)	m³	100.00	61.50	R 6,150.00
35	PSLC 8.2.14	Supply and installation of concrete protection slabs	No	250.00	153.47	R 38,367.50
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 4,017,955.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Section		Description				Amount
SABS 1200LC		CABLE DUCTS				R 4,017,955.00
TOTAL OF BILL C51 CARRIED TO SUMMARY						R 4,017,955.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C52 BLOCK RETAINING WALL				
	SANS 1200 D	EARTHWORKS as specified in SABS 1200 D and in the project specification				
	PSD 8.3.3	Restricted excavation:				
1		(a) Excavate and backfill to footings	m ³	70.00	140.55	R 9,838.50
2		(b) Extra over item (a) above for hard rock	m ³	10.00		
	SPE-CC-002	DRY LAID CONCRETE BLOCK RETAINING as specified in Particular Specification (SPEC-CC-002)				
	6.1	PATENTED EARTH RETAINING SYSTEM (Complete as detailed on Drawing No 1001780-0000-DRG-CC-0237)				
	6.1.(03)	(iii) Terraforce precast concrete blocks of type:				
3		L13 blocks (smooth face)	m ³	250.00	1577.71	R 394,427.50
4		L15 blocks (smooth face)	m ³	600.00	1694.95	R 1,016,970.00
	6.2	Excavation for concrete bases for earth retaining systems				
5	6.2.(01)	(a) In soft material	m ³	100.00	58.02	R 5,802.00
6	6.2.(02)	(b) Extra over subitem (a) above for excavation in hard material	m ³	10.00		
7	6.2.(03)	(c) Base preparation and compaction to minimum of 90% of modified AASHTO maximum density	m ²	250.00	34.74	R 8,685.00
	6.3	Concrete bases for earth retaining systems				
8	6.3.(01)	(a) Class 20MPa/20 concrete footings including formwork and 80 kg/m ³ of reinforcement, to manufacturers detail	m ²	40.00	1715.36	R 68,614.40
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 1,504,337.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Section		Description				Amount
SANS1200 D		EARTHWORKS				R 1,504,337.40
TOTAL OF BILL C52 CARRIED TO SUMMARY						R 1,504,337.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		<u>BILL C53</u> FENCING					
	SANS 1200 C	SITE CLEARANCE: as specified in SANS 1200 C and in the project specification					
	PSC 8.2.1	Clear and grub: - Clear 4m width along route of fence line	m	1690.00	23.58	R	39,850.20
1							
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	39,850.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 DM	EARTHWORKS (ROAD SUBGRADE)				
		as specified in SANS 1200DM and in the project specifications				
	8.3.3	Treatment of roadbed:				
		(a) Roadbed preparation and compaction of				
2		(i) Minimum 93% of modified AASHTO maximum density (100% for Sand)	m³	3000.00	38.17	R 114,510.00
		(b) In-place treatment of roadbed in hard rock material by:				
3		(i) Ripping	m³	500.00		
	PSDM 8.3.4	Cut to fill, borrow to fill:				
4		(a) Cut to fill compacted to 93% of modified AASHTO maximum density	m³	10500.00	62.34	R 654,570.00
5		(b) Borrow to fill from commercial or off site sources located by the Contractor compacted to 93% of modified AASHTO maximum density	m³	1000.00	62.34	R 62,340.00
	PSDM 8.3.5	Selected layers:				
		(a) Using material cut from stockpile:				
6		(i) 150mm selected subgrade (SSG), G9 lower selected layer compacted to 93% of modified AASHTO maximum density	m³	100.00	62.34	R 6,234.00
7		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 95% of modified AASHTO maximum density	m³	100.00	62.34	R 6,234.00
Carried forward /...						R 843,888.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 843,888.00
		(b) Using material from importation:				
8		(i) 150mm selected subgrade (SSG), G9 lower selected layer compacted to 93% of modified AASHTO maximum density	m³	500.00	62.34	R 31,170.00
9		(ii) 150mm selected subgrade (SSG), G7 upper selected layer compacted to 95% of modified AASHTO maximum density	m³	500.00	62.34	R 31,170.00
10		(iii) 150mm gravel wearing course compacted to 95% of modified AASHTO maximum density	m³	1200.00	495.54	R 594,648.00
11	PSDM 8.3.6	Extra over items 8.3.5 (a) and 8.3.5 (b) for excavating and breaking down material in hard excavation	m³	100.00		
	8.3.7	Cut to spoil from:				
12		(a) Soft excavation	m³	22000.00	36.23	R 797,060.00
13		(b) Hard excavation	m³	220.00		
14	PSDM 8.3.11	Extra over items 6 - 7 for temporary stockpiling of material	m³	1000.00	36.23	R 36,230.00
	PSDM	Surface finishes:				
15		(a) Topsoiling	m²	5000.00	16.02	R 80,100.00
16		(b) Grassing with sods	m²	5000.00	56.21	R 281,050.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 2,695,316.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SPE-CC-001	FENCING				
		as specified in Particular Specification (SPEC-CC-001)				
	6.1.01	Type 1 - 2.4m High Wire Mesh Fence (As detailed on drawing 1001780-0000-DRG-CC-0239)				
17		(i) Erect new fencing, Betafix Secure 70 x 44 x 3800mm long with vertical poles at 3020mm centres, 2.36m high, electrified, with security underdig complete as detailed on the drawings	m	1400.00	1643.12	R 2,300,368.00
	6.1.02	Type 2 - 2.4m High Concrete Fence (As detailed on drawing 1001780-0000-DRG-CC-0240)				
18		(i) Erect new concrete fencing, 2650mm wide precast concrete panels with cast-insitu concrete columns at 3100mm centres, 2.4m high, electrified, with security underdig complete as detailed on the drawings	m	1200.00	3750.10	R 4,500,120.00
	6.1.03	Type 3 - 1.4m High Stock Fence (As detailed on drawing 1001780-0000-DRG-CC-0238)				
19		(i) 1.4m high stock fence, 2.31mm average wire diameter, single strand complete as detailed on the drawings	m	1700.00	127.56	R 216,852.00
	6.2					
	6.2.01	Supply and install new gates				
		Type 1 - 2.4m High Wire Mesh Fence (As detailed on drawing 1001780-0000-DRG-CC-0239)				
20		(i) Supply and install new 12m wide x 2.4m high motorised gate complete, including gate track and reinforced concrete beam	No	1.00	95906.32	R 95,906.32
21		(ii) Supply and install new 8m x 2.4m high motorised gate complete, including gate track and reinforced concrete beam	No	1.00	74275.51	R 74,275.51
22		(iii) Supply and install new 6.5m x 2.4m high motorised gate complete, including gate track and reinforced concrete beam	No	2.00	96165.76	R 192,331.52
23		(iv) Supply and install new 3m x 2.4m high motorised gate complete, including gate track and reinforced concrete beam	No	1.00	74956.54	R 74,956.54
	6.2.02	Type 3 - 1.4m High Stock Fence (As detailed on drawing 1001780-0000-DRG-CC-0238)				
24		(i) Supply and install new 3m x 1.4m high double leaf gate (Heavy Duty W-Type farm gate)	No	1.00	9685.76	R 9,685.76
25		(ii) Supply and install new 3m x 1.4m high single leaf gate (Heavy Duty W-Type farm gate)	No	1.00	8475.04	R 8,475.04
Carried forward /...						R 7,472,970.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,472,970.69
	PS2 12	ELECTRICIFICATION OF FENCING				
26		Design, liaison and coordination of electric fence system by specialist sub-contractors with Main and other sub-contractors	Sum	1.00	9729.00	R 9,729.00
27		Complete electric fence configuration, testing, commissioning, and training	Sum	1.00	5188.80	R 5,188.80
28		Labelling of all equipment and conductors	Sum	1.00	1945.80	R 1,945.80
29		Certificates of compliance	Sum	1.00	9296.60	R 9,296.60
30		O&M manuals	Sum	1.00	4540.20	R 4,540.20
31		As-built drawings	Sum	1.00	2594.40	R 2,594.40
		SECURITY				
		Energisers				
32		(i) Supply and deliver	No.	4.00	6713.01	R 26,852.04
33		(ii) Install	No.	4.00	2605.21	R 10,420.84
		Wire braid				
34		(i) Supply and deliver	m	17250.00	3.29	R 56,752.50
35		(ii) Install	m	17250.00	2.23	R 38,467.50
		Electric fence bracket				
36		(i) Supply and deliver	No.	833.00	114.59	R 95,453.47
37		(ii) Install	No.	833.00	121.07	R 100,851.31
		Earth spikes				
38		(i) Supply and deliver	No.	66.00	181.61	R 11,986.26
39		(ii) Install	No.	66.00	121.07	R 7,990.62
		Installation accessories				
40		(i) Supply and deliver	m	17250.00	1.30	R 22,425.00
41		(ii) Install	m	17250.00	0.86	R 14,835.00
		Motorised gate electric fence components				
42		(i) Supply and deliver	No.	3.00	1859.32	R 5,577.96
43		(ii) Install	No.	3.00	1329.63	R 3,988.89
		HMI controller				
44		(i) Supply and deliver	No.	1.00	23684.71	R 23,684.71
45		(ii) Install	No.	1.00	4756.40	R 4,756.40
		Other:-				
		All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item			
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 7,930,307.99

Tender
Part T2:Returnable Documents
Reference No.203Q/2023/24

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C54 BUILDING ELECTRICAL				
		GENERAL				
1		Liaison with M&E Contractor for permanent electrical supplies to distribution boards	Sum	1.00	5405.00	R 5,405.00
2		Delivery to site of equipment	Sum	1.00		
3		Labelling of all equipment and conductors	Sum	1.00	58914.50	R 58,914.50
4		Earthing and equipotential bonding of electrical installation	Sum	1.00	9729.00	R 9,729.00
5		Provision of temporary power for testing and commissioning	Sum	1.00	16215.00	R 16,215.00
6		Testing and Commissioning of Small Power and Lighting System	Sum	1.00	10377.60	R 10,377.60
7		Certificates of compliance	Sum	1.00	11188.35	R 11,188.35
8		As-Built Drawings	Sum	1.00	2702.50	R 2,702.50
	PS1 06	SMALL POWER AND LIGHTING DISTRIBUTION BOARDS				
		Allow for all the costs and expenses in connection with the manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:				
		MV Intake Substation DB complete				
9		(i) Supply	Sum	1.00	15887.67	R 15,887.67
10		(ii) Install	Sum	1.00	1037.76	R 1,037.76
		Guard House DB				
11		(i) Supply	Sum	1.00	12872.59	R 12,872.59
12		(ii) Install	Sum	1.00	1037.76	R 1,037.76
		Centralised Generator Building DB				
13		(i) Supply	Sum	1.00	24496.78	R 24,496.78
14		(ii) Install	Sum	1.00	1167.48	R 1,167.48
		Weigh Bridge DB				
15		(i) Supply	Sum	1.00	13944.35	R 13,944.35
16		(ii) Install	Sum	1.00	1037.76	R 1,037.76
		Inlet Works Electrical Building DB				
17		(i) Supply	Sum	1.00	26296.30	R 26,296.30
18		(ii) Install	Sum	1.00	1556.64	R 1,556.64
		Bioreactor Electrical Building DB				
19		(i) Supply	Sum	1.00	27530.82	R 27,530.82
20		(ii) Install	Sum	1.00	1816.08	R 1,816.08
Carried forward /...						R 243,213.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 243,213.94
		Main Sludge Transfer Pumpstation DB				
21		(i) Supply	Sum	1.00	21564.77	R 21,564.77
22		(ii) Install	Sum	1.00	1686.36	R 1,686.36
		Dewatering Building Lower Level DB				
23		(i) Supply	Sum	1.00	29770.74	R 29,770.74
24		(ii) Install	Sum	1.00	2075.52	R 2,075.52
		Dewatering Building Upper Level DB				
25		(i) Supply	Sum	1.00	30296.11	R 30,296.11
26		(ii) Install	Sum	1.00	2075.52	R 2,075.52
		CHP Building DB				
27		(i) Supply	Sum	1.00	12636.26	R 12,636.26
28		(ii) Install	Sum	1.00	1816.08	R 1,816.08
		UV Electrical Building DB				
29		(i) Supply	Sum	1.00	21219.68	R 21,219.68
30		(ii) Install	Sum	1.00	2075.52	R 2,075.52
		UV Building DB				
31		(i) Supply	Sum	1.00	17636.94	R 17,636.94
32		(ii) Install	Sum	1.00	1816.08	R 1,816.08
		Blower Electrical Building DB				
33		(i) Supply	Sum	1.00	17636.94	R 17,636.94
34		(ii) Install	Sum	1.00	1816.08	R 1,816.08
		TSE and Filter Building DB				
35		(i) Supply	Sum	1.00	16602.17	R 16,602.17
36		(ii) Install	Sum	1.00	1945.80	R 1,945.80
		Chlorination Building DB				
37		(i) Supply	Sum	1.00	18011.95	R 18,011.95
38		(ii) Install	Sum	1.00	2010.66	R 2,010.66
		Workshop and Stores Building Lower Level DB				
39		(i) Supply	Sum	1.00	41867.25	R 41,867.25
40		(ii) Install	Sum	1.00	2594.40	R 2,594.40
		Workshop and Stores Building Upper Level DB				
41		(i) Supply	Sum	1.00	20064.91	R 20,064.91
42		(ii) Install	Sum	1.00	2594.40	R 2,594.40
Carried forward /...						R 513,028.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 513,028.08
		Service Water Pump Station DB				
43		(i) Supply	Sum	1.00	21448.10	R 21,448.10
44		(ii) Install	Sum	1.00	2853.84	R 2,853.84
		Process Operation Building Lower Level DB				
45		(i) Supply	Sum	1.00	42642.61	R 42,642.61
46		(ii) Install	Sum	1.00	3632.16	R 3,632.16
		Process Operation Building Upper Level DB				
47		(i) Supply	Sum	1.00	21123.48	R 21,123.48
48		(ii) Install	Sum	1.00	2853.84	R 2,853.84
		Guard Hut DB				
49		(i) Supply	Sum	1.00	11050.20	R 11,050.20
50		(ii) Install	Sum	1.00	1037.76	R 1,037.76
		Service Water Electrical Building DB				
51		(i) Supply	Sum	1.00	32510.05	R 32,510.05
52		(ii) Install	Sum	1.00	2334.96	R 2,334.96
		Boiler House DB				
53		(i) Supply	Sum	1.00	28172.91	R 28,172.91
54		(ii) Install	Sum	1.00	3113.28	R 3,113.28
	PS1 05	LUMINAIRES				
		Type A fitting				
55		(i) Supply	No.	445.00	3087.98	R 1,374,151.10
56		(ii) Install	No.	445.00	129.72	R 57,725.40
		Type A fitting (emergency)				
57		(i) Supply	No.	202.00	5825.73	R 1,176,797.46
58		(ii) Install	No.	202.00	138.37	R 27,950.74
		Type B fitting				
59		(i) Supply	No.	96.00	2019.74	R 193,895.04
60		(ii) Install	No.	96.00	121.07	R 11,622.72
		Type B fitting (emergency)				
61		(i) Supply	No.	42.00	3654.21	R 153,476.82
62		(ii) Install	No.	42.00	125.40	R 5,266.80
		Type C fitting				
63		(i) Supply	No.	29.00	1938.02	R 56,202.58
64		(ii) Install	No.	29.00	108.10	R 3,134.90
Carried forward /...						R 3,746,024.83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,746,024.83
		Type C fitting (emergency)					
65		(i) Supply	No.	1.00	3572.49	R	3,572.49
66		(ii) Install	No.	1.00	121.07	R	121.07
		Type D fitting					
67		(i) Supply	No.	90.00	6642.96	R	597,866.40
68		(ii) Install	No.	90.00	194.58	R	17,512.20
		Type D fitting (emergency)					
69		(i) Supply	No.	52.00	8160.69	R	424,355.88
70		(ii) Install	No.	52.00	207.55	R	10,792.60
		Type E fitting					
71		(i) Supply	No.	49.00	4868.39	R	238,551.11
72		(ii) Install	No.	49.00	129.72	R	6,356.28
		Type E fitting (emergency)					
73		(i) Supply	No.	32.00	8160.69	R	261,142.08
74		(ii) Install	No.	32.00	134.04	R	4,289.28
		Type G fitting					
75		(i) Supply	No.	1.00	1165.32	R	1,165.32
76		(ii) Install	No.	1.00	108.10	R	108.10
		Type G fitting (emergency)					
77		(i) Supply	No.	5.00	2860.33	R	14,301.65
78		(ii) Install	No.	5.00	112.42	R	562.10
		Type H fitting					
79		(i) Supply	No.	188.00	4249.63	R	798,930.44
80		(ii) Install	No.	188.00	129.72	R	24,387.36
		Type H fitting (emergency)					
81		(i) Supply	No.	152.00	5715.98	R	868,828.96
82		(ii) Install	No.	152.00	138.37	R	21,032.24
		Photocell					
83		(i) Supply	No.	30.00	435.10	R	13,053.00
84		(ii) Install	No.	30.00	237.82	R	7,134.60
		Occupancy sensor					
85		(i) Supply	No.	540.00	218.24	R	117,849.60
86		(ii) Install	No.	540.00			
Carried forward /...						R	7,177,937.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	7,177,937.59
		Emergency Exit LED Sign					
87		(i) Supply	No.	40.00	6019.53	R	240,781.20
88		(ii) Install	No.	40.00	86.48	R	3,459.20
	PS1 05	EX RATED LUMINAIRES					
		Type A fitting					
89		(i) Supply	No.	64.00	3087.98	R	197,630.72
90		(ii) Install	No.	64.00	129.72	R	8,302.08
		Type A fitting (emergency)					
91		(i) Supply	No.	27.00	5825.73	R	157,294.71
92		(ii) Install	No.	27.00	138.37	R	3,735.99
		Type B fitting					
93		(i) Supply	No.	1.00	2019.74		Rate Only
94		(ii) Install	No.	1.00	121.07		Rate Only
		Type B fitting (emergency)					
95		(i) Supply	No.	1.00	3654.21		Rate Only
96		(ii) Install	No.	1.00	125.40		Rate Only
		Type C fitting					
97		(i) Supply	No.	1.00	1938.02		Rate Only
98		(ii) Install	No.	1.00	108.10		Rate Only
		Type C fitting (emergency)					
99		(i) Supply	No.	1.00	3572.49		Rate Only
100		(ii) Install	No.	1.00	121.07		Rate Only
		Type D fitting					
101		(i) Supply	No.	1.00	6642.96		Rate Only
102		(ii) Install	No.	1.00	194.58		Rate Only
		Type D fitting (emergency)					
103		(i) Supply	No.	1.00	8160.69		Rate Only
104		(ii) Install	No.	1.00	207.55		Rate Only
		Type E fitting					
105		(i) Supply	No.	1.00	4868.39		Rate Only
106		(ii) Install	No.	1.00	129.72		Rate Only
		Type E fitting (emergency)					
107		(i) Supply	No.	5.00	8160.69	R	40,803.45
108		(ii) Install	No.	5.00	134.04	R	670.20
Carried forward /...						R	7,830,615.14

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,830,615.14
		Type G fitting				
109		(i) Supply	No.	1.00	1165.32	Rate Only
110		(ii) Install	No.	1.00	108.10	Rate Only
		Type G fitting (emergency)				
111		(i) Supply	No.	1.00	2860.33	Rate Only
112		(ii) Install	No.	1.00	112.42	Rate Only
		Type H fitting				
113		(i) Supply	No.	18.00	4249.63	R 76,493.34
114		(ii) Install	No.	18.00	129.72	R 2,334.96
		Type H fitting (emergency)				
115		(i) Supply	No.	32.00	5715.98	R 182,911.36
116		(ii) Install	No.	32.00	138.37	R 4,427.84
		Emergency Exit LED Sign				
117		(i) Supply	No.	5.00	6019.53	R 30,097.65
118		(ii) Install	No.	5.00	86.48	R 432.40
	PS1 05	LIGHT SWITCHES				
		1 lever 1 way, 20A, IP65 pedestal mounted outdoor switch				
119		(i) Supply	No.	1.00	265.15	Rate Only
120		(ii) Install	No.	1.00	151.34	Rate Only
		16A, 1 lever 4 way surface mounted				
121		(i) Supply	No.	1.00	193.19	Rate Only
122		(ii) Install	No.	1.00	121.07	Rate Only
	PS1 04	WALL FLUSH MOUNTED POWER OUTLETS AND SWITCH DISCONNECTORS				
		3-pin 230V Single normal Switched Socket				
123		(i) Supply	No.	75.00	105.31	R 7,898.25
124		(ii) Install	No.	75.00	86.48	R 6,486.00
		3-pin 230V Single normal Switched Socket Outlet with USB attachment				
125		(i) Supply	No.	16.00	494.67	R 7,914.72
126		(ii) Install	No.	16.00	90.80	R 1,452.80
		3-pin 230V Single dedicated Switched Socket Outlet				
127		(i) Supply	No.	158.00	159.13	R 25,142.54
128		(ii) Install	No.	158.00	86.48	R 13,663.84
Carried forward /...						R 8,189,870.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	8,189,870.84
		3-pin 230V Single dedicated Switched Socket Outlet with USB attachment					
129		(i) Supply	No.	16.00	503.66	R	8,058.56
130		(ii) Install	No.	16.00	90.80	R	1,452.80
		3-pin 230V double normal Switched Socket					
131		(i) Supply	No.	68.00	170.27	R	11,578.36
132		(ii) Install	No.	68.00	95.13	R	6,468.84
		32 Amp 5-pin 400V industrial switched socket outlet in weather-proof housing with sliding cover					
133		(i) Supply	No.	4.00	1604.20	R	6,416.80
134		(ii) Install	No.	4.00	172.96	R	691.84
		16 Amp 2-pole 250V switch disconnector					
135		(i) Supply	No.	1.00	148.05		Rate Only
136		(ii) Install	No.	1.00	151.34		Rate Only
		16 Amp 4-pole 400V switch disconnector					
137		(i) Supply	No.	1.00	255.48		Rate Only
138		(ii) Install	No.	1.00	151.34		Rate Only
		32 Amp 4-pole 400V switch disconnector (rotary type, lockable)					
139		(i) Supply	No.	1.00	1199.64		Rate Only
140		(ii) Install	No.	1.00	194.58		Rate Only
		40A Triple Pole Rotary Switch Disconnectors					
141		(i) Supply	No.	37.00	2002.53	R	74,093.61
142		(ii) Install	No.	37.00	151.34	R	5,599.58
		RJ45/RJ45 Combo Outlet					
143		(i) Supply	No.	166.00	261.06	R	43,335.96
144		(ii) Install	No.	166.00	86.48	R	14,355.68
	PS1 04	SURFACE MOUNTED POWER OUTLETS AND SWITCH DISCONNECTORS					
		3-pin 230V Single normal Switched Socket					
145		(i) Supply	No.	8.00	105.31	R	842.48
146		(ii) Install	No.	8.00	86.48	R	691.84
		3-pin 230V Single normal Switched Socket Outlet with USB attachment					
147		(i) Supply	No.	1.00	494.67		Rate Only
148		(ii) Install	No.	1.00	90.80		Rate Only
Carried forward /...						R	8,363,457.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,363,457.19
		3-pin 230V Single dedicated Switched Socket Outlet				
149		(i) Supply	No.	16.00	159.13	R 2,546.08
150		(ii) Install	No.	16.00	86.48	R 1,383.68
		3-pin 230V Single dedicated Switched Socket Outlet with USB attachment				
151		(i) Supply	No.	1.00	503.66	Rate Only
152		(ii) Install	No.	1.00	90.80	Rate Only
		3-pin 230V double normal Switched Socket Outlet				
153		(i) Supply	No.	202.00	170.27	R 34,394.54
154		(ii) Install	No.	202.00	95.13	R 19,216.26
		32 Amp 5-pin 400V industrial switched socket outlet				
155		(i) Supply	No.	58.00	981.53	R 56,928.74
156		(ii) Install	No.	58.00	237.82	R 13,793.56
		16 Amp 2-pole 250V switch disconnector				
157		(i) Supply	No.	1.00	148.05	Rate Only
158		(ii) Install	No.	1.00	151.34	Rate Only
		16 Amp 4-pole 400V switch disconnector				
159		(i) Supply	No.	1.00	255.48	Rate Only
160		(ii) Install	No.	1.00	151.34	Rate Only
		32 Amp 4-pole 400V switch disconnector (rotary type, lockable)				
161		(i) Supply	No.	1.00	1199.64	Rate Only
162		(ii) Install	No.	1.00	194.58	Rate Only
		40A Triple Pole Rotary Switch Disconnectors				
163		(i) Supply	No.	30.00	2002.53	R 60,075.90
164		(ii) Install	No.	30.00	151.34	R 4,540.20
		RJ45/RJ45 Combo Outlet				
165		(i) Supply	No.	8.00	261.06	R 2,088.48
166		(ii) Install	No.	8.00	86.48	R 691.84
		Floorbox				
167		(i) Supply	No.	1.00	2921.40	Rate Only
168		(ii) Install	No.	1.00	518.88	Rate Only
		Desk mounted surface box				
169		(i) Supply	No.	1.00	559.42	Rate Only
Carried forward /...						R 8,559,116.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 8,559,116.47
170	PS1 04	(ii) Install	No.	1.00	86.48	Rate Only
		WALL FLUSH MOUNTED EX RATED POWER OUTLETS AND SWITCH DISCONNECTORS				
		3-pin 230V Single normal Switched Socket				
171		(i) Supply	No.	1.00	105.31	Rate Only
172		(ii) Install	No.	1.00	86.48	Rate Only
		3-pin 230V Single normal Switched Socket Outlet with USB attachment				
173		(i) Supply	No.	1.00	494.67	Rate Only
174		(ii) Install	No.	1.00	90.80	Rate Only
		3-pin 230V Single dedicated Switched Socket Outlet				
175		(i) Supply	No.	1.00	159.13	Rate Only
176		(ii) Install	No.	1.00	86.48	Rate Only
		3-pin 230V Single dedicated Switched Socket Outlet with USB attachment				
177		(i) Supply	No.	1.00	503.66	Rate Only
178		(ii) Install	No.	1.00	90.80	Rate Only
		3-pin 230V double normal Switched Socket				
179		(i) Supply	No.	23.00	170.27	R 3,916.21
180		(ii) Install	No.	23.00	95.13	R 2,187.99
		32 Amp 5-pin 400V industrial switched socket outlet				
181		(i) Supply	No.	18.00	981.53	R 17,667.54
182		(ii) Install	No.	18.00	237.82	R 4,280.76
		16 Amp 2-pole 250V switch disconnecter				
183		(i) Supply	No.	1.00	148.05	Rate Only
184		(ii) Install	No.	1.00	151.34	Rate Only
		16 Amp 4-pole 400V switch disconnecter				
185		(i) Supply	No.	1.00	255.48	Rate Only
186		(ii) Install	No.	1.00	151.34	Rate Only
		32 Amp 4-pole 400V switch disconnecter (rotary type, lockable)				
187		(i) Supply	No.	1.00	1199.64	Rate Only
188		(ii) Install	No.	1.00	194.58	Rate Only
		40A Triple Pole Rotary Switch Disconnectors				
189		(i) Supply	No.	6.00	2002.53	R 12,015.18
Carried forward /...						R 8,599,184.15

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	8,599,184.15
190	PS1 03	(ii) Install RJ45/RJ45 Combo Outlet	No.	6.00	151.34	R	908.04
191		(i) Supply	No.	1.00	261.06		Rate Only
192		(ii) Install Floorbox	No.	1.00	86.48		Rate Only
193		(i) Supply	No.	1.00	2921.40		Rate Only
194		(ii) Install POWER SKIRTING MODULAR OUTLETS COMPLETE WITH CRADLES ETC. 3-pin 230V Single normal Switched Socket	No.	1.00	518.88		Rate Only
195		(i) Supply	No.	87.00	105.31	R	9,161.97
196		(ii) Install 3-pin 230V Single normal Switched Socket Outlet with USB attachment	No.	87.00	86.48	R	7,523.76
197		(i) Supply	No.	60.00	494.67	R	29,680.20
198		(ii) Install 3-pin 230V Single dedicated Switched Socket Outlet	No.	60.00	90.80	R	5,448.00
199		(i) Supply	No.	178.00	159.13	R	28,325.14
200		(ii) Install 3-pin 230V Single dedicated Switched Socket Outlet with USB attachment	No.	178.00	86.48	R	15,393.44
201		(i) Supply	No.	60.00	503.66	R	30,219.60
202		(ii) Install RJ45/RJ45 Combo Outlet	No.	60.00	90.80	R	5,448.00
203		PS1 03	(i) Supply	No.	166.00	261.06	R
204	(ii) Install POWER SKIRTING Double compartment power skirting outside dimensions 55 x 160mm minimum		No.	166.00	86.48	R	14,355.68
205	(i) Supply		m	540.00	199.77	R	107,875.80
206	(ii) Install Double compartment power skirting: End Cap		m	540.00	43.24	R	23,349.60
207	(i) Supply		No.	90.00	98.55	R	8,869.50
208	(ii) Install		No.	90.00			
Carried forward /...						R	8,929,078.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	8,929,078.84
209	PS1 07	Double compartment power skirting: Internal	No.	116.00	55.69	R	6,460.04
210		(i) Supply	No.	116.00	64.86	R	7,523.76
		(ii) Install					
		CONDUITS					
		Conduit surface mounted to brickwork, concrete, steel or ceiling voids or cast into concrete or built/chased into brickwork or concrete. Complete with bends, couplings, glue, round conduit boxes placed in position etc.					
		20mm Diameter, PVC complete with round boxes where necessary					
211		(i) Supply	m	1.00	9.66		Rate Only
212		(ii) Install	m	1.00	17.30		Rate Only
		25mm Diameter, PVC complete with round boxes where necessary					
213		(i) Supply	m	1.00	16.58		Rate Only
214		(ii) Install	m	1.00	19.46		Rate Only
		32mm Diameter, PVC complete with round boxes where necessary					
215	PS1 07	(i) Supply	m	22275.00	22.29	R	496,509.75
216		(ii) Install	m	22275.00	21.62	R	481,585.50
		20mm Diameter, Stainless Steel complete with round boxes where necessary					
217		(i) Supply		1.00	37.02		Rate Only
218		(ii) Install	m	1.00	34.59		Rate Only
		25mm Diameter, Stainless Steel complete with round boxes where necessary					
219		(i) Supply		1.00	7.47		Rate Only
220		(ii) Install	m	1.00	38.92		Rate Only
		32mm Diameter, Stainless Steel complete with round boxes where necessary					
221		(i) Supply		34456.00	69.82	R	2,405,717.92
222	PS1 07	(ii) Install	m	34456.00	43.24	R	1,489,877.44
		20mm Diameter, Hot-dipped Galvanised Conduit complete with round boxes where necessary					
223		(i) Supply	m	4000.00	37.02	R	148,080.00
224		(ii) Install	m	4000.00	34.59	R	138,360.00
		SLEEVES					
		uPVC sleeves installed in cable trenches, under roads, paving, building entrances, etc. Complete with bends, couplings, draw wires and end caps					
225		50mm Diameter PVC Sleeve		30.00	24.20	R	726.00
		(i) Supply	m				
Carried forward /...						R	14,103,919.25

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 14,103,919.25
226		(ii) Install 75mm Diameter PVC Sleeve	m	30.00	19.46	R 583.80
227		(i) Supply	m	64.00	28.92	R 1,850.88
228		(ii) Install 110mm Diameter PVC Sleeve	m	64.00	21.62	R 1,383.68
229		(i) Supply	m	2026.00	44.31	R 89,772.06
230		(ii) Install 160mm Diameter PVC Sleeve	m	2026.00	34.59	R 70,079.34
231		(i) Supply	m	30.00	77.63	R 2,328.90
232		(ii) Install	m	30.00	43.24	R 1,297.20
	PS1 03	SINGLE CORE PVC INSULATED GENERAL PURPOSE HIGH CONDUCTIVITY STRANDED CONDUCTORS (RED, BLACK)				
		SINGLE CORE PVC INSULATED HOUSE WIRE 1.5 mm ²				
233		(i) Supply	m	1000.00	4.78	R 4,780.00
234		(ii) Install 2.5 mm ²	m	1000.00	2.81	R 2,810.00
235		(i) Supply	m	28750.00	7.08	R 203,550.00
236		(ii) Install 4 mm ²	m	28750.00	3.89	R 111,837.50
237		(i) Supply	m	22000.00	11.73	R 258,060.00
238		(ii) Install 6 mm ²	m	22000.00	3.89	R 85,580.00
239		(i) Supply	m	1000.00	18.63	R 18,630.00
240		(ii) Install SINGLE CORE PVC INSULATED EARTH WIRE	m	1000.00	4.32	R 4,320.00
	PS1 03	1.5 mm ²				
241		(i) Supply	m	1.00	4.78	Rate Only
242		(ii) Install 2.5 mm ²	m	1.00	2.81	Rate Only
243		(i) Supply	m	28750.00	7.08	R 203,550.00
244		(ii) Install 4 mm ²	m	28750.00	3.89	R 111,837.50
245		(i) Supply	m	22000.00	11.73	R 258,060.00
246		(ii) Install	m	22000.00	3.89	R 85,580.00
Carried forward /...						R 15,619,810.11

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	15,619,810.11
		6 mm²					
247		(i) Supply	m	1.00	18.63		Rate Only
248		(ii) Install	m	1.00	4.32		Rate Only
	PS1 03	TWIN AND EARTH PVC INSULATED WIRE					
		1.5 mm²					
249		(i) Supply	m	1.00	4.78		Rate Only
250		(ii) Install	m	1.00	2.81		Rate Only
		2.5 mm²					
251		(i) Supply	m	2000.00	7.08	R	14,160.00
252		(ii) Install	m	2000.00	3.89	R	7,780.00
		4 mm²					
253		(i) Supply	m	1.00	11.73		Rate Only
254		(ii) Install	m	1.00	3.89		Rate Only
		6 mm²					
255		(i) Supply	m	1.00	18.63		Rate Only
256		(ii) Install	m	1.00	4.32		Rate Only
	PS1 03	Cu/PVC INSULATED/PVC BEDDED/SWA/PVC CABLES					
		6mm² x 4 core					
257		(i) Supply	m	6300.00	109.40	R	689,220.00
258		(ii) Install	m	6300.00	12.97	R	81,711.00
	PS1 03	CABLE TERMINATIONS FOR Cu/PVC INSULATED/PVC					
		6mm² x 4 core					
259		(i) Supply	m	76.00	109.40	R	8,314.40
260		(ii) Install	m	76.00	12.97	R	985.72
	PS1 03	BARE COPPER EARTH CABLE WITH STRANDED CONDUCTORS					
		6mm²					
261		(i) Supply	m	6300.00	16.95	R	106,785.00
262		(ii) Install	m	6300.00	5.62	R	35,406.00
	PS1 03	CABLE TERMINATIONS FOR BARE COPPER EARTH CABLES COMPLETE					
		6mm²					
263		(i) Supply	m	76.00	16.95	R	1,288.20
264		(ii) Install	m	76.00	5.62	R	427.12
Carried forward /...						R	16,565,887.55

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 16,565,887.55
		EARTHWORKS				
		EXACAVATE AND SET EXCAVATED MATERIAL ASIDE FOR RE-USE AS FILLING FOR CABLE OR SLEEVE TRENCH NOT EXCEEDING 1M				
265		In earth	m	589.00	56.53	R 33,296.17
266		In soft rock	m	66.00		
267		In rock	m	1.00		Rate only
268		Selected and approved material for backfilling, bedding and cover	m	655.00	19.81	R 12,975.55
269		Surplus excavated material spread and levelled on site as directed	m	450.00		
270		Danger tape - 400mm wide overlapping	m	4052.00	8.65	R 35,049.80
271		Cable marker, with engraved aluminium plate	No.	50.00	810.75	R 40,537.50
	PS1 08	EARTHING				
		Allow for all the costs and expenses in connection with the manufacture, painting, testing, supplying, delivery, offloading, storage and site installation of the following materials and equipment:				
272		Bonding of the entire installation	Sum	1.00	14593.50	R 14,593.50
273		CHP Building earth mat	Sum	1.00	26268.30	R 26,268.30
274		MV Intake substation earth mat	Sum	1.00	26268.30	R 26,268.30
275		Centralised Diesel Generator earth mat	Sum	1.00	26268.30	R 26,268.30
276		Isolation Transformers earth mat	Sum	1.00	26268.30	R 26,268.30
277		TSE and Filter Building earth ring	Sum	1.00	26268.30	R 26,268.30
278		Blower building earth ring	Sum	1.00	26268.30	R 26,268.30
279		Bioreactor earth ring	Sum	1.00	26268.30	R 26,268.30
280		Inlet works earth ring	Sum	1.00	26268.30	R 26,268.30
281		Gravity Thickener 1 & 2 earth ring	Sum	1.00	26268.30	R 26,268.30
282		8 mm Diameter Al conductor including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 3, 4, 6, 7, 8, 11, 12 and 13	m	3000.00	114.41	R 343,230.00
283		35 mm² Cu/PV conductor including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 5, 6, 7, 10, 11, 12 and 13	m	800.00	377.27	R 301,816.00
284		4m Air termination Rod C/W tripod Base (Dehn part no. 105400 or equivalent) including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 8.	No	20.00	15702.61	R 314,052.20
Carried forward /...						R 17,897,852.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /						R	17,897,852.97
285		Roof conductor clamps (Dehn part no.253015 or equivalent) including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 4, 11 and 12.	No	2200.00	114.41	R	251,702.00
286		Gutter/down conductor holding clamps including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 3, 4, 11, 12 and 13	No	800.00	217.15	R	173,720.00
287		Bimetallic clamps (Dehn part no.390657 or equivalent) including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed	No	350.00	245.17	R	85,809.50
288		2m Earth spike + clamp including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 1, 5, 6, 7 and 10	No	100.00	518.36	R	51,836.00
289		Test point (Dehn part no.549001 equivalent) including installation and all components in alignment with typical lightning protection and earthing drawing specs and detailed design 3, 6, 7 and 13	No	75.00	245.17	R	18,387.75
PROVISIONAL SUMS							
290		Provisional sum for additional lightning protection and earth testing as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
291		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
292		Provisional sum for additional earthing or earth testing as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
293		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
294		Lightning protection requirements for items required for building electrical services as directed by	Prov Sum	1.00	175000.00	R	175,000.00
295		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
296		Additional Lighting as directed by the Engineer	Prov Sum	1.00	75000.00	R	75,000.00
297		Percentage adjustment on above item for Contractor's overheads and profit	%	75000.00	10.00%	R	7,500.00
298		Additional small power as directed by the Engineer	Prov Sum	1.00	25000.00	R	25,000.00
299		Percentage adjustment on above item for Contractor's overheads and profit	%	25000.00	10.00%	R	2,500.00
300		Other:- All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item				
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	19,166,808.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
Section		Description					R c
							Amount
PS1		BUILDING ELECTRICAL				R	19,166,808.22
TOTAL OF BILL C54 CARRIED TO SUMMARY							R 19,166,808.22

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
		BILL C55 BUILDING ELECTRONICS AND SECURITY				
	PS2 05	BUILDING SERVICES GENERAL				
1		Design, liaison and coordination of building services fibre system by specialist sub-contractors with Main and other sub-contractors	Sum	1.00	4669.92	R 4,669.92
2		Complete fibre installation testing and commissioning per panel	No.	37.00	128.42	R 4,751.54
3		OTDR report per building fibre patch panel	No.	25.00	52.54	R 1,313.50
4		OTDR report per perimeter fibre patch panel installation	No.	12.00	175.12	R 2,101.44
5		Labelling of all equipment and conductors per patch panel	No.	37.00	100.99	R 3,736.63
6		Complete installation certificates of compliance	Sum	1.00	525.37	R 525.37
7		Complete installation O&M manuals	Sum	1.00	875.61	R 875.61
8		Complete installation as-built drawings	Sum	1.00	700.49	R 700.49
	PS2 05	BUILDING SERVICES FIBRE				
	PS2 14.2.1	Fibre optic cable				
9		(i) Supply and deliver	m	5000.00	15.32	R 76,600.00
10		(ii) Install (in ground)	m	2500.00	16.93	R 42,325.00
11		(iii) Install (in conduit)	m	2500.00	18.92	R 47,300.00
	PS2 14.2.2	Network enclosure fibre patch panel				
12		(i) Supply and deliver	No.	25.00	1309.91	R 32,747.75
13		(ii) Install	No.	25.00	256.85	R 6,421.25
	PS2 14.2.2	Perimeter enclosure fibre patch panel				
14		(i) Supply and deliver	No.	12.00	1309.91	R 15,718.92
15		(ii) Install	No.	12.00	256.85	R 3,082.20
	PS2 14.2.3	Fibre patch cables (1m length)				
16		(i) Supply and deliver	No.	90.00	53.24	R 4,791.60
17		(ii) Install	No.	90.00	29.19	R 2,627.10
	PS2 14.2.3	External ruggedised fibre patch cables (5m length)				
18		(i) Supply and deliver	No.	1.00	256.85	Rate Only
Carried forward /...						R 250,288.32

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 250,288.32
19	PS2 14.2.3	(ii) Install	No.	1.00	58.37	Rate Only
		External ruggedised fibre patch cables (10m length)				
20	PS2 14.2.4	(i) Supply and deliver	No.	6.00	344.41	R 2,066.46
21		(ii) Install	No.	6.00	58.37	R 350.22
	PS2 06	Fibre core splice and terminate				
22		(i) Install	No.	696.00	65.38	R 45,504.48
	PS2 14.3.1	BUILDING ELECTRONICS GENERAL				
23		Design, liaison and coordination of building services network system by specialist sub-contractors with main and other sub-contractors per building	Sum	1.00	2918.70	R 2,918.70
24	PS2 14.3.1	Complete site wide building services network configuration, testing and commissioning as per drawings and specification	Sum	1.00	14009.76	R 14,009.76
25		Point-to-point certification test report per ethernet cable	No.	172.00	140.10	R 24,097.20
26	PS2 14.3.1	Labelling of all equipment and conductors per	No.	25.00	3.21	R 80.25
27		Certificates of compliance per building	No.	25.00	204.31	R 5,107.75
28	PS2 14.3.1	Complete installation O&M manuals	Sum	1.00	875.61	R 875.61
29		As-built drawings per building	No.	25.00	175.12	R 4,378.00
	PS2 14.3.2	BUILDING SERVICES NETWORK				
		Network switch type 1				
30	PS2 14.3.2	(i) Supply and deliver	No.	2.00	76890.23	R 153,780.46
31		(ii) Install	No.	2.00	1400.98	R 2,801.96
	PS2 14.3.2	Network switch type 2				
32		(i) Supply and deliver	No.	1.00	100800.22	R 100,800.22
33	PS2 14.3.2	(ii) Install	No.	1.00	1400.98	R 1,400.98
		Network switch type 3				
34	PS2 14.3.2	(i) Supply and deliver	No.	17.00	11511.35	R 195,692.95
35		(ii) Install	No.	17.00	1050.73	R 17,862.41
	PS2 14.3.3	Network access point				
36		(i) Supply and deliver	No.	15.00	7415.83	R 111,237.45
37		(ii) Install	No.	15.00	350.24	R 5,253.60
Carried forward /...						R 938,506.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 938,506.78
	PS2 14.3.4	Small form factor pluggable transceiver (SFP)				
38		(i) Supply and deliver	No.	40.00	2072.28	R 82,891.20
39		(ii) Install	No.	40.00	116.75	R 4,670.00
	PS2 14.3.5	CAT patch panel				
40		(i) Supply and deliver	No.	25.00	496.18	R 12,404.50
41		(ii) Install	No.	25.00	175.12	R 4,378.00
	PS2 06	ETHERNET CABLES				
	PS2 14.3.6	Unarmoured CAT 6				
42		(i) Supply and deliver	m	5160.00	7.71	R 39,783.60
43		(ii) Install	m	5160.00	11.09	R 57,224.40
	PS2 14.3.6	Armoured CAT 6				
44		(i) Supply and deliver	m	1.00	60.95	Rate Only
45		(ii) Install	m	1.00	12.79	Rate Only
	PS2 06	ETHERNET TERMINATIONS				
	PS2 14.3.7	Unarmoured CAT 6				
46		(i) Supply and deliver	No.	162.00	7.71	R 1,249.02
47		(ii) Install	No.	162.00	11.09	R 1,796.58
	PS2 14.3.7	Armoured CAT 6				
48		(i) Supply and deliver	No.	1.00	60.95	Rate Only
49		(ii) Install	No.	1.00	12.79	Rate Only
	PS2 06	NETWORK ENCLOSURES				
	PS2 14.3.8	Server room network enclosure				
50		(i) Supply and deliver	No.	1.00	15153.89	R 15,153.89
51		(ii) Install	No.	1.00	525.37	R 525.37
	PS2 14.3.8	Building network enclosure				
52		(i) Supply and deliver	No.	2.00	4296.33	R 8,592.66
53		(ii) Install	No.	2.00	525.37	R 1,050.74
Carried forward /...						R 1,168,226.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward / ...						R 1,168,226.74
	PS2 14.3.8	Industrial room network enclosure				
54		(i) Supply and deliver	No.	18.00	3379.85	R 60,837.30
55		(ii) Install	No.	18.00	525.37	R 9,456.66
	PS2 14.3.8	Outdoor network enclosure				
56		(i) Supply and deliver	No.	1.00	7938.86	R 7,938.86
57		(ii) Install	No.	1.00	700.49	R 700.49
	PS2 14.3.9	UPS1				
58		(i) Supply and deliver	No.	22.00	10343.87	R 227,565.14
59		(ii) Install	No.	22.00	408.62	R 8,989.64
	PS2 14.3.9	UPS2				
60		(i) Supply and deliver	No.	3.00	24570.78	R 73,712.34
61		(ii) Install	No.	3.00	408.62	R 1,225.86
	PS2 14.3.10	UPS extension battery				
62		(i) Supply and deliver	No.	1.00	14943.74	Rate Only
63		(ii) Install	No.	1.00	525.37	Rate Only
	PS2 14.3.11	UPS service bypass panel				
64		(i) Supply and deliver	No.	25.00	3338.99	R 83,474.75
65		(ii) Install	No.	25.00	1400.98	R 35,024.50
	PS2 14.3.12	Building Service Network Spares				
66		(i) Supply and deliver	Sum	1.00	40861.80	R 40,861.80
	PS2 14.3.13	Building Service Network O&M				
67		(i) Supply and deliver	Sum	1.00	875.61	R 875.61
	PS2 14.3.14	Meeting Room Teams System				
68		(i) Supply and deliver	No.	3.00	62530.23	R 187,590.69
69		(i) Install	No.	3.00	1400.98	R 4,202.94
	PS2 14.3.15	Meeting Room Display				
70		(i) Supply and deliver	No.	2.00	12935.68	R 25,871.36
71		(i) Install	No.	2.00	700.49	R 1,400.98
	PS2 09	CCTV GENERAL				
72		Design, liaison and coordination of all buildings CCTV systems by specialist sub-contractors with main and other sub-contractors	Sum	1.00	1400.98	R 1,400.98
73		Complete site wide CCTV network configuration, testing and commissioning as per drawings and specification	No.	1.00	4202.93	R 4,202.93
Carried forward / ...						R 1,943,559.57

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,943,559.57
74		Labelling of all equipment and conductors per panel	No.	37.00	54.05	R 1,999.85
75		Certificates of compliance per building	Sum	25.00	54.05	R 1,351.25
76		O&M manuals	No.	1.00	875.61	R 875.61
77		As-built drawings per building & perimeter fence	Sum	26.00	291.87	R 7,588.62
78		Integration of existing CCTV server & cameras as per specification	Sum	1.00	11674.80	R 11,674.80
	PS2 09	CCTV				
	PS2 14.5.1	Camera type A				
79		(i) Supply and deliver	No.	11.00	28094.07	R 320,034.77
80		(ii) Install	No.	11.00	326.89	R 3,595.79
	PS2 14.5.1	Camera type B				
81		(i) Supply and deliver	No.	1.00	28032.54	R 28,032.54
82		(ii) Install	No.	1.00	326.89	R 326.89
	PS2 14.5.1	Camera type C				
83		(i) Supply and deliver	No.	39.00	28874.09	R 1,126,089.51
84		(ii) Install	No.	39.00	326.89	R 12,748.71
	PS2 14.5.1	Camera type D				
85		(i) Supply and deliver	No.	56.00	26913.65	R 1,507,164.40
86		(ii) Install	No.	56.00	326.89	R 18,305.84
	PS2 14.5.1	Camera type E				
87		(i) Supply and deliver	No.	14.00	100671.80	R 1,409,405.20
88		(ii) Install	No.	14.00	326.89	R 4,576.46
	PS2 14.5.1	Camera type F				
89		(i) Supply and deliver	No.	6.00	83893.43	R 503,360.58
90		(ii) Install	No.	6.00	326.89	R 1,961.34
	PS2 14.5.1	Camera type G				
91		(i) Supply and deliver	No.	25.00	18060.92	R 451,523.00
92		(ii) Install	No.	25.00	326.89	R 8,172.25
	PS2 14.5.1	Camera type H				
93		(i) Supply and deliver	No.	2.00	15912.75	R 31,825.50
94		(ii) Install	No.	2.00	326.89	R 653.78
Carried forward /...						R 7,394,826.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 7,394,826.26
	PS2 14.5.2	Camera type I				
95		(i) Supply and deliver	No.	4.00	29288.57	R 117,154.28
96		(ii) Install	No.	4.00	326.89	R 1,307.56
	PS2 14.5.1	Camera licensing				
97		(i) Supply and deliver	No.	158.00	5076.20	R 802,039.60
98		(ii) Install	No.	158.00	326.89	R 51,648.62
	PS2 14.5.3	Time lapse camera				
99		(i) Supply and deliver	No.	2.00	18268.49	R 36,536.98
100		(ii) Install	No.	2.00	408.62	R 817.24
	PS2 14.5.4	Entrance CCTV intercom				
101		(i) Supply and deliver	No.	1.00	3479.09	Rate Only
102		(ii) Install	No.	1.00	525.37	Rate Only
	PS2 14.5.5	CCTV server C/W software				
103		(i) Supply and deliver	No.	2.00	333279.14	R 666,558.28
104		(ii) Install	No.	2.00	2568.46	R 5,136.92
	PS2 14.5.6	CCTV operator computer workstation				
105		(i) Supply and deliver	No.	6.00	42354.08	R 254,124.48
106		(ii) Install	No.	6.00	525.37	R 3,152.22
	PS2 14.5.7	Display 24"				
107		(i) Supply and deliver	No.	6.00	5466.73	R 32,800.38
108		(ii) Install	No.	6.00	280.20	R 1,681.20
	PS2 14.5.7	Display 55"				
109		(i) Supply and deliver	No.	3.00	8041.60	R 24,124.80
110		(ii) Install	No.	3.00	280.20	R 840.60
	PS2 14.5.8	Type 1 CCTV switch				
111		(i) Supply and deliver	No.	21.00	11301.21	R 237,325.41
112		(ii) Install	No.	21.00	280.20	R 5,884.20
	PS2 14.5.8	Type 2 CCTV switch				
113		(i) Supply and deliver	No.	13.00	13827.17	R 179,753.21
114		(ii) Install	No.	13.00	280.20	R 3,642.60
Carried forward /...						R 9,819,354.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	9,819,354.84
	PS2 14.5.8	Type 3 CCTV switch					
115		(i) Supply and deliver	No.	2.00	30921.88	R	61,843.76
116		(ii) Install	No.	2.00	1400.98	R	2,801.96
	PS2 14.5.10	CCTV Small form factor pluggable transceiver (SFP)					
117		(i) Supply and deliver	No.	72.00	2072.28	R	149,204.16
118		(ii) Install	No.	72.00	116.75	R	8,406.00
	PS2 14.5.20	CCTV network management software					
119		(i) Supply and deliver software per switch	No.	158.00	1611.12	R	254,556.96
120		(ii) Install	Sum	1.00	3268.94	R	3,268.94
	PS2 14.5.9	DC power supply PS5					
121		(i) Supply and deliver	No.	26.00	2755.25	R	71,636.50
122		(ii) Install	No.	26.00	291.87	R	7,588.62
	PS2 14.5.9	DC power supply PS10					
123		(i) Supply and deliver	No.	5.00	4483.12	R	22,415.60
124		(ii) Install	No.	5.00	291.87	R	1,459.35
	PS2 14.5.12	CAT patch panel					
125		(i) Supply and deliver	No.	41.00	496.18	R	20,343.38
126		(ii) Install	No.	41.00	175.12	R	7,179.92
	PS2 14.5.13	CAT5e cable					
127		(i) Supply and deliver	m	5000.00	6.08	R	30,400.00
128		(ii) Install	m	5000.00	11.09	R	55,450.00
	PS2 14.5.13	CAT5e cable terminations					
129		(i) Supply and deliver	No.	270.00	37.36	R	10,087.20
130		(ii) Install	No.	270.00	17.51	R	4,727.70
	PS2 14.5.15	CCTV utility box					
131		(i) Supply and deliver	No.	8.00	2755.25	R	22,042.00
132		(ii) Install	No.	8.00	525.37	R	4,202.96
	PS2 14.5.16	CCTV perimeter fence camera SPD					
133		(i) Supply and deliver	No.	20.00	1046.06	R	20,921.20
134		(ii) Install	No.	20.00	256.85	R	5,137.00
	PS2 14.5.23	GPS Time Server					
135		(i) Supply and deliver	No.	1.00	5837.40	R	5,837.40
136		(ii) Install	No.	1.00	583.74	R	583.74
Carried forward /...						R	10,589,449.19

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 10,589,449.19
	PS2 14.5.15	CCTV & energiser utility box				
137		(i) Supply and deliver	No.	4.00	2318.62	R 9,274.48
138		(ii) Install	No.	4.00	466.99	R 1,867.96
	PS2 14.5.14	IP horn speaker				
139		(i) Supply and deliver	No.	8.00	13332.62	R 106,660.96
140		(ii) Install	No.	8.00	350.24	R 2,801.92
		Perimeter fence HDG CCTV bracket				
141		(i) Supply and deliver	No.	12.00	567.40	R 6,808.80
142		(ii) Install	No.	12.00	256.85	R 3,082.20
		Perimeter fence stainless steel 316 CCTV				
143		(i) Supply and deliver	No.	1.00	1246.87	R 1,246.87
144		(ii) Install	No.	1.00	256.85	R 256.85
	PS2 14.5.21	Concrete pole				
145		(i) Supply and deliver	No.	2.00	6841.43	R 13,682.86
146		(ii) Install	No.	2.00	1400.98	R 2,801.96
	PS2 14.5.22	PVC manhole for concrete pole				
147		(i) Supply and deliver	No.	2.00	1914.67	R 3,829.34
148		(ii) Install	No.	2.00	700.49	R 1,400.98
	PS2 14.5.17	Donor mobile two-way radio				
149		(i) Supply and deliver	No.	1.00	12632.13	R 12,632.13
150		(ii) Install	No.	1.00	291.87	R 291.87
	PS2 14.5.17	End point two-way radio				
151		(i) Supply and deliver	No.	2.00	14515.28	R 29,030.56
152		(ii) Install	No.	2.00	466.99	R 933.98
153		Radio alert integration	No.	1.00	2568.46	R 2,568.46
Carried forward /...						R 10,788,621.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 10,788,621.37
		25mm HDG conduit c/w brackets & round boxes as required				
154		(i) Supply and deliver	m	2500.00	33.39	R 83,475.00
155		(ii) Install	m	2500.00	22.65	R 56,625.00
		32mm HDG conduit c/w brackets & round boxes as required				
156		(i) Supply and deliver	m	1500.00	37.71	R 56,565.00
157		(ii) Install	m	1500.00	22.65	R 33,975.00
		4C x 4 mm² PVC insulated, PVC bedded cable unarmoured 600/1000V cable				
158		(i) Supply and deliver	m	1500.00	145.94	R 218,910.00
159		(ii) Install	m	1500.00	12.79	R 19,185.00
	PS2 14.5.18	CCTV Spares				
160	PS2 14.6.16	(i) Supply and deliver	Sum	1.00	175122.00	R 175,122.00
	PS2 14.5.19	CCTV O&M				
161	PS2 14.6.17	(i) Supply and deliver	Sum	1.00	758.86	R 758.86
	PS2 10	ACCESS CONTROL GENERAL				
162		Design, liaison and coordination of all buildings access control system by specialist sub-contractors with main and other sub-contractors per building	No.	3.00	583.74	R 1,751.22
163	PS2 14.6.1	Complete site wide access control system including networking testing, personnel access configuration and commissioning as per specification.	Sum	1.00	2918.70	R 2,918.70
164	PS2 14.6.2	Access control systems testing, commissioning and training per building	No.	3.00	1400.98	R 4,202.94
165		Labelling of all equipment and conductors per	No.	3.00	54.05	R 162.15
166		Certificates of compliance per building	No.	3.00	54.05	R 162.15
167		Complete O&M manuals	Sum	1.00	525.37	R 525.37
168		As-built drawings per building	No.	3.00	291.87	R 875.61
	PS2 10	ACCESS CONTROL EQUIPMENT				
	PS2 14.6.3	Main controller				
169		(i) Supply and deliver	No.	23.00	9112.91	R 209,596.93
170		(ii) Install	No.	23.00	420.29	R 9,666.67
	PS2 14.6.4	Access control management software				
171		(ii) Install	Sum	1.00	1400.98	R 1,400.98
Carried forward /...						R 11,664,499.95

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 11,664,499.95
	PS2 14.6.5	Tag reader				
172		(i) Supply and deliver	No.	47.00	2013.90	R 94,653.30
173		(ii) Install	No.	47.00	291.87	R 13,717.89
	PS2 14.6.6	Access tag				
174		(i) Supply and deliver	No.	40.00	87.56	R 3,502.40
175		(i) Configure	No.	40.00	33.27	R 1,330.80
	PS2 14.6.6	Handsfree access tag				
176		(i) Supply and deliver	No.	20.00	103.79	R 2,075.80
177		(i) Configure	No.	20.00	33.27	R 665.40
	PS2 14.6.7	Desktop tag reader				
178		(i) Supply and deliver	No.	1.00	1817.56	R 1,817.56
179		(ii) Install	No.	1.00	280.20	R 280.20
	PS2 14.6.8	Emergency green break glass unit				
180		(i) Supply and deliver	No.	23.00	414.46	R 9,532.58
181		(ii) Install	No.	23.00	280.20	R 6,444.60
	PS2 14.6.9	Push and pull striker lock				
182		(i) Supply and deliver	No.	1.00	1825.29	Rate Only
183		(ii) Install	No.	1.00	326.89	Rate Only
	PS2 14.6.10	Magnetic lock				
184		(i) Supply and deliver	No.	27.00	1918.17	R 51,790.59
185		(ii) Install	No.	27.00	326.89	R 8,826.03
	PS2 14.6.11	Access management computer workstation				
186		(i) Supply and deliver	No.	3.00	17348.75	R 52,046.25
187		(ii) Install	No.	3.00	350.24	R 1,050.72
	PS2 14.6.12	Exit button				
188		(i) Supply and deliver	No.	2.00	382.93	R 765.86
189		(ii) Install	No.	2.00	280.20	R 560.40
	PS2 14.6.13	Long-range hands free receiver				
190		(i) Supply and deliver	No.	1.00	7527.59	R 7,527.59
191		(ii) Install	No.	1.00	525.37	R 525.37
Carried forward /...						R 11,921,613.29

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 11,921,613.29
		SITE VISITOR SYSTEM				
	PS2 14.6.14	Handheld device				
192		(i) Supply and deliver	No.	2.00	7526.95	R 15,053.90
193		(ii) Install	No.	2.00	700.49	R 1,400.98
	PS2 14.6.15	Visitor system configuration				
194	PS2 14.6.15	Supply, install, setup and configuration of automatic data logging and monitoring system onto access management computer workstation database	Sum	1.00	4669.92	R 4,669.92
	PS2 14.6.16	Access Control Spares				
195	PS2 14.6.16	(i) Supply and deliver	Sum	1.00	46699.20	R 46,699.20
	PS2 14.6.17	Access Control O&M				
196	PS2 14.6.17	(i) Supply and deliver	Sum	1.00	583.74	R 583.74
	PS2 10	ENTRANCE ACCESS GENERAL				
197		Design, liaison and coordination of entrance access systems by specialist sub-contractors with Main and other sub-contractors	Sum	1.00	583.74	R 583.74
198	PS2 14.7.1	Entrance access systems testing, commissioning and training	Sum	1.00	1751.22	R 1,751.22
199	PS2 14.7.2	Access control system configuration, testing and commissioning	Sum	1.00	3502.44	R 3,502.44
200		Labelling of all equipment and conductors	Sum	1.00	54.05	R 54.05
201		Certificates of compliance	Sum	1.00	54.05	R 54.05
202		Complete O&M manuals	Sum	1.00	408.62	R 408.62
203		As-built drawings	Sum	1.00	350.24	R 350.24
	PS2 10	SECURITY				
	PS2 14.7.3	Gate motor Type A				
204		(i) Supply and deliver	No.	1.00	5739.62	R 5,739.62
205		(ii) Install	No.	1.00	525.37	R 525.37
	PS2 14.7.3	Gate motor Type B				
206		(i) Supply and deliver	No.	1.00	11521.28	R 11,521.28
207		(ii) Install	No.	1.00	490.34	R 490.34
	PS2 14.7.4	Gooseneck				
208		(i) Supply and deliver	No.	2.00	2206.54	R 4,413.08
209		(ii) Install	No.	2.00	490.34	R 980.68
Carried forward /...						R 12,020,395.76

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	12,020,395.76
	PS2 14.7.5	Traffic barrier					
210		(i) Supply and deliver	No.	4.00	29528.61	R	118,114.44
211		(ii) Install	No.	4.00	525.37	R	2,101.48
	PS2 14.7.6	Entrance Access O&M					
212	PS2 14.6.17	(i) Supply and deliver	Sum	1.00	108.10	R	108.10
		PROVISIONAL SUMS					
213		Additional fibre equipment as directed by the	Prov Sum	1.00	175000.00	R	175,000.00
214		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
215		Additional network equipment as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
216		Additional network equipment as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
217		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
218		Additional CCTV as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
219		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
220		Removal of any existing electronic services as instructed by Engineer	Prov Sum	1.00	50000.00	R	50,000.00
221		Percentage adjustment on above item for Contractor's overheads and profit	%	50000.00	10.00%	R	5,000.00
222		Additional access control as directed by the	Prov Sum	1.00	175000.00	R	175,000.00
223		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R	17,500.00
224		Temporary power as instructed by Engineer	Prov Sum	1.00	125000.00	R	125,000.00
225		Percentage adjustment on above item for Contractor's overheads and profit	%	125000.00	10.00%	R	12,500.00
		Other:-					
		All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item				
							
							
							
							
							
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	13,295,719.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				R Amount c
PS2		BUILDING ELECTRONICS				R 13,295,719.78
TOTAL OF BILL C55 CARRIED TO SUMMARY						R 13,295,719.78

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
BILL C56 FIRE DETECTION AND ALARM SYSTEM (FDAS)						
	PS2 07	GENERAL				
1		Design, liaison and coordination of FDAS systems by specialist sub-contractors with main and other sub-contractors per building.	No.	4.00	1751.22	R 7,004.88
2	PS2 14.4.4	FDAS systems testing, commissioning and training per building	No.	4.00	2334.96	R 9,339.84
3	PS2 14.4.2	FDAS integration, configuration and mimic development on system management software per building	No.	4.00	5253.66	R 21,014.64
4	PS2 14.4.3	Fire system management software testing, commissioning and training	Sum	1.00	5253.66	R 5,253.66
5		Labelling of all equipment and conductors per	No.	4.00		Included
6		Certificates of compliance per building	No.	4.00	175.12	R 700.48
7		Complete O&M manuals	Sum	1.00	583.74	R 583.74
8		As-built drawings per building	No.	4.00	175.12	R 700.48
	PS2 07	FIRE DETECTION				
	PS2 14.4.1	System management software				
9		(i) Supply and deliver	Sum	1.00	28678.56	R 28,678.56
10		(ii) Install	Sum	1.00	1867.97	R 1,867.97
	PS2 14.4.20	System management computer workstation				
11		(i) Supply and deliver	No.	1.00	17358.09	R 17,358.09
12		(ii) Install	No.	1.00	525.37	R 525.37
	PS2 14.4.21	System management screen				
13		(i) Supply and deliver	No.	1.00	5323.71	R 5,323.71
14		(ii) Install	No.	1.00	525.37	R 525.37
	PS2 14.4.5	Fire detection control panel				
15		(i) Supply and deliver	No.	5.00	19876.35	R 99,381.75
16		(ii) Install	No.	5.00	700.49	R 3,502.45
	PS2 14.4.22	Serial-to-Ethernet Converter				
17		(i) Supply and deliver	No.	5.00	1044.89	R 5,224.45
18		(ii) Install	No.	5.00	175.12	R 875.60
Carried forward /						R 207,861.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 207,861.04
	PS2 14.4.6	Optical smoke detector				
19		(i) Supply and deliver	No.	64.00	585.29	R 37,458.56
20		(ii) Install	No.	64.00	291.87	R 18,679.68
	PS2 14.4.7	Heat detector				
21		(i) Supply and deliver	No.	2.00	656.50	R 1,313.00
22		(ii) Install	No.	2.00	291.87	R 583.74
	PS2 14.4.8	Dual optical/heat detector				
23		(i) Supply and deliver	No.	1.00	656.50	Rate Only
24		(ii) Install	No.	1.00	291.87	Rate Only
	PS2 14.4.8	Optical/heat & multisensor detector				
25		(i) Supply and deliver	No.	4.00	705.40	R 2,821.60
26		(ii) Install	No.	4.00	291.87	R 1,167.48
	PS2 14.4.23	Ex-rated smoke detector				
27		(i) Supply and deliver	No.	1.00	2763.43	Rate Only
28		(ii) Install	No.	1.00	350.24	Rate Only
	PS2 14.4.23	Ex-rated heat detector				
29		(i) Supply and deliver	No.	5.00	2933.39	R 14,666.95
30		(ii) Install	No.	5.00	350.24	R 1,751.20
	PS2 14.4.23	Ex-rated photoelectric smoke detector				
31		(i) Supply and deliver	No.	1.00	2763.43	Rate Only
32		(ii) Install	No.	1.00	350.24	Rate Only
	PS2 14.4.10	Remote indicator				
33		(i) Supply and deliver	No.	3.00	169.87	R 509.61
34		(ii) Install	No.	3.00	87.56	R 262.68
	PS2 14.4.9	Emergency red breakglass unit IP24				
35		(i) Supply and deliver	No.	30.00	792.70	R 23,781.00
36		(ii) Install	No.	30.00	291.87	R 8,756.10
	PS2 14.4.9	Emergency red breakglass unit IP67				
37		(i) Supply and deliver	No.	3.00	2687.30	R 8,061.90
38		(ii) Install	No.	3.00	321.06	R 963.18
	PS2 14.4.23	Ex-rated emergency breakglass unit				
39		(i) Supply and deliver	No.	6.00	2078.11	R 12,468.66
40		(ii) Install	No.	6.00	321.06	R 1,926.36
Carried forward /...						R 343,032.74

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 343,032.74
	PS2 14.4.10	Horn sounder/indicator IP21				
41		(i) Supply and deliver	No.	9.00	1571.43	R 14,142.87
42		(ii) Install	No.	9.00	321.06	R 2,889.54
	PS2 14.4.10	Horn sounder/indicator IP66				
43		(i) Supply and deliver	No.	1.00	2612.80	Rate Only
44		(ii) Install	No.	1.00	321.06	Rate Only
	PS2 14.4.23	Ex-rated horn sounder				
45		(i) Supply and deliver	No.	5.00	2670.61	R 13,353.05
46		(ii) Install	No.	5.00	525.37	R 2,626.85
	PS2 14.4.23	Ex-rated indicator				
47		(i) Supply and deliver	No.	5.00	2180.85	R 10,904.25
48		(ii) Install	No.	5.00	525.37	R 2,626.85
	PS2 14.4.10	Base sounder/indicator				
49		(i) Supply and deliver	No.	1.00	1333.85	Rate Only
50		(ii) Install	No.	1.00	321.06	Rate Only
	PS2 14.4.11	Reflective beam detector				
51		(i) Supply and deliver	No.	4.00	8832.13	R 35,328.52
52		(ii) Install	No.	4.00	525.37	R 2,101.48
	PS2 14.4.12	Detection equipment DC power supply				
53		(i) Supply and deliver	No.	4.00	3486.10	R 13,944.40
54		(ii) Install	No.	4.00	525.37	R 2,101.48
	PS2 14.4.24	Fire cable				
55		(i) Supply and deliver	m	3000.00	13.54	R 40,620.00
56		(ii) Install	m	3000.00	12.09	R 36,270.00
	PS2 14.4.13	Digital linear heat detector				
57		(i) Supply and deliver	No.	4.00	21842.38	R 87,369.52
58		(ii) Install	No.	4.00	700.49	R 2,801.96
	PS2 14.4.14	Digital linear heat detector cable				
59		(i) Supply and deliver	m	120.00	109.33	R 13,119.60
60		(ii) Install	m	120.00	21.01	R 2,521.20
	PS2 14.4.15	Aspirated detector system				
61		(i) Supply and deliver	No.	1.00	26009.26	Rate Only
62		(ii) Install	No.	1.00	875.61	Rate Only
Carried forward /...						R 625,754.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 625,754.31
	PS2 14.4.16	Aspirated detector piping				
63		(i) Supply and deliver	m	1.00	64.46	Rate Only
64		(ii) Install	m	1.00	21.72	Rate Only
	PS2 14.4.17	Smoke image detector				
65		(i) Supply and deliver	No.	1.00	24267.24	Rate Only
66		(ii) Install	No.	1.00	700.49	Rate Only
	PS2 14.4.18	Fire Spares				
67		(i) Supply and deliver	Sum	1.00	40861.80	R 40,861.80
	PS2 14.4.19	Fire O&M				
68		(i) Supply and deliver	Sum	1.00	875.61	R 875.61
		PROVISIONAL SUMS				
69		Additional FDAS as directed by the engineer	Prov Sum	1.00	175000	R 175,000.00
70		Percentage adjustment on above item for Contractor's overheads and profit	%	175000.00	10.00%	R 17,500.00
		Other:- All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item			
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 859,991.72

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
Section		Description					Amount
PS2		BUILDING ELECTRONICS				R	859,991.72
TOTAL OF BILL C56 CARRIED TO SUMMARY							R 859,991.72



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C57 ROOFTOP SOLAR					
	PS3 04	GENERAL					
1	PS3 12.16	Design and coordination of rooftop solar by specialist sub-contractors as per specification	Sum	1.00	3783.50	R	3,783.50
2		SSEG municipal approval application	Sum	1.00	2702.50	R	2,702.50
3		NERSA liaison and cogeneration licence application/registration	Sum	1.00	5405.00		Rate Only
4		Complete site wide rooftop solar system network configuration, intergration with Employers SCADA, testing and commissioning as per drawings and specification	Sum	1.00	22592.90	R	22,592.90
5		Labelling of all equipment and conductors per building	No.	2.00	270.25	R	540.50
6		Certificates of compliance per building	No.	2.00	810.75	R	1,621.50
7		Complete O&M manuals	Sum	1.00	1621.50	R	1,621.50
8		As-built drawings per building	No.	2.00	810.75	R	1,621.50
	PS3 05, 06 & 07	ROOFTOP SOLAR					
		PROCESS & OPERATIONS BUILDING					
	PS3 12.8	Battery					
9		(i) Supply and deliver (R/kWh)	kWh	40.00	11005.66	R	440,226.40
10		(ii) Install (R/kWh)	kWh	40.00	216.20	R	8,648.00
	PS3 12.9	DC interface equipment					
11		(i) Supply and deliver	Sum	1.00	10373.28	R	10,373.28
12		(ii) Install	Sum	1.00	1621.50	R	1,621.50
	PS3 12.2	DC cabling					
13		(i) Supply and deliver	m	1000.00	45.59	R	45,590.00
14		(ii) Install	m	1000.00	21.62	R	21,620.00
	PS3 12.3	DC cable connectors					
15		(i) Supply and deliver	No.	50.00	57.21	R	2,860.50
16		(ii) Install	No.	50.00	5.41	R	270.50
Carried forward /...						R	565,694.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 565,694.08
	PS3 12.1	PV modules				
17		(i) Supply and deliver (R/kWp)	kWp	55.00	1843.11	R 101,371.05
18		(ii) Install (R/kWp)	kWp	55.00	720.59	R 39,632.45
	PS3 12.4	Hybrid inverters				
19		(i) Supply and deliver (R/kVA)	kVA	50.00	2043.09	R 102,154.50
20		(ii) Install (R/kVA)	kVA	50.00	918.85	R 45,942.50
	PS3 12.5	Power optimiser				
21		(i) Supply and deliver	No.	1.00	19458.00	Rate Only
22		(ii) Install	No.	1.00	6486.00	Rate Only
	PS3 12.7	Flat roof panel supporting components (incl. ballasts)				
23		(i) Supply and deliver	kWp	55.00	4636.41	R 255,002.55
24		(ii) Install	kWp	55.00	59.46	R 3,270.30
WORKSHOP AND STORES BUILDING						
	PS3 12.8	Battery				
25		(i) Supply and deliver (R/kWh)	kWh	20.00	11005.66	R 220,113.20
26		(ii) Install (R/kWh)	kWh	20.00	216.20	R 4,324.00
	PS3 12.2	DC interface equipment				
27		(i) Supply and deliver	Sum	1.00	10373.28	R 10,373.28
28		(ii) Install	Sum	1.00	1621.50	R 1,621.50
	PS3 12.2	DC cabling				
29		(i) Supply and deliver	m	1000.00	45.59	R 45,590.00
30		(ii) Install	m	1000.00	21.62	R 21,620.00
	PS3 12.3	DC cable connectors				
31		(i) Supply and deliver	No.	50.00	57.21	R 2,860.50
32		(ii) Install	No.	50.00	5.41	R 270.50
Carried forward /...						R 1,419,840.41

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	1,419,840.41
	PS3 12.1	PV modules					
33		(i) Supply and deliver (R/kWp)	kWp	75.00	1843.11	R	138,233.25
34		(ii) Install (R/kWp)	kWp	75.00	720.59	R	54,044.25
	PS3 12.4	Hybrid inverters					
35		(i) Supply and deliver (R/kVA)	kVA	25.00	2043.09	R	51,077.25
36		(ii) Install (R/kVA)	kVA	25.00	918.85	R	22,971.25
	PS3 12.4	Grid-tied inverter					
37		(i) Supply and deliver (R/kVA)	kVA	35.00	1084.24	R	37,948.40
38		(ii) Install (R/kVA)	kVA	35.00	918.85	R	32,159.75
	PS3 12.5	Power optimiser					
39		(i) Supply and deliver	No.	1.00	19458.00		Rate Only
40		(ii) Install	No.	1.00	6486.00		Rate Only
	PS3 12.7	Flat roof panel supporting components (incl. ballasts)					
41		(i) Supply and deliver (R/kWp)	kWp	30.00	4636.41	R	139,092.30
42		(ii) Install (R/kWp)	kWp	30.00	324.30	R	9,729.00
	PS3 12.15	Pitched roof module mounting components					
43		(i) Supply and deliver (R/kWp)	kWp	45.00	4636.41	R	208,638.45
44		(ii) Install (R/kWp)	kWp	45.00	594.55	R	26,754.75
Carried forward /...						R	2,140,489.06

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,140,489.06
		COMBINED BUILDINGS					
	PS3 12.6	Meteorological (MET) station as per specification					
45		(i) Supply and deliver per building	No.	2.00	31337.11	R	62,674.22
46		(ii) Install per building	No.	2.00	3891.60	R	7,783.20
	PS3 12.17	AC interface equipment					
47		(i) Supply and deliver per building	No.	2.00	17932.71	R	35,865.42
48		(ii) Install per building	No.	2.00	540.50	R	1,081.00
	PS3 12.17	PV system SCADA integration as per					
49		(i) Supply and deliver per building	No.	2.00	22592.90	R	45,185.80
50		(ii) Install per building	No.	2.00	12972.00	R	25,944.00
		Power meters					
51		(i) Supply and deliver	No.	3.00	5170.64	R	15,511.92
52		(ii) Install	No.	3.00	540.50	R	1,621.50
	PS3 12.19	Earthing & bonding as per specification					
53		(i) Supply and deliver per building	No.	2.00	5945.50	R	11,891.00
54		(ii) Install per building	No.	2.00	1081.00	R	2,162.00
	PS3 12.13	Roof fall protection equipment as per specification					
55		(i) Supply and deliver per building	No.	2.00	80426.40	R	160,852.80
56		(ii) Install	No.	2.00	15566.40	R	31,132.80
	PS3 12.14	Lightening risk assessment as per specification					
57		(i) Supply and deliver as per building	No.	2.00	8107.50	R	16,215.00
	PS3 10	PV Spares as per specification					
58		(i) Supply and deliver	Sum	1.00	17566.25	R	17,566.25
	PS3 12 / PS3 12.18	PV Systems O&M as per specification					
59		(i) Supply and deliver	Sum	1.00	1621.50	R	1,621.50
Carried forward /...						R	2,577,597.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	2,577,597.47
		PROVISIONAL SUMS					
60		Additional rooftop solar as directed by the engineer	Prov Sum	1.00	175000.00	R	175,000.00
61		Percentage adjustment on above item for	%	175000.00	10.00%	R	17,500.00
		Other:-					
		All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item				
							
							
							
							
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	2,770,097.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
Section		Description					Amount
PS3		SOLAR ROOFTOP PV				R	2,770,097.47
TOTAL OF BILL C57 CARRIED TO SUMMARY						R	2,770,097.47

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
		BILL C58 SECURITY HUT					
	SANS 1200 D	EARTHWORKS					
		as specified in SANS 1200D and in the project specifications					
	PSD 8.3.3	Restricted excavation					
		(a) Excavate in all materials and use for embankment or backfill, or dispose as ordered by the Engineer:					
1		Total depth up to 2,0 m	m³	40.00	531.59	R	21,263.60
		(b) Extra-over item 8.3.3 (a) for:					
2		Hard rock excavation	m³	4.00			
3		(c) Extra-over item 8.3.3 (a) for hand excavation	m³	4.00	5.32	R	21.28
4	PSD 8.3.14	Extra over item PSD 8.3.3 (a) for temporary	m³	18.00			
	PSD 8.3.16	Importing of materials for fill under floor and foundations					
5		(a) Clean Sand compacted to 100% MAMDD to achieve minimum bearing pressure of 150 kPa (unless otherwise stated) in 150 mm thick layers (unless otherwise stated)	m³	71.00	227.86	R	16,178.06
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	37,462.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)					
		as specified in SANS 1200 DM and in the project specifications					
	PSDM 8.3.3	Treatment of roadbed:					
		(a) Roadbed preparation and compaction of material to:					
6		Minimum of 93% of modified AASHTO maximum density (under footings, cable trench floors, and bases)	m³	3.00	133.16	R	399.48
7		Minimum of 93% of modified AASHTO maximum density (under surface beds)	m³	3.00	133.16	R	399.48
8		Minimum of 93% of modified AASHTO maximum density (under aprons)	m³	4.00	133.16	R	532.64
9	PSDM 8.3.18	Final finishing and cleaning up of the Site of the	Sum	1.00	4654.23	R	4,654.23
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	5,985.83

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 G	CONCRETE (STRUCTURAL)				
		as specified in SANS 1200G and in the project specifications				
		SCHEDULED FORMWORK ITEMS				
	8.2.1	Rough:				
		Vertical formwork to:				
10		Sides of strip footings	m²	12.00	342.67	R 4,112.04
11		Sides of bases	m²	6.00	342.67	R 2,056.02
12		Sides of columns in foundations	m²	3.00	342.67	R 1,028.01
	8.2.3	Special Smooth:				
		Vertical formwork to:				
13		Sides of upstand beams and slabs	m²	18.00	457.46	R 8,234.28
14		Sides of columns	m²	16.00	342.67	R 5,482.72
		Horizontal formwork not exceeding 4m high to:				
15		Soffits of beams and slabs	m²	39.00	737.97	R 28,780.83
	8.2.5	Narrow widths (up to 300mm wide):				
		Different widths in the following ranges:				
16		Over 20 mm and up to 100mm	m	52.00	34.27	R 1,782.04
		SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	(a) Mild-steel bars in the following:				
17		8mm	t	0.04	18085.37	R 723.41
18		10mm	t	0.06	18085.37	R 1,085.12
	8.3.1	(b) High-tensile steel bars in the following:				
19		10mm	t	0.10	18085.37	R 1,808.54
20		12mm	t	0.30	18085.37	R 5,425.61
21		16mm	t	0.40	18085.37	R 7,234.15
22		20mm	t	0.60	18085.37	R 10,851.22
Carried forward /...						R 78,604.00

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	78,604.00
23	PSG 8.3.2	25mm	t	0.30	18085.37	R	5,425.61
24		32mm	t	0.20	18085.37	R	3,617.07
(c) High-tensile welded mesh in the following:							
25		Ref No 617 in surface beds	kg	136.00	25.34	R	3,446.24
		SCHEDULED CONCRETE ITEMS					
	8.4.2	Blinding layer:					
		Class 15 MPa/19 mm concrete of:					
26		75 mm thickness under bases	m²	6.00	165.98	R	995.88
27		75 mm thickness under strip footings and cable trenches	m²	17.00	165.98	R	2,821.66
28		75 mm thickness under surface beds	m²	22.00	165.98	R	3,651.56
	PSG 8.4.3	Strength concrete:					
		Unreinforced class 25 MPa/19 mm concrete in:					
29		Strip footings	m³	4.00	1944.68	R	7,778.72
		Class 30 MPa/19 mm concrete in:					
30		Column bases	m³	2.00	1944.68	R	3,889.36
31		Surface beds	m³	4.00	1944.68	R	7,778.72
32		Aprons	m³	3.00	1944.68	R	5,834.04
33		Columns in foundations	m³	0.30	1944.68	R	583.40
34		Columns	m³	1.00	1944.68	R	1,944.68
35		Upstand beams	m³	2.00	1944.68	R	3,889.36
36		Slabs	m³	8.00	1944.68	R	15,557.44
	PSG 8.4.4	Unformed surface finishes:					
		Wood-floated finishes to:					
37		Top of surface beds	m²	4.00	37.33	R	149.32
38		Top of roof slabs	m²	33.00	37.33	R	1,231.89
		Steel-floated finishes to:					
39		Top of aprons	m²	25.00	44.21	R	1,105.25
Carried forward /...						R	148,304.20

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 148,304.20
40	PSG 8.5	Top of slightly sloping upstand beams	m ²	6.00	44.21	R 265.26
		Power-floated finishes to:				
41		Top of surface beds	m ²	18.00	46.93	R 844.74
		Joints:				
		Isolation joints:				
42		10mm Jointex up to 300mm wide in horizontal isolation joints	m	2.00	337.08	R 674.16
43		10mm thick "Jointex" or equivalent between concrete surface bed and brickwork	m	28.00	337.08	R 9,438.24
44		20mm thick "Jointex" or equivalent between concrete surface bed and columns	m	0.30	370.79	R 111.24
		Saw-cut joints:				
45		3mm x 50mm Saw-cut joint, reamed 10mm x 30mm deep, with and including 12mm "Sondor cordex" or equivalent	m	7.00	88.10	R 616.70
	PSG 8.12	(c) Slip joints:				
46		280mm wide slip joint between brick walls and slabs	m	21.00	5.89	R 123.69
		Sealing of joints with sealant:				
47		10mm x 10mm polyurethane sealant in top of isolation joints	m	28.00	72.81	R 2,038.68
48		20mm x 12mm polyurethane sealant in top of isolation joints	m	0.30	391.35	R 117.41
49		10mm x 10mm polyurethane sealant in top of saw-cut joints	m	7.00	72.81	R 509.67
	PSG 8.12	Granolithic screeding				
		Floor screeds				
50		30mm thick normal screed to floors	m ²	4.00	116.65	R 466.60
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 163,510.59

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R	c
	PD	PARTICULAR SPECIFICATION PD: BUILDING					
		as specified in PD in the project specifications					
	PD 10.1	Brickwork:					
		Construct brickwork complete with brickforce and ties, etc.					
		(a) 115mm thick non-facing engineering bricks, in:					
51		Superstructure	m ²	6.00	379.39	R	2,276.34
		280mm thick cavity walls of two half brick skins, in:					
52		Foundations including filling of 60mm cavity with 25MPa/19mm unreinforced concrete	m ²	19.00	831.09	R	15,790.71
53		Superstructure	m ²	51.00	684.44	R	34,906.44
54		Closing 60mm cavity vertically around openings	m	10.00	64.60	R	646.00
		Extra over brickwork for "Corobrick 'Silvergrey satin FBX' or equivalent face brickwork in stretcher bond in:					
55		Foundations	m ²	4.00	334.85	R	1,339.40
56		Superstructure	m ²	45.00	374.22	R	16,839.90
57		110 mm Wide brick-on-edge lintel	m	4.00	239.18	R	956.72
		(h) Brickwork sundries					
58		110 x 75mm High lintels in lengths not exceeding 3m	m	5.00	71.55	R	357.75
59		170 x 75mm High lintels in lengths not exceeding 3m	m	1.00	93.97	R	93.97
60		30x1.2mm Galvanized hoop-iron built 500mm deep into brickwork with one end fixed to concrete using 2x Fischer Hammerfix N6x40 anchors or equivalent	No	192.00	51.19	R	9,828.48
	PD 10.2	Plasterwork:					
61		15mm thick, one coat cement plaster to internal	m ²	69.00	88.64	R	6,116.16
62		15mm thick, one coat cement plaster to soffits of	m ²	39.00	194.58	R	7,588.62
Carried forward /...						R	96,740.49

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	96,740.49
	PD 10.3	Roof finishes:					
		Roof screed					
63		Average 55mm thick normal screed to falls (80mm thick at ridge lines with valley line sloping down to 30mm thick)	m²	39.00	190.86	R	7,443.54
		Crushed stone to roof slab					
64		Clean crushed 19 - 25mm stone as ballast	m³	3.00	402.55	R	1,207.65
		Torch-on Waterproofing					
65		"Sika Blackseal" or equivalent primer applied to	m²	39.00	22.70	R	885.30
66		"Sikabit Pro P-40-0 sand" or equivalent plastomeric" modified bituminous waterproofing membrane applied by heat fusion to primer	m²	39.00	254.20	R	9,913.80
67		"Sika Blackseal silvercoat" or equivalent paint applied over torch-on membrane	m²	39.00	50.00	R	1,950.00
68		"Sikalastic 560" or equivalent (including reemat membrane) to lap over torch-on bituminous membrane min 100mm from bottom of screed cover	m²	12.00	577.79	R	6,933.48
	PD 10.4	Doors and Windows:					
		Heavy duty 3CR12 steel doors with airtight seals and frames as DWG-CC-0208 to 0212 complete, including installation, paintwork, ironmongery					
69		Single fire door size 836 x 2357mm high in and including frame size 958 x 2400mm high (Ironmongery Type B)	No	1.00	63480.64	R	63,480.64
		Purpose made natural anodised shopfront window and aluminium frame complete, including installation, ironmongery, glazing and coatings/finish as specified in the drawings, fitted with retractable security burglar bar system, "Trellidor" or equivalent to inside of window					
70		Window overall size 1380 x 1850mm high (W1)	No	2.00	8308.51	R	16,617.02
71		Window overall size 3960 x 1850mm high (W1)	No	1.00	20039.39	R	20,039.39
72		Window overall size 370 x 700mm high (W1)	No	2.00	1228.08	R	2,456.16
73		Window overall size 370 x 370mm high (W1)	No	2.00	739.31	R	1,478.62
Carried forward /...						R	229,146.09

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c	
Brought forward /...						R	229,146.09	
74	PD 10.7	Carpentry and Joinery: (a) Items measured by number (ii) Semi-solid timber doors hung to aluminium frames Semi- Solid-single door 813 x 2056 mm high in and including 900 x 2100 mm high	No	1.00	5450.23	R	5,450.23	
75		(b) Items measured by length Polypropylene countertops with anti-spill lip all round and intergrated sink Flat counter top	m	5.00	7026.50	R	35,132.50	
76		Miscellaneous work Paintwork: One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Cashmere" or equivalent acrylic emulsion paint to: Internal plastered walls	m²	69.00	91.89	R	6,340.41	
77		One coat "Plascon" or equivalent plaster primer (code UC56) and three coats "Plascon Polvin" or equivalent paint Plastered and concrete soffits	m²	39.00	85.40	R	3,330.60	
78		One coat "Plascon" or equivalent wood primer and three coats "Plascon velvagio" or equivalent waterbased paint Timber doors	m²	3.00	145.94	R	437.82	
79		Plumbing complete with waste unions, traps, angle valves, connections, etc. (Refer to sanitary schedule): Rainwater drainage: Hydrain fullbore with 75mm diameter flanged PVC roof outlet cast in concrete with clamped Derbigum laps to manufacturer's specification including connecting to 75mm diameter uPVC pipes	No	4.00	1114.84	R	4,459.36	
80		75mm Diameter uPVC pipe cast into concrete slabs, beams and columns	m	14.00	181.03	R	2,534.42	
81		Extra over uPVC pipes above for 75mm Diameter 90degree uPVC elbow cast into concrete column	No	8.00	163.31	R	1,306.48	
Carried forward /...						R	288,137.91	

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	288,137.91
82	PD 10.8	"Geberit" or equivalent Bottle trap with dip tube, for washbasin (KM02j)	No	1.00	693.78	R	693.78
83		Selnova Comfort washbasin, barrier-free.(SAN-310)	No	1.00	2933.89	R	2,933.89
84		"Hansgrohe " or equivalent Toilet close-coupled, washdown model, without cistern, fixings included, vertical outlet, EWL class 2. Geberit Selnova Square exposed cistern Gebent Selnova Square exposed cistern	No	1.00	6641.18	R	6,641.18
85		4mm Glass bathroom mirror 400 x 600mm	No	1.00	329.71	R	329.71
86		Miscellaneous Items: (b) Items measured by length: 300 x 100mm high tile skirting, to match adjacent floor tiles, "TAL" or equivalent epoxy adhesive and grout, colour grey (S4)	m	8.00	256.14	R	2,049.12
87		Type 5 - Epoxy Cove Skirting (refer to SANS 1200 G 5.5 21) (c) Items measured by area Damp- and waterproofing	m	22.00	172.96	R	3,805.12
88		375 micron medium density polyethylene damp proof sheeting under floors	m²	47.00	42.10	R	1,978.70
89		375 micron green medium density polyethylene damp proof course in walls	m²	11.00	10.53	R	115.83
90		Ant poison, aldrin emulsifiable concentrates Bottoms of foundations, footings and column bases	m²	23.00	4.86	R	111.78
91		Under floors	m²	47.00	4.86	R	228.42
92		Floor finishes 297 x 297 x 8.3mm thick anti-slip porcelain tiles (smooth) , "TAL" adhesive and grout or similar approved , colour grey	m²	4.00	1498.27	R	5,993.08
93		Type 3 - Epoxy Floor Finish (refer to SANS 1200G) (F10)	m²	16.00	893.99	R	14,303.84
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	327,322.36

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 1200 D		EARTHWORKS				R 37,462.94
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 5,985.83
SANS 1200 G		CONCRETE (STRUCTURAL)				R 163,510.59
PD		PARTICULAR SPECIFICATION PD: BUILDING WORK				R 327,322.36
TOTAL OF BILL C58 CARRIED TO SUMMARY						R 534,281.72

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
		BILL C59 FIRE PROTECTION SERVICES				
	SANS 10400 PART T	FIRE PROTECTION SERVICES				
		as specified in SANS 10400 and in fire protection services specification				
		Process Operations Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
1		Type E1, Escape Right - post mounted to column	No	8.00	180.53	R 1,444.24
2		Type E2, Escape Left - post mounted to column	No	8.00	180.53	R 1,444.24
3		Type E3, Arrow Down Sign - mounted above door	No	10.00	180.53	R 1,805.30
4		Type E6, Exit Sign - mounted above door	No	8.00	180.53	R 1,444.24
5		Type E25, Disable Safety Sign - mounted above	No	6.00	124.32	R 745.92
6		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	6.00	231.33	R 1,387.98
7		Type F5, Left Hose Reel & Fire Extinguisher - post mounted to column	No	8.00	231.33	R 1,850.64
8		Type F6, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	8.00	231.33	R 1,850.64
9		Type F13, Down Fire Extinguisher - post mounted to column	No	2.00	180.53	R 361.06
10		Type F15, Down Fire Hydrant - wall mounted	No	3.00	180.53	R 541.59
11		Type F45, Escape Keep Clear - Door mounted	No	8.00	180.53	R 1,444.24
12		Type F31, Fire Alarm - mounted on the wall	No	10.00	124.32	R 1,243.20
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
13		5 kg CO2 Fire Extinguisher complete with cabinet	No	1.00	3547.84	R 3,547.84
Carried forward /...						R 19,111.13

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 19,111.13
14		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	8.00	1714.47	R 13,715.76
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:				
15		25mm dia BMS	m	30.00	463.75	R 13,912.50
16		100mm dia BMS	m	140.00	957.77	R 134,087.80
17		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
18		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
19		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
20		Supply and installation Fire Hydrant complete with 65 mm dia brass right angle fire hydrants complete with and all accessories mounted inside cabinets and/or surface mounted and connected to piping.	No	4.00	4515.34	R 18,061.36
21		Supply & Install of 65mm dia Fire Hose and 16MM dia Nozzle to each Hydrant	No	4.00	4278.60	R 17,114.40
22		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	3.00	3897.01	R 11,691.03
23		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
24		Supply & Install Twin Booster connection with complete suction hydrant	No	1.00	14125.43	R 14,125.43
		<u>Fire Stopping & Sealing Installing:</u>				
25		Pointing 1 Hour Rated construction	m	126.00	76.75	R 9,670.50
26		Pointing 120 minutes fire rated construction	m	165.00	76.75	R 12,663.75
27		Electrical & Duct Penetration fire rated construction	m²	8.00	2599.81	R 20,798.48
Carried forward /...						R 307,463.97

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	307,463.97
		Workshop and Store Building					
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames					
28		Type E1, Escape Right - post mounted to column	No	6.00	180.53	R	1,083.18
29		Type E2, Escape Left - post mounted to column	No	5.00	180.53	R	902.65
30		Type E3, Arrow Down Sign - mounted above door	No	2.00	180.53	R	361.08
31		Type E6, Exit Sign - mounted above door	No	5.00	180.53	R	902.65
32		Type E25, Disable Safety Sign - mounted above	No	1.00	124.32	R	124.32
33		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	5.00	231.33	R	1,156.65
34		Type F5, Left Hose Reel & Fire Extinguisher - post mounted to column	No	5.00	231.33	R	1,156.65
35		Type F6, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	5.00	231.33	R	1,156.65
36		Type F13, Down Fire Extinguisher - post mounted to column	No	5.00	180.53	R	902.65
37		Type F15, Down Fire Hydrant - wall mounted	No	2.00	180.53	R	361.06
38		Type F45, Escape Keep Clear - Door mounted	No	5.00	180.53	R	902.65
39		Type F31, Fire Alarm - mounted on the wall	No	5.00	124.32	R	621.60
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:					
40		5 kg CO2 Fire Extinguisher complete with cabinet	No	3.00	3547.84	R	10,643.52
41		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	2.00	1714.47	R	3,428.94
42		9 kg Dry Powder Fire Extinguisher complete with	No	3.00	2005.26	R	6,015.78
Carried forward /...						R	337,183.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	337,183.98
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:					
43		25mm dia BMS	m	48.00	463.75	R	22,260.00
44		100mm dia BMS	m	20.00	957.77	R	19,155.40
45		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R	11,588.32
46		Pipework Flushing as per SANS	Sum	1.00	3513.25	R	3,513.25
47		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R	3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>					
48		Supply and installation Fire Hydrant complete with 65 mm dia brass right angle fire hydrants complete with and all accessories mounted inside cabinets and/or surface mounted and connected to piping.	No	2.00	4515.34	R	9,030.68
49		Supply & Install of 65mm dia Fire Hose and 16MM dia Nozzle to each Hydrant	No	2.00	4278.60	R	8,557.20
50		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	2.00	3897.01	R	7,794.02
51		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R	3,897.01
52		Supply & Install Twin Booster connection with complete suction hydrant	No	1.00	14125.43	R	14,125.43
		<u>Fire Stopping & Sealing Installing:</u>					
53		Pointing 1 Hour Rated	m	252.00	76.75	R	19,341.00
54		Electrical & Duct Penetration fire rated construction	m²	6.00	2599.81	R	15,598.86
Carried forward /...						R	475,558.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 475,558.40
		Blower Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
55		Type E1, Escape Right - post mounted to column	No	8.00	180.53	R 1,444.24
56		Type E2, Escape Left - post mounted to column	No	8.00	180.53	R 1,444.24
57		Type E3, Arrow Down Sign - mounted above door	No	4.00	180.53	R 722.12
58		Type E6, Exit Sign - mounted above door	No	12.00	180.53	R 2,166.36
59		Type F1, Down Fire Hydrant, Hose Reel & Fire Extinguisher Sign - wall mounted	No	2.00	287.55	R 575.10
60		Type F2, Down Fire Hydrant, Left Hose Reel & Fire Extinguisher - post mounted to column	No	2.00	287.55	R 575.10
61		Type F3, Down Fire Hydrant, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	2.00	287.55	R 575.10
62		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	4.00	231.33	R 925.32
63		Type F5, Left Hose Reel & Fire Extinguisher - post mounted to column	No	4.00	231.33	R 925.32
64		Type F6, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	4.00	231.33	R 925.32
65		Type F13, Down Fire Extinguisher - post mounted to column	No	3.00	180.53	R 541.59
66		Type F45, Escape Keep Clear - Door mounted	No	12.00	180.53	R 2,166.36
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
67		5 kg CO2 HS Fire Extinguisher complete with cabinet	No	6.00	3547.84	R 21,287.04
68		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	15.00	2005.26	R 30,078.90
69		H-Frame support for Extinguishers - treated and painted	No	2.00	3794.31	R 7,588.62
Carried forward /...						R 547,499.13

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 547,499.13
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:				
70		25mm dia BMS	m	121.00	463.75	R 56,113.75
71		100mm dia BMS	m	112.00	957.77	R 107,270.24
72		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
73		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
74		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
75		Supply and installation Fire Hydrant complete with 65 mm dia brass right angle fire hydrants complete with and all accessories mounted inside cabinets and/or surface mounted and connected to piping.	No	2.00	4515.34	R 9,030.68
76		Supply & Install of 65mm dia Fire Hose and 16MM dia Nozzle to each Hydrant	No	2.00	4278.60	R 8,557.20
77		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	4.00	3897.01	R 15,588.04
78		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	2.00	3897.01	R 7,794.02
79		Supply & Install Twin Booster connection with complete suction hydrant	No	1.00	14125.43	R 14,125.43
		<u>Fire Stopping & Sealing Installing:</u>				
80		Pointing 120 minutes fire rated construction	m	373.00	76.75	R 28,627.75
81		Electrical & Mechanical Duct Penetration fire rated construction	m²	10.00	2599.81	R 25,998.10
Carried forward /...						R 839,219.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 839,219.16
		Boiler Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
82		Type E6, Exit Sign - mounted above door	No	2.00	180.53	R 361.06
83		Type F13, Down Fire Extinguisher - post mounted to column	No	2.00	180.53	R 361.06
84		Type F45, Escape Keep Clear - Door mounted	No	2.00	180.53	R 361.06
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
85		9 kg Dry Powder Fire Extinguisher complete with	No	2.00	2005.26	R 4,010.52
		Fire Stopping & Sealing Installing:				
86		Pointing 1 Hour Rated	m	49.00	76.75	R 3,760.75
87		Electrical & Mechanical Duct Penetration fire rated construction	m ²	4.00	2599.81	R 10,399.24
		Chlorination Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
88		Type E6, Exit Sign - mounted above door	No	3.00	180.53	R 541.59
89		Type F45, Escape Keep Clear - Door mounted	No	3.00	180.53	R 541.59
90		Type F13, Down Fire Extinguisher - post mounted to column	No	3.00	180.53	R 541.59
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
91		9 HS kg Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R 6,015.78
Carried forward /...						R 866,113.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	866,113.40
		Combined Heat and Power Building					
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed, 190 mm height signage complete with aluminium frames					
92		Type E1, Escape Right - post mounted to column	No	1.00	180.53	R	180.53
93		Type E3, Arrow Down Sign - mounted above door	No	2.00	180.53	R	361.06
94		Type E6, Exit Sign - mounted above door	No	7.00	180.53	R	1,263.71
95		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	5.00	231.33	R	1,156.65
96		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R	180.53
97		Type F5, Left Hose Reel & Fire Extinguisher - post mounted to column	No	5.00	231.33	R	1,156.65
98		Type F6, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	5.00	231.33	R	1,156.65
99		Type F45, Escape Keep Clear - Door mounted	No	7.00	180.53	R	1,263.71
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:					
100		5 kg HS CO2 Fire Extinguisher complete with	No	6.00	3547.84	R	21,287.04
101		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R	6,015.78
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:					
102		32mm dia BMS	m	54.00	483.21	R	26,093.34
103		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R	11,588.32
Carried forward /...						R	937,817.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 937,817.37
104		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
105		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
106		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	4.00	3897.01	R 15,588.04
107		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
		<u>Fire Stopping & Sealing Installing:</u>				
108		Pointing 1 Hour Rated	m	35.00	76.75	R 2,686.25
109		Pointing 120 minutes fire rated construction	m	140.00	76.75	R 10,745.00
110		Electrical & Mechanical Duct Penetration fire rated construction	m²	12.00	2599.81	R 31,197.72
		Dewatering Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
111		Type E1, Escape Right - post mounted to column	No	10.00	180.53	R 1,805.30
112		Type E2, Escape Left - post mounted to column	No	10.00	180.53	R 1,805.30
113		Type E3, Arrow Down Sign - mounted above door	No	7.00	180.53	R 1,263.71
114		Type E6, Exit Sign - mounted above door	No	11.00	180.53	R 1,985.83
115		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	12.00	231.33	R 2,775.96
116		Type F5, Left Hose Reel & Fire Extinguisher - post mounted to column	No	10.00	231.33	R 2,313.30
117		Type F6, Right Fire Hose Reel, Fire Extinguisher - post mounted to column	No	10.00	231.33	R 2,313.30
118		Type F13, Down Fire Extinguisher - post mounted to column	No	4.00	180.53	R 722.12
119		Type F15, Down Fire Hydrant - wall mounted	No	3.00	180.53	R 541.59
Carried forward /...						R 1,024,484.30

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,024,484.30
120		Type F45, Escape Keep Clear - Door mounted	No	11.00	180.53	R	1,985.83
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:					
121		5 kg CO2 HS Fire Extinguisher complete with cabinet	No	10.00	3547.84	R	35,478.40
122		4.5 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	1.00	1714.47	R	1,714.47
123		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	10.00	2005.26	R	20,052.60
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:					
124		25mm dia BMS	m	156.00	463.75	R	72,345.00
125		32mm dia BMS	m	60.00	483.21	R	28,992.60
126		100mm dia BMS	m	203.00	957.77	R	194,427.31
127		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R	11,588.32
128		Pipework Flushing as per SANS	Sum	1.00	3513.25	R	3,513.25
129		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R	3,513.25
		Fire Hydrant and Fire Hose Reel:					
130		Supply and installation Fire Hydrant complete with 65 mm dia brass right angle fire hydrants complete with and all accessories mounted inside cabinets and/or surface mounted and connected to piping.	No	2.00	4515.34	R	9,030.68
131		Supply & Install of 65mm dia Fire Hose and 16MM dia Nozzle to each Hydrant	No	2.00	4278.60	R	8,557.20
132		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	10.00	3897.01	R	38,970.10
Carried forward /...						R	1,454,653.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,454,653.31
133		Supply & Install Fire Hose Reels (30m long) c/w	No	2.00	3897.01	R 7,794.02
134		Supply & Install Twin Booster connection with complete suction hydrant	No	1.00	14125.43	R 14,125.43
<u>Fire Stopping & Sealing Installing:</u>						
135		Pointing 1 Hour Rated	m	156.00	76.75	R 11,973.00
136		Pointing 120 minutes fire rated construction	m	323.00	76.75	R 24,790.25
137		Electrical & Mechanical Duct Penetration fire rated construction	m²	35.00	2599.81	R 90,993.35
Guard House Building						
Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames						
138		Type E6, Exit Sign - mounted above door	No	1.00	180.53	R 180.53
139		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R 180.53
140		Type F45, Escape Keep Clear - Door mounted	No	1.00	180.53	R 180.53
Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:						
141		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	1.00	1714.47	R 1,714.47
Inlet Works Electrical Building (confirm building type)						
Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames						
142		Type E6, Exit Sign - mounted above door	No	5.00	180.53	R 902.65
143		Type F13, Down Fire Extinguisher - post mounted to column	No	5.00	180.53	R 902.65
144		Type F45, Escape Keep Clear - Door mounted	No	5.00	180.53	R 902.65
Carried forward /...						R 1,609,293.37

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,609,293.37
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
145		5 kg HS CO2 Fire Extinguisher complete with cabinet	No	4.00	3547.84	R 14,191.36
146		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R 6,015.78
		<u>Fire Stopping & Sealing Installing:</u>				
147		Pointing 1 Hour Rated	m	49.00	76.75	R 3,760.75
148		Pointing 120 minutes fire rated construction	m	58.00	76.75	R 4,451.50
149		Electrical & Mechanical Duct Penetration fire rated construction	m²	8.00	2599.81	R 20,798.48
		MV Intake Substation Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
150		Type E6, Exit Sign - mounted above door	No	7.00	180.53	R 1,263.71
151		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	2.00	231.33	R 462.66
152		Type F13, Down Fire Extinguisher - post mounted to column	No	6.00	180.53	R 1,083.18
153		Type F45, Escape Keep Clear - Door mounted	No	7.00	180.53	R 1,263.71
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
154		5 kg HS CO2 Fire Extinguisher complete with cabinet	No	4.00	3547.84	R 14,191.36
155		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	5.00	2005.26	R 10,026.30
Carried forward /...						R 1,686,802.16

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,686,802.16
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:				
156		25mm dia BMS	m	55.00	463.75	R 25,506.25
157		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
158		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
159		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
160		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
161		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
		<u>Fire Stopping & Sealing Installing:</u>				
162		Pointing 1 Hour Rated	m	18.00	76.75	R 1,381.50
163		Pointing 120 minutes fire rated construction	m	147.00	76.75	R 11,282.25
164		Electrical & Mechanical Duct Penetration fire rated construction	m ²	12.00	2599.81	R 31,197.72
		Reactor Electrical Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
165		Type E6, Exit Sign - mounted above door	No	4.00	180.53	R 722.12
166		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	2.00	231.33	R 462.66
167		Type F13, Down Fire Extinguisher - post mounted to column	No	3.00	180.53	R 541.59
Carried forward /...						R 1,784,305.09

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 1,784,305.09
		Type F45, Escape Keep Clear - Door mounted	No	4.00	180.53	R 722.12
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
168		5 kg CO2 Fire Extinguisher complete with cabinet	No	4.00	3547.84	R 14,191.36
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:				
169		25mm dia BMS	m	43.00	463.75	R 19,941.25
170		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
171		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
172		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
173		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
174		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
		<u>Fire Stopping & Sealing Installing:</u>				
175		Pointing 120 minutes fire rated construction	m	73.00	76.75	R 5,602.75
176		Electrical & Mechanical Duct Penetration fire rated construction	m²	5.00	2599.81	R 12,999.05
Carried forward /...						R 1,864,170.46

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,864,170.46
		Service Water Electrical Building					
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames					
177		Type E6, Exit Sign - mounted above door	No	4.00	180.53	R	722.12
178		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	2.00	231.33	R	462.66
179		Type F13, Down Fire Extinguisher - post mounted to column	No	3.00	180.53	R	541.59
180		Type F45, Escape Keep Clear - Door mounted	No	4.00	180.53	R	722.12
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:					
181		5 kg HS CO2 Fire Extinguisher complete with cabinet	No	4.00	3547.84	R	14,191.36
182		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R	6,015.78
		Fire Stopping & Sealing Installing:					
183		Pointing 120 minutes fire rated construction	m	83.00	76.75	R	6,370.25
184		Electrical & Mechanical Duct Penetration fire rated construction	m²	5.00	2599.81	R	12,999.05
		TSE Pump Station Building					
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames					
185		Type E6, Exit Sign - mounted above door	No	2.00	180.53	R	361.06
186		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	2.00	231.33	R	462.66
187		Type F13, Down Fire Extinguisher - post mounted to column	No	3.00	180.53	R	541.59
Carried forward /...						R	1,907,560.70

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	1,907,560.70
188		Type F45, Escape Keep Clear - Door mounted Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:	No	2.00	180.53	R	361.06
189		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	4.00	2005.26	R	8,021.04
190		5 kg HS CO2 Fire Extinguisher complete with cabinet Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:	No	2.00	3547.84	R	7,095.68
191		25mm dia BMS	m	43.00	463.75	R	19,941.25
192		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R	11,588.32
193		Pipework Flushing as per SANS	Sum	1.00	3513.25	R	3,513.25
194		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R	3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>					
195		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	1.00	3897.01	R	3,897.01
196		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R	3,897.01
		<u>Fire Stopping & Sealing Installing:</u>					
197		Pointing 120 minutes fire rated construction	m	78.00	76.75	R	5,986.50
198		Electrical & Mechanical Duct Penetration fire rated construction	m²	5.00	2599.81	R	12,999.05
Carried forward /...						R	1,988,374.12

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,988,374.12
		Weighbridge Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
199		Type E6, Exit Sign - mounted above door	No	1.00	180.53	R 180.53
200		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R 180.53
201		Type F45, Escape Keep Clear - Door mounted	No	1.00	180.53	R 180.53
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
202		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	1.00	1714.47	R 1,714.47
		Main Sludge Pump Station Building				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
203		Type E6, Exit Sign - mounted above door	No	2.00	180.53	R 361.06
204		Type F13, Down Fire Extinguisher - post mounted to column	No	2.00	180.53	R 361.06
205		Type F45, Escape Keep Clear - Door mounted	No	2.00	180.53	R 361.06
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
206		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R 6,015.78
		Fire Stopping & Sealing Installing:				
207		Pointing 120 minutes fire rated construction	m	46.00	76.75	R 3,530.50
Carried forward /...						R 2,001,259.64

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,001,259.64
208		Electrical & Mechanical Duct Penetration fire rated construction Guard Hut Building Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames	m²	4.00	2599.81	R	10,399.24
209		Type E6, Exit Sign - mounted above door	No	1.00	180.53	R	180.53
210		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R	180.53
211		Type F45, Escape Keep Clear - Door mounted Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:	No	1.00	180.53	R	180.53
212		4.5 kg Dry Powder Fire Extinguisher complete with cabinet Centralised Generator Building Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames	No	1.00	1714.47	R	1,714.47
213		Type E3, Arrow Down Sign - mounted above door	No	1.00	180.53	R	180.53
214		Type E6, Exit Sign - mounted above door	No	12.00	180.53	R	2,166.36
215		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	4.00	231.33	R	925.32
216		Type F13, Down Fire Extinguisher - post mounted to column	No	13.00	180.53	R	2,346.89
217		Type F45, Escape Keep Clear - Door mounted Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:	No	12.00	180.53	R	2,166.36
Carried forward /...						R	2,021,700.40

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,021,700.40
218		5 kg CO2 Fire Extinguisher complete with cabinet	No	2.00	3547.84	R 7,095.68
219		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	12.00	2005.26	R 24,063.12
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:				
220		25mm dia BMS	m	96.00	463.75	R 44,520.00
221		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
222		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
223		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
224		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	3.00	3897.01	R 11,691.03
225		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, fittings, fixings, etc.	No	1.00	3897.01	R 3,897.01
		<u>Fire Stopping & Sealing Installing:</u>				
226		Pointing 120 minutes fire rated construction	m	296.00	76.75	R 22,718.00
227		Electrical & Mechanical Duct Penetration fire rated construction	m²	12.00	2599.81	R 31,197.72
		<u>Service Water Pump Station Building</u>				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
228		Type E6, Exit Sign - mounted above door	No	1.00	180.53	R 180.53
229		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R 180.53
Carried forward /...						R 2,185,858.84

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,185,858.84
230		Type F45, Escape Keep Clear - Door mounted	No	1.00	180.53	R	180.53
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:					
231		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	1.00	1714.47	R	1,714.47
		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes:					
232		25mm dia BMS	m	15.00	463.75	R	6,956.25
233		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R	11,588.32
234		Pipework Flushing as per SANS	Sum	1.00	3513.25	R	3,513.25
235		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R	3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>					
236		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	1.00	3897.01	R	3,897.01
		UV Channels and Building					
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed, 190 mm height signage complete with aluminium frames					
237		Type E1, Escape Right - post mounted to column	No	1.00	180.53	R	180.53
238		Type E6, Exit Sign - mounted above door	No	1.00	180.53	R	180.53
239		Type F13, Down Fire Extinguisher - post mounted to column	No	1.00	180.53	R	180.53
240		Type F45, Escape Keep Clear - Door mounted	No	1.00	180.53	R	180.53
Carried forward /...						R	2,217,944.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward / ...						R 2,217,944.04
241		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities: 4.5 kg Dry Powder Fire Extinguisher complete with cabinet UV, SST and Flow Balancing Tank Electrical Building Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames	No	1.00	1714.47	R 1,714.47
242		Type E6, Exit Sign - mounted above door	No	5.00	180.53	R 902.65
243		Type F4, Down Hose Reel & Fire Extinguisher Sign - wall mounted	No	1.00	231.33	R 231.33
244		Type F13, Down Fire Extinguisher - post mounted to column	No	5.00	180.53	R 902.65
245		Type F45, Escape Keep Clear - Door mounted	No	5.00	180.53	R 902.65
246		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities: 5 kg HS CO2 Fire Extinguisher complete with cabinet	No	4.00	3547.84	R 14,191.36
247		9 kg HS Dry Powder Fire Extinguisher complete with cabinet	No	3.00	2005.26	R 6,015.78
248		Supply and install Fire Hydrant Distribution pipes including cutting or drilling for branch outlets, including preparation, cutting, rolling of grooved ends, grooved end pipe couplings, jointing, cleaning, testing, bracketing and hangers as detailed and specified in the particular and technical specifications, for the following pipe sizes: 25mm dia BMS	m	39.00	463.75	R 18,086.25
249		Painting and identification of all fire pipe work as per SANS	Sum	1.00	11588.32	R 11,588.32
Carried forward /						R 2,272,479.50

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 2,272,479.50
250		Pipework Flushing as per SANS	Sum	1.00	3513.25	R 3,513.25
251		Pipework Pressure Test as per SANS	Sum	1.00	3513.25	R 3,513.25
		<u>Fire Hydrant and Fire Hose Reel:</u>				
252		Supply & Install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, pressure gauge & cock, fittings, fixings, etc.	No	2.00	3897.01	R 7,794.02
		<u>Fire Stopping & Sealing Installing:</u>				
253		Pointing 120 minutes fire rated construction	m	68.00	76.75	R 5,219.00
254		Electrical & Mechanical Duct Penetration fire rated construction	m²	5.00	2599.81	R 12,999.05
		Screw lift pump station 1 and 2				
		Photoluminescent fire and directional signage, complete with all require fittings, mountings, hangers, brackets etc. Signage to be affixed using screws, no adhesive or double sided tape allowed. 190 mm height signage complete with aluminium frames				
255		Type E6, Exit Sign - mounted above door	No	2.00	180.53	R 361.06
256		Type F13, Down Fire Extinguisher - post mounted to column	No	2.00	180.53	R 361.06
257		Type F45, Escape Keep Clear - Door mounted	No	2.00	180.53	R 361.06
		Supply and Install Portable Fire Extinguishers c/w mounting brackets fixed inside cabinets, signage and surface mounted where required mounted inside cabinets for the following types and capacities:				
258		4.5 kg Dry Powder Fire Extinguisher complete with cabinet	No	2.00	1714.47	R 3,428.94
		Site & Infrastructure (Provisional based on onsite conditions)				
		Fire Water Storage Tank				
259		Fire sectional steel Tank(25kl)complete with fittings, connections and access points	Sum	1.00	324300.00	R 324,300.00
		Fire Pumps				
260		Suitable sized fire pump to be provided based on site conditions	No	1.00	642598.72	R 642,598.72
Carried forward /...						R 3,276,928.91

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
Brought forward /...						R 3,276,928.91
		Test Arrangement				
261		Orifice plate pump test arrangement	Sum	1.00	24322.50	R 24,322.50
		Ancillary Equipment				
262		Level controls	Sum	1.00	27025.00	R 27,025.00
263		Level Indicators	Sum	1.00	10810.00	R 10,810.00
		Electrical Installation				
264		Electrical Control Panel - Pumpset	Sum	1.00	37835.00	R 37,835.00
265		Electrical wiring, cabling and control equipment	Sum	1.00	27025.00	R 27,025.00
266		Main plantroom DB	Sum	1.00	37835.00	R 37,835.00
		Piping Installation				
267		Pipework including inside plantroom as well as from sectional steel tank to pump including all valves supports and gauges	Sum	1.00	156582.85	R 156,582.85
		Fire Water Storage Accessories				
268		Puddle Flanges, Cntladders, Manholes etc	Sum	1.00	32430.00	R 32,430.00
269		Fill Valve, Vortex Inhibitors, Test piping, Overflows	Sum	1.00	27025.00	R 27,025.00
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3,657,819.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
Section		Description				Amount
SANS 10400 PART T		FIRE PROTECTION SERVICES				R 3,657,819.26
TOTAL OF BILL C59 CARRIED TO SUMMARY						R 3,657,819.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
		BILL C60 WORKSHOP AND STORE HVAC				
	HVAC	MECHANICAL: HEATING, VENTILATION AND AIR CONDITIONING INSTALLATION				
1		12 month equipment and installation guarantee period	Sum	1.00	23609.04	R 23,609.04
2		Any Other Items Identified by the Contractor.	Sum	1.00	84318.00	R 84,318.00
		Note that the specification that accompanies this document details all the requirements for the air conditioning and ventilation systems that form part of this installation. Whilst all efforts have been made to ensure that all items are covered by the BOQ it is the responsibility of the sub-contractor to confirm that their pricing includes for all items as required by the specification. All discrepancies are to be priced and noted in a Tender covering letter to be returned with this tender. No claims for items required by the specification will be entertained after contract award.				
Carried forward /...						R 107,927.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward I...						R	107,927.04
		EQUIPMENT - SPLIT UNITS					
		Supply, Install and Commission DAIKIN (or equal and approved) Inverter Cassette split units complete with insulated refrigerant piping and drain piping, controls and electrical wiring (to isolator by others). Include for a drip tray with separate drain piping below the units.					
		Indoor Split Units:					
3		DAIKIN (or equivalent), Fully flat Cassette, Model FFA-35A9	No.	1.00	30017.21	R	30,017.21
4		DAIKIN (or equivalent), Fully flat Cassette, Model FFA-50A9	No.	3.00	35919.47	R	107,758.41
5		DAIKIN (or equivalent), Round Flow Cassette, Model FCAG - 71B	No.	1.00	44182.63	R	44,182.63
6		DAIKIN (or equivalent), Round Flow Cassette, Model FCAG - 100B	No.	2.00	59528.51	R	119,057.02
		Outdoor Split Units:					
7		DAIKIN (or equivalent), Model RMX-35M9	No.	1.00	26475.85	R	26,475.85
8		DAIKIN (or equivalent), Model RMX-50M9	No.	3.00	30017.21	R	90,051.63
9		DAIKIN (or equivalent), Model FCAG - ARXM71R	No.	1.00	39460.82	R	39,460.82
10		DAIKIN (or equivalent), Model FCAG - AZAS100MV1	No.	2.00	44182.63	R	88,365.26
		Refrigerant Pipework:					
		Install the following Insulated Refrigerant Pipework and fittings as per the Specification and Manufacturer's Requirements. - R410 Refrigerant. - Including all Refrigerant Pipework Fittings and Supports.					
		Straight lengths:					
11		ø 9.5mm Copper Pipework with 1/2" thick ARMAFLEX® (or equivalent) Insulation	m	71.00	138.28	R	9,817.88
12		ø 12.7mm Copper Pipework with 1/2" thick ARMAFLEX® (or equivalent) Insulation	m	69.00	179.60	R	12,392.40
		Fittings:					
13		Ø9.5 mm 90° Bends Copper pipework	No.	73.00	40.81	R	2,979.13
Carried forward I...						R	678,485.28

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	678,485.28
14		Ø12.7 mm 90° Bends Copper pipework.	No.	68.00	51.43	R	3,497.24
15		Ø6-Ø- mm Reducer insulated copper piping.	No.	10.00	75.04	R	750.40
		Insulated Condensate Drain Piping:					
		Supply, install, testing, labelling insulation and commissioning all of the condensate drain piping detailed below in accordance with the specification and associated drawings. All supports to be included in the running length as detailed on the layout drawings.					
		Straight lengths:					
16		Ø32 mm PVC piping to nearest drain point.	m	65.00	103.71	R	6,741.15
17		Ø40 mm PVC piping to nearest drain point.	m	15.00	115.52	R	1,732.80
18		Ø50 mm PVC piping to nearest drain point.	m	11.00	127.32	R	1,400.52
		Fittings:					
19		Ø32 mm 90° Bends insulated PVC piping.	No.	42.00	88.36	R	3,711.12
20		Ø40 mm 90° Bends insulated PVC piping.	No.	10.00	97.81	R	978.10
21		Ø50 mm 90° Bends insulated PVC piping.	No.	5.00	115.52	R	577.60
22		Ø32-Ø32-Ø32 mm Tees insulated PVC piping.	No.	4.00	88.36	R	353.44
23		Ø40-Ø32-Ø32 mm Tees insulated PVC piping.	No.	3.00	109.61	R	328.83
24		Ø50-Ø32-Ø40 mm Tees insulated PVC piping.	No.	1.00			Included
		Galvanised Steel Ductwork:					
		Supply and install galvanised sheet metal ducting in accordance with SANS 1238:2005. Ducting to be insulated with 25mm thick foil faced fibreglass insulation. All supports from roof slab, structure or trusses. All bends, transformations and connections to be included in the rates and are detailed on the layout drawings.					
		Un-insulated Rectangular Galvanised sheet metal ductwork:					
25		Category 1 Ducting	m²	90.00	543.01	R	48,870.90
26		Category 2 Ducting	m²	5.00	526.14	R	2,630.70
Carried forward /...						R	750,058.08

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 750,058.08
27		Category 3 Ducting	m²	5.00	578.42	R 2,892.10
		Round Galvanised sheet metal ductwork:				
28		Category 1 Ducting (diameter less than 350)	m²	10.00	581.79	R 5,817.90
		Insulated Flexible Ducting:				
29		Ø 150 mm flexible Ducting.	m	10.00	286.68	R 2,866.80
30		Ø 200 mm flexible Ducting.	m	5.00	345.70	R 1,728.50
		Fittings:				
		Extra over for un-insulated sheet metal ductwork fittings - Ducting End cap:				
31		200x250 mm	No.	1.00	295.11	R 295.11
32		250x150 mm	No.	3.00	295.11	R 885.33
33		250x200 mm	No.	2.00	295.11	R 590.22
34		400x400 mm	No.	2.00	295.11	R 590.22
35		450x350 mm	No.	1.00	295.11	R 295.11
		Extra over for un-insulated sheet metal ductwork fittings - Square Spigot Tap:				
36		200x100 - 200x100	No.	6.00	295.11	R 1,770.66
37		250x200 - 250x200	No.	2.00	295.11	R 590.22
38		300x200 - 300x200	No.	2.00	295.11	R 590.22
39		400x150 - 400x150	No.	6.00	295.11	R 1,770.66
		Extra over for un-insulated sheet metal ductwork fittings - Round Spigot Tap:				
40		Ø150 - Ø150	No.	14.00	345.70	R 4,839.80
41		Ø200 - Ø200	No.	2.00	404.73	R 809.46
		Extra over for un-insulated sheet metal ductwork fittings - Square to Round Reducer:				
42		250x150 - Ø200	No.	2.00	295.11	R 590.22
43		250x200 - Ø200	No.	3.00	295.11	R 885.33
44		400x400 - Ø400	No.	4.00	295.11	R 1,180.44
Carried forward /...						R 779,046.38

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	779,046.38
45		500x400 - Ø315	No.	1.00	295.11	R	295.11
46		Ø315 - 200x250	No.	1.00	295.11	R	295.11
		Extra over for un-insulated sheet metal ductwork fittings - Square Reducer:					
47		350x300 - 250x200	No.	1.00	295.11	R	295.11
48		500x300 - 350x300	No.	1.00	295.11	R	295.11
49		600x300 - 450x300	No.	1.00	295.11	R	295.11
50		600x300 - 500x300	No.	1.00	11981.59	R	11,981.59
51		600x400 - 400x400	No.	2.00	295.11	R	590.22
52		600x400 - 400x400	No.	2.00	295.11	R	590.22
53		600x600 - 350x600	No.	1.00	295.11	R	295.11
		Extra over for un-insulated sheet metal ductwork fittings - Elbow:					
54		400x400 - 400x400	No.	4.00	295.11	R	1,180.44
55		450x300 - 450x300	No.	1.00	295.11	R	295.11
56		500x300 - 500x300	No.	1.00	295.11	R	295.11
57		600x350 - 600x350	No.	1.00	295.11	R	295.11
58		Ø150 - Ø150	No.	3.00	295.11	R	885.33
		AIR TERMINALS (Supply and Exhaust):					
		Supply, Install and commission the following air terminals in accordance with the specification, layout drawings and schedules. All complete with spigot connections, opposed blade dampers and fixings.					
		Weather Louvres:					
		Supply and install weather louvre c/w plenum box. TROX type AWG (or equal and approved). Include for Vermin Proof Mesh.					
59		200(w) x 200(h) mm Aluminium Weather Louvres.	No.	3.00	1045.54	R	3,136.62
60		400(w) x 250(h) mm Aluminium Weather Louvres.	No.	1.00	1517.72	R	1,517.72
61		600(w) x 400(h) mm Aluminium Weather Louvres.	No.	2.00	1989.90	R	3,979.80
Carried forward /...						R	805,564.31

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 805,564.31
62		Supply Air Grilles: TROX Type VAT-AG supply air grilles (or equivalent), 300 x 200 mm supply air grilles c/w opposed blade damper for volume control.	No	2.00	1053.98	R 2,107.96
63		TROX Type TDF-C constant volume swirl diffuser, c/w square face plate (or equivalent), 600 x 600 mm supply air grilles c/w square face plate, adjustable damper	No	2.00	935.93	R 1,871.86
64		Exhaust Air Grilles: TROX Type AE (or equivalent) 200 x 100 mm return air grilles c/w plenum box.	No.	6.00	699.84	R 4,199.04
65		TROX Type AE (or equivalent) 400 x 250 mm return air grilles c/w plenum box.	No.	8.00	1172.02	R 9,376.16
66		Toilet Extract Disc Valves: TROX Type LVS extract air (or equivalent) Ø 150 mm extract disc valves.	No.	1.00	345.70	R 345.70
67		Door Grilles: TROX Type AGS (or equivalent) door grilles 650 x 350 mm.	No.	2.00	1239.47	R 2,478.94
68		Balancing Dampers: TROX AK (or equivalent) duct balancing Balancing damper Ø 150mm.	No.	10.00	581.79	R 5,817.90
69		FRESH AIR UNITS: Supply, install and commission for use as per specification and layout drawings the following fresh air handling units DAIKIN (or equivalent) D-AHU PROFESSIONAL	No.	1.00	125971.09	R 125,971.09
		EXTRACT EQUIPMENT: Axial Flow Fans Supply, Install and Commission AMS (or approved equal) axial flow fans as indicated on the drawings and schedules. The Axial fans shall be installed and commissioned for use as per the specification.				
Carried forward /...						R 957,732.96

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /						R	957,732.96
		Each installation includes but not limited to: - Connections to ducting. - Supports and anti vibration equipment. - Controls, starters and electrical connections. - Silax 1.5D Sound Attenuators (2off). - Wiring to electrical isolator.					
70		AMS (or equivalent) APG0404AP10/4 APS Axial Flow Fan, 1440 rpm, Ø400 mm, duty 370 l/s at 200 Pa.	No.	2.00	11635.88	R	23,271.76
71		Attenuation 2D open type	No.	4.00	4215.90	R	16,863.60
72		AMS (or equivalent) APS0314AA10/4 APS Axial Flow Fan, 1440 rpm, Ø315 mm, duty 180 l/s at 120 Pa.	No.	1.00	11635.88	R	11,635.88
73		AMS (or equivalent) TD 350/125 APS Fan, 37 rpm, Ø155 mm, duty 80 l/s at 80 Pa.	No.	3.00	6829.76	R	20,489.28
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	1,029,993.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				Amount	
HVAC		MECHANICAL: HEATING, VENTILATION AND AIR CONDITIONING INSTALLATION				R	1,029,993.48
TOTAL OF BILL C60 CARRIED TO SUMMARY						R	1,029,993.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
		BILL C61 PROCESS OPERATIONS BUILDING HVAC					
	HVAC	MECHANICAL: HEATING, VENTILATION AND AIR CONDITIONING INSTALLATION					
1		12 month equipment and installation guarantee period.	Sum	1.00	23609.04	R	23,609.04
2		Any Other Items Identified by the Contractor.	Sum	1.00	84318.00	R	84,318.00
3		Note that the specification that accompanies this document details all the requirements for the air conditioning and ventilation systems that form part of this installation. Whilst all efforts have been made to ensure that all items are covered by the BOQ it is the responsibility of the sub-contractor to confirm that their pricing includes for all items as required by the specification. All discrepancies are to be priced and noted in a Tender covering letter to be returned with this tender. No claims for items required by the specification will be entertained after contract award.					
Carried forward /...						R	107,927.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	107,927.04
		VRF - HEAT PUMP AIR COOLED SYSTEMS: Supply, install and commission for use as per specification and layout drawings the following 3 pipe, direct expansion, air-cooled variable refrigerant flow, heat recovery air-conditioning system. Outdoor Units: Each Condensing Unit System includes, but is not limited to: - Electrical termination IP65 Isolator within 1m of equipment. - Antivibration mounts and supports. - Covered cable ladder for support of refrigerant pipe across Floor and into the Building. - Control wiring to main control panel (Reception area on ground level). DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ12U (part of assembly for RXYQ28U) DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ16U (part of assembly for RXYQ28U) DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ18U (1 off RXYQ18U) Indoor Units: Each Evaporating Unit includes, but is not limited to: - Electrical termination and Wiring to Plug within 1,5m of equipment. - Insulated PVC drain piping from unit as per the drawings. - Hard wired thermostat control; mounted on wall next to light switch (or as approved by the Architect). - All fittings, supports and associated connections. DAIKIN (or equivalent) VRV HP Evaporator, round flow cassette, Model FXFQ25B. DAIKIN (or equivalent) VRV HP Evaporator, round flow cassette, Model FXFQ32B. DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXFQ50B.					
4		DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ12U (part of assembly for RXYQ28U)	No.	1.00	179091	R	179,091.43
5		DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ16U (part of assembly for RXYQ28U)	No.	1.00	196798	R	196,798.21
6		DAIKIN (or equivalent) VRV HP Condensers; Model RXYQ18U (1 off RXYQ18U)	No.	1.00	267625	R	267,625.33
7		DAIKIN (or equivalent) VRV HP Evaporator, round flow cassette, Model FXFQ25B.	No.	3.00	30017	R	90,051.63
8		DAIKIN (or equivalent) VRV HP Evaporator, round flow cassette, Model FXFQ32B.	No.	5.00	30017	R	150,086.05
9		DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXFQ50B.	No.	5.00	35919	R	179,597.35
Carried forward /...						R	1,171,177.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 1,171,177.04
10		DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXFQ50B.	No.	5.00	35919	R 179,597.35
11		DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXFQ63B.	No.	7.00	41822	R 292,752.11
12		DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXFQ80B.	No.	4.00	47724	R 190,895.96
13		DAIKIN (or equivalent) VRV IV HP Evaporator, round flow cassette, Model FXSQ63A.	No.	1.00	41822	R 41,821.73
Refrigerant Pipework:						
Install the following Insulated Refrigerant Pipework and fittings as per the Specification and Manufacturer's Requirements.						
- R410 Refrigerant.						
- Including all Refrigerant Pipework Fittings and Supports.						
Straight lengths:						
14		Ø 6.4mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	69.00	168	R 11,577.51
15		Ø 9.5mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	228.00	180	R 40,948.80
16		Ø 12.7mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	72.00	191	R 13,780.80
17		Ø 15.9mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	184.00	203	R 37,390.64
18		Ø 19.1mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	39.00	209	R 8,155.29
19		Ø 22.2mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	35.00	250	R 8,764.70
20		Ø 28.6mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	25.00	250	R 6,260.50
21		Ø 34.9mm Copper Pipework with 1/4" thick ARMAFLEX® (or equivalent) Insulation.	m	8.00	327	R 2,617.20
Fittings:						
22		Ø6.4 mm 90° Bends Copper pipework.	No.	44.00	79	R 3,482.60
23		Ø9.5 mm 90° Bends Copper pipework.	No.	52.00	41	R 2,122.12
24		Ø12.7 mm 90° Bends Copper pipework.	No.	85.00	51	R 4,371.55
25		Ø15.9 mm 90° Bends Copper pipework.	No.	56.00	115	R 6,421.52
Carried forward /...						R 2,022,137.42

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,022,137.42
26		Ø19.1 mm 90° Bends Copper pipework.	No.	10.00	121	R 1,205.70
27		Ø22.2 mm 90° Bends Copper pipework	No.	4.00	126	R 505.92
28		Ø28.6 mm 90° Bends Copper pipework.	No.	9.00	144	R 1,297.62
29		Ø9.5 mm Tees insulated copper piping.	No.	20.00	197	R 3,946.00
30		Ø12.7 mm Tees insulated copper piping.	No.	2.00	132	R 264.76
31		Ø15.9 mm Tees insulated copper piping.	No.	16.00	144	R 2,306.88
32		Ø19.1 mm Tees insulated copper piping.	No.	5.00	156	R 779.95
33		Ø22.2 mm Tees insulated copper piping.	No.	4.00	168	R 671.16
34		Ø28.6 mm Tees insulated copper piping.	No.	3.00	180	R 538.80
35		Ø34.9 mm Tees insulated copper piping.	No.	2.00	191	R 382.80
36		Ø6-Ø- mm Reducer insulated copper piping.	No.	5.00	75	R 375.20
37		Ø8-Ø- mm Reducer insulated copper piping.	No.	2.00	121	R 241.10
38		Ø10-Ø- mm Reducer insulated copper piping.	No.	6.00	132	R 794.28
39		Ø13-Ø- mm Reducer insulated copper piping.	No.	3.00	144	R 432.54
40		Ø16-Ø- mm Reducer insulated copper piping.	No.	9.00	156	R 1,403.91
41		Ø19-Ø- mm Reducer insulated copper piping.	No.	5.00	162	R 809.45
42		Ø22-Ø- mm Reducer insulated copper piping.	No.	4.00	174	R 694.80
43		Ø29-Ø- mm Reducer insulated copper piping.	No.	10.00	191	R 1,914.00
44		Ø35-Ø- mm Reducer insulated copper piping.	No.	3.00	215	R 645.03
45		REFNET Branch Piping Kit: KHRQ22M20T	No.	15.00	6240	R 93,592.95
46		REFNET Branch Piping Kit: KHRQ22M29T9	No.	4.00	6240	R 24,958.12
47		REFNET Branch Piping Kit: KHRQ22M64T	No.	3.00	6240	R 18,718.59
48		REFNET Branch Piping Kit: KHRQ22M75T	No.	1.00	6240	R 6,239.53
49		Outdoor unit multi connection piping kit for 2 modules: BHFO22P1007	No.	1.00	9781	R 9,780.89
50		Remote controller (white): BRC1H52W	No.	25.00	4300	R 107,505.50
51		Standard Decorative panel: BYCQ140E	No.	24.00	2317	R 55,609.44
Carried forward /...						R 2,357,752.34

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,357,752.34
		INSULATED CONDENSATE DRAIN PIPING				
		Supply, install, testing, labelling insulation and commissioning all of the condensate drain piping detailed below in accordance with the specification and associated drawings. All supports to be included in the running length as detailed on the layout drawings.				
		Straight lengths:				
52		Ø32 mm PVC piping to nearest drain point.	m	175.00	104	R 18,149.25
53		Ø40 mPVC piping to nearest drain point.	m	9.00	144	R 1,297.62
		Fittings:				
		90° Bends:				
54		Ø32 mm 90° Bends insulated PVC piping.	No.	60.00	132	R 7,942.80
55		Ø40 mm 90° Bends insulated PVC piping.	No.	5.00	144	R 720.90
		Tees:				
56		Ø32-Ø32-Ø32 mm Tees insulated PVC piping.	No.	15.00	132	R 1,985.70
57		Ø40-Ø32-Ø32 mm Tees insulated PVC piping.	No.	5.00	168	R 838.95
58		Ø40-Ø40-Ø32 mm Tees insulated PVC piping.	No.	5.00	197	R 986.50
		Reducer:				
59		Ø32-Ø16 mm Reducer insulated PVC piping.	No.	5.00	132	R 661.90
60		Ø32-Ø20 mm Reducer insulated PVC piping.	No.	5.00	144	R 720.90
61		Ø32-Ø32 mm Reducer insulated PVC piping.	No.	5.00	156	R 779.95
		GALVANISED STEEL DUCTWORK				
		Supply and install galvanised sheet metal ducting in accordance with SANS 1238:2005. Ducting to be insulated with 25mm thick foil faced fibreglass insulation. All supports from roof slab, structure or trusses. All bends, transformations and connections to be included in the rates and are detailed on the layout drawings.				
		Un-insulated Rectangular Galvanised sheet				
62		Category 1 Ducting	m²	335.00	543	R 181,908.35
63		Category 2 Ducting	m²	10.00	543	R 5,430.10
Carried forward /...						R 2,579,175.26

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,579,175.26
64		Category 3 Ducting Un-insulated Round Galvanised sheet metal	m²	25.00	578	R	14,460.50
65		Category 1 Ducting (diameter less than 350) Insulated Flexible Ducting:	m²	68.00	543	R	36,924.68
66		Ø 150 mm flexible Ducting.	m	26.00	287	R	7,453.68
67		Ø 200 mm flexible Ducting.	m	8.00	346	R	2,765.60
68		Ø 250 mm flexible Ducting.	m	8.00	272	R	2,172.00
69		Ø 300 mm flexible Ducting. Fittings: Extra over for un-insulated sheet metal ductwork fittings - Ducting End Cap:	m	1.50	283	R	424.97
70		150x150 mm	No.	1.00	295	R	295.11
71		150x250 mm	No.	8.00	295	R	2,360.88
72		200x200 mm	No.	4.00	295	R	1,180.44
73		200x250 mm	No.	1.00	295	R	295.11
74		250x250 mm	No.	1.00	295	R	295.11
75		250x300 mm	No.	1.00	295	R	295.11
76		300x300 mm	No.	10.00	295	R	2,951.10
77		300x350 mm	No.	2.00	295	R	590.22
78		400x250 mm	No.	1.00	295	R	295.11
79		500x500 mm Extra over for un-insulated sheet metal ductwork fittings - Square Spigot Tap:	No.	2.00	295	R	590.22
80		150x250 - 150x250	No.	4.00	295	R	1,180.44
81		200x100 - 200x100	No.	1.00	295	R	295.11
82		300x150 - 300x150	No.	9.00	295	R	2,655.99
83		300x300 - 300x300	No.	4.00	295	R	1,180.44
84		400x250 - 400x250	No.	12.00	295	R	3,541.32
85		600x100 - 600x100	No.	7.00	295	R	2,065.77
Carried forward /...						R	2,663,444.17

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,663,444.17
		Extra over for un-insulated sheet metal ductwork fittings - Round Spigot Tap:					
86		Ø150 - Ø150	No.	25.00	346	R	8,642.50
87		Ø200 - Ø200	No.	1.00	405	R	404.73
88		Ø250 - Ø250	No.	3.00	464	R	1,391.25
89		Ø300 - Ø300	No.	2.00	523	R	1,045.54
		Extra over for un-insulated sheet metal ductwork fittings - Square to Round Reducer:					
90		200x200 - Ø125	No.	1.00	295	R	295.11
91		200x200 - Ø150	No.	1.00	295	R	295.11
92		200x200 - Ø200	No.	1.00	295	R	295.11
93		250x200 - Ø150	No.	1.00	295	R	295.11
94		250x200 - Ø250	No.	1.00	295	R	295.11
95		250x300 - Ø200	No.	1.00	295	R	295.11
96		300x300 - Ø250	No.	1.00	295	R	295.11
97		315x315 - Ø315	No.	2.00	295	R	590.22
98		500x500 - Ø500	No.	5.00	295	R	1,475.55
99		Ø315 - 200x200	No.	2.00	295	R	590.22
100		Ø315 - 250x200	No.	1.00	295	R	295.11
101		Ø315 - 300x250	No.	1.00	295	R	295.11
102		Ø400 - 300x300	No.	2.00	295	R	590.22
103		Ø400 - 400x250	No.	2.00	295	R	590.22
104		500x500 - Ø500	No.	5.00	295	R	1,475.55
105		Ø315 - 200x200	No.	2.00	295	R	590.22
106		Ø315 - 250x200	No.	1.00	295	R	295.11
107		Ø315 - 300x250	No.	1.00	295	R	295.11
108		Ø400 - 300x300	No.	2.00	295	R	590.22
109		Ø400 - 400x250	No.	2.00	295	R	590.22
Carried forward /...						R	2,685,257.04

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,685,257.04
		Extra over for un-insulated sheet metal ductwork fittings - Square Reducer:					
110		250x200 - 200x200	No.	1.00	295	R	295.11
111		300x200 - 200x200	No.	1.00	295	R	295.11
112		300x250 - 250x200	No.	1.00	295	R	295.11
113		300x250 - 300x200	No.	1.00	295	R	295.11
114		300x300 - 250x300	No.	1.00	295	R	295.11
115		350x300 - 300x300	No.	1.00	295	R	295.11
116		350x350 - 250x350	No.	1.00	295	R	295.11
117		400x350 - 350x350	No.	1.00	295	R	295.11
118		500x350 - 300x350	No.	1.00	295	R	295.11
119		500x350 - 400x350	No.	1.00	295	R	295.11
120		550x450 - 300x300	No.	1.00	295	R	295.11
121		650x500 - 550x450	No.	1.00	295	R	295.11
122		750x500 - 650x550	No.	1.00	295	R	295.11
123		850x600 - 500x500	No.	2.00	295	R	590.22
124		900x500 - 750x500	No.	1.00	295	R	295.11
		Extra over for un-insulated sheet metal ductwork fittings - Elbow:					
125		200x200 - 200x200	No.	8.00	295	R	2,360.88
126		200x250 - 200x250	No.	4.00	295	R	1,180.44
127		250x200 - 250x200	No.	2.00	295	R	590.22
128		250x250 - 250x250	No.	2.00	295	R	590.22
129		250x300 - 250x300	No.	1.00	295	R	295.11
130		300x300 - 300x300	No.	2.00	295	R	590.22
131		350x300 - 350x300	No.	4.00	295	R	1,180.44
132		350x500 - 350x500	No.	2.00	295	R	590.22
133		400x250 - 400x250	No.	4.00	295	R	1,180.44
134		500x350 - 500x350	No.	2.00	295	R	590.22
Carried forward /...						R	2,699,127.21

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward I...						R	2,699,127.21
135		500x500 - 500x500	No.	2.00	295	R	590.22
136		500x900 - 500x900	No.	2.00	295	R	590.22
137		Ø125 - Ø125	No.	4.00	295	R	1,180.44
138		Ø150 - Ø150	No.	8.00	295	R	2,360.88
139		Ø200 - Ø200	No.	4.00	354	R	1,416.56
140		Ø250 - Ø250	No.	1.00	413	R	413.16
141		Ø350 - Ø350	No.	12.00	531	R	6,374.40
		CHEMICAL, CAUSIC & ACID RESISTANT					
		These systems shall be treated to prevent corrosion i.e., no untreated metal ductwork and fittings will be accepted. These systems are ducted to the roof plantroom area and will discharge at least 1m above roof level as per the plan layouts					
		Straight fume hood ductwork:					
142		Chemical resistant duct - Ø350	m²	35.00	1509	R	52,825.15
143		Chemical resistant duct - 200x200 mm	m²	10.00	1509	R	15,092.90
		Fittings:					
		Chemically resistant ductwork fittings - Elbow:					
144		Ø350 - Ø350	No.	7.00	447	R	3,128.23
145		200x200 - 200x200	No.	4.00	1509	R	6,037.16
		Chemically resistant ductwork fittings - 90° bend					
146		Ø350 - Ø350	No.	6.00	1509	R	9,055.74
		Chemically resistant ductwork fittings - Square to Round Reducer:					
147		500x500 - Ø500	No.	1.00	1509	R	1,509.29
148		200x200 - Ø315	No.	1.00	1509	R	1,509.29
149		315x315 - Ø315	No.	1.00	1509	R	1,509.29
		Chemically resistant ductwork fittings - Round Reducer:					
150		Ø500 - Ø350	No.	1.00	1223	R	1,222.61
Carried forward I...						R	2,803,942.75

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 2,803,942.75
		AIR TERMINALS (Supply and Exhaust):				
		Supply, Install and commission the following air terminals in accordance with the specification, layout drawings and schedules. All complete with spigot connections, opposed blade dampers and fixings.				
		Weather Louvres:				
		Supply and install weather louver c/w plenum box. TROX type AWG (or equal and approved). Include for Vermin Proof Mesh.				
151		300(w) x 150(h) mm Weather louver, c/w wiremesh screen	No	1.00	337	R 337.27
152		450(w) x 250(h) mm Weather louver, c/w wiremesh screen	No	2.00	337	R 674.54
153		850(w) x 600(h) mm Weather louver, c/w wiremesh screen	No	2.00	337	R 674.54
		Supply Air Grilles:				
154		TROX Type VAT-AG supply air grilles (or equivalent), 600 x 150 mm supply air grilles c/w opposed blade damper for volume control.	No	7.00	337	R 2,360.89
155		TROX Type AH linear supply air grilles (or equivalent), 1200 x 100 mm supply air grilles c/w with 0°/15° profiled blades, concealed fastening, externally insulated plenumbox with spigot connection	No	4.00	337	R 1,349.08
156		TROX Type VAT-DCV supply air grilles (or equivalent), 600 x 600 mm supply air grilles c/w square face plate, adjustable damper	No	13.00	337	R 4,384.51
		Exhaust Air Grilles:				
157		TROX Type AE (or equivalent) 200 x 100 mm return air grilles c/w plenum box.	No.	2.00	337	R 674.54
158		TROX Type AE (or equivalent) 300 x 150 mm return air grilles c/w plenum box.	No.	11.00	337	R 3,709.97
159		TROX Type AE (or equivalent) 400 x 250 mm return air grilles c/w plenum box.	No.	12.00	337	R 4,047.24
160		TROX Type AE (or equivalent) 600 x 600 mm return air grilles c/w plenum box.	No.	2.00	337	R 674.54
Carried forward /...						R 2,822,829.87

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Brought forward /...						R	2,822,829.87
161		Toilet Extract Disc Valves: TROX Type LVS extract air (or equivalent) Ø 150 mm extract disc valves.	No.	2.00	346	R	691.40
162		Door Grilles: TROX Type AGS (or equivalent) door grilles 350 x 300 mm.	No.	13.00	675	R	8,769.02
163		Balancing Dampers: TROX AK (or equivalent) duct balancing Balancing damper Ø 150mm.	No.	28.00	582	R	16,290.12
164		Balancing damper Ø 200mm.	No.	8.00	868	R	6,947.84
165		Balancing damper Ø 250mm.	No.	9.00	1010	R	9,091.17
166		Balancing damper Ø 300mm.	No.	2.00	1341	R	2,681.32
167		FRESH AIR UNITS: Supply, install and commission for use as per specification and layout drawings the following fresh air handling units DAIKIN (or equivalent) D-AHU PROFESSIONAL	No.	1.00	125971	R	125,971.09
168		EXTRACT EQUIPMENT: Axial Flow Fans: Supply, Install and Commission AMS (or equivalent) axial flow fans as indicated on the drawings and schedules. The Axial fans shall be installed and commissioned for use as per the specification. Each installation includes but not limited to: - Connections to ducting. - Supports and anti vibration equipment. - Controls, starters and electrical connections. - Wiring to electrical isolator.	No.	2.00	2664	R	5,328.90
169		AMS (or equivalent) AP0504AP10 APS Axial Flow Fan, 1440 rpm, Ø500 mm, duty 950 l/s at 200 Pa.	No.	4.00	4216	R	16,863.60
170		Attenuation 2D open type	No.	2.00	11636	R	23,271.76
171		AMS (or equivalent) AP0404AP5 APS Axial Flow Fan, 1440 rpm, Ø400 mm, duty 240 l/s at 150 Pa.	No.	4.00	4216	R	16,863.60
Carried forward /...						R	3,055,599.69

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Brought forward /...						R 3,055,599.69
172		AMS (or equivalent) SEAT 30 3 APS Axial Flow Fan, 1430 rpm, Ø300 mm, duty 350 l/s at 500 Pa.	No.	1.00	11552	R 11,551.57
173		Outlet cowl 500x500 mm	No.	1.00	10118	R 10,118.16
174		AMS (or equivalent) CSB-60 APS Axial Flow Fan, 2750 rpm, Ø327 mm, duty 75 l/s at 120 Pa.	No.	1.00	11046	R 11,045.66
175		Outlet cowl 315x315 mm	No.	1.00	8347	R 8,347.48
176		AMS (or equivalent) APB0314AP10/25 APS Axial Flow Fan, 1440 rpm, Ø315 mm, duty 180 l/s at 120 Pa.	No.	1.00	11046	R 11,045.66
177		Outlet cowl 315x315 mm	No.	1.00	8347	R 8,347.48
178		AMS (or equivalent) APG0314AP5/25 APS Axial Flow Fan, 1440 rpm, Ø315 mm, duty 90 l/s at 120 Pa.	No.	1.00	11046	R 11,045.66
AIR COOLED MID WALL SPLIT UNITS						
Supply, install and commission DAIKIN (or equal and approved) Inverter Midwall split units complete with insulated refrigerant piping and drain piping, controls and electrical wiring (to isolator by others). Include for a drip tray with separate drain piping below the units.						
Indoor Split Unit:						
179		DAIKIN (or equivalent), Midwall split, Model FHA 140	No.	2.00	32041	R 64,081.68
180		DAIKIN (or equivalent), Midwall split, Model FHA 60, To be installed in Guard House	No.	1.00	40304	R 40,304.00
181		Wall mounted controller (Daikin Madoka - BRK1H81W or equivalent)	No.	1.00	2462	R 2,462.09
182		BACnet controllers for BMS connection	No.	2.00	2698	R 5,396.36
Outdoor Split Unit:						
183		DAIKIN (or equivalent), Midwall split, Model RZAGSG140MV1	No.	2.00	65094	R 130,187.00
184		DAIKIN (or equivalent), Midwall split, Model RZAGSG60MV1, To be installed in Guardhouse	No.	1.00	99327	R 99,326.60
Refrigerant Piping:						
185		Ø 6.4mm Copper Pipework with 1/2" thick ARMAFLEX® (or equivalent) Insulation (15m each unit).	m	15.00	168	R 2,516.85
186		Ø12.7mm Copper Pipework with 1/2" thick ARMAFLEX® (or equivalent) Insulation.	m	15.00	191	R 2,871.00
Carried forward /...						R 3,474,246.94

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
Brought forward /...						R	3,474,246.94
187		Drip Tray: Supply, install, testing, labelling insulation and commissioning all of the chilled water piping detailed below in accordance with the specification and associated drawings. All supports to be included in the running length as detailed on the layout drawings. Insulated Drip tray 1,200 x 400mm (Server room units only).	No.	2.00	4658	R	9,315.04
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	3,483,561.98

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	R	Amount c
Section		Description				AMOUNT	
HVAC		MECHANICAL: HEATING, VENTILATION AND AIR CONDITIONING INSTALLATION				R	3,483,561.98
TOTAL OF BILL C61 CARRIED TO SUMMARY						R	3,483,561.98



Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount R c
		BILL C62 SITE WIDE SUB-SOIL DRAINAGE				
	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES) as specified in SANS 1200 DB and in project specifications				
	PSDB 8.3.2	Excavation: (a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material: (i) Pipes over 200 mm dia and up to 700 mm dia:				
1		Over 2.5 m up to 3.5 m	m	191.00	724.24	R 138,329.84
2		Over 3.5 m up to 4.5 m	m	799.00	724.24	R 578,667.76
3		Over 4.5 m up to 5.5 m	m	2628.00	724.24	R 1,903,302.72
	PSDB 8.3.2	(b) Extra over item PSDB 8.3.2 (a) above for:				
4		(1) Hard material	m ³	93.59		
		(3) Hand excavation and backfill where ordered by the Engineer in:				
5		(a) Soft material	m ³	374.36	5.32	R 1,991.60
6		(b) Intermediate material	m ³	205.90	7.44	R 1,531.90
7		(4) Backfill stabilized with 5% cement where directed by the Engineer	m ³	205.90	270.94	R 55,786.55
8		(8) Backfill with clean sand compacted to 100% Modified AASHTO density	m ³	467.95	121.22	R 56,724.90
9		(c) Excavate and dispose of unsuitable material	m ³	467.95		
	PSDB 8.3.3	Excavation ancillaries				
	8.3.3.1	Make up deficiency in backfill material:				
10		(a) From other necessary excavations on site	m ³	2807.70	118.76	R 333,442.45
11		(c) By importation from commercial or off site	m ³	935.90	82.53	R 77,239.83
12	PSDB 8.3.3.3	Compaction in road reserves	m ³	467.95	121.93	R 57,057.14
	8.3.4 (a)	Particular items:				
	PSDB 8.3.4(a)	Shore trench opposite structure or service or in unsuitable excavated materials on both sides of trench for depths:				
13		(ii) Depth exceeding 2.5 m up to 3.5 m	m	60.00		
14		(iii) Depth exceeding 3.5 m up to 4.5 m	m	240.00		
15		(iv) Depth exceeding 4.5 m up to 5.5 m	m	660.00		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3,204,074.68

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 LB	BEDDING				
		as specified in SANS 1200 LB and in the project specifications (all process pipes laid on bedding for flexible pipes)				
	PSLB 8.2.1	Provision of bedding from trench excavations:				
16		(a) Selected granular material	m ³	96.31	121.22	R 11,674.70
17		(b) Selected fill material	m ³	315.09	121.22	R 38,195.21
	PSLB 8.2.2	Supply only of bedding by importation				
	8.2.2.2	From other necessary excavations:				
18		(a) Selected granular material	m ³	96.31	157.46	R 15,164.97
19		(b) Selected fill material	m ³	315.09	157.46	R 49,614.07
	8.2.2.3	From commercial sources:				
20		(a) Selected granular material	m ³	128.42	121.22	R 15,567.07
21		(b) Selected fill material	m ³	420.13	121.22	R 50,928.16
	PSLB 8.2.4	Encasing of pipes in concrete				
22		Class 20 MPa/19 mm	m ³	4.37	1705.27	R 7,452.03
23	PSLB 8.2.6	Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement	m ³	57.79	217.54	R 12,571.64
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 201,167.85

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
	SANS 1200 L	MEDIUM-PRESSURE PIPELINES				
		as specified in SANS 1200 L and in project				
	8.2.1	(a) Supply, lay, joint and bed, below ground, on flexible pipe bedding of uPVC pipes Class 12 according to SANS 1200 L, complete with couplings:				
24		315 uPVC Class 12 pipes	m	3618,00	786.88	R 2,846,931.84
	8.2.2	Extra-over Item 8.2.1 for supply, lay, bed of specials for HDPE Class 12.5 complete with				
		(ii) Bends (uPVC Class 12 pipes):				
25		DN 315 mm x 45°	No	30.00	5053.68	R 151,610.40
26		DN 315 mm x 90°	No	60.00	5053.68	R 303,220.80
	8.2.3	Extra-over Item 8.2.1 for supply, fix and bed of valves:				
27		DN 315 mm isolation valve	No	6.00	28737.08	R 172,422.48
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R 3,474,185.52

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount	
						R	c
	SANS 1200LE	STORMWATER DRAINAGE					
		as specified in SANS 1200 LE and in the project specification					
	PSLE	Supply and install Manhole, Catchpits and the					
		(a) Manholes:					
		(i) Precast concrete manholes complete with					
28		- Depth exceeding 3.0m up to 3.5m	No	3.00	33141.80	R	99,425.40
29		- Depth exceeding 3.5m up to 4.0m	No	3.00	41449.84	R	124,349.52
30		- Depth exceeding 4.0m up to 4.5m	No	5.00	46450.28	R	232,251.40
31		- Depth exceeding 4.5m up to 5.0m	No	8.00	51504.77	R	412,038.16
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						R	868,064.48

Item No	Chief Reference	Short Description	Unit	Quantity	Rate	Amount
						R c
Section		Description				Amount
SANS 1200 DB		EARTHWORKS (PIPE TRENCHES)				R 3,204,074.68
SANS 1200 DM		EARTHWORKS (ROADS, SUBGRADE)				R 201,167.85
SANS 1200 L		MEDIUM-PRESSURE PIPELINES				R 3,474,185.52
SANS 1200 LE		STORMWATER DRAINAGE				R 868,064.48
TOTAL OF BILL C62 CARRIED TO SUMMARY						R 7,747,492.53

SUMMARY OF BILLS			
BILL	DESCRIPTION	AMOUNT	
C1	PRELIMINARY AND GENERAL	R	310,362,539.69
C2	SITE CLEARANCE	R	33,592,406.71
C3	BULK EARTHWORKS	R	78,802,195.80
C4	FLOW DIVERSIONS AND DEMOLITION	R	32,938,481.21
C5	INLET WORKS	R	35,866,987.01
C6	PRIMARY SETTLING TANKS	R	25,726,968.13
C7	BIOLOGICAL REACTOR	R	112,647,813.42
C8	SECONDARY SETTLING TANKS	R	56,026,558.64
C9	MAIN EFFLUENT CHANNEL	R	10,742,789.18
C10	UV CHANNELS AND BUILDING	R	5,237,176.35
C11	CHLORINE CONTACT TANK	R	16,400,182.71
C12	BALANCING TANK (MODIFICATION TO EXISTING REACTOR)	R	16,401,963.47
C13	MATURATION PONDS	R	22,225,694.31
C14	GRAVITY THICKENERS	R	3,994,680.52
C15	RAS RETURN CHANNEL	R	11,139,635.01
C16	TREATED EFFLUENT OUTLET STRUCTURE	R	2,876,797.37
C17	BYPASS EFFLUENT CHANNEL	R	9,416,788.38
C18	FLOW SPLITTER STRUCTURES	R	10,289,110.86
C19	RETURN FLOW PUMP STATIONS	R	399,639.04
C20	ANCILLARY STRUCTURES	R	5,584,429.67
C21	PRIMARY AND WAS SLUDGE SILOS	R	10,679,377.69
C22	PRIMARY SLUDGE CIRCULAR HOLDING TANKS	R	8,079,580.92
C23	WAS CIRCULAR HOLDING TANKS	R	14,072,035.03
C24	GAS HOLDING TANKS	R	1,857,445.26
C25	ANAEROBIC DIGESTERS	R	13,684,079.97
C26	BLOWER BUILDING	R	15,593,223.08
C27	CHLORINATION BUILDING	R	3,357,140.92
C28	TSE PUMPSTATION AND FILTER BUILDING	R	5,754,786.26
C29	SERVICE WATER PUMPSTATION	R	4,134,346.16
C30	MAIN SLUDGE TRANSFER PUMPSTATION	R	3,954,675.07

BILL	DESCRIPTION	AMOUNT
C31	DEWATERING BUILDING	R 46,927,490.94
C32	BOILER HOUSE	R 2,262,184.05
C33	COMBINED HEAT AND POWER BUILDING	R 8,019,977.68
C34	CENTRALISED GENERATOR BUILDING	R 7,723,156.27
C35	MV INTAKE SUBSTATION	R 5,390,075.99
C36	INLET WORKS ELECTRICAL BUILDING	R 3,104,166.87
C37	REACTOR ELECTRICAL BUILDING	R 3,876,022.70
C38	SERVICE WATER ELECTRICAL BUILDING	R 2,787,287.20
C39	UV, SST AND FLOW BALANCING TANK ELECTRICAL BUILDING	R 3,290,464.01
C40	PROCESS OPERATIONS BUILDING	R 26,108,226.66
C41	WORKSHOP AND STORE BUILDING	R 12,405,277.40
C42	GUARD HOUSE	R 3,244,260.29
C43	WEIGHBRIDGE AND BUILDING	R 427,296.42
C44	INTERCONNECTING PIPEWORK - LIQUID STREAM	R 57,944,608.64
C45	INTERCONNECTING PIPEWORK - SLUDGE STREAM	R 17,143,570.61
C46	POTABLE WATER RETICULATION	R 3,155,935.12
C47	SERVICE WATER RETICULATION	R 7,858,761.13
C48	ON-SITE SEWAGE RETICULATION	R 4,254,016.29
C49	STORMWATER DRAINAGE	R 25,825,480.27
C50	ROADWORKS	R 58,179,030.47
C51	SLEEVES	R 4,017,955.00
C52	BLOCK RETAINING WALLS	R 1,504,337.40
C53	FENCING	R 10,665,474.19
C54	BUILDING ELECTRICAL	R 19,166,808.22
C55	BUILDING ELECTRONICS AND SECURITY	R 13,295,719.78
C56	FIRE DETECTION AND ALARM SYSTEM (FDAS)	R 859,991.72
C57	ROOFTOP SOLAR	R 2,770,097.47
C58	SECURITY HUT	R 534,281.72
C59	FIRE PROTECTION SERVICES	R 3,657,819.26
C60	WORKSHOP AND STORE HVAC	R 1,029,993.48
C61	PROCESS OPERATIONS BUILDING HVAC	R 3,483,561.98

BILL	DESCRIPTION	AMOUNT
C62	SITE WIDE SUB-SOIL DRAINAGE	R 7,747,492.53
SUMMARY OF BILLS CARRIED FORWARD		R 1,250,500,349.55



SUMMARY OF BILL OF QUANTITIES

DESCRIPTION	AMOUNT
NET TOTAL	R 1,250,500,349.55
ADD CONTINGENCIES: The Tenderer shall add 7.5% of the total of Schedule of Quantities for Contingencies. The sum provided here for contingencies is under the sole control of the Engineer and may be deducted in whole or in part.	R 93,787,526.22
SUB-TOTAL	R 1,344,287,875.77
PLUS ALLOWANCE FOR 15% VAT	R 201,643,181.37
TENDER SUM INCLUSIVE OF VAT (TENDER AMOUNT CARRIED TO FORM OF OFFER – C1.1)	R 1,545,931,057.13

DECLARATION (In respect of completeness of Tender)

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

I/we, the undersigned, do hereby declare that these are the properly priced Bills of Quantities forming Part C2.2 of this Contract Document containing 677 pages in consecutive order upon which my/our tender for **TENDER NO. 203Q/2023/24: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS** has been based. If I/we have submitted a printed version of the Bills of Quantities, I/we warrant that no amendments have been made to it from the original, other than amendments issued in any Addenda in terms of Clause C.3.2 in Part T1.2 Tender Data.



SIGNATURE OF TENDERER/S

01/09/2025

DATE

Part C1: Agreements and Contract Data

	Pages
C1.2 Contract Data (data provided by the Employer)	887 – 899
C1.3 Form of Performance Guarantee.....	900 – 903
C1.4 Form of Advance Payment Guarantee.....	904 – 907
C1.5 Occupational Health and Safety Agreement	908
C1.6 Protection of the Environment Declaration.....	909
C1.7 Insurance Broker's Warranty	910
C1.8 Contract of Temporary Employment as Community Liaison Officer	911 – 912

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.2 Contract Data

Part 1: Contract Data provided by the Employer

GENERAL CONDITIONS OF CONTRACT

The following standardised General Conditions of Contract:

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

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

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

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

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

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

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

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

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

CONTRACT SPECIFIC DATA

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

Clause 1.1.1.2:

Add the following after "Bill of Quantities":

, also referred to as Bills of Quantities,

Clause 1.1.1.13:

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

Clause 1.1.1.14:

The time for achieving Practical Completion is 48 (Forty-eight) calendar months inclusive of the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days and special non-working days referred to in Clause 5.8.1 below.

Clause 1.1.1.15:

The **Employer** is the CITY OF CAPE TOWN, represented by the Director: DEPARTMENT: WATER AND SANITATION and/or such other person or persons duly authorised thereto by the Employer in writing.

The name of the Employer is: CITY OF CAPE TOWN
WATER AND SANITATION

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

Clause 1.1.1.16:

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

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

Clause 1.1.1.26:

The Pricing Strategy is a Re-measurement Contract.

Add the following Clauses after Clause 1.1.1.34:

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

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

1.1.1.37 "Intellectual Property" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites

Clause 1.2.1.2:

The address of the Employer is:

Physical address:

Postal address:

E-mail address:

Clause 1.2.1.2:

The address of the Employer's Agent is:

Physical address:

Postal address:

E-mail address:

Clause 1.3:

Delete Clause 1.3.5 in its entirety

1.3.5 Intellectual Property

- 1.3.5.1** The Contractor acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Employer.
- 1.3.5.2** The Contractor hereby assigns to the Employer, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the contract, unless the Parties expressly agree otherwise in writing.
- 1.3.5.3** The Contractor shall be deemed to have given the Employer a non-terminable, transferable, non-exclusive, royalty-free licence to copy, use and communicate the Contractor's documents, including making and using modifications of such documents for further work required to the Works.
- 1.3.5.4** The Contractor shall, and warrants that it shall:
- 1.3.5.4.1** not be entitled to use the Employer's Intellectual Property for any purpose other than as contemplated in this contract;
- 1.3.5.4.2** not modify, add to, change or alter the Employer's Intellectual Property, or any information or data related thereto, nor may the Contractor produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Employer;
- 1.3.5.4.3** not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Employer;
- 1.3.5.4.4** comply with all reasonable directions or instructions given to it by the Employer in relation to the form and manner of use of the Employer Intellectual Property, including without limitation, any brand guidelines which the Employer may provide to the contractor from time to time;
- 1.3.5.4.5** procure that its employees, directors, members and contractors comply strictly with the provisions of clauses 1.3.5.4.1 to 1.3.5.4.3 above;
- unless the Employer expressly agrees thereto in writing after obtaining due internal authority.
- 1.3.5.5** The Contractor represents and warrants to the Employer that, in providing goods, services or both, as the case may be, for the duration of the contract, it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Employer from any claims, liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the contractor of any third party's Intellectual Property rights.
- 1.3.5.6** In the event that the contract is cancelled, terminated, ended or is declared void, any and all of the Employer's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Employer by the contractor and no copies thereof shall be retained by the contractor unless the Employer expressly and in writing, after obtaining due internal authority, agrees otherwise.

Add the following Clause after Clause 1.3.6:

- 1.3.7** The parties agree that this contract shall also be subject to the Employer's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised, **save that if the Employer adopts a new SCM Policy which contemplates that any clause therein would apply to the**

contract emanating from this tender, such clause shall also be applicable to that contract.
Please refer to this document contained on the CCT's website.

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

Clause 3.1:

Delete clause

Clause 3.2.2:

Add the following at the end of the clause:

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

Clause 3.2.3:

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

- a) Clause 3.3.1 Nomination of Employer's Agent's Representative
- b) Clause 3.3.4 Employer's Agent's authority to delegate
- c) Clause 5.8.1 Non-working times
- d) Clause 5.11.2 Suspension of the Works
- e) Clause 5.12.4 Acceleration instead of extension of time
- f) Clause 6 All actions in terms of the clause subject to 3.2.2 of Contract Data.
- g) Clause 6.10.10 Advance payment, for items not listed in the Advance Payment Schedule.
- h) Clause 10.1.5 All actions in terms of the clause subject to 3.2.2 of Contract Data.

Clause 3.3.2.2.3:

Delete the words "oral or" from the clause

Clause 3.3.2.2.4:

Delete the words "oral or" from the clause

Clause 4.1:

Add the following Clause after Clause 4.1.2:

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

Clause 5.3.1:

The documentation required before commencement with Works execution is:

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

Add the following to Clause 5.3.1:

Such instruction shall, where applicable, also be subject to the issuing, by the Provincial Director of the Department of Labour, of a construction work permit to perform the intended construction work in terms of Clause 5.3.4 below.

Clause 5.3.2:

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

Clause 5.3.3:

Add the following to Clause 5.3.3:

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

Clause 5.3.4:

Add the following Clause after Clause 5.3.3:

5.3.4 Application for Construction Work Permit

Where the Employer is required to apply to the Provincial Director of the Department of Labour for a construction work permit to perform the intended construction work, the employer shall do so as soon as possible after the appointment of the contractor has been finalised and the contractor has been appointed as principal contractor in terms of Regulation 5(1)(k) of the Construction Regulations (2014) and upon receipt of relevant documents as stated in clause 5.3.1.

Clause 5.4.2:

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

Add the following Clause after Clause 5.4.3:

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

Clause 5.6.2.3:

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

... permits,

Clause 5.8.1:

The non-working days are Saturdays and Sundays.

The special non-working days are:

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

Clause 5.12.2.2:

Add the following to Clause 5.12.2.2:

No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature. However, in the event that delays to critical activities exceed the number of working days listed below for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time may be claimed in accordance with the provisions of Clause 5.12.

The number of days quoted below shall be regarded as a fair estimate of the delays to be anticipated and allowed for under normal climatic conditions where inclement weather prevents or disrupts critical work.

January	3 days
February	3 days
March	2 days

April	2 days
May	2 days
June	4 days
July	4 days
August	4 days
September	4 days
October	2 days
November	3 days
December	3 days

Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously as each day or half-day delay is experienced.

It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained.

Clause 5.13.1:

The penalty for failing to complete the Works is 1/20 of 1% of the Contract Award Amount per calendar day.

The penalty for delay for sectional completion shall be as follows:

1. The penalty for delay for sectional completion of scheduled activities which does not impact the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will be a "percentage" of 1/20 of 1% of the Contract Award Amount per calendar day. This "percentage" shall be the "Contract Award Amount of the Portion of Works subject to Sectional Completion" over "the Contract Award Amount excluding contingencies and contract price adjustment (i.e., escalation)".
2. The penalty for delay for sectional completion for scheduled activities which impacts the critical path of other construction Contracts (see Clause 3.1.9) (Part C3, Scope of Work) will result in full penalties being applied, i.e., 1/20 of 1% of the Contract Award Amount per calendar day.

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

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

Clause 5.16.3:

The latent defects period is 10 years.

Clause 6.2.1:

The security to be provided by the Contractor shall be a performance guarantee of 7% of the Contract Sum. The performance guarantee shall contain the precise wording of the document included in Part C1.3 of the Contract Data: **Form of Performance Guarantee**, and it shall be issued by a financial institution approved by the Employer at the date when the guarantee is issued. The list of approved financial institutions current at the date of tender is attached to the **Form of Performance Guarantee**.

Clause 6.2.2:

Delete Clause 6.2.2 in its entirety.

Clause 6.2.3:

Delete Clause 6.2.3 in its entirety and replace with the following:

The Contractor shall ensure that the performance guarantee remains valid and enforceable until the Certificate of Completion of the Works is issued.

Clause 6.5.1.2.3:

The maximum percentage allowance to cover overhead charges is 10%.

Clause 6.8.2:

Add the following to Clause 6.8.2:

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

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

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

The value of "x" is 0,15.

The values of the coefficients are:

a = 0,25 b = 0,15 c = 0,55 d = 0,05

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

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

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

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

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

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

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

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

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

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

Clause 6.8.3: Variation in the cost of special materials

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

Clause 4.2 of the Contract Price Adjustment Schedule

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

Clause 6.8.4:

Add the following to Clause 6.8.4:

Notwithstanding the above, in the event that a public holiday is proclaimed after 28 days before the closing date for tenders, no costs other than those that can be claimed under Clause 5.12.3 shall be added to the contract price.

Add the following after Clause 6.8.4:

6.8.5. If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract data, such adjustment shall be based on the information contained on the schedule titled "**Price Basis for Imported Resources**" and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled "**Price Basis for Imported Resources**" (column (F)) shall be the value in foreign currency (column

(A)) converted to South African Rand (column (C)) by using the closing spot selling rate quoted by **Employer's** main banker, NEDBANK, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column(B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

6.8.5.1 Adjustment for variations in rates of exchange:

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

6.8.5.2 Adjustment for variations in customs surcharge and customs duty

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

6.8.5.3 Adjustment for variation in labour and material Costs

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

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

Clause 6.10.1.5:

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

6.10.1.5 The value of Plant and materials:

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

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

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

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

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

Clause 6.10.1.7:

Add the following after the words "Clause 5.13":

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

Clause 6.10.3:

Add the following to Clause 6.10.3:

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

Clause 6.10.4:

Add the following to the last sentence of Clause 6.10.4:

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

Add the following to Clause 6.10.4:

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

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

Clause 6.10.10:

Add the following Clause after Clause 6.10.9:

6.10.10 Advance payment

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

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

The Employer's Agent shall issue an Interim Payment Certificate for, or including, advance payment after receiving a statement under Clause 6.10.1 and after the Employer has received a guarantee in an amount equal to the advance payment requested. This guarantee shall be issued by a financial institution approved by the Employer, as listed in the Annexure in Part C1.3 of the Contract Data, and shall be in the form of and shall contain the precise wording of the document included in Part C1.4: **Form of Advance Payment Guarantee** and shall come into force, be administered and expire in terms thereof.

The Employer shall return the guarantee to the Contractor within 14 days after the expiry date.

The provision of the Advanced Payment Guarantee shall be at the Contractor's cost.

The term "deposit" or "deposit with order" used in the context of this Clause and elsewhere by reference to this Clause, means a sum payable by the Contractor to a manufacturer/supplier prior to the manufacture of an item of Plant or material, required at the time of placing an order, the balance of the value of the item being payable later.

Clause 6.12:

Add the following Clause after Clause 6.11:

Should the total construction costs exceed the Employer's available budget, the Employer reserves the right to delay or omit the work, or parts thereof.

Clause 8.6.1.1.2:

The value of Plant and materials supplied by the Employer to be included in the insurance sum **R 0.00 (Nil)**.

Clause 8.6.1.1.3:

The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is **5% of Contract Sum**.

Clause 8.6.1.3:

The limit of indemnity for liability insurance is R20 000 000.00 for any single claim – the number of claims to be unlimited during the construction and defects liability periods.

Clause 8.6.1.5:

In addition to the insurances required in terms of General Conditions of Contract Clauses 8.6.1.1 to 8.6.1.4 the following insurance is also required:

- a) Insurance of Construction Equipment (including tools, offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the site for a sum sufficient to provide for their replacement.
- b) Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- c) Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity.
- d) Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.

Clause 8.6.5:

Delete the following from Clause 8.6.5:

"and the terms thereof shall be subject to the approval of the Employer's Agent, which approval shall not be unreasonably withheld."

Clause 8.6.6:

Replace clause 8.6.6 with the following:

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

Clause 9.1:

In Clause 9.1.6 replace "and 9.1.3" with:

9.1.3 and 9.1.7

Add the following Clause after Clause 9.1.6:

9.1.7 Death of Sole Proprietor/Member

Upon the death of the Contractor who was a Sole Proprietor, or a sole member of a Close Corporation, the Contract will terminate forthwith. The Employer shall pay to the Contractor's estate any money which it considers due under the Contract in terms of Clause 9.1.5, in full and final settlement thereof.

9.1.8 Material Irregularity during procurement process

The Employer may terminate the contract if a material irregularity vitiates the procurement process leading to the conclusion of the contract, rendering the procurement process and the conclusion of the resulting contract unfair, inequitable, non-transparent, uncompetitive or not cost-effective, provided the Employer follows the processes as described in its SCM Policy.

9.1.9 Reputational risk or harm to the Employer

The Employer, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate the contract if the implementation of the contract may result in reputational risk or harm to the City as a result of (inter alia):

- 9.1.9.1 reports of poor governance and/or unethical behaviour;
- 9.1.9.2 association with known notorious individuals and family of notorious individuals;
- 9.1.9.3 poor performance issues, known to the Employer;
- 9.1.9.4 negative social media reports; or
- 9.1.9.5 adverse assurance (e.g. due diligence) report outcomes; and
- 9.1.9.6 Circumstances where the relevant vendor has employed, or is directed by, anyone who was previously employed in the service of the state, where the person is or was negatively implicated in any SCM irregularity.

Add the following Clause after Clause 9.2.3:

9.2.4 Employer's Elections in case of Insolvency

In addition to anything else contained in this contract, the Employer may make either of the following elections to ensure its rights are protected and any negative impact on service delivery is mitigated:

- 9.2.4.1 accept a contractor's proposal (via the trustee / liquidator) to render delivery utilising the appropriate contractual mechanisms; or
- 9.2.4.2 terminate the contract, as the liquidator proposed contractor is deemed unacceptable to the employer, at any time by giving written notice to the contractor (via the trustee / liquidator).

Clause 10.5.3:

The number of ad-hoc Adjudication Board Members to be appointed is 1(one).

ADDITIONAL CONDITIONS OF CONTRACT

Add the following Clause after Clause 10:

Clause 11 Details to be confidential

The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without the prior written consent of the Employer's Agent.

SPECIAL MATERIALS SCHEDULE

Each material dealt with as a special material in terms of Clause 4.1 of the Contract Price Adjustment Schedule of the General Conditions of Contract is stated in the list below. The provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials. The base prices for the special materials (current at the time of tender) shall be as stated in the schedule below, or where required, shall be furnished by the tenderer/contractor. Only those materials listed by the Employer below shall be considered as special materials.

Special Material	Unit	Base Price
Bitumen (50/70 penetration grade)	t	R 15 800.00 (March 2024)
Bitumen (70/100 penetration grade)	t	R 15 800.00 (March 2024)
Structural steel	t	The ArcelorMittal prices, as published in their official price lists, current at the time of tender closing, will be used as the base prices for determining the adjustment in steel prices.
Steel reinforcing bars	t	
Steel used in the manufacture of pipes	t	
Steel used in the manufacture of street light poles	t	

Conditions:

- When called upon to do so, the contractor shall substantiate the prices to be used to determine the adjustment in respect of the special materials listed above with acceptable documentary evidence.
- In the case of bituminous products, the Employer has provided, in the schedule above, a base rate for bitumen upon which the tendered rates will be deemed to be based, and which will be used for determining the adjustment in the price of such bituminous products.
- Where an adjustment for the variation in the price of bituminous products is claimed, the claim must be substantiated by a declaration from the manufacturer, confirming the source of bitumen used in such bituminous products at the time in question.
- Where the source of bitumen (the refinery) is located in the Western Cape Province, or where bitumen sourced from abroad is landed at a port in the Western Cape, the cost of transporting such bitumen within the boundaries of the Western Cape shall be included in the rate for bituminous products. Extra-over rates to cover the cost of transporting bitumen from beyond the borders of the Western Cape have been measured separately in the Bill of Quantities.
- Where imported bitumen used in bituminous products is landed at a port beyond the borders of the Western Cape, the importers must clearly state whether or not their price is inclusive of transport to the Western Cape, which will determine whether extra-over transport costs are applicable, or not. The price of the imported bitumen itself must be expressed as a landed price in ZAR.

ADVANCE PAYMENT SCHEDULE

This Advance Payment Schedule is to be read in conjunction with Clauses 6.10.1.5.2, 6.10.1.5.3 and 6.10.10 in the Contract Specific Data. The purpose of this schedule is to itemise specific Plant and materials on-site or not yet brought on to the Site for building into the Permanent Works and for which the Employer is prepared to make advance payments to the Contractor, subject to the conditions below.

The items of Plant and materials which have been identified by the Employer as being suitable for advance payment in terms of the Contract are listed in the table below. Should an item or items be added to the list at tender stage by a tenderer, such item(s) will not be binding on the Employer.

Plant and materials which have been manufactured and are stored on-site or at places other than the Site:	Plant and materials yet to be manufactured and for which a deposit with order is required from the Contractor by a manufacturer/supplier, and which may be stored on-site or at places other than the Site after manufacture:
Steel gantries for overhead signage	Security fencing
Building electronics	Pipes, specials and valves
Precast elements	Steel reinforcing and structural steel
Street and area lighting	Loose furniture, joinery and lab equipment
Steel roof sheeting and steel doors	Paving
Steel gantries for overhead signage	Security fencing

Conditions:

- 1) The Contractor can only rely on advance payment being permitted by the Employer in respect of the Plant and materials listed in the table above. The Employer may, however, permit advance payment for other Plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Contractor.
- 2) Advance payment for the purposes of deposits will only be provided up to a limit of 80% of the value of any one item being claimed.
- 3) The Contractor shall provide the Employer with documentary evidence of the terms and conditions for which a deposit with order is required by a manufacturer/supplier, together with the advance payment guarantee.
- 4) The Contractor will also be permitted to obtain advance payment for the balance of the value of the Plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored on-site or at a place other than the Site. The Contractor shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Employer upon request, for the whole value of the item.

CITY OF CAPE TOWN

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UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.3 Form of Performance Guarantee

PERFORMANCE GUARANTEE

For use with the Conditions of Contract as described in C1.2: Contract Data Part 1: Contract Data provided by the Employer

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: WATER AND SANITATION.

"Contractor" means:

"Employer's Agent" means:

"Works" means: Contract No. 203Q/2023/24: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS.

"Site" means: The site as defined in the Contract Data.

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

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

Amount in words:

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

Amount in words:

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

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

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

13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)



ANNEXURE

CONTRACT GUARANTEES POLICY APPROVED INSTITUTIONS

The following financial institutions are currently (as at 28 February 2023) approved for issue of contract guarantees to the City:

National Banks:

ABSA Bank Limited
FirstRand Bank Limited
Investec Bank Limited
Nedbank Limited
Standard Bank of South Africa Limited

International Banks (with branches in South Africa):

Barclays Bank PLC
Citibank NA
Credit Agricole Corporate and Investment Bank
HSBC Bank PLC
JP Morgan Chase Bank
Societe Generale
Standard Chartered Bank

Insurance Companies:

American International Group Inc (AIG)
Bryte Insurance Company Limited
Coface SA
Compass Insurance Company Limited
Credit Guarantee Insurance Corporation of Africa Limited
Guardrisk Insurance Company Limited
Hollard Insurance Company Limited
Infiniti Insurance Limited
Lombard Insurance Company Limited
Mutual and Federal Risk Financing Limited
New National Assurance Company Limited
PSG Konsult Ltd (previously Absa Insurance)
Regent Insurance Company Limited
Renasa Insurance Company Limited
Santam Limited

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.4 Form of Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

For use with the Conditions of Contract as described in C1.2: Contract Data Part 1: Contract Data provided by the Employer

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: WATER AND SANITATION.

"Contractor" means:

"Employer's Agent" means:

"Works" means: Contract No. 203Q/2023/24; UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS.....

"Site" means: The site as defined in the Contract Data.

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

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

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

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

Amount in words:

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

CONTRACT DETAILS

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

ADVANCE PAYMENT GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Advance Payment Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Advance Payment Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Advanced Payment Sum, whichever occurs first.

3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Advance Payment Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Advance Payment Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Advance Payment Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Advance Payment Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Advance Payment Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Advance Payment Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Advance Payment Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
11. This Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Advance Payment Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

Schedule of Plant and materials

For use with Advance Payment Guarantees on contracts using the General Conditions of Contract for Construction Works, Third Edition, 2015.

Employer The City of Cape Town, WATER AND SANITATION

Contractor

Works Contract No. 203Q/2023/24: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

Payment Certificate No.

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

Bill of Quantities item no.	Description of Plant and materials	Deposit with order required (Y/N)	Place of storage (or manufacture, if deposit with order is required)	Unit	Quantity	Unit price R c	Total Price R c
Total Value of Plant and materials to be included in Guaranteed Advance Payment Sum							R

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

.....
for the Contractor

.....
As witness

.....
gent

907
Contract

Contract Data
24

C1.4
Form of Advance Payment Guarantee

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.5 Occupational Health and Safety Agreement

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

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

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

I, [REDACTED], representing

STEFANUTTI STOCKS (PTV) LTD

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

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

COID ACT Registration Number: [REDACTED]

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

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

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

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

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

Signed at **CAPE TOWN** on the **01** day of **SEPTEMBER** 20**25**

With

[REDACTED]
Mandatar

Signed at **CAPE TOWN** on the **9** day of **9** 20**25**

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

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.6 Protection of the Environment Declaration

PROTECTION OF THE ENVIRONMENT DECLARATION

The Contractor will not be given right of access to the Site until this form has been signed

CONTRACT NO.: 203Q/2023/24

CONTRACT TITLE: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

I/ we, [REDACTED] ..{Contractor} record as follows:

1. I/ we, the undersigned, do hereby declare that I/ we am/ are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I/ we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I/ we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options. In this regard, I/ we recognise and accept the need to abide by the "precautionary principle" which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.
3. I/ we declare that I/ we have read and understood the contents of the Environmental Management Programme (which is comprised of the Environmental Management Specification and its Annexures) for this Contract, and that I/ we understand my/our responsibilities in terms of enforcing and implementing the Environmental Management Programme. I/ we also declare that I/ we have made appropriate provision in my/ our pricing of the Bills of Quantities items for the Environmental Management Programme.
4. I/ we acknowledge and accept the right of the Employer to deduct, should he so wish, from any amounts due to me/ us, such amounts (hereinafter referred to as fines) as the Employer's Agent shall certify as being warranted in view of my/ our failure to comply with the terms of the Contract dealing with protection of the environment, subject to the following:
 - 4.1 The Employer's Agent, in determining the amount of such fine, shall take into account, *inter alia*, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance/non-compliance, the extent of the Contractor's overall compliance with environmental protection requirements and, in particular, the extent to which he considers it necessary to impose a sanction in order to eliminate/reduce future occurrences
 - 4.2 The Employer's Agent shall, with respect to any fine imposed, provide me/ us with a written statement giving details of the offence, the facts on which the Employer's Agent has based his assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed

CONTRACTOR

Date.....

01/09/2025

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.7 Insurance Broker's Warranty

Pro Forma



Letterhead of Contractor's Insurance Broker

Date _____

CITY OF CAPE TOWN
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

CONTRACT NO.: 203Q/2023/24

CONTRACT TITLE: UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

NAME OF CONTRACTOR: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CITY OF CAPE TOWN with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C1.8 Contract of Temporary Employment as Community Liaison Officer

Construction Contract No.

PROJECT.....

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

1. THE PARTIES HAVE AGREED THAT

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

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

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

3. THE FOLLOWING CONDITIONS OF EMPLOYMENT SHALL APPLY:

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

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

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

If the site works later than 1 p.m., the CLO will be paid the full daily wage.

- 3.5 Workers and the CLO will not be permitted to work under conditions of:
- (i) undisciplined or unruly behaviour;
 - (ii) insubordination to Team Leader, Supervisors or Management;
 - (iii) abuse of intoxicating substances;
 - (iv) criminal actions by the employee;
 - (v) strike action or political stayaways.
- 3.6 Workers, including the CLO, may be dismissed after two official written warnings for the following behaviour:
- (i) undisciplined or unruly behaviour;
 - (ii) insubordination to Team Leader, Supervisors or Management;
 - (iii) abuse of intoxicating substances;
 - (iv) wilful or negligent damage to or loss of machines or equipment.
- The Contractor shall ensure that he has statements from at least two witnesses concerning any of the above situations.
The Contractor shall inform the CLO within 24 hours of any warning issued to workers employed from the Job-Seekers Database.
- 3.7 The CLO will be paid on a Friday afternoon every two weeks, one week in arrears.
- 3.8 The CLO shall be given a statement with each payment on which is recorded:
- (i) the name of the Contractor;
 - (ii) the CLO's name;
 - (iii) the number of days worked by the CLO;
 - (iv) the rate per day;
 - (v) the details of any deductions made;
 - (vi) the actual amount paid to the CLO.
- 3.9 No deduction shall be made from the remuneration except where the CLO consents in writing or unless the Contractor is permitted or required to do so by law or the order of any competent court.
- 3.10 The CLO shall be supplied free of charge with all health and safety equipment required by the Occupation Health and Safety Act. The equipment shall remain the property of the Contractor.
- 3.11 The Contractor must give the CLO at least one week's notice of the termination of the Contract of Temporary Employment. If this is not done, the CLO must be paid earnings for five days. This condition does not apply if the CLO is dismissed.
- 3.12 At the end of the period of temporary employment, the Contractor shall provide a Certificate of Service recording the Contractor's name, the CLO's name and address, the period of service, the type of work on which the CLO was engaged and the rate of remuneration on termination.

4. TERMINATION OF AGREEMENT

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

5. THE CONDITIONS OF THIS AGREEMENT

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

6. THUS AGREED AND SIGNED BY THE PARTIES:

Contractor:

Community Liaison officer:

Date:

Part C2: Pricing Data

	Pages
C2.1 Pricing Assumptions.....	914 – 915

CITY OF CAPE TOWN

DIRECTORATE: WATER AND SANITATION

CONTRACT NO. 203Q/2023/24

UPGRADE AND EXTENSION OF THE MACASSAR WASTEWATER TREATMENT WORKS: CIVIL WORKS

C2.1 Pricing Assumptions

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

1. The method of measurement published by the South African Bureau of Standards in clause 8 of the Standardised Specifications for Civil Engineering Construction is applicable, subject to the variations and amendments contained in the section "Applicable SANS 1200 standardised specifications".
2. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Schedule, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
3. The measurement and payment clauses in a specification in which further information regarding the scheduled items is given, are referenced under "Item" (pay items) in the Bills of Quantities. The referenced clauses are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the digits which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200 G.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. The quantities set out in the Bills of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
6. The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. A price or rate should be entered against each item in the Bills of Quantities, whether the quantities are stated or not. **An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item.** The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.
8. Except where rates only are required, insert all amounts to be included in the total tendered price in the "Amount" column and show the corresponding total tendered price.
9. The units of measurement described in the Bills of Quantities are metric units. Abbreviations which may be used in these Bills of Quantities are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000 kg)
m ²	=	square metre	No.	=	number
m ² .pass	=	square metre-pass	sum	=	lump sum
ha	=	hectare	MN	=	meganeutron
m ³	=	cubic metre	MN.m	=	meganeutron-metre

m³.km = cubic metre-kilometre
 l = litre
 kl = kilolitre
 MPa = megapascal
 kN = kilonewton

P C sum = Prime Cost sum
 Prov sum = Provisional sum
 % = per cent
 kW = kilowatt

10. Where fractions of a cent occur in calculations of prices and amounts, they shall be rounded up/down to the nearest whole cent.
11. The Tenderer is referred to C.2.24 in Part T1.2 Tender Data regarding the pricing of Deviations and/or Qualifications.
12. Clause C.2.13.11 c) in Part T1.2 Tender Data shall be applicable to the submission of Bills of Quantities which have been priced electronically, and which the Tenderer wishes to submit as a printed version with his/her tender in the place of handwritten priced Bills of Quantities.

 If there is found to be any variance between the printed version and the original issued document, the original shall stand. However, where Addenda have been issued which amend the Bills of Quantities, then the printed Bills of Quantities shall take these into account.

 The pages of the issued Bills of Quantities should not be removed from the tender document.
13. Tenderers are referred to Clause 8 Measurement and Payment in the Environmental Management (EM) Specification in Part C3.5 in the Scope of Work for the basic principles of measurement and pricing of the EM Specification.
14. All descriptions or clauses where trade names or proprietary products are specified, are deemed to include the phrase "or equal approved"