

# WINWATER

Driven, Inspired, Passionate

## TAX INVOICE No. 7297

Date: 8 December 2016

### INVOICE TO:

### DESPATCH TO:

Amatola Water  
 Private Bag X3  
 Vincent  
 5217  
 Tel: (043) 707 3700  
 Fax: (043) 707 3701  
 Attention:

Bosch Stemele  
 P O Box 27158  
 Green acres  
 Port Elizabeth  
 6057  
 Tel: (041) 363 0598  
 Fax: (041) 363 7646  
 Attention: Rowan Bode

Your VAT Reg. No: 4770 173 302


Our VAT Reg. No: 4350 235 182

Your Order/Contract Number:	Our Reference Number:	Delivery:	Terms of Payment:
AW2015/16/06	WW/AW/1104.23	As per program	On Receipt of Tax Invoice

Item	Description	Qty	Unit Price	Total Price
1.	Augmentation of the James Kleynhans Water Treatment  As per the Variation Order - Payment Certificate no. 2	1	R 2 929 108.29	R 2 929 108.29
	VAT 14%			R 410 075.16
	<b>TOTAL</b>			<b>R 3 339 183.45</b>

### BANKING DETAILS

Account Name : WINWATER Mechanical & Electrical Projects (Pty) Ltd  
 Bank : FNB Ballito  
 Branch Code : 250 102  
 Account Number : 62111600921

  
 Signed: Monde Morrison (Project Manager)

**PORT ELIZABETH:**

PO Box 27158 Greenacres • Port Elizabeth 6057 • Block 1, 1<sup>st</sup> Floor • Greenacres Office Park • 2nd Avenue

• Newton Park • Port Elizabeth 6045 • Eastern Cape South Africa

Telephone: + 27 (0) 41 363 0598 • Facsimile: + 27 (0) 41 363 7646 • e-mail: bspe@boschstemele.co.za

www.boschstemele.co.za • REGIONAL OFFICES: JOHANNESBURG • EAST LONDON • DURBAN • CAPE TOWN



Ref: RDB/rdb/8010/006/2050/002

08 December 2016

Your ref.: AW2015/16/06

Amatola Water  
Private Bag X3  
Vincent  
East London  
5217

Attention: Mr Gopolang Sibanyoni

Dear Sir,

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**PROJECT : UPGRADING OF THE JAMES KLEYNHANS BULK WATER SUPPLY:  
AUGMENTATION OF THE JAMES KLEYNHANS WTW- PHASE 1**

**RE : PAYMENT CERTIFICATE No 2**

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Attached is the Original of Payment Certificate N<sup>o</sup> 2 for the above Contract in the sum of R 3,339,183.45 (Three Million, Three Hundred and Thirty-Nine Thousand, One Hundred and Eighty-Three Rand and Forty-Five Cents) inclusive of R 410,075.16 VAT.

This Payment Certificate is not a Tax Invoice. The Contractor's Tax Invoice is attached.

Please make payment to:

Win Water Mechanical & Electrical Projects (Pty) Ltd  
P. O. Box 6152  
Zimbali  
Ballito  
4418

Yours faithfully

**BOSCH STEMELE (PTY) LTD**



**R.D. BODE Pr Tech Eng, Pr CPM  
PROJECT ENGINEER**

Cc Winwater Mechanical & Electrical Projects (Pty) Ltd

Attn : Monde Morrison

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1972/003589/07 Bosch Stemele (Pty) Ltd.

Directors:

- MJ Gibbon (Chairman) Pr Eng, BSc Eng (Mech) • ED Magugumela (Managing) Pr Eng, MSc Eng (Civil)
- G Cummings Pr Eng, BSc Eng (Civil) • A Cruickshank C Eng (MIIE) Pr Tech Eng (Mech)
- R Ramchuran Pr Eng, BSc Eng (Civil) • WH Yeo Pr Eng, B Eng (Mech)
- D Lawrence B Com, CA (SA) (non-executive)
- M Stemele Pr Eng, BSc Eng (non-executive)



Date: 2016-12-08

Our Ref: RDB/rdb/8010/006/2050

**PAYMENT CERTIFICATE No 2**

CONTRACT N° : AW2015/16/06

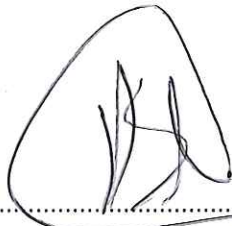
PROJECT : Upgrading of the James Kleynhans Bulk Water Supply: Augmentation of the James Kleynhans WTW – Phase 1

EMPLOYER : Amatola Water

CONTRACTOR : Winwater (Pty) Ltd

R 3,339,183.45 (Three Million, Three Hundred and Thirty-Nine Thousand, One Hundred and Eighty-Three Rand and Forty-Five Cents) inclusive of R 410,075.16 VAT is due to the Contractor by the Employer.

This amount is based on the estimated value of work executed as at 26 October 2016 as determined from the detailed Progress Statement 2 and supporting calculations, schedules and summaries held by the Engineer.

for:  .....

Bosch Semele (Pty) Ltd

Date: 08/12/2016

**AMATOLA WATER**  
 TECHNICAL & INFRASTRUCTURE SERVICES  
**Contract Payment Certificate**

AW2015/16/06

CONTRACT NO: AW2015/16/06 APPROVED TENDER SUM: R 35,643,334-86 PAYMENT No: 2

CONTRACTOR: WINWATER (Pty) Ltd AUTHORITY: 08-Dec-16

ADDRESS: P O Box 6152, Zimball, 4418

VAT REGISTRATION NO.: 4350 235 182

CONTRACT FOR: Upgrading of the James Kleynhans Bulk Water Supply: Augmentation of the James Kleynhans WTW - Phase 1

I HEREBY CERTIFY THAT THE SUM OF: Three Million, Three Hundred and Thirty Nine Thousand,  
One Hundred and Eighty Three Rand and Forty Five Cents

IS DUE TO THE CONTRACTOR FOR WORK EXECUTED / GOODS SUPPLIED UNDER THE CONTRACT ON BEHALF OF THE MUNICIPALITY.

NET VALUE OF WORK EXECUTED/GOODS SUPPLIED (EXCL. VAT)		R	
		R 5 966 729.76	
ADD: ESCALATION TO DATE		R 0.00	
<b>SUB TOTAL</b>		<b>R 5 966 729.76</b>	
LESS: AMOUNT RETAINED	R 596 672.98		
LESS: Penalties	R 0.00	R 596 672.98	
<b>SUB TOTAL</b>		<b>R 5 370 056.78</b>	
ADD: 80% OF VALUE OF MATERIALS ON SITE			
ADD:	R 0.00	R 0.00	
<b>TOTAL NET VALUE CERTIFIED TO DATE</b>		<b>R 5 370 056.78</b>	
LESS PREVIOUS		R 2 440 948.50	
NET PAYMENT DUE		R 2 929 108.29	
VAT @ 14%		R 410 075.16	
<b>AMOUNT CERTIFIED FOR PAYMENT INCLUDING VAT</b>		<b>R 3 339 183.45</b>	
DEDUCTION FOR SURETYSHIP	.....% OF R .....		
<b>NET PAYMENT DUE</b>		<b>R 3 339 183.45</b>	

JOB NO.			TOTAL
THIS CERT. EXCL. VAT	R 2 929 108.29		R 2 929 108.29
PREVIOUS CERT. EXCL. VAT	R 2 440 948.50		R 2 440 948.50
TOTAL EXCL. VAT	R 5 370 056.79		R 5 370 056.79
VAT	R 751 807.95		R 751 807.95
TOTAL INCL. VAT	R 6 121 864.74		R 6 121 864.74

**SURETYSHIP** **VOTE NUMBER:**

DEDUCTION NO.	1	2	3	TOTAL
AMOUNT DEDUCTED				R 0.00

PAYMENT DATE : .....  
 (IN TERMS OF CONTRACT)

.....  
 PROJECT OFFICER

.....  
 T & I BUSINESS UNIT DATE

**PAYMENT CERTIFICATE**

CERTIFICATE NO : 2  
MEASUREMENT DATE : 08-Dec-16

EMPLOYER : AMATOLA WATER  
PROJECT : JAMES KLEYNHANS BULK WATER SUPPLY: AUGMENTATION OF THE  
JAMES KLEYNHANS WATER TREATMENT WORKS - PHASE 1  
CONTRACT No : AW2015/16/06  
CONTRACTOR : WINWATER MECHANICAL & ELECTRICAL PROJECTS (Pty) Ltd

CONTRACT SUM R 35,643,334-86 (Incl. VAT)

1	SECTION 1	PRELIMINARY & GENERAL	1 625 125.00
2	SECTION 2	DAYWORKS, PROVISIONAL SUMS	204 540.00
3	SECTION 3	2.0MI CLEAR WATER RESERVOIR	403 000.00
4	SECTION 4	BACKWASH TANK	-
5	SECTION 5	SLUDGE LAGOONS	479 500.00
6	SECTION 6	WTW PIPELINES	-
7	SECTION 7	PUMPSTATION	-
	Sub-total		2 712 165.00
8	Dayworks - Included in P&G		-
9	Extra Works		-
9	Variation Orders		3 254 564.76
10	Claims		-
	Sub-total		5 966 729.76
11	Add Contract price adjustment		-
	Sub-total		5 966 729.76
12	Less Retention 10%		596 672.98
	Sub-total		5 370 056.78
13	Add materials on site 80% of		-
14	Total certification to date		5 370 056.78
15	Less Penalties (0 days x R0)		2 440 948.50
	Sub-total		2 929 108.28
16	Less previous certification		-
	Sub-total		2 929 108.29
17	Add VAT @14%		410 075.16
<b>PAYMENT NOW DUE TO CONTRACTOR</b>			<b>3 339 183.45</b>

NOTE : Due date for payment : 12-Jan-17

Signature by Engineer

08/12/2016  
Date

*For Departmental use only*

Amatola Water

Signature

Date

Project Manager

Signature

Date

PMU Manager

Signature

Date


# CONTRACT COST REPORT

COST REPORT NO : 2  
DATE : 08-Dec-16

EMPLOYER : AMATOLA WATER  
 PROJECT : JAMES KLEYNHANS BULK WATER SUPPLY: AUGMENTATION OF THE JAMES KLEYNHANS WATER TREATMENT WORKS - PHASE 1  
 CONTRACT NO : AW2015/16/06  
 CONTRACTOR : WINWATER MECHANICAL & ELECTRICAL PROJECTS (Pty) Ltd

	ACCEPTED TENDER	COSTS TO DATE	COMPLETION ESTIMATE
<b>1 CONTRACT COSTS</b>			
1.1 Scheduled items	R 26 318 251.86	R 2 712 165.00	R 26 318 251.86
1.2 Materials	R -	R -	R -
1.3 Provisional Sum 1	R -	R -	R -
1.4 Provisional Sum 2	R -	R -	R -
1.5 Provisional Sum 3	R -	R -	R -
1.6 Contingencies	R 2 631 825.19	R -	R -
1.7 Variation orders approved	R -	R 3 254 564.76	R 3 254 564.76
1.8 Variation orders pending	R -	R -	R -
1.9 Contract price adjustment	R 2 316 006.16	R -	R 1 693 266.59
Sub-total	R 31 266 083.21	R 5 966 729.76	R 31 266 083.21
1.10 VAT @14 %	R 4 377 251.65	R 835 342.17	R 4 377 251.65
<b>TOTAL CONTRACT COSTS</b>	<b>R 35 643 334.86</b>	<b>R 6 802 071.93</b>	<b>R 35 643 334.86</b>

<b>2 PENALTIES</b>	
Penalties applicable in terms of the contract	
0 days @ R 2,000 per calendar day	R -

  
 Signature by Engineer

08/12/2016  
 Date

*For Departmental use only*

Amatola Water	
Signature	Date

Project Manager	
Signature	Date

PMU Manager	
Signature	Date

**JAMES KLEYNHANS BULK WATER SUPPLY  
 BID NO. AW2010/16/06  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1**

**In Account With:** WINWATER Mechanical & Electrical Projects (Pty) Ltd  
 P O Box 6122  
 ZIMBALI 4418

**Details of Tendered Amount:**

<b>Nett Tendered Sum</b>			
0		R	28 950 077.05
<b>Add:</b>	Allowance for contingencies (10%)	R	2 316 006.16
<b>Sub Total</b>		R	<b>31 266 083.21</b>
<b>Add:</b>	Value Added Tax (14%)	R	4 377 251.65
<b>TOTAL ACCEPTED VALUE</b>		R	<b>35 643 334.86</b>

<b>CERTIFICATE N<sup>o</sup> 1 (Interim)</b>		<b>28 October 2016</b>	
<b>Description</b>		<b>R c</b>	
<b>Total Value of Work Done:</b>	<b>28-Oct-16</b>	R	<b>2 712 165.00</b>
<b>Add:</b>	Contingencies as per Annexure 1C	R	-
<b>Sub Total</b>		R	<b>2 712 165.00</b>
<b>Add:</b>	Variation Orders	R	3 254 564.76
<b>Add:</b>	Escalation as per Annexure 1A	R	-
<b>Sub Total</b>		R	<b>5 966 729.76</b>
<b>Less:</b>	10% Retention	R	596 672.98
<b>Less:</b>	Other Deductions	R	-
<b>Sub Total</b>		R	<b>5 370 056.79</b>
<b>Add:</b>	Materials on Site as per Annexure 1B	R	-
<b>Sub Total</b>		R	<b>5 370 056.79</b>
<b>Less:</b>	Penalties as per Annexure 1D	R	-
<b>Sub Total</b>		R	<b>5 370 056.79</b>
<b>Less:</b>	Previous Payment Certificates (excluding VAT)	R	2 440 948.50
<b>Sub Total</b>		R	<b>2 929 108.29</b>
<b>Add:</b>	Value Added Tax (14%)	R	410 075.16
<b>TOTAL NOW DUE</b>		R	<b>3 339 183.45</b>
<b>TOTAL DUE TO WINWATER INCLUDING 14% VAT</b>		R	<b>3 339 183.45</b>



**M.M MORRISON**  
 WINWATER

**R BODE**  
 BOSCH STEMELE



**JAMES KLEYNHANS BULK WATER SUPPLY**  
**AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1**  
**BID NO. AW2010/16/06**  
**SUMMARY OF BILL OF QUANTITIES**

SECTION	DESCRIPTION	TENDERED AMOUNT	TOTAL CERTIFICATE APPROVED	PREVIOUS CERTIFICATE APPROVED	CURRENT MONTH CERTIFICATE
SECTION 1	PRELIMINARY & GENERAL	R 3 590 922.86	R 1 625 125.00		R 1 625 125.00
SECTION 2	DAYWORKS, PROVISIONAL SUMS AND PRIME COST ITEMS	R 11 012 720.00	R 204 540.00		R 204 540.00
SECTION 3	2.0M CLEAR WATER RESERVOIR	R 4 242 101.00	R 403 000.00		R 403 000.00
SECTION 4	BACKWASH TANK	R 1 262 732.00	R -		R -
SECTION 5	SLUDGE LAGOONS	R 3 498 539.00	R 479 500.00		R 479 500.00
SECTION 6	WTW PIPELINES	R 1 494 060.00	R -		R -
SECTION 7	PUMPSTATION	R 1 217 177.00	R -		R -
	NET TOTAL OF TENDER	R 26 318 251.86	R 2 712 165.00		R 2 712 165.00
	ALLOW 10% FOR CONTINGENCIES TO BE EXPENDED AS DIRECTED BY THE ENGINEER AND TO BE DEDUCTED IN WHOLE OR IN PART IF NOT REQUIRED	R 2 631 825.19			R -
	SUBTOTAL	R 28 950 077.05	R 2 712 165.00		R 2 712 165.00
	Allowance for Escalation (8% of Subtotal)	R 2 316 006.16			R -
	Total Including Escalation	R 31 266 083.21	R 2 712 165.00		R 2 712 165.00
	ALLOW 14% VALUE ADDED TAX	R 4 377 251.65	R 379 703.10		R 379 703.10
	TOTAL AMOUNT CARRIED TO FORM OF TENDER	R 35 643 334.86	R 3 091 868.10		R 3 091 868.10

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 1: PRELIMINARY & GENERAL

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
1	SABS 1200A	SECTION 1: PRELIMINARY & GENERAL								
1.1	8.3	FIXED - CHARGE ITEMS								
	PSA 8.3									
1.1.1	8.3.1	Contractual requirements	Sum	1	95000.00	95000.00	0.00	1.00	1.00	95000.00
	PSA 8.4									
	8.3.2	Establishment of facilities on site:								
	8.3.2.1	Facilities for Engineer (SANS 1200AB)								
	PSA 8.2.1									
1.1.2	PSAB 3.2/ PSAB 5.2	Provision of a furnished meeting room and office for the Engineer's Representative (including toilet facilities)	Sum	1	100000.00	100000.00		1.00	1.00	100000.00
1.1.3	PSAB 4.2	Provision of survey equipment	Sum	1	45000.00	45000.00		1.00	1.00	45000.00
1.1.4	PSAB 3.1	Project Name Board, see Drg. 8010/008/069	No.	2	12 500.00	25000.00		1.00	1.00	12500.00
1.1.5	PSAB 5.5 PSAB 8.1	Provision of survey assistants	Sum	1	12000.00	12000.00		1.00	1.00	12000.00
1.1.6	PSAB 8.2.3	Covered Parking (2 bays)	Sum	1	10000.00	10000.00		1.00	1.00	10000.00
1.1.7		All other specified facilities (incl wifi internet connection and printer)	Sum	1	16000.00	16000.00		1.00	1.00	16000.00
	8.3.2.2	Facilities for Contractor								
1.1.8		Offices, storage sheds, fencing, workshops, laboratories, etc.	Sum	1	67500.00	67500.00		1.00	1.00	67500.00
1.1.9		Living accommodation	Sum	1	120000.00	120000.00		1.00	1.00	120000.00
1.1.10		Ablution and latrine facilities	Sum	1	40000.00	40000.00		1.00	1.00	40000.00
1.1.11		Water supplies, electric power and communications.	Sum	1	28000.00	28000.00		1.00	1.00	28000.00
1.1.12	PSA 8.7.6	Dealing with water	Sum	1	20000.00	20000.00		1.00	1.00	20000.00
1.1.13		Access	Sum	1	15000.00	15000.00		1.00	1.00	15000.00
1.1.14		Construction Plant and Transport	Sum	1	150000.00	150000.00		1.00	1.00	150000.00
1.1.10		Tools and equipment	Sum	1	20000.00	20000.00		1.00	1.00	20000.00
1.1.16	8.3.4	Remove all site establishment on completion	Sum	1	50000.00	50000.00		0.00	0.00	0.00
1.1.17	8.3.3 PSA 8.2.0	General responsibilities and other fixed charge obligations (incl. making allowance for effects and payments taking up to 60 days from date of invoice)	Sum	1	80000.00	80000.00		1.00	1.00	80000.00
		Payment Guarantee								
1.1.18		The Contractor shall allow for all costs to provide a payment guarantee to the value of R10million to ensure that up front payment to the Contractor can be made to the value of R10million in order to meet expenditure. As the works progresses will the interim payments be deducted.	Sum	1	50000.00	50000.00		0.00	0.00	0.00
		Section 1 Carried Forward				943500.00				831000.00

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 1: PRELIMINARY & GENERAL

SCHEDULE OF QUANTITIES

Item No.	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 1 Brought Forward</b>						<b>943600.00</b>				<b>831000.00</b>
	PSA 8.8 Spec PH	<b>OH&amp;S Requirements (Fixed charges)</b>								
1.1.19		The sum shall cover all preparation of risk assessments, safe work procedures, the project H&S File, the H&S Plan, medicals for all workers, the provision of PPE and protective clothing, including hazards and potential hazard identification, Standard Working Procedures, and Method Statements and all other costs necessary in complying generally with the Occupational Health and Safety Act 85 of 1993, (as amended), the Construction Regulations 2014 and the Particular Safety Specification	Sum	1	125000.00	125000.00		1.00	1.00	125000.00
1.1.20		Completing and checking the Project H&S File and handing over to Client on completion of the works and exit medicals for all workers.	Sum	1	22000.00	22000.00		0.50	0.50	11000.00
		<b>HIV/AIDS Awareness</b> Refer to SANS 1821-8 and PS-6.1								
1.1.21		Conduct HIV/AIDS awareness programme workshops on site for not less than 90% of the workers inclusive of all direct and indirect costs (at least once every 4 months)	No.	2	15 000.00	30000.00		0.00	0.00	0.00
1.1.22		Provide and maintain condom dispenser	No.	1	3 500.00	3500.00		0.00	0.00	0.00
1.1.23		Provide and maintain HIV/AIDS awareness posters	No.	1	5 000.00	5000.00		0.00	0.00	0.00
1.1.24		Provide information regarding the voluntary testing of construction workers, counselling, support and care in a monthly report	Sum	1	5000.00	5000.00		0.00	0.00	0.00
	PSA8.10	<b>Environmental Management</b>								
1.1.25		The sum shall cover the cost of all activities necessary to comply with section C4.6 of the Environmental Management Particular Specification, and Environmental Management Plan, which incorporates the ROD requirements for the Project, which have not been included in the tendered rates for the scheduled items allowed elsewhere in the bill of quantities	Sum	1	85000.00	85000.00		1.00	1.00	85000.00
1.1.26		Extra over Item 1.1.25 for the appointment of a Specialist selected Sub-Contractor, to carry out at least 25% of the environmental rehabilitation work.	Sum	1	15000.00	15000.00			0.00	0.00
<b>Section 1 Carried Forward</b>						<b>1234000.00</b>				<b>1052000.00</b>

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 1: PRELIMINARY & GENERAL

SCHEDULE OF QUANTITIES

Item No.	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 1 Brought Forward</b>						<b>1234000.00</b>				<b>1052000.00</b>
1.2	SABS 1200A	<b>TIME RELATED ITEMS</b>								
1.2.1	PSA 8.4	Contractual Requirements	Weeks	40	11 800.00	472000.00		10.00	10.00	118000.00
	8.4.2	Operate and maintain facilities on Site								
	8.4.2.1	<u>Facilities for Engineer for duration of contract (SABS 1200AB)</u>								
1.2.2	PSAB 3.2	Provision of meeting room and office for the Engineer's Representative including toilet facilities as per PSAB 5.2	Weeks	40	2 500.00	100000.00		10.00	10.00	25000.00
1.2.3	PSAB 4.2	Provision of survey equipment	Weeks	40	500.00	20000.00		10.00	10.00	5000.00
1.2.4	PSAB 5.5	Provision of 2 No survey assistants	Weeks	40	4 400.00	176000.00		10.00	10.00	44000.00
	8.4.2.2	<u>Facilities for Contractor for the duration of the Contract</u>								
1.2.5	8.4.4	Company and head office overhead costs for the duration of the contract	Weeks	40	15 000.00	600000.00		10.00	10.00	150000.00
1.2.6		Offices, storage sheds, fencing, workshops, laboratories, plant, transport, etc.	Weeks	40	1 000.00	40000.00		10.00	10.00	10000.00
1.2.7		Ablution and latrine facilities	Weeks	40	100.00	4000.00		10.00	10.00	1000.00
1.2.8		Water supplies, electric power and communications.	Weeks	40	150.00	6000.00		10.00	10.00	1500.00
1.2.9		Dealing with water	Weeks	40	250.00	10000.00		10.00	10.00	2500.00
1.2.10		Access	Weeks	40	250.00	10000.00		10.00	10.00	2500.00
1.2.11		Tools and equipment	Weeks	40	200.00	8000.00		10.00	10.00	2000.00
1.2.12		Security	Weeks	40	4 000.00	160000.00		10.00	10.00	40000.00
1.2.13		Supervision	Weeks	40	11 250.00	450000.00		10.00	10.00	112500.00
1.2.14	8.4.5 PSAB 8.2.1	General responsibilities and other time related obligations (incl. making allowance for effects and payments taking up to 60 days from date of invoice)	Weeks	40	500.00	20000.00		10.00	10.00	5000.00
	PSA 8.17	<b>Permits and Wayleaves</b>								
1.2.10		Provision of any permits and wayleaves	Sum	1	5000.00	5000.00			0.00	0.00
<b>Section 1 Carried Forward</b>						<b>3315000.00</b>				<b>1571000.00</b>

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 1: PRELIMINARY & GENERAL

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 1 Brought Forward</b>						<b>3315000,00</b>				<b>1571000,00</b>
PS11.3 SPA 8.8		<b>OH&amp;S Requirements (Time charges)</b>								
1.2.10	Spec PH	Updating and amending the risk assessments, safe work procedures, the project H&S File, the H&S Plan, medicals for all workers, the provision of PPE and protective clothing, including hazards and potential hazard identification, Standard Working Procedures, and Method Statements and all other costs necessary in complying generally with the Occupational Health and Safety Act 85 of 1993, (as amended), the Construction Regulations 2014 and the Particular Safety Specification	Weeks	40	1 000,00	40000,00		10,00	10,00	10000,00
1.2.16		Full compliance and checking the Project H&S File during construction of the works under the Contract.	Weeks	40	500,00	20000,00		10,00	10,00	5000,00
1.2.17		The sum shall cover all activities necessary in complying with the requirements of the Health and Safety Specification in terms of Training as the Work proceeds	Weeks	40	500,00	20000,00			0,00	0,00
1.2.18		The sum shall cover all activities necessary in complying with the requirements of the Health and Safety Specification in terms of Monitoring and Review as the Work proceeds	Weeks	40	500,00	20000,00			0,00	0,00
1.3	8.7 PSA 8.7	<b>TEMPORARY WORKS</b>								
1.3.1	8.8.1	Access to works including all temporary roads, excavations and ramps, etc.	Sum	1	10000,00	10000,00		0,25	0,25	2500,00
1.3.2	8.8.2	Dealing with traffic or accommodation of traffic and erecting signage (also refer to SANS 1921-2)	Sum	1	45000,00	45000,00		0,25	0,25	11250,00
1.3.3	PSA 8.8.6	Dealing with water	Sum	1,0	20000,0	20000,00		0,25	0,25	5000,00
1.3.4		Dealing with Public	Sum	1,0	1500,0	1500,00		0,25	0,25	375,00
1.3.5	8.7.4	Dealing with existing infrastructure	Sum	1,0	20000,0	20000,00		0,25	0,25	5000,00
1.3.6	PSA 8.18	Barricading of Trenches	Sum	1,0	60000,0	60000,00		0,25	0,25	15000,00
1.3.7		Equipment supplied for testing and disinfection of structures and pipelines from existing infrastructure, including transportation costs (Prov.)	Sum	1	9422,86	9422,86		0,00	0,00	0,00
1.3.8		Allow for the attendance of other Contractors within the parameters of the site	Sum	1,0	10000,0	10000,00		0,00	0,00	0,00
<b>Total Section 1 Carried to Summary</b>						<b>3590922,86</b>				<b>1625125,00</b>

**JAMES KLEYNHANS BULK WATER SUPPLY**  
**AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1**  
**BID NO. AW2010/16/06**

**Varations**

RELATIVE VO NO	DESCRIPTION	REFERENCE DOCUMENTS (Copies of Invoices / Delivery Notes)
VO1	Payment to ESKOM for Point of Supply	Variation Order 1

**PAYMENT CERTIFICATE 1**

<b>UNIT</b>	<b>Variation Value</b>	<b>Profit</b>	<b>Total Value</b>
Sum	2 958 695.24	295 869.52	3 254 564.76

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount	
2	SABS 1200A 8.7	<b>DAYWORKS</b>  <b>Labour</b>									
2.1	PSA 8.6										
2.1.1	8.5 (a, b1)		Allow for total remuneration paid to workers	Prov Sum	-	0.00	R 100 000.00				R 0.00
2.1.2	PSA 8.5		Overheads, charges and profit on 2.1.1 above	%	R 100 000.0	10.00	R 10 000.00				R 0.00
2.1.3			Team Leader / charge hand	hr	10	36	R 360.00				R 0.00
2.1.4			Artisan	hr	10	36.00	R 360.00				R 0.00
2.1.5			Skilled	hr	20	31.00	R 620.00				R 0.00
2.1.6			Semi-skilled	hr	30	31.00	R 930.00				R 0.00
2.1.7			Unskilled	hr	50	29.00	R 1 450.00				R 0.00
			<b>Materials</b>								
2.1.8	8.5 (a, b1)		Net cost of goods or materials	Prov Sum	-	0.00	R 200 000.00		0	0	R 0.00
2.1.9	PSA 8.5		Overheads, charges and profit on 2.1.8 above	%	R 200 000.00	10.00	R 20 000.00		0	0	R 0.00
			<b>Contractors own Plant</b>								
2.1.10	8.5 (a, b1)		Allow for all-inclusive cost of using Contractor's own plant on site.	Prov Sum	-	0.0	R 100 000.00		0	0	R 0.00
			<b>Plant hired by the Contractor</b>								
2.1.11	8.5 (b.1)		Net cost of hired plant	Prov Sum	-	0.0	R 100 000.00		0	0	R 0.00
2.1.12	PSA 8.5		Overheads, charges and profit on 2.1.11 above	%	R 100 000.00	10.00	R 10 000.00		0	0	R 0.00
2.2	8.5 PSA 8.5	<b>SUMS STATED PROVISIONALLY BY THE ENGINEER</b>									
		<b>Mechanical &amp; Electrical</b>									
2.2.1	8.5 (a, b1)	Provisional sum for work to be undertaken by Mechanical & Electrical Sub-Contractors	Prov Sum	-	0.00	R 8 000 000.00		0	0	R 0.00	
2.2.2		Overheads, charges and profit on 2.2.1 above	%	R 8 000 000	10.00	R 800 000.00		0	0	R 0.00	
		<b>Engineer</b>									
2.2.3		Cellphone allowance for the Engineers Representative and their assistant for the duration of the contract (R700 pm)	Prov Sum	-	0.00	R 7 000.00		3	3	R 2 100.00	
2.2.4		Overheads, charges and profit on 2.2.3 above	%	R 7 000.00	10.00	R 700.00		3	3	R 210.00	
2.2.5		Transportation for the Engineers Rep. for the duration of the contract (R18,000 pm)	Prov Sum	-	0.00	R 180 000.00		3	3	R 54 000.00	
2.2.6		Overheads, charges and profit on 2.2.5 above	%	R 180 000.00	10.00	R 18 000.00		3	3	R 16 200.00	
<b>Section 2 Carried Forward</b>						<b>9 549 420.00</b>				<b>72 510.00</b>	
<b>Section 2 Brought Forward</b>						<b>9 549 420.00</b>				<b>146 020.00</b>	
2.2.7		Accommodation for the Engineers Representative and their assistant for the duration of the contract (R12,000 pm)	Prov Sum	-	0.00	R 120 000.00		3	3	R 36 000.00	
2.2.8		Overheads, charges and profit on 2.2.7 above	%	R 120 000.00	10.00	R 12 000.00		R 3.00	3	R 10 800.00	
2.2.9		Equipment for the Engineers Representative and their assistant for the duration of the contract	Prov Sum	-	0	R 0.00			0	R 0.00	
2.2.10		Overheads, charges and profit on 2.2.9 above	%	R 0.00	10.00	R -			0	R 0.00	
		<b>Survey</b>									
2.2.11		Ad-hoc topographical survey as requested by the Engineer during the contract	Prov Sum	-	-	R 30 000.00			0	0	
2.2.12		Overheads, charges and profit on 2.2.11 above	%	R 30 000.00	10.00	R 3 000.00			0	R 0.00	
		<b>Community Liason Officer and consultant</b>									
2.2.13	Spec PG	Employment of the CLO for duration of contract who shall be appointed by the Contractor and shall report to the Engineer and the Client (R5000 pm plus R300 pm cellphone allowance)	Prov Sum	-	0.00	R 53 000.00		2	2	R 10 600.00	
2.2.14		Overheads, charges and profit on 2.2.13 above	%	R 53 000.00	10.00	R 5 300.00		2	2	R 2 120.00	
2.2.10		Employment of a social consultant for duration of contract	Prov Sum	-	0.00	R 100 000.00			0	R 0.00	
2.2.16		Overheads, charges and profit on 2.2.10 above	%	R 100 000.00	10.00	R 10 000.00			0	R 0.00	



Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
2.2.17	PSA 8.8 PSA 8.10	<b>Environmental &amp; OH&amp;S Officers</b> Cost of an Environmental Compliance Officer (R16,000 pm)	Prov Sum	-	0.00	R 160 000.00			0	R 0.00
2.2.18		Overheads, charges and profit on 2.2.17 above	%	R 160 000.00	10.00	R 16 000.00			0	R 0.00
2.2.19		Cost of Employers OH&S representative	Prov Sum	-	0.00	R 100 000.00			0	R 0.00
2.2.20		Overheads, charges and profit on 2.2.19 above	%	R 100 000.00	10.00	R 10 000.00			0	R 0.00
2.2.21	PSA 8.12 PSA 8.13	<b>Training</b> Allowance for training of local unskilled labour	Prov Sum	-	0.00	R 100 000.00			0	R 0.00
2.2.22		Overheads, charges and profit on 2.2.21 above	%	R 100 000.00	10.00	R 10 000.00			0	R 0.00
2.2.23	PSA 8.14	Allowance for transport	Prov Sum	-	0.00	R 100 000.00			0	R 0.00
2.2.24		Overheads, charges and profit on 2.2.23 above	%	R 100 000.00	10.00	R 10 000.00			0	R 0.00
<b>Section 2 Carried Forward</b>						<b>10 388 720.00</b>				<b>204 540.00</b>
<b>Section 2 Brought Forward</b>						<b>10 388 720.00</b>				<b>204 540.00</b>
	Spec PC	<b>Re-vegetation</b>								
2.2.25		Re-vegetation of the site	Prov Sum	-	0.00	R 70 000.00			0	R 0.00
2.2.26		Overheads, charges and profit on 2.2.25 above	%	R 70 000.00	10.00	R 7 000.00			0	R 0.00
		<b>Pipework</b>								
2.2.27		Connection to existing / proposed pipework	Prov Sum	-	0.00	R 250 000.00			0	R 0.00
2.2.28		Overheads, charges and profit on 2.2.27 above	%	R 250 000.00	10.00	R 25 000.00			0	R 0.00
		<b>Control Testing</b>								
2.2.29	PSA 8.5	Acceptance Control Testing	Prov Sum	-	0.00	R 100 000.00			0	R 0.00
2.2.30	8.5 (b)	Overheads, charges and profit on 2.2.29 above	%	R 100 000.00	10.00	R 10 000.00			0	R 0.00
		<b>Work performed by Authorities</b>								
2.2.31	PSA 8.9	Provisional sum for work undertaken by Telkom	Prov Sum	-	0.00	R 10 000.00			0	R 0.00
2.2.32		Overheads, charges and profit on 2.2.31 above	%	R 10 000.00	10.00	R 1 000.00			0	R 0.00
2.2.33	PSA 8.11	Provision sum for work undertaken by Makana Electrical Department	Prov Sum	-	0.00	R 10 000.00			0	R 0.00
2.2.34		Overheads, charges and profit on 2.2.31 above	%	R 10 000.00	10.00	R 1 000.00			0	R 0.00
2.2.35	PSA 8.12	Provision sum for work undertaken by Makana LM Water Department	Prov Sum	-	0.00	R 10 000.00			0	R 0.00
2.2.36		Overheads, charges and profit on 2.2.35 above	%	R 10 000.00	10.00	R -			0	R 0.00
2.2.37	PSA 8.10	Provision sum for work undertaken by Eskom	Prov Sum	-	0.00	R 20 000.00			0	R 0.00
2.2.38		Overheads, charges and profit on 2.2.37 above	%	R 20 000.00	10.00	R 2 000.00			0	R 0.00
2.3	PSA 8.4.7	<b>MISCELLANEOUS</b>								
2.3.1		General Signage, as per the Engineer's instructions (Prov)	Prov Sum	-	0.00	R 65 000.00			0	R 0.00
2.3.2		Overheads, charges and profit on 2.3.1 above	%	R 10 000.00	10.00	R 1 000.00			0	R 0.00
2.3.3		Transport of water for testing and disinfection from river/existing reservoirs, where ordered by the Engineer	kl.km	4000	5.00	20 000.00			0	R 0.00
2.3.4		Provisional Sum for purchasing water for testing and disinfection.	Prov Sum	-	0.00	R 20 000.00			0	R 0.00
2.3.5		Overheads, charges and profit on 2.3.4 above	%	R 20 000.00	10.00	R 2 000.00			0	R 0.00
<b>Total Section 2 Carried to Summary</b>						<b>11 012 720.00</b>				<b>204 540.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
3.1	SABS 1200 C 8.2.1	<b>SECTION 3: 2.0M<sup>3</sup> CLEAR WATER RESERVOIR</b> Refer to Drg. No. 8010/006/036 & 037								
3.1.1	PSC8.1 1200 D	<b>SITE CLEARANCE</b> Clear site including trees of 1 m girth and boulders and dispose	m <sup>2</sup>	750	8	6000		750	750	6000
3.1.2	8.3.1.2	Remove topsoil to nominal depth of 100 mm, stockpile, maintain and place on embankment	m <sup>2</sup>	570	10	5700		570	570	5700
3.2	SABS 1200D 8.3.2(b) PSD 8.5 PSD 8.6	<b>EXCAVATION</b> Excavate to level in all materials and stockpile and maintain suitable material for future use for backfill or dispose as specified. Rate to include for selective removal of unsuitable material and compaction of base to 93% MOD AASHTO and allow at least 1000mm working space around structure.	m <sup>3</sup>	3200	65.00	208 000.00		3200	3200	208000
3.2.2	8.3.2 (b2)	Extra over item 3.2.1 for excavation in hard rock material.	m <sup>3</sup>	800	200.00	160 000.00		800	800	160000
3.2.3		Backfill to structures from existing stockpile in 200mm compacted layers to 95% MOD ASSHTO using material from stockpile on site as directed by the Engineer	m <sup>3</sup>	180	35.00	6 300.00		180	180	6300
3.2.4	8.3.3(a)	Restricted for wall and column footings, inlet/outlet control chamber, etc., including 600 mm working space, to stockpile	m <sup>3</sup>	165	45	7 425.00			0	0
3.2.5	8.3.3(b)	Extra-over item 3.2.4 for excavation in rock	m <sup>3</sup>	40	200	8 000.00		40	40	8000
3.2.6		Remove unsuitable materials (Provisional)	m <sup>3</sup>	200	45	9 000.00		200	200	9000
3.2.7		Replace unsuitable materials with mix 10MPa/20 mass concrete (Prov)	m <sup>3</sup>	15	1100	16 500.00			0	0
3.2.8		Disposal of material from stockpile to designated municipal disposal sites	m <sup>3</sup>	1500	5	7 500.00			0	0
3.2.9	PSD 8.2	Topsoiling of banks 100mm thick	m <sup>2</sup>	350	30	10 500.00			0	0
3.2.10	Spec PC	Planting of suitable local grass & fertilizer to embankments and maintain for 3 months	m <sup>2</sup>	350	35	12 250.00			0	0
3.3	SABS 1200G 8.4.2	<b>CONCRETE</b> Grade 10MPa concrete in 75mm thick layer as blinding:								
3.3.1	PSG 8.2	Horizontal surface	m <sup>2</sup>	650	119.00	77 350.00			0	0
3.3.2		Sloping surface	m <sup>2</sup>	110	119.00	13 090.00			0	0
3.3.3	8.4.3	Strength concrete mix 10 MPa/20 mm to mass concrete where ordered by Engineer (Provisional)	m <sup>3</sup>	20	1200	24 000.00			0	0
<b>Section 3 Carried Forward</b>						<b>571 615.00</b>				<b>403 000.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 3 Brought Forward</b>						<b>571 615.00</b>				<b>403 000.00</b>
3.3.4	8.4.3 PSG 8.1.3.3	Grade 35 MPa concrete to the following elements: Floor and wall kickers	m <sup>3</sup>	132	1800	237 600.00			0	0
3.3.5		Columns Base	m <sup>3</sup>	20	1800	36 000.00			0	0
3.3.6		Columns incl. column head	m <sup>3</sup>	20	1800	36 000.00			0	0
3.3.7		Walls	m <sup>3</sup>	150	1800	270 000.00			0	0
3.3.8		Roof slab	m <sup>3</sup>	135	1800	243 000.00			0	0
3.3.9		Roof slab upstand	m <sup>3</sup>	5	1800	9 000.00			0	0
3.3.10		Inlet/outlet encasement under reservoir	m <sup>3</sup>	5	1800	9 000.00			0	0
3.3.11		Floor of inlet/outlet chambers	m <sup>3</sup>	11	1800	19 800.00			0	0
3.3.12		Inlet/outlet chambers encasement of pipes	m <sup>3</sup>	3	1800	5 400.00			0	0
3.3.13		Roof of inlet/outlet chambers	m <sup>3</sup>	5	1800	9 000.00			0	0
3.3.14		Walls of inlet/outlet chambers	m <sup>3</sup>	23	1800	41 400.00			0	0
3.3.10	8.7	Grouting Grouting in of box out for pipe opening of area up to 0,7m <sup>2</sup> for a depth not exceeding 0,35m	N <sup>o</sup>	12	65.00	780.00			0	0
3.4	SABS 1200G PSG 8.9	<b>FORMWORK</b>								
3.4.1	8.2.1	Rough shuttering :								
3.4.1.1	8.2.5	Narrow widths (400 mm) to wall footing edge, external	m	120	45	5 400.00			0	0
3.4.1.2	8.2.5	Narrow widths (200 mm) to inlet/outlet chamber floor edges	m	30	45	1 350.00			0	0
3.4.2	8.2.2	Smooth shuttering:								
3.4.2.1		a) To kickers for walls 100mm high and column kickers	m <sup>2</sup>	35	300	10 500.00			0	0
3.4.2.2	8.2.5	b) To outer face of roof slab 100mm high	m <sup>2</sup>	20	283.00	5 660.00			0	0
3.4.2.3		c) Vertical to internal and external wall, rectangular	m <sup>2</sup>	1100	283.00	311 300.00			0	0
3.4.2.4		d) Vertical to columns	m <sup>2</sup>	85	283.00	24 055.00			0	0
3.4.2.5		e) Horizontal to roof soffit	m <sup>2</sup>	610	283.00	172 630.00			0	0
3.4.2.6		f) To form sloping sides of column head	m <sup>2</sup>	20	283.00	5 660.00			0	0
3.4.2.7		g) Roof slab upstand	m <sup>2</sup>	40	283.00	11 320.00			0	0
<b>Section 3 Carried Forward</b>						<b>2 036 470.00</b>				<b>403 000.00</b>
<b>Section 3 Brought Forward</b>						<b>2 036 470.00</b>				<b>403 000.00</b>
3.4.2.8		h) Horizontal to soffit of roof of inlet/outlet control chambers	m <sup>2</sup>	25	283.00	7 075.00			0	0
3.4.2.9		i) Vertical to form scour channel	m <sup>2</sup>	3	283.00	849.00			0	0
3.4.2.10		j) Concrete support blocks	m <sup>2</sup>	5	283.00	1 415.00			0	0
3.4.2.11	SABS 1200 G	k) Narrow width (100 mm) to roof of inlet/outlet chamber	m	30	95.00	2 850.00			0	0
3.4.2.12	8.2.2	l) Narrow width (100 mm) vertical to valve support upstands	m	5	95.00	475.00			0	0
3.4.2.13		m) 25 x 25mm Chamfer	m	550	95.00	52 250.00			0	0
3.4.2.14	8.2.6	Box outs holes / form voids: Small circular of dia. up to and incl. 0.35m <u>Over</u> and <u>up to and Incl.</u> 0.0m to 0.5m deep	N <sup>o</sup>	12	78.00	936.00			0	0
	8.2.6	Box outs holes / form voids: (Refer to Dwg GN 488) Openings for items supplied for areas 0.1m <sup>2</sup> - 0,5 m <sup>2</sup> for depths: <u>Over</u> and <u>up to and Incl.</u>								

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
3.4.2.10		0.1 m to 0.5m deep	N <sup>o</sup>	12	80.00	960.00			0	0
3.4.3	8.4.4	<b>Unformed Surface Finishes:</b>								
		Steel Float Finish								
3.4.3.1		a) Screed on reservoir floor (10 - 100mm)	m <sup>2</sup>	610	35.00	21 350.00			0	0
3.4.3.2		b) Screed on inlet chamber	m <sup>2</sup>	14	35.00	490.00			0	0
3.4.3.3		c) Screed on outlet chamber	m <sup>2</sup>	12	35.00	420.00			0	0
3.4.3.4		d) To top roof	m <sup>2</sup>	640	35.00	172 630.00			0	0
3.4.3.5		e) To top of floor slab	m <sup>2</sup>	640	35.00	5 660.00			0	0
3.4.3.6		f) To top of wall	m <sup>2</sup>	35	35.00	11 320.00			0	0
3.4.3.7		g) To roof slab upstand	m <sup>2</sup>	18	35.00	630.00			0	0
3.4.3.8		h) To roof and floor of inlet/outlet chambers	m <sup>2</sup>	50	35.00	1 750.00			0	0
	8.4.4	Wood Float Finish								
3.4.3.9		i) Blinding layer under floor	m <sup>2</sup>	760	24.00	18 240.00			0	0
<b>Section 3 Carried Forward</b>						<b>2 335 770.00</b>				<b>403 000.00</b>
<b>Section 3 Brought Forward</b>						<b>2 335 770.00</b>				<b>403 000.00</b>
3.5	PSG 8.1	<b>REINFORCEMENT</b>								
	8.1.2	Supply, cut, bend and fix high tensile steel reinforcement								
3.5.1	8.3.1	High tensile steel bars all diameters	t	50	10 000.00	500 000.00			0	0
3.5.2	8.3.1	Mild steel bars all diameters	t	5	10 000.00	50 000.00			0	0
		High tensile steel welded mesh (Ref. 617)	m <sup>2</sup>	200	67.00	13 400.00			0	0
3.6	8.5	<b>JOINTS</b>								
	PSG 8.5									
	PSG 8.8									
3.6.1		Bond breaker, 250 micron DPC, on top of blinding layer	m <sup>2</sup>	760	35	26 600.00			0	0
3.6.2		Horizontal construction joints in wall panels at Kicker in accordance with 5.5.7.3 of SABS 1200G including for 100mm bandage type sealant on internal face (Sikadur combiflex or similar approved) Refer to Dwg 8010/006/042 (C.)	m	115	121.00	13 915.00			0	0
3.6.3		Horizontal construction joints between wall and roof slab in accordance with sub-clause 5.5.7.3 of SABS 1200G	m	115	121.00	13 915.00			0	0
3.6.4		Horizontal construction joints in column at kicker in accordance with 5.5.7.3 of SABS 1200G	N <sup>o</sup>	18	130	2 340.00			0	0
3.6.5		Horizontal construction joints between top of column head and unerside of roof in accordance with 5.5.7.3 of SABS 1200G	N <sup>o</sup>	18	130	2 340.00			0	0
3.6.6		Wall joint (PWJ) (Dwg 8010/006/042)	m	80	250	20 000.00			0	0
3.6.7		Floor joint (PFJ) (Dwg 8010/006/042)	m	170	250	42 500.00			0	0
3.6.8		Roof joint (RJ) (Dwg 8010/006/042)	m	60	250	15 000.00			0	0
3.7	SABS 1200L Spec PA Spec PB	<b>PIPEWORK SPECIALS &amp; FITTINGS</b>								
		Supply, deliver, install, handle, lay, bed, joint, test, disinfect, etc. as appropriate. Flexible pipe bedding as necessary								
	8.2.1	Unless otherwise specified all steel pipes and specials in this sections hall be Grade B SABS 719, with a wall thickness of 6,5mm. All pipes and fittings to have an internal and external coating of 'Rilsan' 350µm <ul style="list-style-type: none"> <li>• Flanges to Table 1000/3 SABS 1123 unless otherwise specified</li> <li>• Rates to include for 'denso-wrapping' buried bolted connections to specifications</li> <li>• Rates to include for casting into concrete where applicable</li> <li>• Puddle pipes to be tape wrapped to specifications</li> </ul>								
<b>Section 3 Carried Forward</b>						<b>3 035 780.00</b>				<b>403 000.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 3 Brought Forward</b>						<b>3 035 780.00</b>				<b>403 000.00</b>
3.7.1		<b>Reservoir Outlet Pipework (Dwg 8010/006/039)</b>								
3.7.1.1		Item A1: 600mm Ø S.S. pipe PE 770mm long with puddle flange. Puddle flange located 100mm from one end.	N <sup>o</sup>	1	19 000.00	19 000.00			0	0
3.7.1.2		Item A2: 600mm Ø Double eccentric flanged butterfly valve PN10	N <sup>o</sup>	1	60 000.00	60 000.00			0	0
3.7.1.3		Item A3: 600mm Ø Flexible flange adaptor	N <sup>o</sup>	1	6 663.00	6 663.00			0	0
3.7.1.4		Item A4: 600mm Ø Steel pipe FOE ±1725mm long with puddle flange. Puddle flange located ±625mm from flanged end.	N <sup>o</sup>	1	19 000.00	19 000.00			0	0
3.7.1.5		Item A5: 600mm Steel equal tee FBE, with blank off flange one end	N <sup>o</sup>	1	41 500.00	41 500.00			0	0
3.7.1.6		Item A6: 600mm Ø Insulation gaskets and bolt sleeves between S.S & M.S	N <sup>o</sup>	1	0.00	0.00			0	0
3.7.2		<b>Overflow Pipework (Dwg 8010/006/039)</b>								
3.7.2.1		Item B1: 350mm Ø x 90° S.S segmented bend, FOE, with 160mm spool piece on non flanged end. Puddle collar 100mm from flanged end, on a straight piece.	N <sup>o</sup>	1	23 327.00	23 327.00			0	0
3.7.2.2		Item B2: 350mm Ø S.S. Spool pipe FOE ±1493mm long with a 350 x 450mmØ bellmouth at non flanged end.	N <sup>o</sup>	1	25 826.00	25 826.00			0	0
3.7.2.3		Item B3: 350mm Ø S.S. pipe support brackets	N <sup>o</sup>	2	711.00	1 422.00			0	0
3.7.3		<b>Scour Pipework (Dwg 8010/006/039)</b>								
3.7.3.1		Item C1: 250mm Ø RSV gate valve PN16	N <sup>o</sup>	1	10 500.00	10 500.00			0	0
3.7.3.2		Item C2: 250mm Ø S.S spool pipe ±2610mm long FOE with a Segmented bend on the non flanged end, and a puddle collar ±450mm	N <sup>o</sup>	1	20 000.00	20 000.00			0	0
3.7.3.3		Item C3: 250mm Ø Insulation gaskets and bolt sleeves between S.S & M.S	N <sup>o</sup>	1	563.00	563.00			0	0
<b>Section 3 Carried Forward</b>						<b>3 263 581.00</b>				<b>403 000.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 3 Brought Forward</b>						<b>3 263 581.00</b>				<b>403 000.00</b>
3.7.4		<b>Inlet Pipework (Dwg 8010/006/038)</b>								
3.7.4.1		Item D1: 350mm Ø S.S spool piece ±2550mm long FOE, with 350 x 535mm Ø bellmouth welded to non-flanged end	N <sup>o</sup>	1	24 422.00	24 422.00			0	0
3.7.4.2		Item D2: 350mm Ø S.S 90° Bend	N <sup>o</sup>	1	19 900.00	19 900.00			0	0
3.7.4.3		Item D3: 350mm Ø Steel puddle pipe ±868mm long FBE, puddle flange located ±288mm from one end	N <sup>o</sup>	1	0.00	0.00			0	0
3.7.4.4		Item D4: 350mm Ø steel pipe ±983mm long FBE	N <sup>o</sup>	1	0.00	0.00			0	0
3.7.4.5		Item D5: 350 x 600mm Ø steel reducer FBE	N <sup>o</sup>	1	16 966.00	16 966.00			0	0
3.7.4.6		Item D6: 600mm Ø Flanged butterfly valve	N <sup>o</sup>	1	60 000.00	60 000.00			0	0
3.7.4.7		Item D7: 600mm Ø VJ Flexible Flange adaptor	N <sup>o</sup>	2	6 500.00	13 000.00			0	0
3.7.4.8		Item D8: 600mm Ø Steel puddle pipe ±1925mm long FOE, puddle flange located ±400mm from one end	N <sup>o</sup>	1	12 450.00	12 450.00			0	0
3.7.4.9		Item D9: 350mm Ø insulation gaskets and bolt sleeves between S.S & M.S	N <sup>o</sup>	1	3 327.00	3 327.00			0	0
3.7.4.10		Item D10: 350mm Ø Steel 90° Bend	N <sup>o</sup>	2	6 764.00	13 528.00			0	0
3.7.4		<b>Overflow/Scour/Drain Discharge Pipework (Dwg 8010/006/038)</b>								
3.7.4.1		Item E1: 250mm Ø Steel spool piece ±800mm long FOE, with puddle flange ±125mm from PE	N <sup>o</sup>	1	3 553.00	3 553.00			0	0
3.7.4.2		Item E2: 250mm Ø Steel medium radius 45° Bend	N <sup>o</sup>	1	2 440.00	2 440.00			0	0
3.7.4.3		Item E3: 250mm Ø SG flange adaptor	N <sup>o</sup>	1	1 284.00	1 284.00			0	0
3.8	PSA 8.4.7	<b>MISCELLANEOUS</b>								
3.8.1		Supply and install access ladders as detailed on Drg. No. 8010/006/041								
3.8.1.1		a) Reservoir - Internal ladder complete in Grade 316 stainless steel	N <sup>o</sup>	2	23 000.00	46 000.00			0	0
<b>Section 3 Carried Forward</b>						<b>3 480 451.00</b>				<b>403 000.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 3 Brought Forward</b>						<b>3 480 451.00</b>				<b>403 000.00</b>
3.8.1.2		a) Reservoir - Internal ladder complete in Fibre Reinforced Plastic (FRP)	Nº	2	9 000.00	Rate only			0	0
3.8.1.3		b) Reservoir - Outlet chamber internal ladder complete in Grade 316 stainless steel	Nº	1	22 500.00	22 500.00			0	0
3.8.1.4		b) Reservoir - Outlet chamber internal ladder complete in FRP	Nº	1	2 990.00	Rate only			0	0
3.8.1.5		c) Reservoir - Inlet chamber internal ladder complete in Grade 316 stainless steel	Nº	1	0.00	0.00			0	0
3.8.1.6		c) Reservoir - Inlet chamber internal ladder complete in FRP	Nº	1	2 990.00	Rate only			0	0
3.8.2		Supply and install one pair of 100mm Ø galvanised steel air vents as detailed on Dwg 8010/006/040	Nº	6	0.00	0.00			0	0
3.8.3		Supply and install hot dip galvanised lockable manhole cover and frame to access openings, rate includes for all fixings, locks, etc:								
3.8.3.1		b) 700 x 700mm Dwg 8010/006/064	Nº	3	4 874.00	14 622.00			0	0
3.8.3.2		b) 900 x 1200mm Dwg 8010/006/061, 62, 63	Nº	2	8 814.00	17 628.00			0	0
3.8.4		Form falls to floor of chambers and sump and drain channel at edge of floor in mix 1:3 cement mortar	Nº	4	100.00	400.00			0	0
3.9		<b>WATER TIGHTNESS TESTING (PSG 5.24)</b>								
3.9.1		a) Clear water reservoir	Sum	-	0	5 000.00			0	0
3.9.2		b) Water tightness testing of reservoir roof	Sum	-	0	5 000.00			0	0
3.9.3		c) Inlet control chamber and roof	Sum	-	0	5 000.00			0	0
3.9.4		d) Outlet control chamber and roof	Sum	-	0	5 000.00			0	0
3.10		<b>STERILISATION (PSG 5.26)</b>								
3.10.1		a) Clear water reservoir	Sum	-	0	3000			0	0
3.10.2		b) Inlet chamber	Sum	-	0	3000			0	0
3.10.2		c) Outlet chamber	Sum	-	0	3000			0	0
3.10.3		Supply and install ultrasonic "Water Level Transmitter" or similar approved, as per specifications	Nº	1	76911	76 911.00			0	0
<b>Section 3 Carried Forward</b>						<b>3 841 512.00</b>				<b>403 000.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 3 Brought Forward</b>						<b>3 641 512.00</b>				<b>403 000.00</b>
3.11		<b>INSULATION (PSG 5.25)</b>								
3.11.1		Derbigum SP4 waterproofing membrane, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion' finished with two coats bituminous aluminium paint. The waterproofing membrane to be installed to the entire roof slab and up and on top of the up-stand. Waterproofing to be installed by an Approved Derbigum Contractor under a ten year guarantee.	m <sup>2</sup>	650	150.00	97 500.00			0	0
3.11.2		Apply "Conseal" or similar approved concrete coating to internal and external concrete finishes as directed by Engineer	m <sup>2</sup>	1700	55.00	93 500.00			0	0
3.11.3		75mm Layer of 19mm washed stone	m <sup>2</sup>	650	300.00	195 000.00			0	0
3.12		<b>SUB SURFACE DRAINAGE</b>								
		Excavation, trimming, dispose of material and the supply all materials and construction of subsoil drain as detailed on Drwg 8019/007/025.								
3.12.1		Undemeath reservoir	m	110	250	27500			0	0
3.12.2		Adjacent to reservoir	m	30	250	7500			0	0
3.12.2		Perimeter drain to reservoir (Dwg 8010/006/042)	m	110	250	27500			0	0
		For manholes constructed on 160 dia subsoil drains: Over and including								
3.12.3		0,00 4,5m	N <sup>o</sup>	1	9412	9412			0	0
3.12.4		4,5 5,0m	N <sup>o</sup>	1	12637	12637			0	0
3.12.5		Supply, bed, lay, joint and air test uPVC heavy duty class 34 sewer pipe 160mm diameter	m	25	0	0			0	0
3.13	Spec PB	<b>DENSO WRAPPING (PST 3.9)</b>								
		Denso-wrapping of existing buried steel pipes and bolted connections as per specifications								
3.13.1		200mm diameter Steel Pipe	m	10	450	4500			0	0
3.13.2		400mm diameter Steel Pipe	m	10	824	8240			0	0
3.13.3		600mm diameter Steel Pipe	m	10	10000	100000			0	0
3.13.4		200mm diameter Flanges	N <sup>o</sup>	4	419	1676			0	0
3.13.5		400mm diameter Flanges	N <sup>o</sup>	4	1287	5148			0	0
3.13.6		600mm diameter Flanges	N <sup>o</sup>	4	2619	10476			0	0
<b>Total Section 3 Carried to Summary</b>						<b>4 242 101.00</b>				<b>403 000.00</b>



Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
4.1	SABS 1200 C 8.2.1	<b>SECTION 4: BACKWASH TANK</b> Refer to Drg. No. 8010/006/034-035 <b>SITE CLEARANCE</b>								
4.1.1	PSC8.1 1200 D	Clear site including trees of 1 m girth and boulders and dispose	m <sup>2</sup>	110	8	880.00			0	0.00
4.1.2	8.3.1.2	Remove topsoil to nominal depth of 100 mm, stockpile, maintain and place on embankment	m <sup>2</sup>	18	10	180.00			0	0.00
4.2	SABS 1200D	<b>EXCAVATION</b>								
4.2.1	8.3.2(a)	Excavate to level in all materials and stockpile and maintain suitable material for future use for backfill or dispose as specified. Rate to include for selective removal of unsuitable material and compaction of base to 93% MOD AASHTO and allow at least 1000mm working space around structure.	m <sup>3</sup>	600	65.00	39 000.00			0	0.00
4.2.2	8.3.6 (b)	Extra over Item 4.2.1 for excavation in hard rock material.	m <sup>3</sup>	200	200.00	40 000.00			0	0.00
4.2.3		Backfill to structures from existing stockpile in 200mm compacted layers to 95% MOD ASSHTO using material from stockpile on site as directed by the Engineer	m <sup>3</sup>	150	45.00	6 750.00			0	0.00
4.2.4	8.3.3(a)	Restricted for wall and column footings, inlet/outlet control chamber, etc., including 600 mm working space, to stockpile	m <sup>3</sup>	75	45	3 375.00			0	0.00
4.2.5	8.3.3(b)	Extra-over Item 4.2.3 for excavation in rock	m <sup>3</sup>	50	200	10 000.00			0	0.00
4.2.6		Remove unsuitable materials (Provisional)	m <sup>3</sup>	80	45	3 600.00			0	0.00
4.2.7		Replace unsuitable materials with mix 10MPa/20 mass concrete (Prov)	m <sup>3</sup>	10	1200	12 000.00			0	0.00
4.2.8		Disposal of material from stockpile to designated Municipal disposal sites	m <sup>3</sup>	400	5	2 000.00			0	0.00
4.2.9		Topsoiling of banks 100mm thick	m <sup>2</sup>	75	30	2 250.00			0	0.00
4.2.10		Planting of suitable local grass & fertilizer to embankments and maintain for 3 months	m <sup>2</sup>	75	35	2 625.00			0	0.00
4.2.11	PSDB8.10	Exploratory excavation in all materials to a maximum depth of 1.5m, backfill, compact, shoring and dispose of unsuitable material within 0.5 km (Prov.)	m <sup>2</sup>	60	R 80.00	4 800.00			0	0.00
4.3	SABS 1200G 8.4.2	<b>CONCRETE</b>  Grade 10MPa concrete in 75mm thick layer as blinding:								
4.3.1	PSG 8.2	Horizontal surface	m <sup>2</sup>	25	119.00	2 975.00			0	0.00
4.3.2		Sloping surface	m <sup>2</sup>	125	119.00	14 875.00			0	0.00
<b>Section 4 Carried Forward</b>						<b>145 310.00</b>				<b>0.00</b>
<b>Section 4 Brought Forward</b>						<b>145 310.00</b>				<b>0.00</b>
4.3.3	8.4.3	Strength concrete mix 10 MPa/20 mm to mass concrete where ordered by Engineer (Provisional)	m <sup>3</sup>	5	1 200.00	6 000.00			0	0.00
4.3.4	8.4.3	Grade 35 MPa concrete to the following elements: Vertical walls	m <sup>3</sup>	33	1 800.00	59 400.00			0	0.00
4.3.5		Valve Chamber walls	m <sup>3</sup>	6	1 800.00	10 800.00			0	0.00
4.3.6		Floor slab	m <sup>3</sup>	34	1 800.00	61 200.00			0	0.00
4.3.7		Floor slab (Valve chamber)	m <sup>3</sup>	5	1 800.00	9 000.00			0	0.00
4.3.8		Bridge	m <sup>3</sup>	4	1 800.00	7 200.00			0	0.00
4.3.9		Valve Chamber roof slab	m <sup>3</sup>	3	1 800.00	5 400.00			0	0.00
4.3.10		Concrete support blocks	m <sup>3</sup>	1	1 800.00	1 800.00			0	0.00
4.3.11	8.7	<b>Grouting</b> Grouting in of box out for pipe opening of area up to 0,7m <sup>2</sup> for a depth not exceeding	N <sup>o</sup>	6	65.00	390.00			0	0.00
4.4	SABS 1200G	<b>FORMWORK</b>								
4.4.1	8.2.1 PSG 8.9	Rough shuttering :								

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
4.4.1.1	8.2.5	Narrow widths (500 mm) to wall footing edge, external	m	45	95	4 275.00			0	0.00
4.4.1.2	8.2.5	Narrow widths (200 mm) to valve chamber floor edges	m	12	95	1 140.00			0	0.00
4.4.2	8.2.2 PSG 8.7	<b>Smooth shuttering:</b>								
4.4.2.1		a) To kickers for walls 100mm high	m <sup>2</sup>	14	280.00	3 920.00			0	0.00
4.4.2.2	8.2.5	b) To outer face of roof slab 100mm high	m <sup>2</sup>	2.5	280.00	700.00			0	0.00
4.4.2.3		c) Vertical to internal and external wall, circular	m <sup>2</sup>	800	280.00	224 000.00			0	0.00
4.4.2.4		d) Vertical to internal and external wall of valve chamber	m <sup>2</sup>	35	280.00	9 800.00			0	0.00
4.4.2.5		e) Horizontal to soffit of roof of valve chamber	m <sup>2</sup>	10	280.00	2 800.00			0	0.00
4.4.2.6		f) Concrete support blocks	m <sup>2</sup>	1.5	280.00	420.00			0	0.00
4.4.2.7		g) Concrete bridge (L-shape)	m <sup>2</sup>	30	280.00	8 400.00			0	0.00
4.4.2.8	SABS 1200 G	h) Narrow width (100 mm) to roof of valve chamber	m	9	280.00	2 520.00			0	0.00
4.4.2.9		i) 25 x 25mm Chamfer	m	65	280.00	18 200.00			0	0.00
<b>Section 4 Carried Forward</b>						<b>582 675.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 4 Brought Forward</b>						<b>582 675.00</b>				<b>0.00</b>
4.4.3	8.2.6	<b>Box outs holes / form voids:</b> Small circular of dia. up to and incl. 0.35m								
4.4.3.1		<u>Over</u> and <u>up to and incl.</u> 0.0m to 0.5m deep	Nº	2	78.00	156.00			0	0.00
4.4.4	8.2.6	<b>Box outs holes / form voids: (Refer to Dwg GN 486)</b> Openings for items supplied by others for areas 0.1m <sup>2</sup> - 0.5 m <sup>2</sup> for depths:								
4.4.4.1		<u>Over</u> and <u>up to and incl.</u> 0.1 m to 0.5m deep	Nº	6	80.00	480.00			0	0.00
4.4.5	8.4.4	<b>Unformed Surface Finishes:</b> Steel Float Finish								
4.4.5.1		a) Screed on tank floor (10 - 100mm)	m <sup>2</sup>	100	35	3 500.00			0	0.00
4.4.5.2		b) Screed on outlet chamber	m <sup>2</sup>	11	35	385.00			0	0.00
4.4.5.3		c) To top roof of valve chamber	m <sup>2</sup>	13	35	455.00			0	0.00
4.4.5.4		d) To top of floor slab	m <sup>2</sup>	130	35	4 550.00			0	0.00
4.4.5.5		e) To top of wall	m <sup>2</sup>	9	35	315.00			0	0.00
4.4.5.6		f) To top of bridge	m <sup>2</sup>	10	35	350.00			0	0.00
4.4.5.7		Wood Float Finish g) Blinding layer under floor	m <sup>2</sup>	140	24.00	3 360.00			0	0.00
4.5	8.1.2	<b>REINFORCEMENT</b> Supply, cut, bend and fix high tensile steel reinforcement								
4.5.1	8.3.1	High tensile steel bars all diameters	t	9	13 000.00	117 000.00			0	0.00
4.5.2	8.3.1	Mild steel bars all diameters	t	1	13 000.00	13 000.00			0	0.00
		High tensile steel welded mesh (Ref. 617)	m <sup>2</sup>	140	60.00	8 400.00			0	0.00
4.6	8.5	<b>JOINTS</b>								
4.6.1		Bond breaker, 250 micron DPC, on top of blinding layer	m <sup>2</sup>	150	35	5 250.00			0	0.00
4.6.2		Horizontal construction joints in wall panels at kicker in accordance with 5.5.7.3 of SABS 1200 G including for 100mm bandage type sealant on internal face (Sikadur combiflex or similar approved) Refer to Dwg 8010/006/042 (CJ)	m	40	121	4 840.00			0	0.00
<b>Section 4 Carried Forward</b>						<b>744 716.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 4 Brought Forward</b>						<b>744 716.00</b>				<b>0.00</b>
4.6.3		Wall joint (PWJ) (Dwg 8010/006/042)	m	40	200	8 000.00			0	0.00
4.6.4		Floor joint (PFJ) (Dwg 8010/006/042)	m	40	200	8 000.00			0	0.00
4.7	SABS 1200L Spec PA Spec PB	<b>PIPEWORK SPECIALS &amp; FITTINGS</b> Supply, deliver, install, handle, lay, bed, joint, test, disinfect, etc. as appropriate. Flexible pipe bedding as necessary								
8.2.1		Unless otherwise specified all steel pipes and specials in this sections shall be Grade B SABS 719, with a wall thickness of 6,5mm. All pipes and fittings to have an internal and external coating of 'Rilsan' 350µm <ul style="list-style-type: none"> <li>• Flanges to Table 1000/3 SABS 1123 unless otherwise specified</li> <li>• Rates to include for 'denso-wrapping' buried bolted connections to specifications</li> <li>• Rates to include for casting into concrete where applicable</li> <li>• Puddle pipes to be tape wrapped to specifications</li> </ul>								
4.7.1		<b>Backwash Inlet Pipework (Dwg 8010/006/034)</b>								
4.7.1.1		Item F1: 400mm Ø Steel spool piece ±800mm long FOE, with puddle flange ±125mm from PE	Nº	1	0.00	0.00			0	0.00
4.7.1.2		Item F2: 400mm Ø Steel flexible flange adaptor	Nº	1	755.00	755.00			0	0.00
4.7.1.3		Item P1: 80mm Ø Steel spool piece ±800mm long FOE, with puddle flange ±103mm from PE	Nº	1	0.00	0.00			0	0.00
4.7.1.4		Item P2: 80mm Ø Steel flexible flange adaptor	Nº	1	0.00	0.00			0	0.00
4.7.2		<b>Backwash Outlet Pipework Dwg 8010/006/035</b>								
4.7.2.1		Item G1: 160mmØ Flange Adaptor	Nº	2	720.00	1 440.00			0	0.00
4.7.2.2		Item G2: 100mmØ Steel spool piece, ±850mm long, FBE with puddle flange in center of pipe	Nº	2	2 600.00	5 200.00			0	0.00
4.7.2.3		Item G3: 100 x 100mmØ Flanged Y-connection FOE (100mmØ) other ends PE (100mmØ)	Nº	1	3 200.00	3 200.00			0	0.00
4.7.2.4		Item G4: 100mmØ PN10 RSV flanged gate valve to SABS 664	Nº	2	4 000.00	8 000.00			0	0.00
<b>Section 4 Carried Forward</b>						<b>779 311.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 4 Brought Forward</b>						<b>779 311.00</b>				<b>0.00</b>
4.7.2.5		Item G5: 100mmØ Flanged non-return valve to SABS 144	Nº	2	4 000.00	8 000.00			0	0.00
4.7.2.6		Item G6: 100mmØ Flexible Flange Adaptor	Nº	2	450.00	900.00			0	0.00
4.7.2.7		Item G7: 100mmØ x 90° Steel bend FBE with ±250mm long straight section	Nº	2	1 105.00	2 210.00			0	0.00
4.7.2.8		Item G8: 100mmØ x 90° steel bend FBE	Nº	4	0.00	0.00			0	0.00
4.7.2.9		Item G9: 100mmØ Steel spool piece, ±750mm long, FBE with puddle flange in centre of pipe	Nº	2	1 500.00	3 000.00			0	0.00
4.7.2.10		Item G10: 2 X 100mmØ X 22.5° Bends On Both Ends Of ±1170mm Straight Section, FBE	Nº	2	2 500.00	5 000.00			0	0.00
4.7.2.11		Item G11: 100mmØ Steel spool piece, ±3790mm long, FBE	Nº	2	5 000.00	10 000.00			0	0.00
4.7.2.12		Item G12: 100mmØ Steel spool piece, ±3845mm long, FBE	Nº	2	5 000.00	10 000.00			0	0.00
4.7.3		<b>Backwash Overflow Pipework Dwg 8010/006/035</b>								
4.7.3.1		Item H1: 400mm Ø Steel spool piece ±800mm long FCE, with puddle flange ±125mm from PE	Nº	1	0.00	0.00			0	0.00
4.7.3.2		Item H2: 400mm Ø Steel flexible flange adaptor	Nº	1	0.00	0.00			0	0.00
4.7.4	PX PX 3 PX 3.12	<b>Submersible Pumps Dwg 8010/006/035</b>								
4.7.4.1		Item I1: Supply, deliver, install and commission submersible pumping system Duty : 8 ts to 7.5m dynamic head  Flygt model NP 3102 MT 3 - Adaptive 464, 1.24kw 380v submersible pump with kiloxons and moisture probes or similar approved	Nº	2	55 250.00	110 500.00			0	0.00
4.7.4.2		Item I2: Stainless steel Duck foot bend V200N complete with flange and 90° bend	Nº	2	6500.00	13 000.00			0	0.00
<b>Section 4 Carried Forward</b>						<b>941 921.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 4 Brought Forward</b>						<b>941 921.00</b>				<b>0.00</b>
4.7.4.3		Item 13: Stainless steel chain and shackle	N°	2	2500.00	5 000.00			0	0.00
4.7.4.4		Item 14: Stainless Steel guide bar for duck foot bend	N°	2	6000.00	12 000.00			0	0.00
4.7.4.5	PX 2	Stainless Steel glycerine filled pressure gauges and welded high pressure nipple as indicated on drawings	N°	2	3500	7 000.00			0	0.00
4.8	PSA 8.4.7	<b>MISCELLANEOUS</b>								
4.8.1		Supply and install access ladders as detailed on Drg. No. 8010/006/035 and 065								
4.8.1.1		a) Backwash Tank - Internal ladder complete in Grade 316 stainless steel (length 4m)	N°	2	22 000.00	44 000.00			0	0.00
4.8.1.2		a) Backwash Tank - Internal ladder complete in Fibre Reinforced Plastic (FRP) (length 4m)	N°	2	3 000.00	Rate only			0	0.00
4.8.1.3		b) Backwash Tank - Outlet chamber internal ladder complete in Grade 316 stainless steel (length 1.4m)	N°	1	5 231.00	5 231.00			0	0.00
4.8.1.4		b) Backwash Tank - Outlet chamber internal ladder complete in FRP (length 1.4m)	N°	1	8 000.00	Rate only			0	0.00
4.8.2		Supply and install hot dip galvanised lockable manhole cover and frame to access openings, rate includes for all fixings, locks, etc:								
4.8.2.1		b) 700 x 700mm Dwg 8010/006/064	N°	1	4 874.00	4 874.00			0	0.00
4.8.3		Form falls to floor of chambers and sump and drain channel at edge of floor in mix 1:3 cement mortar	N°	2	500.00	1 000.00			0	0.00
4.8.4		Supply and install galvanised steel ball and stanchion type hand railing complete with M12 anchor bolts	m	65	650	42 250.00			0	0.00
4.8.5		Supply and install one pair of 100mm Ø galvanised steel air vents as detailed on Drg. No. 8010/006/065	N°	1	2 131.00	2 131.00			0	0.00
4.9		<b>WATER TIGHTNESS TESTING (PSG 5.24)</b>								
4.9.1		a) Backwash Tank	Sum	-		5000			0	0.00
4.9.2		b) Outlet control chamber and roof	Sum	-		5000			0	0.00
4.10		<b>STERILISATION (PSG 5.26)</b>								
4.10.1		a) Backwash Tank	Sum	-		3320			0	0.00
<b>Section 4 Carried Forward</b>						<b>1 078 727.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 4 Brought Forward</b>						<b>1 078 727.00</b>				<b>0.00</b>
4.10.2		b) Outlet chamber	Sum	-	0	4000			0	0.00
4.10.3		Supply and install ultrasonic "Water Level Transmitter" or similar approved, as per specifications	N°	1	30000	30 000.00			0	0.00
4.11		<b>INSULATION (PSG 5.25)</b>								
4.11.1		Apply "Conseal" or similar approved concrete coating to internal and external concrete finishes as directed by Engineer	m²	1700	55.00	93 500.00			0	0.00
4.12		<b>SUB SURFACE DRAINAGE</b>								
		Excavation, trimming, dispose of material and the supply all all materials and construction of subsoil drain as detailed on Drwg 8010/006/042.								
4.12.1		Perimeter drain to reservoir (Dwg 8010/006/042)	m	45	250	11 250.00			0	0.00
		Supply, bed, lay, joint and air test uPVC heavy duty class 34 sewer pipe								
4.12.2		160mm diameter	m	10	100	1 000.00			0	0.00
4.13	PX 3.13 PSX 3.10	<b>TESTING AND COMMISSIONING</b>								
4.13.1		Test and commission the complete installation including the handing in of the test results to the Engineer.	sum	-		10 000.00			0	0.00
4.14	PX 3.14	<b>OPERATION MANUALS</b>								
4.14.1		Supply as specified	Sum	-		8500			0	0.00
4.1		<b>TRAINING</b>								
4.10.1		Training of the Employer's Plant Operators	Sum	-		25755			0	0.00
<b>Total Section 4 Carried to Summary</b>						<b>1 262 732.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
5.1	SABS 1200 C	<b>SECTION 5: SLUDGE LAGOONS</b> Refer to Drg. No. 8010/006/043							
5.1.1	8.2.1 PSC8.1 1200 D	<b>SITE CLEARANCE</b> Clear site including trees of 1 m girth and boulders and dispose	m <sup>2</sup>	6000	8	48000		6000	48000
5.1.2	8.3.1.2	Remove topsoil to nominal depth of 100 mm, stockpile, maintain and place on embankment	m <sup>2</sup>	900	10	9000		900	9000
5.2	SABS 1200D 8.3.2	<b>EARTHWORKS</b> Bulk Excavation (Cut to Fill)							
5.2.1	8.3.2(a)	Excavate in all materials and use suitable material for embankments. Fill and backfill (fill place, spread, transport, stockpile, maintain and compact to 95% MOD AASHTO). Rate to include for selective removal of unsuitable material and any double handling of material and working around structures.	m <sup>3</sup>	6 500	65.00	422500		6500	422500
5.2.2	8.3.2(b)	Extra over Item 5.2.1 for: a) Backfilling (transport, place, spread, working around structures and compact to 95% MOD AASHTO) utilising stockpiled earthworks for embankments	m <sup>3</sup>	4 000	10.00	40000		0	0
5.2.3		b) Trim sloped embankments to required lines and levels prior to placing topsoil	m <sup>2</sup>	3 400	10.00	34000		0	0
5.2.4	8.3.6	Extra over Item 5.2.1 for excavation in hard rock material.	m <sup>3</sup>	2 700	200.00	540000		0	0
5.2.5	8.3.3 (a)	Pond bed preparation and compaction of in-situ material to a depth of 100mm Compact to 95% MOD AASHTO density	m <sup>3</sup>	2400	10	24000		0	0
5.2.6	8.3.4	Importing of Materials							
5.2.7	8.3.4(a)	Importation of G7 material from commercial sources and backfill 95% MOD AASHTO	m <sup>3</sup>	500	250.00	125000		0	0
5.2.8	8.3.10	Topsailing of banks 100mm thick	m <sup>2</sup>	3 400	10	34000		0	0
5.2.9	8.3.11	Planting of suitable local grass & fertilizer to embankments and maintain for 3 months	m <sup>2</sup>	3 400	30	102000		0	0
5.2.10		Remove unsuitable materials (Provisional)	m <sup>3</sup>	1 500	5	7500		0	0
5.2.11		Disposal of material from stockpile to designated Municipal disposal sites or as designated by the Engineer	m <sup>3</sup>	3 000	5	15000		0	0
<b>Section 5 Carried Forward</b>						<b>1 401 000.00</b>			<b>479 500.00</b>
<b>Section 5 Brought Forward</b>						<b>1 401 000.00</b>			<b>479 500.00</b>
5.3		<b>SLUDGE LAGOON FLOOR LINER</b>							
5.3.1		Supply and install Armorflex 180 blocks, laid to manufacturers specifications, including binding together with 3.1mm Galvanised steel wire. To be anchored on embankments with y-standards spaced at 3m centre to centre.	m <sup>2</sup>	4 500	200.00	900000		0	0
5.3.2		Extra over Item 5.3.1 for grouting Y-standard into Armorflex blocks as detailed on Drg No. 8010/006/044	N <sup>o</sup>	200	250.00	50000		0	0
5.3.3		100mm Thick layer of 7mm stone wrapped in Bidim	m <sup>2</sup>	2 700	35.00	94500		0	0
5.3.4		20mm Thick layer of bedding sand	m <sup>2</sup>	2 700	10.00	27000		0	0
5.3.5		Supply and install 1.5mm thick DPC	m <sup>2</sup>	3 000	30.00	90000		0	0
5.3.6		Supply and fill 7mm stone in Armorflex voids	m <sup>3</sup>	50	35.00	1750		0	0
5.3.7		Extra over Item 5.3.1 for forming Armorflex 180 access ramp	m <sup>2</sup>	120	350.00	42000		0	0
5.4		<b>CHAMBERS / STRUCTURES</b>							



Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
5.4.1		<p>Construct structures / chambers / manholes complete as detailed on Drawings including for but not limited to excavation, backfilling, cast insitu concrete (25MPa), brickwork formwork, reinforcing, pointing, benching, haunching, building in of pipes, cast-in-situ concrete roof slabs, complete with 25 MPa precast concrete framecover slab and lockable covers with galvanised steel band to covers, incl. watertightness, height to suite the following depths</p> <p>Dolomitic aggregate shall be used in the manufacture of the structures / chamber sections, levelling rings and roof slabs.</p> <p><b>Inlet / Outlet Structures</b></p> <p>Construct sludge lagoon concrete structures complete as detailed on Dwg 8010/006/045</p>							
5.4.1.1		a) Inlet	N°	4	3 000.00			0	0
5.4.1.2		b) Outlet/overflow	N°	8	5 000.00			0	0
5.4.1.3		c) Headwall	N°	2	5 000.00			0	0
5.4.1.4		d) Stairs	m	10	6 000.00			0	0
<b>Section 5 Carried Forward</b>					<b>2 728 250.00</b>				<b>479 600.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>						<b>2 728 260.00</b>				<b>479 500.00</b>
5.4.2	PSLD 8.2.3	<b>Outlet Division Structure</b>								
5.4.2.1		Construct pond outlet structure complete as detailed on drawing 8010/006/044	Nº	1	R 15 000.00	15000			0	0
5.4.2.2		Supply and install 38mm (heavy duty) non slip GRP grating (3100 x 1200mm) supported on all sides with 40 x 40 x 5mm GMS angle recessed and cast into concrete with GMS fish tail. Refer to Dwg 8010/006/045	Nº	1	5 000.00	5000			0	0
5.4.2.3		Form blockout as detailed on Dwg 8010/006/046 in concrete channel to pond outlet structure for aluminium stop logs	Nº	4	800.00	3200			0	0
5.4.2.4	PSX 12	Supply and install Aluminium stop logs to suit 500 wide x 500 deep channel complete with 5 No. x 100 high logs and frame (Gereg or similar approved) to be mounted in blockout against side walls and floor as shown in Dwg. 8010/006/045	Nº	4	8 000.00	32000			0	0
5.4.3		<b>Splitter Inlet Chambers</b>								
5.4.3.1		Construct splitter chambers complete as detailed on Dwg 8010/006/043								
5.4.3.1		a) Type 01	Nº	1	8 000.00	8000			0	0
5.4.3.2		b) Type 02	Nº	2	8 000.00	16000			0	0
5.4.3.3		c) Type 03	Nº	2	8 000.00	16000			0	0
5.4.3.4		Supply and install aluminium handstop 200mm wide x 800mm high complete (frame and handstop) to splitter inlet chambers as detailed on Drg No. 8010/006/048 (Gereg) or similar approved.	Nº	8	5 000.00	40000			0	0
5.4.4		<b>Headwalls</b>								
5.4.4.1		Construct headwalls complete as detailed on Dwg 8010/006/045	Nº	4	5 000.00	20000			0	0
5.5		<b>SUPERNATENT PUMP SUMP AT SLUDGE POND</b> (as detailed on Drg. No. 8010/006/046-047)								
5.5.1		Supply all materials and construct 1800mm Ø precast manhole ring chamber and cover, complete, with foundations to form wet well.	Sum	1	12 890.00	12890			0	0
5.5.2		Supply all materials and construct reinforced concrete dry well chamber	Sum	1	9 500.00	9500			0	0
5.5.3		Supply and install 700 x 700mm steel lockable manhole frame and cover (see Drg. No. 8010/006/064)	Nº	2	4 500.00	9000			0	0
<b>Section 5 Carried Forward</b>						<b>2 914 840.00</b>				<b>479 500.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>					<b>2 914 840.00</b>				<b>479 500.00</b>
5.6	SABS 1200L Spec PA Spec PB	<b>PIPEWORK SPECIALS &amp; FITTINGS</b>  Supply, deliver, install, handle, lay, bed, joint, test, disinfect, etc. as appropriate. Flexible pipe bedding as necessary (all dimensions to be confirmed on site)							
	8.2.1	Unless otherwise specified all steel pipes and specials in this sections shall be Grade B SABS 719, with a wall thickness of 6,5mm. All pipes and fittings to have an internal and external coating of 'Rilsan' 350µm <ul style="list-style-type: none"> <li>• Flanges to Table 1000/3 SABS 1123 unless otherwise specified</li> <li>• Rates to include for 'denso-wrapping' buried</li> <li>• Rates to include for casting into concrete where applicable</li> <li>• Puddle pipes to be tape wrapped to specifications</li> </ul>							
5.6.1		<b>Inlet Pipework</b> Dwg 8010/006/046							
5.6.1.1		Item J1: 300mm Ø Steel puddle pipe, 690mm in length, Puddle flange 110mm from one end.	Nº	1	3 500.00			0	0
5.6.1.2		Item J2: 300mm Ø Flexible flange adaptor	Nº	2	4 500.00			0	0
5.6.1.3		Item J3: 300mm Ø x 60' Medium Radius segmented bend, F.B.E.	Nº	2	6 000.00			0	0
5.6.1.4		Item J4: 300mm Ø Steel spool piece 2760mm in length F.B.E.	Nº	1	10 000.00			0	0
5.6.1.5		Item J5: 300mm Ø Steel puddle pipe, 560mm in length, Puddle flange 170mm from one end.	Nº	1	3 800.00			0	0
5.6.2		<b>Outlet Pipework</b>							
5.6.2.1		Item K1: 80mm Ø Steel spool piece ±2450mm long F.B.E. with 100mm long 80 x 50mmØ welded to the one end.	No.	2	3 000.00			0	0
5.6.2.2		Item K2: 800mm NB steel pipe F.O.E welded to 90° short radius elbow F.O.E. ±1140mm long	No.	2	0.00			0	0
<b>Section 5 Carried Forward</b>					<b>2 959 140.00</b>				<b>479 500.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>						<b>2 989 140.00</b>				<b>479 500.00</b>
5.6.2.3		Item K3: 80mm Ø Flexible flange adaptor	No	2	376.00	756.00			0	0
5.6.2.4	PSX 4.2	Item K4: 80 mmØ Flanged swing Non - Return Valve with counter weight with soft seal, Class 10	Nº	2	3 500.00	7 000.00			0	0
5.6.2.5	PSX 4.1	Item K5: 80mmØ RSV gate valve, clockwise closing, rising spindle with handwheel, Class 10	Nº	2	4 000.00	8 000.00			0	0
5.6.2.6		Item K6: 80mm Ø Steel spool piece 200mm in length	Nº	2	683.00	1 366.00			0	0
5.6.2.7		Item K7: 80mm Ø Steel equal tee F.B.E. welded to pipe P.E. 235mm in length	Nº	2	2 281.00	4 562.00			0	0
5.6.2.8		Item K8: 80mm Ø 90° Steel long radius elbow, welded to a 185mm long pipe plain ended, 100mm long pipe FOE welded to the other side.	Nº	1	1 400.00	1 400.00			0	0
5.6.2.9		Item K9: 80mm Ø Flexible coupling	Nº	1	700.00	700.00			0	0
5.6.2.10		Item K10: 80mm Ø Steel puddle pipe F.B.E., 925mm in length. Puddle flange 500mm from flanged end.	Nº	1	3 284.00	3 284.00			0	0
5.6.2.11		Item K11: 100mm Ø Steel equal tee flanged on two ends, other end welded to steel pipe. 100 x 100mm Ø Reducer F.O.E. other end welded to 100mm Ø pipe, 610mm in length.	Nº	1	3 500.00	3 500.00			0	0
5.6.2.12		Item K12: 90mm Ø SG Iron Flange Adapter	Nº	1	700.00	700.00			0	0
5.6.3		<b>Overflow Pipework Dwg 8010/006/046</b>								
5.6.3.1		Item L1: 300mm Ø Steel spool piece ±800mm long FOE, with puddle flange ±125mm from PE	Nº	1	8 209.00	8 209.00			0	0
5.6.3.2		Item L2: 300mm Ø Steel flexible flange adaptor	Nº	1	2 500.00	2 500.00			0	0
5.6.4		<b>Overflow/Scour/Drain Discharge Pipework Dwg 8010/006/044</b>								
5.6.4.1		Item M1: 250mm Ø Steel spool piece ±800mm long FOE, with puddle flange ±125mm from PE	Nº	1	0.00	0.00			0	0
5.6.4.2		Item M2: 250mm Ø Steel flexible flange adaptor	Nº	1	1 107.00	1 107.00			0	0
<b>Section 5 Carried Forward</b>						<b>3 002 224.00</b>				<b>479 500.00</b>

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 5: SLUDGE LAGOONS

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>						<b>3 002 224.00</b>			<b>479 500.00</b>
5.6.5	PX 3.12	<b>Submersible Pumps</b> Dwg 8010/006/046							
		Item N1: Supply, deliver, install and commission submersible pumping system Duty : 2 to 7.0m dynamic head							
5.6.5.1		Flygt model DP 3045 MT 3 - 234, 1.24kw 380v submersible pump with klixons and moisture probes or similar approved	Nº	2	16 250.00			0	0
5.6.5.2		Item N2: Stainless steel Duck foot bend V200N complete with flange and 90° bend	Nº	2	2800.00			0	0
5.6.5.3		Item N3: Stainless steel chain and shackle	Nº	2	2500.00			0	0
5.6.5.4		Item N4: Stainless Steel guide bar for duck foot bend	Nº	2	6500.00			0	0
5.6.5.5	PX 2	Stainless Steel glycerine filled pressure gauges and welded high pressure nipple as indicated on drawings	Nº	2	3500			0	0
5.7	SABS 1200 D	<b>RETAINING STRUCTURES</b>							
5.7.1		<b>Excavation</b>							
5.7.1.1	8.3.3(a)	Excavate and trim to lines and grades for retaining blocks foundation and retaining wall	m³	30	65.00			0	0
5.7.1.2	8.3.3(a)	Trimming of batter faces to correct angle and embankment preparation work prior to placement of retaining wall blocks or concrete and fill	m³	100	35.00			0	0
5.7.2	1200 GA	<b>Concrete</b>							
5.7.2.1	8.1.4	Supply and place 20 MPa concrete in foundations complete as per detail for retaining wall blocks, including for formwork, compaction and finishing to form key	m³	10	1800.00			0	0
5.7.2.2	8.3	Supply and place steel reinforcement in foundations and walls if specified in writing by the Engineer	kg	300	45.00			0	0
5.7.3	1200 GE	<b>Retaining Blocks</b>							
5.7.3.1	8.2.1	Supply and install Loffelstein or similar approved TYPE: L 300	m²	100	450.00			0	0
<b>Section 5 Carried Forward</b>						<b>3 147 274.00</b>			<b>479 500.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>						<b>3 147 274.00</b>			<b>479 500.00</b>
5.7.4	1200 D	<b>Fill Material</b>							
		Granular fill selected from on site excavations							
5.7.4.1	8.3.3(a)	Supply fill material complying with TRH14 - G10 (max. size 50mm), spread in layers less than 100mm thick, water to optimum moisture content and compact fill to 90% Mod AASHTO.	m <sup>3</sup>	30	45.00				
					1350			0	0
5.7.4.2	PSA 8.7	Fill retaining blocks with selected soil lightly tamped as the work proceeds	m <sup>3</sup>	10	65.00				
					650			0	0
5.7.5	SABS 1200 LE 8.2.1	<b>Pipes</b>							
		Supply, handle, lay and bed Geopipe in 19mm stone.							
5.7.5.1		100 mm diameter	m	60	75				
					3750			0	0
5.7.6	SABS 1200 LB 8.2.2.3	<b>Provision of Bedding</b>							
		From commercial sources:							
5.7.6.1	PSDB 8.7	19mm Washed stone	m <sup>3</sup>	8	380				
					3040			0	0
5.7.7		<b>Geofabric</b>							
5.7.7.1	PSA 8.7	Supply and install Geofabric A2 Kaytech or similar approved as detailed on Dwg 8010/006/044	m <sup>2</sup>	100	40				
					4000			0	0
5.8	SABS 1200 DK 8.2.1	<b>GABIONS AND PITCHING</b>							
		Surface preparation for bedding of gabions to be terraced to suit mattress and gabions incl. dewatering of applicable areas	m <sup>2</sup>	100	R 5.00				
5.8.1					500			0	0
5.8.2	8.2.2	Supply and construct gabions using PVC coated galvanised wire mesh as specified							
5.8.2.1	8.2.2	<b>Gabion Mattress</b>							
		4m x 2m x 0.3m	m <sup>3</sup>	25	R 65.00				
					1625			0	0
5.8.2.2		2m x 0.5m x 0.5m	m <sup>3</sup>	25	R 55.00				
					1375			0	0
5.8.3	8.2.2	<b>Gabion Boxes</b>							
5.8.3.1		2m x 1m x 1m	m <sup>3</sup>	20	R 1 500.00				
					30000			0	0
5.8.3.2		3m x 1m x 1m	m <sup>3</sup>	20	R 1 500.00				
					30000			0	0
5.8.3.3		4m x 1m x 1m	m <sup>3</sup>	20	R 1 500.00				
					30000			0	0
5.8.3.4	8.2.4	Geotextile Fabric	m <sup>2</sup>	120	R 40.00				
					4800			0	0
5.8.3.5	8.2.5	Pitching	m <sup>2</sup>	50	R 350.00				
					17500			0	0
<b>Section 5 Carried Forward</b>						<b>3 275 864.00</b>			<b>479 500.00</b>

Item No	Payment Refers	Description	Unit	Qty	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 5 Brought Forward</b>						<b>3 275 864.00</b>			<b>479 500.00</b>
5.9		<b>MISCELLANEOUS</b>							
5.9.1	PSA 8.4.7	<b>Connection to Existing Collector Sewer</b>							
	8.2.11	Allow for all costs involved in connecting to existing 100mm dia. sludge manhole, including for inter alia, locating manhole, excavation, breaking in, dealing with flow (if any), making connection, backfilling and making good at the following connection points							
5.9.1.1		SMH 16A	Sum	-	-			0	
5.9.1.2		Clear blocked sludge pipes complete for pipes	m	500	R 10.00			0	0
5.9.1.3		Clear blocked manholes and remove silt	m <sup>3</sup>	5	R 1 000.00			0	0
5.9.2		<b>Non Destructive Testing</b>							
5.9.2.1	PSL 5.2.3.6	Additional tests as ordered by the Engineer including for PCM survey and other non destructive pipe testing by specialist	Prov. Sum	-	1.00			0	0
5.9.2.2		Contractors mark-up on item 2.8.6.1	%	160 000	10			0	0
5.9.3		<b>Additional Cutting and Welding</b>							
		The Engineer may request the contractor to perform the following additional works;							
5.9.3.1		Cutting of 450mm steel pipe	Nº	10	100			0	0
5.9.3.2		Welding of 450mm steel pipe	Nº	10	100			0	0
5.10	PX 3.13 PSX 3.10	<b>TESTING AND COMMISSIONING</b>							
5.10.1		Test and commission the complete installation including the handing in of the test results to the Engineer.	sum	-				0	0
5.11	PX 3.14	<b>OPERATION MANUALS</b>							
5.11.1		Supply as specified	Sum	-				0	0
5.12		<b>TRAINING</b>							
5.12.1		Training of the Employer's Plant Operators	Sum	-				0	0
<b>Total Section 5 Carried to Summary</b>						<b>3 498 539.00</b>			<b>479 500.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
6.1	SABS 1200DB	<b>SECTION 6: WTW PIPELINES</b> <b>EARTHWORKS</b> Site Clearance								
6.1.1	8.3.1(a)	Clear vegetation, grass, shrubs, etc. and trees of girth up to 1m and remove, stockpile, maintain/ preserve and reinstate topsoil (100mm deep) shrubs, trees and grass along route of pipes	m	700	R 8.00	5 600.00			0	0.00
6.1.2	SABS 1200C 8.2.2	Clear trees of girth and designated obstacles over 1.0m up to and including 2.0m	No.	2	R 800.00	1 600.00			0	0.00
6.2	SABS 1200 DB	<b>EXCAVATION</b>								
6.2.1	PSDB8.10	Exploratory excavation in all materials to a maximum depth of 1.5m, backfill, compact, shoring and dispose of unsuitable material within 0.5 km (Prov.)	m³	75	R 65.00	4 875.00			0	0.00
6.2.2	8.3.2 PSDB 8.4	Excavate in all materials for trenches, backfill, compact and dispose of surplus / unsuitable material for :-  <ul style="list-style-type: none"> <li>• Rates to include shoring where required by regulation</li> <li>• Rates to include for crossing and adjoining services with due care and attention</li> <li>• Rates to include supporting/bracing of electrical and telephone poles where required</li> </ul> Trenches of widths up to 900mm for water mains up to 310mm dia for depths  Over and Up to								
6.2.2.1		0,0 m 1,0 m	m	30	R 34.00	1 020.00			0	0.00
6.2.2.2		1,0 m 1,5 m	m	30	R 52.00	1 560.00			0	0.00
6.2.2.3		1,5 m 2,0 m	m	30	R 68.00	2 040.00			0	0.00
6.2.2.4		2,0 m 2,5 m	m	30	R 86.00	2 580.00			0	0.00
6.2.2.5		2,5 m 3,0 m	m	30	R 103.00	3 090.00			0	0.00
6.2.2.6		3,0 m 3,5 m	m	40	R 120.00	4 800.00			0	0.00
6.2.2.7		3,5 m 4,0 m	m	40	R 137.00	5 480.00			0	0.00
6.2.2.8		4,0 m 4,5 m	m	50	R 105.00	5 250.00			0	0.00
6.2.2.9		4,5 m 5,0 m	m	60	R 180.00	14 400.00			0	0.00
6.2.2.10		5,0 m 5,5 m	m	50	R 250.00	12 500.00			0	0.00
6.2.2.11		5,5 m 6,0 m	m	50	R 300.00	15 000.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>79 795.00</b>				<b>0.00</b>



Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>79 795.00</b>				<b>0.00</b>
6.2.3		Trenches of widths up to 1200mm for water mains up to 600mm dia for depths								
		Over and Up to								
6.2.3.1		0,0 m 1,0 m	m	10	R 78.00	780.00			0	0.00
6.2.3.2		1,0 m 1,5 m	m	10	R 117.00	1 170.00			0	0.00
6.2.3.3		1,5 m 2,0 m	m	20	R 106.00	2 120.00			0	0.00
6.2.3.4		2,0 m 2,5 m	m	40	R 195.00	7 800.00			0	0.00
6.2.3.5		2,5 m 3,0 m	m	30	R 270.00	8 100.00			0	0.00
6.2.3.6		3,0 m 3,5 m	m	30	R 273.00	8 190.00			0	0.00
6.2.3.7		3,5 m 4,0 m	m	20	R 312.00	6 240.00			0	0.00
6.2.3.8		4,0 m 4,5 m	m	25	R 351.00	8 775.00			0	0.00
6.2.3.9		4,5 m 5,0 m	m	40	R 390.00	15 600.00			0	0.00
6.2.4		Extra-over Item 6.2.2 and 6.2.3 for Hand Excavation								
6.2.4.1		a) 0,00 1,25	m	150	R 120.00	18 000.00			0	0.00
6.2.4.2		b) 1,25 1,50	m	150	R 125.00	18 750.00			0	0.00
6.2.5	PSDB 8.4 8.3.2(b)	Extra over Items 6.2.2 & 6.2.3 for hard rock excavation	m <sup>3</sup>	100	R 200.00	20 000.00			0	0.00
6.2.6	8.3.2(c)	Excavate unsuitable material from trench bottom and dispose off site to spoil (Prov.)	m <sup>3</sup>	10	R 65.00	650.00			0	0.00
6.2.7	8.3.3.1	Make up deficiency in backfill material (Prov.)								
6.2.8		c) from commercial sources or off site sources selected by the contractor	m <sup>3</sup>	10	R 75.00	750.00			0	0.00
6.2.9		Extra over 6.2.2 & 6.2.3 including for selected backfilling and additional compaction at road crossings	m <sup>3</sup>	8	R 42.00	336.00			0	0.00
6.3	8.3.5.1 8.3.5(a)	DEALING WITH EXISTING SERVICES								
6.3.1		Services intersecting a trench at an angle in plan of 45° or greater :								
		Temporary protection of :								
6.3.1.1		Underground Telkom cables	N°	5	R 110.00	550.00			0	0.00
6.3.1.2		Underground electrical cables	N°	10	R 110.00	1 100.00			0	0.00
6.3.1.3		Watermains up to 350mm dia.	N°	3	R 110.00	330.00			0	0.00
6.3.1.4		Stormwater pipes up to 900mm dia.	N°	3	R 110.00	330.00			0	0.00
6.3.1.5		Sewers up to 350mm dia.	N°	3	R 110.00	330.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>199 696.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>199 696.00</b>				<b>0.00</b>
6.3.1.6		Gravel roads	N <sup>o</sup>	1	R 110.00	110.00			0	0.00
6.3.1.7		Bonox Fence's	N <sup>o</sup>	2	R 110.00	220.00			0	0.00
6.3.1.8		Green uPVC coated Fence's	N <sup>o</sup>	1	R 110.00	110.00			0	0.00
6.3.2	8.3.5.2 8.3.5(b)	Services intersecting a trench at an angle in plan less than 45° or parallel: Temporary protection of :								
6.3.2.1		Underground / overhead Telkom cables	m	50	R 85.00	4 250.00			0	0.00
6.3.2.2		Underground / overhead electrical cables	m	50	R 85.00	4 250.00			0	0.00
6.3.2.3		Sewers up to 350mm dia.	m	100	R 85.00	8 500.00			0	0.00
6.3.2.4		Watermains up to 350mm dia.	m	100	R 85.00	8 500.00			0	0.00
6.4		<b>PROVISION OF BEDDING (Class B)</b>								
6.4.1	SABS 1200LB 8.2.1	From trench excavation:								
6.4.1.1		a) Selected granular material	m <sup>3</sup>	25	R 45.00	1 125.00			0	0.00
6.4.1.2		b) Selected fill material	m <sup>3</sup>	100	R 55.00	5 500.00			0	0.00
6.4.2	8.2.2.3	Provision from commercial or off-site sources where ordered by the Engineer (Prov.)								
6.4.2.1		a) Selected granular material	m <sup>3</sup>	100	R 55.00	5 500.00			0	0.00
6.3.2.2		b) Selected fill material	m <sup>3</sup>	550	R 45.00	24 750.00			0	0.00
6.3.2.3		c) 10mm crushed stone	m <sup>3</sup>	150	R 300.00	45 000.00			0	0.00
6.3.2.4		d) Supply and lay A2 type bidim in trench 0.8m wide	m	130	R 60.00	7 800.00			0	0.00
6.5	SABS 1200LD	<b>PIPEWORK</b>								
6.5.1		uPVC Class 9 pipes, spigot and socket with integral rubber ring joints								
6.5.1.1	8.2.1	Supply, handle, lay, bed, joint, pressure test and disinfect pipe as described below:								
6.5.1.1		a) 90mm Ø (Supernatant sump to backwash tank)	m	80	R 0.00	0.00			0	0.00
6.5.1.2		b) 160mm Ø (Backwash tank to existing rising main)	m	30	R 146.00	4 380.00			0	0.00
6.5.1.3		c) 200mm Ø (Sludge delivery pipe)	m	180	R 218.00	39 240.00			0	0.00
6.5.1.4		d) 250mm Ø (Scour and drain)	m	150	R 363.00	54 450.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>413 381.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>413 381.00</b>				<b>0.00</b>
6.5.1.5		e) 310mm Ø (Supernatant overflow)	m	20	R 542.00	10 840.00			0	0.00
6.5.1.6		f) 400mm Ø (Backwash and reservoir overflow)	m	105	R 932.00	97 860.00			0	0.00
6.5.1.7		g) 500mm Ø (inlet to backwash tank)	m	20	R 1 480.00	29 600.00			0	0.00
6.5.2		<b>Steel Pipe Grade X52, 6.0mm wall thickness with lining and coating, spigot and socket</b>  Note: Unless otherwise specified, all steel specials in this section shall be API 5L steel pipe with a wall thickness as specified below. All pipes and specials shall be coated externally with Sintakote or 3 layer (Tri-laminate) coating and lined internally with a 12mm cement mortar in accordance with the requirements of the specifications and Spec PJ. Pipes to be supplied in 12m lengths. Pipes to be spigot and socket ended, connected with Sintajoint jointing system. Rates to include for corrosion protection of joints and making good of damaged coatings and linings in accordance with the specifications, "dense wrapping" buried bolted connections to specifications, and non shrink mortar to void between cement mortar lining of pipe sections. Flanges to SABS 1123 unless otherwise specified.  Supply, handle, lay, bed and joint pipe in accordance with specifications for the following diameters:								
6.5.2.1		a) 600mm diameter (Grade X52) mild steel pipe, 6.0mm wall thickness	m	100	R 4 500.00	450 000.00			0	0.00
6.5.3	SABS 1200L 8.2.2 PSL8.4.6	Extra-over Item 21.6.1 for the supplying, laying, jointing, bedding, testing SG and other specials including couplings and corrosion protection as specified (FBE 300 microns) to suit for use with uPVC. Flanges to be drilled to SABS 1123 Table 16:  uPVC bends								
6.5.3.1		90mm x 11.25°	N°	1	R 140.00	140.00			0	0.00
6.5.3.2		160mm x 11.25°	N°	2	R 357.00	714.00			0	0.00
6.5.3.3		500mm x 11.25°	N°	2	R 6 000.00	12 000.00			0	0.00
6.5.3.4		90mm x 22.5°	N°	1	R 140.00	140.00			0	0.00
6.5.3.5		90mm x 45°	N°	3	R 166.00	498.00			0	0.00
6.5.3.6		160mm x 45°	N°	1	R 406.00	406.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>1 015 579.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>1 015 579.00</b>				<b>0.00</b>
6.5.3.7		355mm x 90°	N°	2	R 8 540.00	17 080.00			0	0.00
6.5.3.8		500mm x 45°	N°	2	R 0.00	0.00			0	0.00
6.5.3.9	SABS 8.2.2	uPVC Tees 160 X 160 mm diameter Equal Tee	N°	1	R 0.00	0.00			0	0.00
6.5.3.10	1200L 8.2.2	uPVC Reducers 160 x 90mm	N°	1	R 423.00	423.00			0	0.00
6.5.3.11		90 x 75mm	N°	2	R 242.00	484.00			0	0.00
6.5.3.12		355 x 310mm	N°	1	R 0.00	0.00			0	0.00
6.5.3.13		Supply and install SG end caps for the following: a) 160mm Ø	N°	2	R 400.00	800.00			0	0.00
6.5.3.14		b) 200mm Ø	N°	1	R 608.00	608.00			0	0.00
6.5.3.10		c) 250mm Ø	N°	2	R 1 053.00	2 108.00			0	0.00
6.6	SABS 1200L 8.2.2 PSL 3.13	<b>STEEL PIPES &amp; SPECIALS</b> <b>Steel Pipework</b> Unless otherwise specified all steel pipes and specials in this section shall be Grade A SABS 719, with a wall thickness of 6.0mm. All pipes and fittings to have an internal and external coating of FBE/Rilsan 350 micron and 1600/3 flanges • Rates to include for 'denso-wrapping' buried bolted connections to specifications. • Rates to include casting into concrete when applicable.								
6.6.1.1		a) 600mm Ø x 90° steel bend with sleeve welded to the one end to accommodate spigoted pipe	No.	2	R 15 423.00	30 846.00			0	0.00
6.6.1.2		b) 600mm Ø x 22.5° steel bend with sleeve welded to the one end to accommodate spigoted pipe	No.	2	R 12 300.00	24 600.00			0	0.00
6.1.1.3		c) 600mm Ø x 45° steel bend with sleeve welded to the one end to accommodate spigoted pipe	No.	1	R 10 822.00	10 822.00			0	0.00
6.6.2		<b>Flexible Slip-On Couplings</b> (“Thomas / Klamfex” or similar approved)								
6.6.2.1		250 mm ø	N°	2	R 747.00	1 494.00			0	0.00
6.6.2.2		355 mm ø	N°	2	R 0.00	0.00			0	0.00
6.6.2.3		500 mm ø	N°	2	R 0.00	0.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>1 104 842.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>1 104 842.00</b>				<b>0.00</b>
6.6.3		Flexible Flanged Couplings ("Thomas / Klamfex" or similar approved)								0
6.6.3.1		200 mm ø	Nº	1	R 797.00	797.00			0	0.00
6.6.3.2		355 mm ø	Nº	2	R 1 257.00	2 514.00			0	0.00
6.6.3.3		450 mm ø	Nº	3	R 0.00	0.00			0	0.00
6.6.4		Flexible Step Couplings ("Thomas / Klamfex" or similar approved)								
6.6.4.1		310 mm ø	Nº	1	R 2 787.00	2 787.00			0	0.00
6.6.4.2		355 mm ø	Nº	1	R 0.00	0.00			0	0.00
6.6.5		Flexible Flange adaptors								
6.6.5.1		600mm Ø 'Maxifit' VJ Flange adaptor or similar approved	No.	2	R 2 810.00	5 620.00			0	0.00
6.7	SABS 1200LD 8.2.3	<b>MANHOLES</b>  Supply and construct 1000mm dia Precast manholes to Dwg. PSLD 1 and 8010/006/042 manholes complete with 25 MPa precast concrete frame and covers with galvanized steel band to covers, incl. water tightness and benching, F.C. Channel and building in of puddle pipes  For pre-cast concrete manholes constructed on all dia pipes:  <u>Over</u> and <u>up to and incl.</u>								
6.7.1		a) 0.00 1.00m	No.	0	R 5 500.00	Rate Only			0	0.00
6.7.2		b) 1.00 1.50m	No.	1	R 6 000.00	6 000.00			0	0.00
6.7.3		c) 1.50 2.00m	No.	2	R 6 500.00	13 000.00			0	0.00
6.7.4		d) 2.00 2.50m	No.	1	R 7 000.00	7 000.00			0	0.00
6.7.5		e) 2.50 3.00m	No.	4	R 7 500.00	30 000.00			0	0.00
6.7.6		f) 3.00 3.50m	No.	1	R 8 000.00	8 000.00			0	0.00
6.7.7		g) 3.50 4.00m	No.	0	R 8 500.00	Rate Only			0	0.00
6.7.8		h) 4.00 4.50m	No.	1	R 9 000.00	9 000.00			0	0.00
6.7.9		i) 4.50 5.00m	No.	0	R 9 500.00	Rate Only			0	0.00
6.7.10		h) 5.00 5.50m	No.	0	R 9 500.00	Rate Only			0	0.00
6.7.11		j) 5.50 6.00m	No.	3	R 9 500.00	28 500.00			0	0.00
<b>Section 6 Carried Forward</b>						<b>1 218 060.00</b>				<b>0.00</b>

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount	Previous Qty	Current Qty	Total Qty	Amount
<b>Section 6 Brought Forward</b>						<b>1 218 060,00</b>				<b>0,00</b>
6.7.14	3.5.8	Extra over Item 6.7.1 to 6.7.14 for:								
6.7.10		Heavy duty concrete cover and frame with galvanized steel bands around the edge of manhole covers. (See Dwg. 8003/075/033)	N°	4	R 4 000,00	16 000,00			0	0,00
6.8	SABS 1200LD 8.2.8 (DRW LD1)	<b>ANCHOR BLOCKS</b> Construct anchor blocks in 10 MPa concrete.	m³	8	R 1 000,00	8 000,00			0	0,00
6.9		<b>PIPE PROTECTION</b>								
6.9.1	8.2.8	Encasing of pipes in 20 MPa concrete where ordered by the Engineer.	m³	8	R 1 800,00	14 400,00			0	0,00
6.9.2	SABS 1200 G	High tensile ref 245 steel mesh:	kg	250	R 30,00	7 500,00			0	0,00
6.10	8.1.2.2(b) PSA 8.4.7	<b>MISCELLANEOUS</b>								
6.10.1		Prescribed mix concrete 20 MPa /19mm complete with formwork where required for reinstatement after installation of sewer pipe to existing manhole.	m³	5	R 1 800,00	9 000,00			0	0,00
6.10.2		Brickwork and block work in walls to be reinstated after installation of sewer pipes	m²	6	R 210,00	1 260,00			0	0,00
6.10.3	8.2.11	<b>Connection to existing Manhole</b> Construct new manhole, to connect into existing sewer line. Allow for all costs involved in connecting to existing manhole reticulation, including for inter alia breaking in, dealing with flow (if any), casting in of pipework, benching and making good								
6.10.3.1		160mm diameter sludge pipe	N°	2	R 6 750,00	13 500,00			0	0,00
6.10.3.2		500mm diameter drain pipe	N°	2	R 8 750,00	17 500,00			0	0,00
6.10.4		<b>Temporary Works</b>								
6.10.4.1		Control of inflow and diversion of backwash water and sludge during construction of manholes	Sum	-		53840			0	0,00
6.10.5		<b>Non Destructive Testing</b>								
6.10.5.1	PSL 5.2.3.6	Additional tests as ordered by the Engineer including for PCM survey and other non destructive pipe testing by specialist	Prov. Sum	-	R 0,00	120 000,00			0	0,00
6.10.5.2		Contractors mark-up on Item 2.8.6.1	%	120 000	R 10,00	12000			0	0,00
6.10.6		<b>Additional Cutting and Welding</b>								
6.10.6.1		The Engineer may request the contractor to perform the following additional works;								
6.10.6.2		Cutting of 600mm steel pipe	N°	10	R 150,00	1500			0	0,00
6.10.6.3		Welding of 600mm steel pipe	N°	10	R 150,00	1500			0	0,00
<b>Total Section 6 Carried to Summary</b>						<b>1 494 060,00</b>				<b>0,00</b>

JAMES KLEYNHANS BULK WATER SUPPLY  
 AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
 SECTION 7: PUMPSTATION

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
7	SABS	<b>SECTION 7: PUMPSTATION (Refer to Particular Specification PX)</b>				
7.1	1200G PSG 8.9	<b>Clear Water High Lift Pumps</b>				
	PX 3	Remove and/or re-install pumpsets complete consisting of pump direct coupled to motor on common baseplate inclusive of fixing/holding mechanism for:				
		Sulzer HPH 28-10, 6 stage pump, Actom Cage Induction 530 kW motor, 380V, 1450 rpm. Duty : 65 l/s to 550m dynamic head				
7.1.1		Disconnect (mechanical & electrical) and remove existing Pump and Motor from baseplate to store and maintain for duration of contract.	N°	2	R25 000.00	R 50 000.00
7.1.2		Install Pump and Motor supplied by others	N°	1	R15 000.00	R 15 000.00
7.1.3		Install removed Pump and Motor	N°	1	R15 000.00	R 15 000.00
7.1.4	PSA 8.21	Test / Commission	N°	2	R35 000.00	R 70 000.00
7.1.5	PSG 8.9	<b>Concrete Plinth</b> Contractor to consult with Sulzer and Actom and to provide the design for the concrete plinth for the installatiuon of the base plate and supply approved structural design drawings / details to Engineer for approval and compliance, to extend / replace the existing concrete plinth.	N°	2	2 500.00	R 5 000.00
7.1.6		Break out (existing plinth and floor) and/or extend existing concrete plinth for base plate to be as required for proposed pump and motor. Amount to allow for all works required for demolishing and/or extension of existing plinth.	N°	2	10 000.00	R 20 000.00
7.1.7		Supply and install concrete plinth 30MPa and reinforcing, formwork, floating, bolts, sleeves, joints, etc as required by approved design. Engineer to approve procedure / method statement.	m <sup>3</sup>	15	4055	R 60 825.00
7.1.8	PSG 8.9	<b>Base Plate</b> Remove existing base plate from existing Sulzer HPH 28-10, 6 stage pump and 530 kW motor and dispose	N°	2	R8 500.00	R 17 000.00
7.1.9		Supply and install new base plate to new and existing Sulzer HPH 28-10, 6 stage pump and 530 kW motor, including fixing, jointing, fastening, etc. Baseplate to be manufactured to ensure existing plinths and pipework can connect without any alterations	N°	2	R39 000.00	R 78 000.00
<b>Section 7 Carried Forward</b>						<b>330 825.00</b>

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SECTION 7: PUMPSTATION

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
<b>Section 7 Brought Forward</b>						<b>330 825.00</b>
7.1.10		Connections and or additional works required for the installation not allowed above.	Prov. Sum	-	0.00	R 150 000.00
	PSA 8.21	<b>Test &amp; Commissioning</b>				
7.1.11		Test and commission the complete	Sum	-	0	15000
7.1.12		Post commissioning site visits (2 No)	Sum	-	0	15000
		<b>Miscellaneous</b>				
		Allow for any additional items which the Tenderer considers to have been omitted and requires to be priced separately				
7.1.13		a)	Sum	-	-	NIL
7.1.14		b)	Sum	-	-	NIL
7.2	SABS 1200L 8.2.5 PSL 3.9 PSL 5.2	<b>STEEL PIPES AND FITTINGS</b>  Unless otherwise specified all steel pipes and specials in this section shall be grade B - SABS 719, with a wall thickness of 8mm. All pipes and fittings to be hot-dipped galvanised and internally lined and externally coated with '250µm FBE'				
	Spec PA Spec PB	Unless otherwise specified all steel specials shall be fabricated to BS543 (1990) specifications  Rates to include for supports, bolts and brackets. Flanges to ANSI (PN 100) or unless otherwise specified. Rates to include for any on site fabrication and matching existing flanges where required  Rates to include casting into concrete where applicable  Rates to include for the supply and installation				
	PX 3.7	<b>SUCTION PIPEWORK</b> Drawing 8010/006/031-032				
7.2.1		250mmø Flanged steel distance piece with 60° bend followed by a 250 x 200mmø eccentric reducer on the other end. Total length ± 1840mm (A1)	N°	1	R16 070.00	R 16 070.00
	PX 3.8	<b>DELIVERY PIPEWORK</b> Drawing 8010/006/031-032				
7.2.2		100mmø Flanged steel distance piece with 100 x 200mmø concentric and 200mmø distance piece on the other end. Total length ±3500mm (C1)	N°	1	5 900.00	R 5 900.00
<b>Section 7 Carried Forward</b>						<b>532 795.00</b>



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SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
<b>Section 7 Brought Forward</b>						<b>532 795.00</b>
7.2.3		200mmø 90° Flanged steel bend (C2)	N°	1	R9 591.00	R 9 591.00
7.2.4		200 X 50mmø Flanged Steel Tee ±500mm long (C4)	N°	1	R7 716.00	R 7 716.00
7.2.5		500mmø Flanged lateral with flanged 200mmø 45° branch ±3000mm long. 200mmø branch to have 50mmø flanged Tee. (C6)	N°	1	R43 000.00	R 43 000.00
7.2.6		50mmø Flanged 90° steel bend with an extended straight section on either side of bend. (C7)	N°	1	R1 050.00	R 1 050.00
7.2.7		Remove existing 500mmø Flanged steel end cap, incl. valve and drain pipe and place on new flanged 500mmø lateral. (C9)	N°	1	R5 500.00	R 5 500.00
7.3	PA PA 3	<b>Extra-over Item 7.2 for the supplying, installing, jointing, testing CI and other specials including couplings and corrosion protection to suit for use with steel piping:</b>  <b>Gate Valve</b>  Wedge Gate Valve Insamcor / Ainsworth or similar approved, suitable for flow control and actuator (C8)				
7.3.1		50 mm ø PN 100 (C8)	N°	1	R 42 000.00	R 42 000.00
7.3.2		200 mm ø PN 100 (C5)	N°	1	R 75 000.00	R 75 000.00
7.3.3	PX 2	Stainless Steel glycerine filled pressure	N°	2	3500	R 7 000.00
7.3.4	PA PA 5 PDB5 PSL 3.13	<b>Non Return Valve</b>  High pressure combination cast steel single door or piston or nozzle, fast closing, non slam, soft closing swing wafer check valve (Flanged) the design of the valve to have a minimal water hammer effect (Ainsworth / Checkrite / Ultra or similar approved)				
7.3.4		200 mm ø PN 100 (C3)	N°	1	R 123 250.00	R 123 250.00
7.3.5	PA PA 9	<b>Actuator</b>  Electric Multi-turn Actuators SA07.6, A-Drive, 4RPM, AM01.1 Basic Version 24V DC Control Additional limits 10%, D/S Plug, IP68, Auma Actuator for 50mmø Wedge Gate Valve (PN 100) or similar approved				
7.3.5		50 mm ø Valve Actuator (C11)	N°	2	60750.00	R 121 500.00
<b>Section 7 Carried Forward</b>						<b>968 402.00</b>

JAMES KLEYNHANS BULK WATER SUPPLY  
AUGMENTATION OF THE JAMES KLEYNHANS WTW - PHASE 1  
SECTION 7: PUMPSTATION

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
<b>Section 7 Brought Forward</b>						<b>968 402.00</b>
7.3.6		Electric Multi-turn Actuators SA14.6, A-Drive, 16RPM, AM02.1 Basic Version 24V DC Control Additional limits 10%, D/S Plug, IP68, Auma Actuator for 200mmø Wedge Gate Valve (PN 100) or similar approved  200 mm ø Valve Actuator (C10)	Nº	2	R 85 000.00	R 170 000.00
7.3.7	PB	<b>Pressure Guages</b>  100mm dia Stainless Steel glycerine filled pressure gauges	Nº	4	3500	R 14 000.00
7.3.8		<b>Interem Storage</b>  Interim storage of all equipment (Items 7.1 to 7.3) including insurance and double handling	Sum	-		5000
7.4	PI	<b>BUILDING ALTERATIONS</b>  <b>BRICKWORK</b>  Break down existing wall				
7.4.1		Break down existing 230 mm wall between switchgear room and store room and dispose of all rubble	m <sup>2</sup>	10	125	R 1 250.00
7.4.2		<b>Common Brick</b>  Supply and install common brickwork in 5 : 1 cement mortar including wire ties, cutting etc:  110 mm Selected local stock brick (Internal)	m <sup>2</sup>	5	320	R 1 600.00
7.4.3		230 mm Selected local stock brick (Foundations)	m <sup>2</sup>	5	420	R 2 100.00
7.4.4	PI 13	<b>Face Brick</b>  Supply and install approved face bricks (match existing), pointed in 5 : 1 cement mortar with half round weather struck joints including tying into existing wall, cleaning on completion  230 mm Selected local face brick (External)	m <sup>2</sup>	10	500	R 5 000.00
7.4.5	1200 G 8.1.3.3	<b>REINFORCEMENT</b>  Break out existing concrete slab  Break out existing 100 mm thick concrete floor slab as directed by the engineer to the switchgear room and dispose of all rubble	m <sup>2</sup>	15	250	R 3 750.00
<b>Section 7 Carried Forward</b>						<b>1 171 102.00</b>

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SECTION 7: PUMPSTATION

SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
<b>Section 7 Brought Forward</b>						<b>1 171 102.00</b>
		<b>Concrete</b>				
		Unreinforced 25MPa cement concrete in:				
7.4.6		Foundations	m <sup>3</sup>	1	R 2 000.00	R 2 000.00
7.4.7		Steps	m <sup>3</sup>	1	R 2 000.00	R 2 000.00
7.4.8		Ramps and Apron	m <sup>3</sup>	1	R 2 000.00	R 2 000.00
		Reinforced 25MPa cement concrete in:				
7.4.9		Surface Beds	m <sup>3</sup>	4	R 2 000.00	R 8 000.00
		<b>Formwork</b>				
		Temporary smooth formwork to concrete (use and waste)				
7.4.10		Edge not exceeding 100 mm high	m	10	R95.00	R 950.00
7.4.11		Riser exceeding 100 and not exceeding 400 mm high	m	25	R95.00	R 2 375.00
		<b>Steel rod reinforcement</b>				
		Bars of various diameters as reinforcement to slabs.				
7.4.12			kg	500	R13.00	R 6 500.00
7.4.13		Fabric reinforcement reference No 395 lapped 100mm at all edges to concrete surface beds or slabs	m <sup>2</sup>	30	50	R 1 500.00
7.4.14		Drill and anchor into place R8 steel dowels 350mm long cranked on one end with structural epoxy and chemically curing	N <sup>o</sup>	8	R500.00	R 4 000.00
		<b>Sundries</b>				
7.4.15		Strike off and cure the top surface of concrete surface beds.	m <sup>2</sup>	20	R25.00	R 500.00
		<b>PLASTERING</b>				
		<b>Screeds</b>				
		Average 25 mm thick 3 : 1 cement screed on horizontal concrete surfaces trowelled smooth to receive floor finish (elsewhere).	m <sup>2</sup>	20	150	R 3 000.00
		<b>Internal Plaster</b>				
		Install 4 : 1 cement plaster 12mm thick to vertical brick walls, incl. Narrow widths and rounded angle	m <sup>2</sup>	8	110	R 880.00
<b>Section 7 Carried Forward</b>						<b>1 204 807.00</b>

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SCHEDULE OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
<b>Section 7 Brought Forward</b>						<b>1 204 807.00</b>
7.4.18		Horizontal brick or concrete soffits.	m <sup>2</sup>	2	85	R 170.00
7.4.19		<b>External Plaster</b> Install 4 : 1 cement plaster 12mm thick to vertical brick walls, incl. Narrow widths and rounded angle	m <sup>2</sup>	15	110	R 1 650.00
7.4.20		Horizontal brick or concrete soffits.	m <sup>2</sup>	5	110	R 550.00
7.4.21		<b>Ceiling</b> Supply and Install ceilings to switchgear room and store room incl. all brandering, rhinoboard ceiling and cornice, etc	m <sup>2</sup>	40	250.00	R 10 000.00
<b>Total Section 7 Carried to Summary</b>						<b>1 217 177.00</b>

