



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

MEMORANDUM OF AGREEMENT

FOR THE

**SIR LOWRY'S PASS RIVER, 2.7KM RIVER UPGRADE FROM THE N2
TO FALSE BAY, GORDON'S BAY**

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

And

**CSV CONSTRUCTION (PTY) LTD
(REGISTRATION NO. [REDACTED])**

Contract No. 256Q/2019/20

PREAMBLE

WHEREAS Tender 256Q/2019/20 was awarded to **CSV Construction (Pty) Ltd**, in line with resolution **SCMB 36/04/22** dated **11 April 2022** for the Sir Lowry's Pass River - 2.7 Km River Upgrade From The N2 To False Bay, Gordon's Bay, for a period not exceeding 42 months, from date of commencement until **04 May 2026**, in the amount of **R292 395 526.45** (excluding VAT) and **R336 254 855.42** (including VAT).

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

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. PARTIES

- 1.1. The City of Cape Town, a metropolitan municipality, established in terms of the Local Government: Municipal Structures Act. 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("the City"), herein represented by the Director:Water and Sanitation and duly authorised hereto;
- 1.2. CSV Construction (Pty) Ltd, a Private Company registered in terms of the laws of the Republic of South Africa with Registration no: [REDACTED] with its principal place of business situated at [REDACTED] ("the Contractor"), herein represented by its duly authorised representative, [REDACTED] in her/his capacity as Project Manager hereinafter jointly referred to as "Parties" and in singular, a "Party".

2. INTERPRETATION

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

2.2.1 first, the terms and conditions of the CSD;

2.2.2 second, the terms and conditions of the General Conditions of Contract for Construction Works, Third Edition, 2015, prepared by the South African Institution of Civil Engineering (SAICE);

2.2.3 third, Parts and schedules to this Contract; and

2.2.4 fourth, any other documents incorporated by reference.

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

3. APPOINTMENT AND DURATION

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

3.2. Unless terminated earlier in accordance with the provisions as set out in the SAICE or any other provision in terms of this Contract, this Contract shall commence on the Commencement Date and shall terminate on the 04 May 2026.

4. MUTUAL GOOD FAITH / CO-OPERATION

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

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

5. OBLIGATIONS OF THE EMPLOYER

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

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

6. OBLIGATIONS OF THE CONTRACTOR

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

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

7. PRICING DATA

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

COMPULSORY ENTERPRISE QUESTIONNAIRE

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

SCHEDULE 1: COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise: CSV CONSTRUCTION (PTY) LTD.

Section 2: VAT registration number, if any: [REDACTED]

Section 2a: National Treasury Central Supplier Database registration number: [REDACTED]

Section 2b: SARS Tax Compliance Status PIN: [REDACTED]

Section 3: CIDB registration number, if any: [REDACTED]

Section 4: Particulars of sole proprietors and partners in partnerships

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

Section 5: Particulars of companies and close corporations

Company registration number: [REDACTED]

Close corporation number: [REDACTED]

Tax reference number: [REDACTED]

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

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

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

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

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

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

Signed

Date 12/05/2020

Name

Position

SENIOR ESTIMATOR

Enterprise name

CSV CONSTRUCTION (PTY) LTD

PART C1 : AGREEMENTS AND CONTRACT DATA

Part C1.1: Offer and acceptance

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

C1.1 Form of Offer and Acceptance

Offer

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

CONTRACT NO. 256Q/2019/20: SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

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

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

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

Rand THREE HUNDRED AND THIRTY - SIX MILLION, TWO HUNDRED AND FIFTY-FOUR THOUSAND, EIGHT HUNDRED AND FIFTY - FIVE RAND AND FORTY-TWO CENTS (in words);
R: 336 254 855 - 42 (in figures)

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

Signature(s)

Name(s)

Capacity **PROCUREMENT MANAGER**

for the tenderer

(Name of organization/tenderer)

CSV CONSTRUCTION (PTY) LTD

(Address of organization/tenderer)

Name and
signature
of witness

Date **21/05/2020**

For official use.

INITIALS OF CITY OFFICIAL

Contract
Part C1: Agreements and Contract Data
Contract No. 256Q/2019/20

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C1.1
Form of Offer and Acceptance

Part C1.1: Offer and acceptance (continued)

Acceptance

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

The terms of the contract are contained in:

- Clause 1 to 7, and the sub-clauses therein, cited in pages 1 to 4 above;
- Part C1: Agreements and contract data (which includes this agreement)
- Part C2: Pricing data
- Part C3: Scope of work
- Part C4: Site information
- Part C5: Technical Specifications

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

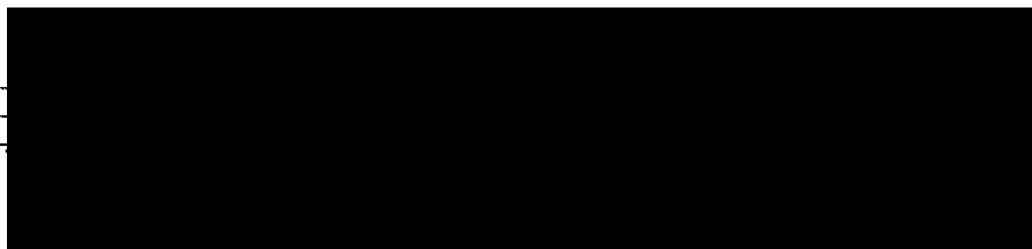
Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of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

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

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

The Parties	Employer	Contractor
Business Name	CITY OF CAPE TOWN	CSV CONSTRUCTION (PTY) LTD
Business Registration	N/A	
Tax number (VAT)	4500193497	
Physical Address	Tower Block, Civic Centre, 12 Hertzog Boulevard Cape Town 8001	
Accepted contract sum including tax	As contained in PART C2	As contained in PART C2
Accepted contract duration	From date of commencement until 16 December 2026	From date of commencement until 16 December 2026
Signed – who by signature hereto warrants authority		
Name of signatory		
Signed: Date	11-11-2022	10/11/2022
Signed: Location	CAPE TOWN	BELLVILLE

Signed: Witness	
Name of Witness	





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

OFFICE OF THE CITY MANAGER

Lungelo Mbandazayo
City Manager

T: 021 400 1330

E: City.Manager@capetown.gov.za

CM64830

MEMORANDUM

DATE: 31st October 2022

To: Executive Director: Water and Sanitation, Mr. Mike Webster

SUBJECT: **AWARDING OF CONTRACT WHICH WILL INCUR FINANCIAL OBLIGATIONS BEYOND THE BUDGET CYCLE: TENDER NUMBER: 256Q/2019/20: SIR - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY**

The abovementioned matter refers.

Kindly note that in terms of Council Resolution C 37/10/22, I hereby nominate the Executive Director: Water and Sanitation, Mr. Mike Webster to sign the abovementioned contract on behalf of the City.

Kindly ensure that all relevant pages are signed and completed and the necessary diligence is taken prior to signature thereof.

Thank you for your assistance.

Digitally signed by Lungelo
Mbandazayo
Date: 2022.10.31 19:38:50 +02'00'

LUNGELO MBANDAZAYO
CITY MANAGER

EXTRACT FROM MINUTES

**OF THE ORDINARY MEETING OF THE COUNCIL OF THE CITY OF CAPE TOWN
HELD IN THE COUNCIL CHAMBER, 6th FLOOR, PODIUM, CIVIC CENTRE, CAPE
TOWN ON THURSDAY, 27 OCTOBER 2022 AT 10H00**

**C 37/10/22 AWARDING OF CONTRACT WHICH WILL INCUR FINANCIAL
OBLIGATIONS BEYOND THE BUDGET CYCLE: TENDER NUMBER:
256Q/2019/20: SIR - 2.7 KM RIVER UPGRADE FROM THE N2 TO
FALSE BAY, GORDON'S BAY**

RESOLVED that:

- (a) Council determined that the City of Cape Town will derive a significant financial economic benefit from the contract for the 2022/23 to 2025/26 budget cycle (Excluding defects and liability period);
- (b) the entire contract exactly as they are to be executed incurring a financial obligation for 42 months, with an additional 12 months for the defects and liability period and in the estimated amount of R292 395 526.45 excluding VAT and an allowance for Contract Price Adjustment estimated in the amount of R36 703 448.84 excluding VAT, funded from the External Financing Fund as confirmed in the financial footnote attached to the report on the agenda be approved;
- (c) the City Manager, or his nominee, be authorised to sign the above contracts.

**ACTION: W DAVIDS, M KILLICK, F VON MOLTKE, M WEBSTER, L
MBANDAZAYO, S ABEL**

FORM OF OFFER AND ACCEPTANCE (Continued)

Schedule of Deviations

Notes:

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

1 Subject NONE.....
Details N/A.....

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

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

Part C1.2: Contract Data

GENERAL CONDITIONS OF CONTRACT

The following standardised General Conditions of Contract:

General Conditions of Contract for Construction Works, Third Edition, 2015

prepared by the South African Institution of Civil Engineering (SAICE) shall apply to and form the General Conditions of Contract for this contract. Copies of these conditions of contract are obtainable from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za.

Copies of the General Conditions of Contract are available for inspection and scrutiny at the offices of the Employer.

The Pro-formas bound with the General Conditions of Contract 2015, on pages 96 to 113 shall not apply to this Contract and shall be replaced with the documents bound into this Contract Document.

The General Conditions of Contract make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

The General Conditions of Contract shall be read in conjunction with the variations, amendments and additions set out in the Contract Specific Data below. Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) the Form of Offer and Acceptance,
- b) the Contract Specific Data within the Contract Data,
- c) the General Conditions of Contract for Construction Works, Third Edition, 2015,
- d) the Drawings,
- e) the Scope of Work,
- f) the Pricing Data, and
- g) the conditions of tender, the tender data and tender schedules

If an ambiguity or discrepancy is found in the documents, the Employer's Agent shall issue any necessary clarification or instruction.

CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract:

Clause 1.1.1.2:

Add the following after "Bill of Quantities":

, also referred to as Bills of Quantities,

Clause 1.1.1.13:

The Defects Liability Period is 12 months.

Clause 1.1.1.14:

The time for achieving Practical Completion is **42 (Forty Two) months**, inclusive of the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).

Clause 1.1.1.15:

The **Employer** is the CITY OF CAPE TOWN, represented by the DIRECTOR: WATER AND SANITATION and/or such other person or persons duly authorised thereto by the Employer in writing.

The name of the Employer is: CITY OF CAPE TOWN: WATER AND SANITATION

and is referred to in the Contract documents by the terms "Employer", "City of Cape Town" or "Council" as the context provides.

Clause 1.1.1.16:

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

Clause 1.1.1.26:

The Pricing Strategy is a Re-measurement Contract.

Add the following Clauses after Clause 1.1.1.34:

1.1.1.35 "Drawings" means all drawings, calculations and technical information forming part of the Contract Documents and any modifications thereof or additions thereto from time to time approved in writing by the Employer's Agent or delivered to the Contractor by the Employer's Agent.

1.1.1.36 "Letter of Notification" means the letters of formal notification, signed by the Employer, of the decision of the Supply Chain Management Bid Adjudication Committee sent to all tenderers. The notification of the decision does not form part of the Employer's Acceptance of the successful tenderer's Offer and no rights shall accrue.

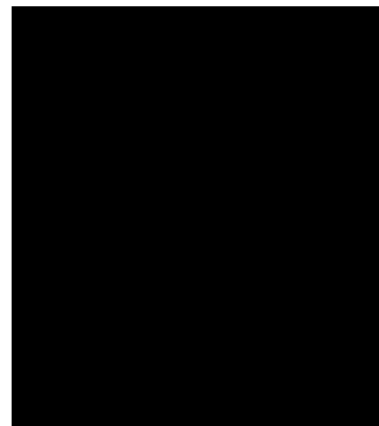
Clause 1.2.1.2:

The address of the Employer is:

Physical address: 3rd Floor, 8 Voortrekker Road, c/o Voortrekker and Mike Pienaar Blvd,
BELLVILLE, 7375

Postal address: P O Box 298
Cape Town
8001

E-mail address:



Clause 1.2.1.2:

The address of the Employer's Agent is:

Physical address:

Postal address:

E-mail address:

Clause 3.1

Delete clause

Clause 3.2.3:

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

- a) Clause 3.3.1 Nomination of Employer's Agent's Representative
- b) Clause 3.3.4 Employer's Agent's authority to delegate
- c) Clause 5.8.1 Non-working times
- d) Clause 5.11.2 Suspension of the Works
- e) Clause 5.12.4 Acceleration instead of extension of time
- f) Clause 6.3.1 Ordering of any variation that causes the contract price to exceed the contract sum
- g) Clause 6.10.10 Advance payment, for items not listed in the Advance Payment Schedule.
- h) Other requirements.

Clause 4.1:

Add the following Clause after Clause 4.1.2:

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

Clause 5.3.1:

The documentation required before commencement with Works execution is:

- a) Approved Health and Safety Plan (Refer to applicable clause in the Health and Safety Specification in Part C3.5 in the Scope Work)
- b) Initial programme (Refer to Clause 5.6)
- c) Security (Refer to Clause 6.2)
- d) Evidence of Insurance (Refer to Clause 8.6)
- e) Occupational Health and Safety Agreement (Part C1.5 in Agreements and Contract Data)
- f) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 4.3)
- g) Protection of the Environment Declaration (Part C1.6 in Agreements and Contract Data)
- h) Proof of Registration / Letter of Good Standing with the Bargaining Council for the Civil Engineering Industry (BCCEI)
- i) Insurance Broker's Warranty (C1.7 of the Contract Document)
- j) Contract of Temporary Employment as Community Liaison Officer (C1.8 of the Contract Document)

Add the following to Clause 5.3.1:

Such instruction shall, where the Contract Sum exceeds one hundred and thirty million Rand (R130 000 000), also be subject to the issuing, by the Provincial Director of the Department of Labour, of a construction work permit to perform the intended construction work in terms of Clause 5.3.4 below.

Clause 5.3.2:

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

Clause 5.3.3:

Add the following to Clause 5.3.3:

Notwithstanding the above, where the Contract Sum exceeds one hundred and thirty million Rand (R130 000 000), and a construction work permit from the Provincial Director of the Department of Labour is required, commencement of the Works shall not be deemed to take place until such construction work permit has been issued by the Provincial Director.

Clause 5.3.4:

Add the following Clause after Clause 5.3.3:

5.3.4 Application for Construction Work Permit

Where the Contract Sum exceeds one hundred and thirty million Rand (R130 000 000), the Employer shall, in compliance with Regulation 3 of the Construction Regulations, read together with the exemptions published in Government Notice dated 7 July 2015, apply to the Provincial Director of the Department of Labour for a construction work permit to perform the intended construction work. The employer will apply for the construction work permit as soon as possible after its Bid Adjudication Committee has awarded the contract, and the period that the Department of labour requires to issue the permit will run concurrently with the appeal period.

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

Clause 5.4.2:

Access to and possession of the Site shall not be exclusive to the Contractor insofar as the provisions of Clause 4.8 apply, and where ongoing use by the general public is required.

Add the following Clause after Clause 5.4.3:

5.4.4 The Contractor shall bear all costs and charges for special and temporary rights of way required by it in connection with access to the Site.

Clause 5.6.2.3:

Insert the following after "...approvals,"

permits,

Clause 5.8.1:

The non-working days are Sundays.

The special non-working days are:

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

Clause 5.12.2.2:

Add the following to Clause 5.12.2.2:

No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature. However, in the event that delays to critical activities exceed the number of working days listed below for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time may be claimed in accordance with the provisions of Clause 5.12.

The number of days quoted below shall be regarded as a fair estimate of the delays to be anticipated and allowed for under normal climatic conditions where inclement weather prevents or disrupts critical work.

January	1 (0)* days
February	1 days
March	1 days
April	2 days
May	3 days
June	4 days
July	4 days
August	4 days
September	3 days
October	2 days
November	1 days
December	1 (1)* days

* The figures shown in brackets are the average number of days expected in December / January, but reduced to take account of the construction industry break at the end of the year.

Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously as each day or half-day delay is experienced.

It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained.

Clause 5.13.1:

The penalty for failing to complete the Works is **R12 500** per day.

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

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

Clause 5.16.3:

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

Clause 6.2.1:

The security to be provided by the Contractor shall be a performance guarantee of **7%** of the Contract Sum. The performance guarantee shall contain the precise wording of the document included in Part C1.3 of the Contract Data: **Form of Performance Guarantee**, and it shall be issued by a financial institution approved by the Employer at the date when the guarantee is issued. The list of approved financial institutions current at the date of tender is attached to the **Form of Performance Guarantee**.

Clause 6.2.2:

Delete Clause 6.2.2 in its entirety.

Clause 6.2.3:

Delete Clause 6.2.3 in its entirety and replace with the following:

The Contractor shall ensure that the performance guarantee remains valid and enforceable until the Certificate of Completion of the Works is issued.

Clause 6.5.1.2.3:

The percentage allowance to cover overhead charges is **10%**

Clause 6.8.2:

Add the following to Clause 6.8.2:

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

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

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

The value of "x" is 0,10.

The values of the coefficients for "concrete works" are:

a = 0,25 b = 0,15 c = 0,55 d = 0,05

The values of the coefficients for "earthworks and general civil engineering works" are:

a = 0,15 b = 0,50 c = 0,20 d = 0,15

The amount "Ac" shall be sub-divided into Ac₁ and Ac₂, as appropriate, and each of these shall be multiplied by its Contract Price Adjustment Factor (CPAF), with the resultant amounts added together to produce the adjustment as envisaged in the CPA Schedule:

where

Ac₁ is the proportion of Ac applicable to "Concrete works", and

Ac₂ is the proportion of Ac applicable to "Earthworks and general civil engineering works"

and where

Ac₁ = T₁ - S₁ - D₁ - E₁ - G₁ - Ap₁, and

Ac₂ = T₂ - S₂ - D₂ - E₂ - G₂ - Ap₂

in which formulae the values associated with the symbols T₁ and T₂... Ap₁ and Ap₂ shall be applicable to the proportions of T ... Ap in "Concrete works" and "Roads and earthworks", respectively.

Furthermore, the value of the General Items shall be proportional to the value of work done and materials on Site in T₁ and T₂ respectively.

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

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

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

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

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

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

Clause 6.8.3: Variation in the cost of special materials

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

Clause 4.2 of the Contract Price Adjustment Schedule

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

Clause 6.8.4:

Add the following to Clause 6.8.4:

Notwithstanding the above, in the event that a public holiday is proclaimed after 28 days before the closing date for tenders, no costs other than those that can be claimed under Clause 5.12.3 shall be added to the contract price.

Add the following after Clause 6.8.4:

6.8.5. If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract data, such adjustment shall be based on the information contained on the schedule titled **"Price Basis for Imported Resources"** and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled **"Price Basis for Imported Resources"** (column (F)) shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate quoted by Employer's main banker, ABSA, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column (B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

6.8.5.1 Adjustment for variations in rates of exchange:

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

6.8.5.2 Adjustment for variations in customs surcharge and customs duty

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

6.8.5.3 Adjustment for variation in labour and material Costs

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

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

Clause 6.10.1.5:

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

6.10.1.5 The value of Plant and materials:

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

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

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

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

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

Clause 6.10.1.7:

Add the following after the words "Clause 5.13":

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

Clause 6.10.3:

Add the following to Clause 6.10.3:

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

Clause 6.10.4:

Add the following to the last sentence of Clause 6.10.4:

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

Add the following to Clause 6.10.4:

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

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

Clause 6.10.10:

Add the following Clause after Clause 6.10.9:

6.10.10 Advance payment

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

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

The Employer's Agent shall issue an Interim Payment Certificate for, or including, advance payment after receiving a statement under Clause 6.10.1 and after the Employer has received a guarantee in an amount equal to the advance payment requested. This guarantee shall be issued by a financial institution approved by the Employer, as listed in the Annexure in Part C1.3 of the Contract Data, and shall be in the form of and shall contain the precise wording of the document included in Part C1.4: **Form of Advance Payment Guarantee** and shall come into force, be administered and expire in terms thereof.

The Employer shall return the guarantee to the Contractor within 14 days after the expiry date.

The provision of the Advanced Payment Guarantee shall be at the Contractor's cost.

The term "deposit" or "deposit with order" used in the context of this Clause and elsewhere by reference to this Clause, means a sum payable by the Contractor to a manufacturer/supplier prior to the manufacture of an item of Plant or material, required at the time of placing an order, the balance of the value of the item being payable later.

Clause 8.6.1.1.2:

The value of Plant and materials supplied by the Employer to be included in the insurance sum is **R 0.00 (Nil)**.

Clause 8.6.1.1.3:

The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is **R0.00 (Nil)**.

Clause 8.6.1.3:

The limit of indemnity for liability insurance is **R20 000 000.00** for any single claim – the number of claims to be unlimited during the construction and defects liability periods.

Clause 8.6.1.5:

In addition to the insurances required in terms of General Conditions of Contract Clauses 8.6.1.1 to 8.6.1.4 the following insurance is also required:

- a) Insurance of Construction Equipment (including tools, offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the site for a sum sufficient to provide for their replacement.
- b) Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- c) Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity.
- d) Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.

Clause 8.6.5:

Delete the following from Clause 8.6.5:

"and the terms thereof shall be subject to the approval of the Employer's Agent, which approval shall not be unreasonably withheld."

Clause 8.6.6:

Replace clause 8.6.6 with the following:

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

Clause 9.1:

In Clause 9.1.6 replace "and 9.1.3" with:

, 9.1.3 and 9.1.7

Add the following Clause after Clause 9.1.6:

9.1.7 Death of Sole Proprietor/Member

Upon the death of the Contractor who was a Sole Proprietor, or a sole member of a Close Corporation, the Contract will terminate forthwith. The Employer shall pay to the Contractor's estate any money which it considers due under the Contract in terms of Clause 9.1.5, in full and final settlement thereof.

Clause 10.5.3:

The number of ad-hoc Adjudication Board Members to be appointed is 1(one).

ADDITIONAL CONDITIONS OF CONTRACT

Add the following Clause after Clause 10:

Clause 11 Details to be confidential

The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without the prior written consent of the Employer's Agent.

Clause 12: Protection of Personal Information

- 12.1 The Contractor acknowledges that, for the purposes of the service level agreement, they may come into contact with or have access to personal information and other information that may be classified or deemed as private or confidential and for which CCT is responsible in terms of POPIA. Such personal information may also be deemed or considered as private and confidential as it relates to POPIA.
- 12.2 The Contractor agrees that they will at all times comply with POPIA and CCT's Privacy Notice, and that it shall only collect, use and process personal information it comes into contact with pursuant to this agreement in a lawful manner, and only to the extent required to execute the services, or to provide the goods and to perform their obligations in terms of the service level agreement.
- 12.3 The Contractor agrees that it shall put in place, and at all times maintain, appropriate physical, technological and contractual security measures to ensure the protection and confidentiality of the personal information that it, or its employees, its contractors or other authorised individuals comes into contact in relation to the service level agreement.
- 12.4 The Contractor agrees that it shall notify CCT immediately where there are reasonable grounds to believe that the personal information of a data subject has been accessed or acquired by any unauthorised person.
- 12.5 Unless so required by law, the Contractor agrees that it shall treat the personal information as confidential and further not disclose any personal information as defined in POPIA to any third party without the prior written consent of CCT.
- 12.6 The Contractor hereby indemnifies and holds the CCT harmless against all claims, losses, damages costs of whatsoever nature suffered by CCT arising from or in relation to the Contractor's (and/or

employees', agents' and sub-contractors') non-compliance with applicable data protection laws and/or other legislation.

- 12.7 The Contractor agrees that CCT may conduct regular data protection audits on the Contractor and undertakes to give its full co-operation in this regard.

Clause 13. Performance Monitoring

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

SPECIAL MATERIALS SCHEDULE		
Each material dealt with as a special material in terms of Clause 4.1 of the Contract Price Adjustment Schedule of the General Conditions of Contract is stated in the list below. The provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials. The base prices for the special materials (current at the time of tender) shall be as stated in the schedule below, or where required, shall be furnished by the tenderer/contractor. Only those materials listed by the Employer below shall be considered as special materials.		
Special Material	Unit	Base Price
Bitumen (50/70 penetration grade)	t	R 6475 (October 2019, Engen)
Bitumen (70/100 penetration grade)	t	R 6450 (October 2019, Astron)
Structural steel	t	The ArcelorMittal prices, as published in their official price lists, current at the time of tender closing, will be used as the base prices for determining the adjustment in steel prices.
Steel reinforcing bars	t	
Steel used in the manufacture of pipes	t	
Conditions: - When called upon to do so, the contractor shall substantiate the prices to be used to determine the adjustment in respect of the special materials listed above with acceptable documentary evidence. - In the case of bituminous products, the Employer has provided, in the schedule above, a base rate for bitumen upon which the tendered rates will be deemed to be based, and which will be used for determining the adjustment in the price of such bituminous products. - Where an adjustment for the variation in the price of bituminous products is claimed, the claim must be substantiated by a declaration from the manufacturer, confirming the source of bitumen used in such bituminous products at the time in question. - Where the source of bitumen (the refinery) is located in the Western Cape Province, or where bitumen sourced from abroad is landed at a port in the Western Cape, the cost of transporting such bitumen within the boundaries of the Western Cape shall be included in the rate for bituminous products. Extra-over rates to cover the cost of transporting bitumen from beyond the borders of the Western Cape have been measured separately in the Bill of Quantities. - Where imported bitumen used in bituminous products is landed at a port beyond the borders of the Western Cape, the importers must clearly state whether or not their price is inclusive of transport to the Western Cape, which will determine whether extra-over transport costs are applicable, or not. The price of the imported bitumen itself must be expressed as a landed price in ZAR.		

ADVANCE PAYMENT SCHEDULE (Not applicable)

This Advance Payment Schedule is to be read in conjunction with Clauses 6.10.1.5.2, 6.10.1.5.3 and 6.10.10 in the Contract Specific Data. The purpose of this schedule is to itemise specific Plant and materials not yet brought on to the Site for building into the Permanent Works and for which the Employer is prepared to make advance payments to the Contractor, subject to the conditions below.

The items of Plant and materials which have been identified by the Employer as being suitable for advance payment in terms of the Contract are listed in the table below. Should an item or items be added to the list at tender stage by a tenderer, such item(s) will not be binding on the Employer.

Plant and materials which have been manufactured and are stored at places other than the Site:	Plant and materials yet to be manufactured and for which a deposit with order is required from the Contractor by a manufacturer/supplier, and which may be stored at places other than the Site after manufacture:

Conditions:

- 1) The Contractor can only rely on advance payment being permitted by the Employer in respect of the Plant and materials listed in the table above. The Employer may, however, permit advance payment for other Plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Contractor.
- 2) Advance payment for the purposes of deposits will only be provided up to a limit of 20% of the value of any one item being claimed.
- 3) The Contractor shall provide the Employer with documentary evidence of the terms and conditions for which a deposit with order is required by a manufacturer/supplier, together with the advance payment guarantee.
- 4) The Contractor will also be permitted to obtain advance payment for the balance of the value of the Plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored at a place other than the Site. The Contractor shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Employer upon request, for the whole value of the item.

Part C1.3: Form of Performance Guarantee

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

C1.3 Form of Performance Guarantee

PERFORMANCE GUARANTEE

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

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: The City of Cape Town, WATER AND SANITATION.

"Contractor" means:

"Employer's Agent" means:

"Works" means: 256Q/2019/20 SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

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

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

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

Amount in words:

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

Amount in words:

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

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:

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

13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

ANNEXURE

LIST OF APPROVED FINANCIAL INSTITUTIONS

The following financial institutions are currently (as at 18 October 2019) approved for issue of contract guarantees to the City:

National Banks:

ABSA Bank Ltd.
FirstRand Bank Ltd.
Investec Bank Ltd.
Nedbank Ltd.
Standard Bank of SA Ltd.

International Banks (with branches in SA):

Barclays Bank plc.
Citibank n.a.
Credit Agricole Corporate and Investment Bank
HSBC Bank plc.
JP Morgan Chase Bank
Societe Generale
Standard Chartered Bank

Insurance companies:

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

Part C1.4: Form of Advance Payment Guarantee

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

C1.4 Form of Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

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

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: The City of Cape Town, WATER AND SANITATION.

"Contractor" means:

"Employer's Agent" means:

"Works" means: 256Q/2019/20: SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

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

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

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

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

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

Amount in words:

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

CONTRACT DETAILS

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

ADVANCE PAYMENT GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Advance Payment Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Advance Payment Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Advance Payment Sum, whichever occurs first.

Contract

Part C1: Agreements and Contract Data

Contract No. Error! Unknown document property name:

Form of Advance Payment Guarantee

C1.4

3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Advance Payment Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Advance Payment Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Advance Payment Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Advance Payment Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Advance Payment Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Advance Payment Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Advance Payment Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
11. This Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Advance Payment Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act; notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

Schedule of Plant and materials

For use with Advance Payment Guarantees on contracts using the General Conditions of Contract for Construction Works, Third Edition, 2015.

Employer The City of Cape Town, WATER AND SANITATION

Contractor

Works 256Q/2019/20: SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

Payment
Certificate No.

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

Bill of Quantities item no.	Description of Plant and materials	Deposit with order required (Y/N)	Place of storage (or manufacture, if deposit with order is required)	Unit	Quantity	Unit price R c	Total Price R c
Total Value of Plant and materials to be included in Guaranteed Advance Payment Sum R							

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

.....
for the Contractor

As witness

.....
Approved by Employer's Agent

Part C1.5: Occupational Health and Safety Agreement

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

C1.5 Occupational Health and Safety Agreement

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

CSV CONSTRUCTION (PTY) LTD
(Contractor/Mandatory/Company/CC Name)

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

I, [REDACTED], representing

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

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

COLD ACT Registration Number: [REDACTED]

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

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

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

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

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

Signed at BELLVILLE on the 10th day of NOVEMBER 2022

Witness

Signed [REDACTED] on the 10th day of NOVEMBER 2022

W

M J W
for and on behalf of
City of Cape Town

OCCUPATIONAL HEALTH AND SAFETY CONDITIONS

1. The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.
2. All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations 2014.
3. The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.
4. The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he, his employees, and any sub-contractors, comply with them.
5. Discipline in the interests of occupational health and safety shall be strictly enforced.
6. Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.
7. Written safe work procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.
8. No substandard equipment/machinery/articles or substances shall be used on the site.
9. All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.
10. The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act and into any incident involving a Contractor and/or his employees and/or his sub-contractor/s.
11. No use shall be made of any of the Employer's machinery/plant/equipment/substance/personal protective equipment or any other article without prior arrangement and written approval.
12. No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to, or allowed to remain on the site.
13. Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.

Part C1.6: Protection of the Environment Declaration

PROTECTION OF THE ENVIRONMENT DECLARATION

The Contractor will not be given right of access to the Site until this form has been signed

CONTRACT NO: 256Q/2019/20

CONTRACT TITLE: SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

I/ we,.....{Contractor} record as follows:

1. I/ we, the undersigned, do hereby declare that I/ we am/ are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I/ we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I/ we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options. In this regard, I/ we recognise and accept the need to abide by the "precautionary principle" which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.
3. I/ we declare that I/ we have read and understood the contents of the Environmental Management Programme (which is comprised of the Environmental Management Specification and its Annexures) for this Contract; and that I/ we understand my/our responsibilities in terms of enforcing and implementing the Environmental Management Programme. I/ we also declare that I/ we have made appropriate provision in my/ our pricing of the Bills of Quantities items for the Environmental Management Programme.
4. I/ we acknowledge and accept the right of the Employer to deduct, should he so wish, from any amounts due to me/ us, such amounts (hereinafter referred to as fines) as the Employer's Agent shall certify as being warranted in view of my/ our failure to comply with the terms of the Contract dealing with protection of the environment, subject to the following:
 - 4.1 The Employer's Agent, in determining the amount of such fine, shall take into account, *inter alia*, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance/non-compliance, the extent of the Contractor's overall compliance with environmental protection requirements and, in particular, the extent to which he considers it necessary to impose a sanction in order to eliminate/reduce future occurrences
 - 4.2 The Employer's Agent shall, with respect to any fine imposed, provide me/ us with a written statement giving details of the offence, the facts on which the Employer's Agent has based his assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed
CONTRACTOR

Date.....

Part C1.7: Insurance Broker's Warranty

Pro Forma



Letterhead of Contractor's Insurance Broker

Date _____

CITY OF CAPE TOWN
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

CONTRACT NO.: 256Q/2019/20

CONTRACT TITLE: SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

NAME OF CONTRACTOR: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CITY OF CAPE TOWN with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____

Part C1.8: Contract of Temporary Employment As Community Liaison Officer

Construction Contract No.:

PROJECT.....

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

1. THE PARTIES HAVE AGREED THAT

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

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

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

3. THE FOLLOWING CONDITIONS OF EMPLOYMENT SHALL APPLY:

The Conditions of Temporary Employment as applicable on this Contract for the workers recruited from the Community shall apply equally to the CLO, except that the rate of remuneration shall be R 365,00 per working day. These conditions that apply are listed below as they appear in the Contract of Temporary Employment:

- 3.1 If required to work on a statutory public holiday or Sunday the payment will be double the amount stated in the previous paragraph.
- 3.2 Maximum hours of work:
 - (i) 9½ hours per day
 - (ii) 45 hours per week;
 - (iii) 5 days per week;
 - (iv) 5 hours without an interval, whereupon there shall be an interval of at least 30 minutes;
 - (v) A spread-over period of 12 hours.
- 3.3 The CLO shall be entitled to payment where he is prevented from working by reasons which are within the control of the Contractor.
- 3.4 On days when it is raining the Contractor may, before 9 a.m., decide not to open the site and there will be no pay.

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

If the site works later than 1 p.m., the CLO will be paid the full daily wage.

3.5 Workers and the CLO will not be permitted to work under conditions of:

- (i) undisciplined or unruly behaviour;
- (ii) insubordination to Team Leader, Supervisors or Management;
- (iii) abuse of intoxicating substances;
- (iv) criminal actions by the employee;
- (v) strike action or political stayaways.

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

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

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

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

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

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

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

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

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

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

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

4. TERMINATION OF AGREEMENT

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

5. THE CONDITIONS OF THIS AGREEMENT

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

6. THUS AGREED AND SIGNED BY THE PARTIES:

Contractor:

Community Liaison officer:

Date:

PART C2: PRICING DATA

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 256Q/2019/20

SIR LOWRY'S PASS RIVER - 2.7 KM RIVER UPGRADE FROM THE N2 TO FALSE BAY, GORDON'S BAY

C2.1 Pricing Assumptions

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

1. Measurement and payment shall be in accordance with the relevant provisions of the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition) as amended in the Scope of Works. In special cases, which are clearly indicated as such, the method of measurement published by the South African Bureau of Standards in clause 8 of the Standardised Specifications for Civil Engineering Construction is applicable, subject to the variations and amendments contained in the section "Applicable SANS 1200 standardised specifications".
2. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the Standardised Specifications. The payment clauses of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Schedule, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
3. The measurement and payment clauses in a specification in which further information regarding the scheduled items is given, are referenced under "Item" (pay items) in the Bills of Quantities. The referenced clauses are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the numbers corresponding to the relevant COLTO section, or in the case of SANS derived items, by the digits which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200 G.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. The quantities set out in the Bills of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
6. The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. A price or rate should be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no price (in any format) or a nil rate is entered will be considered to be covered by the other prices or rates in the Bills of Quantities, and that there is no charge for that particular item (even should the quantity subsequently increase).
8. Except where rates only are required, insert all amounts to be included in the total tendered price in the "Amount" column and show the corresponding total tendered price.

9. The units of measurement described in the Bills of Quantities are metric units. Abbreviations which may be used in these Bills of Quantities are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000 kg)
m ²	=	square metre	N ^o .	=	number
m ² .pass	=	square metre-pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ .km	=	cubic metre-kilometre	P C sum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	per cent
MPa	=	megapascal	kW	=	kilowatt

10. Where fractions of a cent occur in calculations of prices and amounts, they shall be rounded up/down to the nearest whole cent.
11. The Tenderer is referred to F2.24 in Part T1.2 Tender Data regarding the pricing of Deviations and/or Qualifications.
11. Clause F.2.13.11 c) in Part T1.2 Tender Data shall be applicable to the submission of Bills of Quantities which have been priced electronically, and which the Tenderer wishes to submit as a printed version with his/her tender in the place of handwritten priced Bills of Quantities.

If there is found to be any variance between the printed version and the original issued document, the original shall stand. However, where Addenda have been issued which amend the Bills of Quantities, then the printed Bills of Quantities shall take these into account.

The pages of the issued Bills of Quantities should not be removed from the tender document.

12. Tenderers are referred to Clause 8 Measurement and Payment in the Environmental Management (EM) Specification in Part C3.5 in the Scope of Work for the basic principles of measurement and pricing of the EM Specification.
13. All descriptions or clauses where trade names or proprietary products are specified, are deemed to include the phrase "or equivalent"
14. Tenderers are referred to Clause 6.8.2 in Part C1.2 Contract Data regarding contract price adjustment.

Part C2.2: Bill of Quantities

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

BILL 1 - GENERAL

1200 GENERAL REQUIREMENTS AND PROVISIONS

[illegible]

BILL 1 - GENERAL

1300 CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.2	1300	Contractor's establishment on site and general obligations				
	B13.01	The contractor's general				
1.2.1		(a) Fixed obligations	L Sum	1.0	2 195 400.00	2 195 400.00
1.2.2		(b) Value-related obligations	L Sum	1.0	3 450 000.00	3 450 000.00
1.2.3		(c) Time-related obligations	month	42.0	889 570.00	37 361 940.00
1.2.4		(d) Contract Name Board	No	3.0	10 000.00	30 000.00
Total Carried Forward To Summary						43 637 340.00

BILL 1 - GENERAL

1400 HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.3	1400	HOUSING, OFFICES AND LABORATORIES FOR THE				
	B14.01	Office and laboratory				
1.3.1		(a) Offices (interior floor space	m²	45.0	5 000.00	225 000.00
1.3.2		(c) Ablution units.	m²	9.0	7 500.00	67 500.00
	14.02	Office and laboratory furniture;				
1.3.3		(a) Chairs	No	16.0	1 550.00	24 800.00
1.3.4		(b) Draughtman's stools	No	3.0	3 000.00	9 000.00
1.3.5		(d) Desks, complete with drawers	No	3.0	1 800.00	5 400.00
1.3.6		(e) Drawing tables	No	1.0	800.00	800.00
1.3.7		(f) Conference tables	No	1.0	2 500.00	2 500.00
	B14.03	Office and laboratory fittings, installations and equipment:				
		(a) Items measured by number:				
1.3.8		(i) 220/250 volt power points	No	4.0	1 500.00	6 000.00
1.3.9		(iv) Double 55 watt fluorescent-light fittings complete with ballast	No	5.0	1 000.00	5 000.00
1.3.10		(v) Single incandescent-light fittings complete with 100 watt	No	2.0	400.00	800.00
1.3.11		(vi) Wash-hand basins complete with taps and drains	No	2.0	650.00	1 300.00
1.3.12		(x) Fire extinguishers, 9.0kg, all purpose dry powder type, complete, mounted on wall with	No	4.0	1 200.00	4 800.00
1.3.13		(xi) Air-conditioning units with, 2.2kW minimum capacity, mounted and with own power	No	4.0	9 000.00	36 000.00
1.3.14		(xiv) General-purpose steel cupboards with shelves	No	3.0	1 250.00	3 750.00
1.3.15		(xvi) Refrigerators	No	1.0	2 500.00	2 500.00
1.3.16		(xix) Rain gauge	No	1.0	275.00	275.00
		(b) Prime-cost items and items paid for				
		(c) Items measured by area:				
1.3.17		(vi) Venetian blinds	m²	5.0	500.00	2 500.00
1.3.18		(viii) Notice boards as specified	m²	3.0	2 000.00	6 000.00
Total Carried Forward						403 925.00

BILL 1 - GENERAL

1400 HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						403 925.00
1.3.19	14.04	Car ports:				
		Car ports, as specified, at offices and laboratory buildings	No	3.0	23 100.00	69 300.00
	14.08	Services:				
		The provision of water, electricity, low-pressure gas, sewerage, septic tanks, sewage and rubbish removal, cleaning services, maintenance and repairs, all as specified in clause 1404, including the construction and				
		(a) Services at offices and				
1.3.20		(i) Fixed costs	L Sum	1.0	100 000.00	100 000.00
1.3.21		(ii) Running costs	month	42.0	10 000.00	420 000.00
1.3.22	14.1	Provision of photostatic facilities	month	42.0	2 500.00	105 000.00
	B14.11	Mobile communication facilities:				
1.3.23		(a) Provision of cellular telephones	PC sum	1.0	63 000.00	63 000.00
1.3.24		(b) Handling costs and profit in respect of subitem B14.11 (a)	%	63 000.0	10.00	6 300.00
Total Carried Forward To Summary						1 167 525.00

BILL 1.- GENERAL

1800 DAYWORK

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.4	B18.00	Daywork				
	B18.01	(a) Vehicle, plant and equipment				
1.4.1		(i) Tractor-loader-backhoe (Case	hour	10.0	460.00	4 600.00
1.4.2		(ii) Crawler excavator (Caterpillar 215LC or similar)	hour	10.0	615.00	6 150.00
1.4.3		(iii) Crawler excavator (Komatsu PC220 or similar)	hour	10.0	675.00	6 750.00
1.4.4		(iv) Bulldozer (Caterpillar D4D or	hour	10.0	580.00	5 800.00
1.4.5		(v) Bulldozer (Caterpillar D5D or	hour	10.0	655.00	6 550.00
1.4.6		(vi) Bulldozer (Caterpillar D6D or	hour	10.0	725.00	7 250.00
1.4.7		(vii) Wheel loader (Caterpillar 910	hour	10.0	450.00	4 500.00
1.4.8		(viii) Wheel loader (Caterpillar	hour	10.0	500.00	5 000.00
1.4.9		(ix) Wheel loader (Caterpillar	hour	10.0	540.00	5 400.00
1.4.10		(x) Motor graders (Caterpillar	hour	10.0	750.00	7 500.00
1.4.11		(xi) Motor graders (Caterpillar	hour	10.0	825.00	8 250.00
1.4.12		(xii) Tip truck (8m³ capacity)	hour	10.0	400.00	4 000.00
1.4.13		(xiv) Tip truck (10m³ capacity)	hour	10.0	455.00	4 550.00
1.4.14		(xv) Lowbed	hour	10.0	1 500.00	15 000.00
1.4.15		(xvi) Plate compactor	hour	50.0	100.00	5 000.00
1.4.16		(xvii) Hand controlled roller (Bomag 65 or similar)	hour	50.0	150.00	7 500.00
1.4.17		(xviii) Self propelled vibrating roller smooth (±7 ton)	hour	10.0	565.00	5 650.00
1.4.18		(xix) Self propelled steel wheeled roller smooth (± 12 ton)	hour	10.0	565.00	5 650.00
1.4.19		(xx) Pneumatic tyred rollers (± 27	hour	10.0	600.00	6 000.00
1.4.20		(xxi) Compressor and all accessories i.e. breakers etc.	hour	10.0	360.00	3 600.00
1.4.21		(xxii) Water bowser (capacity of	hour	10.0	500.00	5 000.00
1.4.22		(xxiv) Flat truck (capacity of ±5	hour	10.0	400.00	4 000.00
1.4.23		(xxv) Concrete mixer (capacity of	hour	10.0	180.00	1 800.00
1.4.24		(xxvi) Light delivery vehicle (1	hour	10.0	130.00	1 300.00
1.4.25		(xxvii) Sewage Handling Tankers (10m³ capacity)	hour	4.0	1 200.00	4 800.00
Total Carried Forward						141 500.00

BILL 1 - GENERAL

1800 DAYWORK

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						141 800.00
1.4.26		(xxviii) Sewage Handling Tankers (15m ³ capacity)	hour	4.0	1 200.00	4 800.00
1.4.27		(b) Percentage on cost on subtotal for	%	146 400.0	15.00	21 960.00
		Note : Tenderer to enter quantity for item B18.01(b). Quantity = sum of amounts of items				
	B18.02	(a) Labour				
1.4.28		(a) Foreman	hour	10.0	200.00	2 000.00
1.4.29		(b) Artisan	hour	10.0	105.00	1 050.00
1.4.30		(c) Carpenter	hour	10.0	86.00	860.00
1.4.31		(d) Ganger	hour	10.0	73.00	730.00
1.4.32		(e) Shutterhand	hour	10.0	65.00	650.00
1.4.33		(f) Operator	hour	10.0	65.00	650.00
1.4.34		(g) Driver	hour	10.0	65.00	650.00
1.4.35		(h) Semi-skilled labourer	hour	10.0	58.00	580.00
1.4.36		(i) Labourer	hour	10.0	56.00	560.00
		(ii) Outside normal working hours				
1.4.37		(a) Foreman	hour	10.0	300.00	3 000.00
1.4.38		(b) Artisan	hour	10.0	158.00	1 580.00
1.4.39		(c) Carpenter	hour	10.0	129.00	1 290.00
1.4.40		(d) Ganger	hour	10.0	110.00	1 100.00
1.4.41		(e) Shutterhand	hour	10.0	98.00	980.00
1.4.42		(f) Operator	hour	10.0	98.00	980.00
1.4.43		(g) Driver	hour	10.0	98.00	980.00
1.4.44		(h) Semi-skilled labourer	hour	10.0	88.00	880.00
1.4.45		(i) Labourer	hour	10.0	83.00	830.00
1.4.46		(b) Percentage on cost on subtotal for	%	19 350.0	75.00	14 512.50
		Note : Tenderer to enter quantity for item B18.02(b). Quantity = sum of amounts of items B18.02(a)(i) (a) to (i) and				
Total Carried Forward						202 222.50

BILL 1 - GENERAL

1800 DAYWORK

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						202 222.50
	B18.03	Materials				
1.4.47		(a) Material costs	PC aum	1.0	50 000.00	50 000.00
1.4.48		(b) Percentage on net cost of	%	50 000.00	45.00	22 500.00
Total Carried Forward To Summary						274 722.50

BILL 1 - GENERAL

8100 TESTING MATERIALS AND WORKMANSHIP

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.5	8100	TESTING MATERIALS AND				
1.5.1	81.02	(a) Other special tests requested by the engineer	PC sum	1.0	100 000.00	100 000.00
1.5.2		(b) Percentage on cost of tests	%	100 000.00	10.00	10 000.00
Total Carried Forward To Summary						110 000.00

BILL 1 - GENERAL

C1000 ENVIRONMENTAL MANAGEMENT

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.6	C1000	ENVIRONMENTAL				
	C10.01	The Contractor's obligations in respect of environmental				
1.6.1		(a) Designated Environmental	month	42.0	30 000.00	1 260 000.00
1.6.2		(b) Environmental aspects and	month	42.0	5 000.00	210 000.00
1.6.3		(c) Provision of environmental emergency measures	PC sum	1.0	50 000.00	50 000.00
1.6.4		(d) Contractor's charge to allow for handling costs and profit in	%	50 000.00	10.00	5 000.00
	B17.06	Removal and storage of selected				
1.6.5		(a) Cost of removal, storing, protection and replanting in a protected and fenced-off area of	Prov sum	1.0	50 000.00	50 000.00
1.6.6		(b) Charge on provisional sum	%	50 000.0	10.00	5 000.00
	B17.07	The identifying and resettlement of designated fish:				
1.6.7		(a) Cost of identification, removal and resettlement of fish as per the specifications of Cape Nature.	Prov sum	1.0	30 000.00	30 000.00
1.6.8		(b) Charge on provisional sum	%	30 000.0	10.00	3 000.00
Total Carried Forward To Summary						1 613 000.00

BILL 1 - GENERAL

D1000 LABOUR AND TRAINING REQUIREMENTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.7	D1000	LABOUR AND TRAINING				
	D10.01	Community participation				
1.7.1		(a) Cost of community participation and	PC sum	1.0	100 000.00	100 000.00
1.7.2		(b) Handling costs and profit in respect of	%	100 000.00	10.00	10 000.00
	D10.02	Community liaison officer				
1.7.3		(a) Remuneration of community liaison officer	PC sum	1.0	1 260 000.00	1 260 000.00
1.7.4		(b) Handling costs and profit in respect of subitem D10.02(a)	%	1 260 000.00	10.00	126 000.00
1.7.5		(c) Provision of transport for community liaison officer	PC sum	1.0	168 000.00	168 000.00
1.7.6		(d) Handling costs and profit in respect of subitem D10.02(c)	%	168 000.00	10.00	16 800.00
Total Carried Forward To Summary						1 680 800.00

BILL 1 - GENERAL

G1000 HEALTH AND SAFETY REQUIREMENTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
1.8	G1000	HEALTH AND SAFETY				
1.8.1	G10.01	Contractor's obligations in respect of health and safety	month	42.0	40 000.00	1 680 000.00
1.8.2		EO item 1.8.1, Contractor's obligations to comply with Covid 19 requirements as per.	month	42.0	5 000.00	210 000.00
Total Carried Forward To Summary						1 890 000.00

BILL 1 - GENERAL

SUMMARY OF SECTIONS		
Section	Description	Amount R
1.1	1200 GENERAL	10 045 029.55
1.2	1300 CONTRACTOR'S ESTABLISHMENT ON SITE AND	43 037 340.00
1.3	1400 HOUSING, OFFICES AND LABORATORIES FOR THE	1 167 525.00
1.4	1800 DAYWORK	274 722.50
1.5	2100 TESTING MATERIALS	110 000.00
1.6	C1000 ENVIRONMENTAL	1 613 000.00
1.7	D1000 LABOUR AND TRAINING	1 080 800.00
1.8	G1000 HEALTH AND SAFETY	1 890 000.00
Total Carried Forward To Summary Of Schedules		<u>59 818 417.05</u>

BILL 2 - SEGMENT 1

1500 ACCOMMODATION OF TRAFFIC

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.1	1500	ACCOMMODATION OF TRAFFIC				
2.1.1	B15.01	Accommodating traffic and maintaining temporary deviations	km	0.4	116 845.00	46 738.00
	B15.03	Temporary traffic-control facilities:				
2.1.2		(a) Flagmen	man-day	44.0	500.00	22 000.00
Total Carried Forward To Summary						68 738.00

BILL 2 - SEGMENT 1

1700 CLEARING AND GRUBBING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.2	1700	CLEARING AND GRUBBING				
2.2.1	17.01	Clearing and grubbing	ha	0.6	11 886.00	7 131.60
	17.02	Removal and grubbing of large trees and tree stumps:				
2.2.2		(a) Girth exceeding 1m up to and including 2m	No	2.0	685.00	1 370.00
2.2.3		(b) Girth exceeding 2m up to and including 3m	No	1.0	855.00	855.00
2.2.4	17.04	Clearing and grubbing at inlets and outlets of hydraulic structures	m²	80.0	30.00	2 400.00
	17.05	Cleaning out of hydraulic structures:				
2.2.5		(a) Pipes with an internal diameter up to and including 750 mm	m²	15.0	150.00	2 250.00
Total Carried Forward To Summary						14 008.60

BILL 2 - SEGMENT 1

CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.3	2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
	23.03	Concrete chutes (typical designs):				
2.3.1		(a) Precast concrete chute as per drawing 4974-0030-DRD-C003	m	5.0	1 705.00	8 525.00
	23.05	Inlet, outlet, transition and similar structures (typical designs):				
2.3.2		(a) Cast in situ concrete inlet structure and 1000mm precast concrete transition kerb, as per drawing 4974-0030-DRD-C003. Concrete class 30/20	No	1.0	14 962.00	14 962.00
2.3.3		(b) Cast in situ concrete outlet structure, as per drawing 4974-0030-DRD-C003. Concrete class 30/20.	No	1.0	15 750.00	15 750.00
	23.12	Steel reinforcement				
2.3.4		(c) Welded steel fabric	kg	60.0	17.25	1 035.00
2.3.5	23.14	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	15.0	25.00	375.00
2.3.6	23.15	Precast concrete blocks in outlet structures	No	3.0	100.00	300.00
	23/22.12	Removing existing concrete				
2.3.7		(a) Plain concrete	m²	3.0	375.00	1 125.00
2.3.8		(b) Reinforced concrete	m²	5.0	500.00	2 500.00
2.3.9	23/22.28	Hand excavation to determine the positions of existing services	m³	5.0	500.00	2 500.00
Total Carried Forward To Summary						47 072.00

BILL 2 - SEGMENT 1

2400 ASPHALT AND CONCRETE BERMS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.4	2400	ASPHALT AND CONCRETE BERMS				
	24.01	Asphalt berms				
		(b) Placed at existing guardrails				
2.4.1		(1) Fine, continuously graded asphalt, 60/70 penetration grade	m	10.0	520.00	5 200.00
	24.03	Prime and tack coats:				
		(a) Prime coat:				
2.4.2		(1) Under asphalt berms (30% stable grade emulsion)	m²	2.0	500.00	1 000.00
Total Carried Forward To Summary						6 200.00

BILL 2 - SEGMENT 1

3300 MASS EARTHWORKS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R.
2.5	3300	MASS EARTHWORKS				
	B33.01	Cut and borrow to fill, including all haul (a) Material in compacted layer thicknesses of 200 mm and less:				
2.5.1		(1) Compacted to 90% of modified AASHTO density	m³	2 870.0	70.00	200 900.00
2.5.2		(2) Compacted to 93% of modified AASHTO density	m³	2 100.0	70.00	147 000.00
	B33.03	Extra over item 33.01 for excavating and breaking down material in:				
2.5.3		(a) Intermediate excavation	m³	980.0	50.00	49 000.00
2.5.4		(b) Hard excavation	m³	420.0	280.00	117 600.00
	B33.04	Cut to spoil, including all haul. Material obtained from:				
2.5.5		(a) Soft excavation	m³	400.0	34.00	13 600.00
	33.10	Roadbed preparation and the compaction of materials:				
2.5.6		(a) Compaction to 90% of modified AASHTO density:	m³	200.0	43.00	8 600.00
	33.13	Finishing-off cut and fill slopes, medians and interchange areas:				
2.5.7		(b) Fill slopes	m²	1 000.0	5.00	5 000.00
2.5.8	33/32.06	Stockpiling of material	m³	2 660.0	10.00	26 600.00
Total Carried Forward To Summary						568 300.00

BILL 2 - SEGMENT 1

3400 PAVEMENT LAYERS OF GRAVEL MATERIAL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.6	3400	PAVEMENT LAYERS OF GRAVEL MATERIAL				
	B34.10	Pavement layers constructed from commercial sources, including all haul:				
		(h) Gravel wearing course				
2.6.1		(iv) 97% of modified AASHTO density, 150mm thick	m³	150.0	400.00	60 000.00
Total Carried Forward To Summary						60 000.00

BILL 2 - SEGMENT 1

5100 PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.7	5100	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
	51.01	Stone pitching:				
		(a) Plain pitching:				
2.7.1		(i) Method 1	m ²	10.0	275.00	2 750.00
	B51.02	Riprap:				
		(a) Packed riprap:				
2.7.2		(2) Type B (D100 = 0.8m)	m ²	1 800.0	381.00	685 800.00
		(c) Filter layer (sub-clauses B5104(a)(ii) and 5104(b)) consisting of:				
2.7.3		(2) Underlayer for Type B riprap	m ²	580.0	337.00	195 460.00
2.7.4		(5) Natural filter layer for Type B riprap	m ²	350.0	370.00	129 500.00
		(d) Synthetic-fibre filter fabric				
2.7.5		(6) Non-woven, continuous filament, needle-punched polyester, grade A7, or similar approved	m ²	2 400.0	37.00	88 800.00
Total Carried Forward To Summary						1 102 310.00

BILL 2 - SEGMENT 1

5200 GABIONS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R.
2.8	5200	GABIONS				
	52.01	Foundation trench excavation and backfilling:				
2.8.1		(b) in all other classes of materials	m³	10.0	122.00	1 220.00
2.8.2	52.02	Surface preparation for bedding the gabions	m²	30.0	16.00	480.00
	52.03	Gabions:				
		(b) PVC-coated gabion boxes (2.7mm galvanized wire and 80x100mm mesh)				
2.8.3		(i) 1.0 m long x 1.0 m wide x 1.0 m high	m³	5.0	1 740.00	8 700.00
2.8.4		(ii) 2.0 m long x 1.0 m wide x 1.0 m high	m³	40.0	1 640.00	65 600.00
2.8.5		(iii) 1.0 m long x 1.0 m wide x 0.5 m high	m³	5.0	1 910.00	9 550.00
2.8.6		(vi) 2.0 m long x 1.0 m wide x 0.5 m high	m³	5.0	1 910.00	9 550.00
2.8.7	52.05	Filter fabric (synthetic, non-woven, continuous filament, needle-punched polyester, grade A4, or similar approved)	m²	40.0	19.00	760.00
Total Carried Forward To Summary						95 860.00

BILL 2 - SEGMENT 1

5500 FENCING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.9	5500	FENCING				
2.9.1	55.01	Clearing the fence line, 2m wide strip	km	0.1	3 120.00	312.00
	555.02	Supply and erect new fencing material for new fences and for supplementing material in existing fences which are being repaired or removed:				
		(a) Zinc-coated barbed wire (SABS 675)				
2.9.2		(1) High-tensile-grade, single-strand 2.80mm x 1.90mm oval-shaped wire, galvanised	km	0.2	4 465.00	893.00
		(a) Zinc-coated smooth wire (SABS 675)				
2.9.3		(1) High-tensile-grade, single-strand; 2.24mm dia, galvanised	km	0.2	3 675.00	735.00
		(g) Standards				
2.9.4		(1) Timber, 2m long (100-125mm dia)	No	2.0	840.00	1 680.00
		(h) Droppers				
2.9.5		(1) Timber, 40mm minimum diameter	No	10.0	42.00	420.00
		(i) Straining posts, stays and anchors:				
		(a) Vertical				
2.9.6		(2) Timber straining posts (125-150mm dia treated, 2.4m long)	No	5.0	1 420.00	7 100.00
		(b) Inclined:				
2.9.7		(3) Wire stays and anchors (4-cord straining wire)	No	3.0	84.00	252.00
		(c) Horizontal:				
2.9.8		(2) Timber Stays and Anchors (100-125mm dia treated, 1.2m long)	No	3.0	475.00	1 425.00
	555.05	Dismantling existing fences:				
		(a) Fences:				
2.9.9		(i) Stock-proof fences	km	0.1	47 250.00	4 725.00
	55.06	Providing temporary fences and gates:				
2.9.10		(a) Stock-proof fence	km	0.1	252 000.00	25 200.00
Total Carried Forward To Summary						42 742.00

BILL 2 - SEGMENT 1

5600 ROAD SIGNS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.10	5600	ROAD SIGNS				
2.10.1	56.05	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m³	1.0	122.00	122.00
2.10.2	56.06	Extra over item 56.05 for cement-treated soil backfill	m³	1.0	164.00	164.00
	56.08	Dismantling, storing and re-erecting road signs with a surface area of:				
2.10.3		(a) Up to 2 m²	No	1.0	1 203.00	1 203.00
Total Carried Forward To Summary						1 489.00

BILL 2 - SEGMENT 1

5800 LANDSCAPING AND PLANTING PLANTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.11	5800	LANDSCAPING AND PLANTING PLANTS				
	58.01	Trimming				
2.11.1		(b) Hand trimming	m²	2 300,0	16,00	36 800,00
	58.03	Preparing the areas for grassing:				
		(c) Topsoiling within the road reserve, where the following materials are used:				
2.11.2		(i) Topsoil obtained from within the road reserve or borrow areas (including all haul)	m³	600,0	50,00	30 000,00
2.11.3		(f) Stockpiling of topsoil (including all haul)	m³	600,0	36,00	21 600,00
	58.04	Grassing:				
		(c) Hydroseeding:				
2.11.4		(i) Providing an approved seed mixture for hydroseeding	kg	10,0	367,00	3 670,00
2.11.5		(ii) Providing an approved mulch	kg	500,0	4,00	2 000,00
2.11.6		(iii) Hydroseeding	ha	0,2	23 100,00	4 620,00
Total Carried Forward To Summary						98 690,00

BILL 2 - SEGMENT 1

SECTION C : SITE CLEARANCE

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.12	SANS120 0	SECTION C : SITE CLEARANCE				
	8.2.1	Clear and grub:				
2.12.1		a) Route for 315mm diameter foul sewer	m	170.0	9.00	1 530.00
	PSC 8.2.2	Remove and grub large trees and tree stumps				
2.12.2		a) Over 1m up to 2m	No	2.0	685.00	1 370.00
2.12.3		b) Over 2m up to 3m	No	2.0	655.00	1 310.00
	PSC 8.2.7	Dismantle and remove pipelines, electricity transmission lines, cables, etc.				
2.12.4		a) Existing 200mm diameter AC foul sewer	m	900.0	70.00	63 000.00
	PSC 8.2.8	Demolish and remove structures/buildings and dismantle steelwork, etc.				
		a) Existing pre-cast concrete ring type manholes in the following depth ranges:				
2.12.5		(i) 0.5 to 1.5m	No.	2.0	1 187.00	2 374.00
2.12.6		(ii) 1.5 to 2.5m	No.	7.0	1 978.00	13 846.00
2.12.7		(iii) 2.5 to 3.5m	No.	4.0	3 956.00	15 824.00
		b) Existing brick and plaster manholes in the following depth ranges:				
2.12.8		(i) 0.5 to 1.5m	No.	1.0	1 187.00	1 187.00
2.12.9		(ii) 1.5 to 2.5m	No.	1.0	1 978.00	1 978.00
2.12.10		(iii) 2.5 to 3.5m	No.	2.0	3 956.00	7 912.00
2.12.11	8.2.10	Remove topsoil to nominal depth of 150mm and stockpile	m²	50.0	47.00	2 350.00
Total Carried Forward To Summary						113 081.00

BILL 2 - SEGMENT 1

SECTION DB : EARTHWORKS (PIPE TRENCHES)

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.13	SABS 1200	SECTION DB : EARTHWORKS (PIPE TRENCHES)				
2.13.1		EXCAVATION				
	PSDB 8.3.2	a) Excavate in all materials for trenches, dewater, backfill, compact, and dispose of surplus or unsuitable material, including shoring:				
		1. For pipe diameters 200mm to 315mm for trench depths:				
2.13.1.1		i) Up to 1.5m	m	10.0	80.00	800.00
2.13.1.2		ii) Exceeding 1.5m up to 2.5m	m	175.0	126.00	22 050.00
2.13.1.3		iii) Exceeding 2.5m up to 3.5m	m	30.0	236.00	7 080.00
2.13.1.4		iv) Exceeding 3.5m up to 4.5m	m	10.0	360.00	3 600.00
	PSDB 8.3.2	(b) Extra-over items 8.3.2 (a) above for:				
2.13.1.5		1) Intermediate excavation	m ²	60.0	50.00	3 000.00
2.13.1.6		2) Hard rock excavation	m ²	20.0	280.00	5 600.00
2.13.1.7	PSDB 8.3.2	c) Excavate and dispose of unsuitable material from the trench bottom (provisional)	m ²	30.0	0.00	Included
2.13.2	8.3.3.1	MAKE UP DEFICIENCY IN BACKFILL MATERIAL (PROVISIONAL)				
2.13.2.1		c) by importation from commercial or off-site sources selected by the Contractor	m ³	100.0	245.00	24 500.00
2.13.3		PARTICULAR ITEMS				
2.13.3.1	PSDB 8.3.4	c) Excavation by hand in all materials to verify existing services, and backfill	m ³	15.0	500.00	7 500.00
	PSDB 8.3.4	d) Temporary works to control sewerage flow between existing manholes MH1 EX and MH4 EX as per drawing 4974-0030-DRD-C401				
2.13.3.2		1) Provide Equipment	Sum	1.0	175 000.00	175 000.00
2.13.3.3		2) Operate and maintain	Days	21.0	25 000.00	525 000.00
2.13.3.4		3) Remove equipment	Sum	1.0	26 250.00	26 250.00
Total Carried Forward						800 380.00

BILL 2 - SEGMENT 1

SECTION DB : EARTHWORKS (PIPE TRENCHES)

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R.
Brought Forward						800 380.00
2.13.4.		FINISHING				
2.13.4.1	8.3.6.1	d) Restore topsoil along pipe routes from stockpile	m³	50.0	47.00	2 350.00
Total Carried Forward To Summary						802 730.00

BILL 2 - SEGMENT 1

SECTION LB : BEDDING (PIPES)

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
2.14	SABS 1200	SECTION LB : BEDDING (PIPES)				
2.14.1		PROVISION OF BEDDING				
	8.2.1	Provision of bedding from trench excavation:				
2.14.1.1		a) Selected granular material	m³	20.0	44.00	880.00
2.14.1.2		b) Selected fill material	m³	10.0	44.00	440.00
	8.2.2.3	Provision of bedding by importation from commercial sources:				
2.14.1.3		a) Selected granular material	m³	100.0	245.00	24 500.00
2.14.1.4		b) Selected fill material	m³	40.0	245.00	9 800.00
	8.2.4	Encasing of pipes in concrete				
2.14.1.5		a) 315mm diameter flexible pipe in 150mm thick concrete (Class 20/20)	m³	20.0	2 420.00	48 400.00
Total Carried Forward To Summary						84 020.00

BILL 2 - SEGMENT 1

SECTION LD : SEWERS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R.
2.15	SABS 1200	SECTION LD : SEWERS				
	PSLD 8.2.1	Supply, lay, joint, bed and test pipeline:				
		a) Heavy duty uPVC class 34 sewer pipes on bedding for flexible pipes				
2.15.1		(i) 315mm diameter	m	170.0	460.00	78 200.00
	PSLD 8.2.3	Manholes as detailed on drawing 4974-0030-BRD-C401				
2.15.2		a) Over 2.5m up to 3.0m	No	2.0	14 700.00	29 400.00
2.15.3		b) Over 3.0m up to 3.5m	No	1.0	16 275.00	16 275.00
2.15.4	PSLD 8.2.4	Extra over Item PSLD 8.2.3 for construction of manholes on existing pipelines	No	1.0	2 888.00	2 888.00
2.15.5	8.2.10	Permanent plug stoppers	No	2.0	787.00	1 574.00
	PSLD 8.2.13	Connections into existing manhole for pipe				
2.15.6		a) 315mm diameter uPVC	No	2.0	7 875.00	15 750.00
Total Carried Forward To Summary						144 087.00

BILL 2 - SEGMENT 1

SUMMARY OF SECTIONS		
Section	Description	Amount R
2.1	1500 ACCOMODATION OF TRAFFIC	68 738.00
2.2	1700 CLEARING AND GRUBBING	14 006.80
2.3	2300 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES,	47 072.00
2.4	2400 ASPHALT AND CONCRETE BERMS	6 200.00
2.5	3300 MASS EARTHWORKS	568 300.00
2.6	3400 PAVEMENT LAYERS OF GRAVEL	60 000.00
2.7	5100 PITCHING, STONWORK AND	1 102 310.00
2.8	5200 GABIONS	95 860.00
2.9	5500 FENCING	42 742.00
2.10	5600 ROAD SIGNS	1 489.00
2.11	5800 LANDSCAPING AND PLANTING PLANTS	98 690.00
2.12	SECTION C : SITE CLEARANCE	113 081.00
2.13	SECTION DB : EARTHWORKS (PIPE	802 730.00
2.14	SECTION LB : BEDDING (PIPES)	84 020.00
2.15	SECTION LD : SEWERS	144 087.00
Total Carried Forward To Summary Of Schedules		<u>3 249 325.60</u>

BILL 3 - SEGMENT 2

1500 ACCOMMODATION OF TRAFFIC						
Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.1	1500	ACCOMMODATION OF TRAFFIC				
3.1.1	15.01	Accommodating traffic and maintaining temporary deviations	km	1.0	38 950.00	38 950.00
	15.03	Temporary traffic-control facilities				
3.1.2		(a) Flagmen	man-day	200.0	500.00	100 000.00
	15.08	Repairs, alterations and/or additions to existing roads used as temporary deviations				
3.1.3		(a) Repairs, alterations and/or additions to existing roads used as temporary deviations	PC sum	1.0	50 000.00	50 000.00
3.1.4		(b) Contractor's overheads profit, etc. on payment item (a) above	%	50 000.00	10.00	5 000.00
Total Carried Forward To Summary						193 950.00

BILL 3 - SEGMENT 2

1600 OVERHAUL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.2	B1600	OVERHAUL				
3.2.1	B16.02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul) (This item is only applicable to material spoiled off site on the instruction of the Engineer)	m³-km	5984 505.0	0.05	299 225.25
Total Carried Forward To Summary						299 225.25

BILL 3 - SEGMENT 2

1700 CLEARING AND GRUBBING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.3	1700	CLEARING AND GRUBBING				
3.3.1	17.01	Clearing and grubbing	ha	44.5	11 886.00	528 927.00
3.3.2	17.02	Removal and grubbing of large trees and tree stumps (a) Girth exceeding 1m up to and including 2m	No	500.0	685.00	342 500.00
3.3.3	17.03	Re-clearing of surfaces (on the written instructions of the Engineer only)	ha	5.0	5 945.00	29 725.00
	B 17.07	Demolish existing buildings including service connections.				
3.3.4		a) Structure 1	m²	1 000.0	47.50	47 500.00
3.3.5		b) Structure 2	m²	36.0	92.00	3 312.00
3.3.6		c) Structure 3	m²	178.0	92.00	16 376.00
3.3.7		d) Structure 4	m²	210.0	47.50	9 975.00
3.3.8		e) Structure 5	m²	180.0	92.00	16 560.00
3.3.9		f) Structure 6	m²	200.0	92.00	18 400.00
3.3.10		g) Structure 7	m²	20.0	92.00	1 840.00
3.3.11		h) Structure 8	m²	450.0	92.00	41 400.00
3.3.12		i) Structure 9	m²	200.0	92.00	18 400.00
3.3.13		j) Structure 10	m²	100.0	92.00	9 200.00
3.3.14		k) Structure 11	m²	160.0	92.00	14 720.00
3.3.15		l) Structure 12	m²	540.0	92.00	49 680.00
3.3.16		m) Structure 13	m²	16.0	92.00	1 472.00
3.3.17		n) Structure 14	m²	25.0	92.00	2 300.00
3.3.18		o) Structure 15	m²	70.0	92.00	6 440.00
3.3.19		p) Structure 16	m²	14.0	92.00	1 288.00
3.3.20		q) Structure 17	m²	10.0	92.00	920.00
3.3.21	B 17.08	Demolish Manholes and dispose of resulting material off site	No	5.0	2 500.00	12 500.00
3.3.22	B 17.09	Demolish sewer pipe line and dispose of resulting material off site	m	150.0	130.00	19 500.00
	B 17.10	EO Items B 17.07 and B17.09 for disposing of asbestos				
3.3.23		a) EO Items B 17.07 a to q for disposing of asbestos	m²	7.0	1 500.00	10 500.00
Total Carried Forward						1 203 435.00

BILL 3 - SEGMENT 2

1700 CLEARING AND GRUBBING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						1 203 435.00
3.3.24		b) EO Items B 17.09 for disposing of asbestos	m	150.0	625.00	93 750.00
3.3.25	B 17.11	Demolish Gabions and dispose of resulting material off site	m³	152.0	95.00	14 440.00
3.3.26	B 17.12	Demolish concrete drift including associated pipes and dispose of resulting material off site	m³	25.0	395.00	9 875.00
Total Carried Forward To Summary						1 321 500.00

BILL 3 - SEGMENT 2

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.4	2200	PREFABRICATED CULVERTS				
	22.01	Excavation:				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
3.4.1		(1) 0 m up to 1.5 m	m³	130.0	80.00	10 400.00
3.4.2		(2) Exceeding 1,5 m and up to 3,0 m	m³	260.0	126.00	32 760.00
	22.02	Backfilling:				
3.4.3		(a) Using the excavated material	m³	270.0	44.00	11 880.00
3.4.4		(b) Using imported selected material	m³	60.0	245.00	14 700.00
	22.03	Concrete pipe culverts:				
		(c) On class C bedding				
3.4.5		(3) 600mm dia. Type 100D	m	110.0	970.00	106 700.00
	22.05	Portal and rectangular culverts:				
		(a) Complete with prefabricated floor slabs:				
3.4.6		(7) 1500mm x 1200mm Type 100S	m	21.0	4 925.00	103 425.00
	22.07	Cast in situ concrete and formwork				
		(a) In class A bedding, screeds and the encasing for pipes, including formwork				
3.4.7		(2) Class 30/19	m³	6.0	2 726.00	16 368.00
		(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class U2 surface finish				
3.4.8		(1) Class 30/19	m³	31.0	1 980.00	61 380.00
		(d) Formwork of concrete under subitem 22.07(c) above				
3.4.9		(1) Vertical formwork for F1 surface finish	m²	121.0	575.00	69 575.00
3.4.10		(2) Vertical formwork for F2 surface finish	m²	32.0	600.00	19 200.00
	22.10	Steel reinforcement:				
3.4.11		(b) High-tensile steel bars	t	2.5	13 680.00	34 700.00
3.4.12		(c) Welded steel fabric	kg	490.0	15.00	7 350.00
	22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
		(a) Manholes				
Total Carried Forward						488 926.00

BILL 3 - SEGMENT 2

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						488 928.00
3.4.13		(3) Brick manholes for drainage: constructed on all pipes up to 675 mm diameter				
		(iv) 2,0 m to 2,5 m deep	No.	6.0	13 200.00	79 200.00
	22.18	Brickwork				
3.4.14		(b) 230 mm thick	m²	10.0	551.00	5 510.00
3.4.15	22.19	Plaster	m²	10.0	105.00	1 050.00
3.4.16	22.20	Benching	m²	1.0	3 017.00	3 017.00
	22.21	Accessories:				
		(a) Manhole covers including frames				
3.4.17		(1) Type 2A, SABS 558/1973	No	6.0	5 385.00	32 310.00
		(c) Step irons:				
3.4.18		(4) Calcamite Type Medium Leg	No	36.0	105.00	3 780.00
Total Carried Forward To Summary						613 795.00

BILL 3 - SEGMENT 2

3 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.5	2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
	23.01	Concrete kerbing				
3.5.1		c) Edging Type E1 for NMT	m	10 670.0	135.00	1 440 450.00
Total Carried Forward To Summary						1 440 450.00

BILL 3 - SEGMENT 2

3300 MASS EARTHWORKS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.6	3300	MASS EARTHWORKS				
	B33.01	Cut and borrow to fill, including sand fills, for all haul distances within confines of project (b) Material selected from excavations on site in compacted layer thickness exceeding 200 mm:				
3.6.1		(2) Compacted to 93% of modified AASHTO density	m ³	199 842.0	43.00	8 593 206.00
	33.03	Extra over item B33.01 for excavating and breaking down material in:				
3.6.2		(a) Intermediate excavation	m ³	50 000.0	0.00	0.00
3.6.3		(b) Hard excavation	m ³	15 030.0	150.00	2 254 500.00
3.6.3a	B33.04	(1) (c) EO items (a) and (b) above for levies and spoil charges at a registered dump site	m ³	105 361.0	0.00	0.00
	B33.04	(1) Cut to spoil to an area outside the confines of the project, including free-haul up to 1.0 km. Material obtained from:				
3.6.4		(a) Soft excavation	m ³	105 361.0	28.00	2 950 108.00
	B33.04	(2) Cut to spoil, for all haul distances within confines of project. Material obtained from:				
3.6.5		(a) Soft excavation	m ³	78 205.0	28.00	2 189 740.00
	B33.04	(3) Cut to temporary stockpile material, for all haul distances within confines of project. Material obtained from excavation above rip rap layer:				
3.6.6		(a) Soft excavation	m ³	158 648.0	33.00	5 235 384.00
3.6.7		(b) Intermediate excavation	m ³	50 000.0	35.00	1 750 000.00
3.6.8		(c) Hard excavation	m ³	12 072.0	160.00	1 810 800.00
	B33.04	(4) Cut from temporary stockpile and reinstate material above rip rap layer, for all haul distances within confines of project. Compacted to 90% of modified AASHTO density				
3.6.9		(a) Soft excavation	m ³	208 648.0	43.00	8 971 864.00
3.6.10	33.1	Roadbed preparation and the compaction of material (a) Compaction to 90% of modified AASHTO density	m ³	221 024.0	0.00	0.00
3.6.11		(b) Compaction to 93% of modified AASHTO density	m ³	5 078.3	4.00	20 313.20
Total Carried Forward						33 775 815.20

BILL 3 - SEGMENT 2

3300 MASS EARTHWORKS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						33 775 915,20
	33.13	Finishing-off cut and fill slopes, medians and interchange areas:				
3.6.12		(a) Cut slopes	m²	1 000,0	6,00	6 000,00
3.6.13		(b) Fill slopes	m²	10 000,0	6,00	60 000,00
Total Carried Forward To Summary						33 841 915,20

BILL 3 - SEGMENT 2

3400 PAVEMENT LAYERS OF GRAVEL MATERIAL						
Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.7	3400	PAVEMENT LAYERS OF GRAVEL MATERIAL				
	B 34.01	Pavement layers constructed from Commercial sources including all Haul				
		(h) Gravel wearing course compacted to:				
3.7.1		(2) 97% of modified AASHTO density 150mm thick from commercial source	m ²	2 677.5	402.00	1 076 355.00
3.7.2		(3) 97% of modified AASHTO density 100mm thick from commercial source	m ²	1 500.5	417.00	667 408.50
Total Carried Forward To Summary						1 743 763.50

BILL 3 - SEGMENT 2

5100 PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.8	5100	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
	851.02	Riprap:				
		(b) Dumped riprap				
3.8.1		(1) Type A (d100=1.6)	m³	9 577.0	420.00	4 022 340.00
3.8.2		(2) Type B (d100 = 0.8)	m³	34 530.0	381.00	13 155 930.00
3.8.3		(3) Type C (d100 = 0.6)	m³	32 223.0	385.00	12 405 855.00
		(c) Filter backing (sub-clauses 2104(a)(2) and 5104(b)) consisting of:				
3.8.4		(1) Underlayer for Type A Rip Rap	m²	1 197.0	325.00	389 025.00
3.8.5		(2) Underlayer for Type B Rip Rap	m²	10 791.0	325.00	3 507 075.00
3.8.6		(3) Underlayer for Type C Rip rap	m²	13 426.0	325.00	4 363 450.00
3.8.7		(4) Natural Filter layer for Type A Rip rap	m²	718.0	355.00	254 890.00
3.8.8		(5) Natural Filter layer for Type B Rip rap	m²	6 474.0	355.00	2 298 270.00
3.8.9		(6) Natural Filter layer for Type C Rip rap	m²	8 056.0	355.00	2 859 880.00
		(d) Synthetic-fibre filter fabric				
3.8.10		(6) Type 7A Geofabric or equivalent	m²	111 821.6	33.60	3 757 205.76
Total Carried Forward To Summary						47 013 920.76

BILL 3 - SEGMENT 2

		5500 FENCING				
Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.9	5500	FENCING				
	B55.02	Supply and erect new fencing material for new fences and for supplementing material in existing fences which are being repaired or removed;				
3.9.1		(j) New 2.25m high boundary wall constructed using 390x190x190 cement block units	km	0.1	1404 750.00	140 475.00
	B55.05	Dismantling existing fences:				
		(a) Fences:				
3.9.2		(5) Existing blockwork wall	km	0.1	96 780.00	9 678.00
Total Carried Forward To Summary						150 153.00

BILL 3 - SEGMENT 2

5800 LANDSCAPING AND PLANTING PLANTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.10	5800	LANDSCAPING AND PLANTING PLANTS				
	58.01	Trimming:				
3.10.1		(a) Machine trimming:	m²	10 000.0	6.00	60 000.00
		(c) Topsoiling within the road reserve, where the following materials are used:				
3.10.2		(1) Topsoil obtained from within the road reserve or borrow areas (free haul 1.0 km)	m³	66 662.0	45.00	2 999 790.00
3.10.3		(f) Stockpiling of topsoil: All haul	m³	66 662.0	0.00	Included
	58.04	Grassing:				
		(c) Hydroseeding:				
3.10.4		(1) Providing an approved seed mixture for hydroseeding	kg	40.0	368.00	14 720.00
3.10.5		(2) Providing an approved mulch	kg	2 000.0	4.00	8 000.00
3.10.6		(3) Hydroseeding	ha	1.0	23 100.00	23 100.00
	58.10	Extra work for landscaping				
3.10.7		(a) Extra work for landscaping	PC sum	1.0	100 000.00	100 000.00
3.10.8		(b) Contractor's overheads profit, etc. on payment item (a) above	%	100 000.00	10.00	10 000.00
Total Carried Forward To Summary						3 215 610.00

BILL 3 - SEGMENT 2

5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.11	5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
	B59.01	Finishing the road and road reserve.				
3.11.1		c) Canal	km	3.0	94 500.00	283 500.00
Total Carried Forward To Summary						283 500.00

BILL 3 - SEGMENT 2

6100 FOUNDATIONS FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.12	6100	FOUNDATIONS FOR STRUCTURES				
3.12.1	61.01	Additional foundation investigations	Prov sum	1.0	50 000.00	50 000.00
3.12.1a	61.01	Handling costs and profit in respect of item 3.12.1 above	%	50 000.0	10.00	5 000.00
	61.02	Excavation: (a) Excavating soft material situated within the following successive depth ranges:				
3.12.2		(1) 0 m up to 2 m	m³	81.0	105.00	8 505.00
	61.04	Backfill to excavations utilising:				
3.12.3		(a) Material from the excavation	m³	63.0	78.00	4 914.00
Total Carried Forward To Summary						68 419.00

BILL 3 - SEGMENT 2

6200 FALSEWORK, FORMWORK AND CONCRETE FINISH

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.13	6200	FALSEWORK, FORMWORK AND CONCRETE FINISH				
	62.02	Vertical formwork to provide:				
		(a) Class F1 surface finish to:				
3.13.1		(i) Foundations	m²	46.0	500.00	23 000.00
Total Carried Forward To Summary						23 000.00

BILL 3 - SEGMENT 2

6300 STEEL REINFORCEMENT FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.14	6300	STEEL REINFORCEMENT FOR STRUCTURES				
	83.01	Steel reinforcement for:				
		(a) Foundations				
3.14.1		(i) Mild steel bars	t	0.5	13 880.00	6 940.00
3.14.2		(ii) Welded steel fabric	kg	178.0	17.22	3 055.16
		(b) Block wall cavity				
3.14.3		(i) High yield stress steel bars (type C)	t	0.4	13 880.00	5 552.00
Total Carried Forward To Summary						15 557.16

BILL 3 - SEGMENT 2

6400 CONCRETE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.15	6400	CONCRETE FOR STRUCTURES				
	64.01	Cast in situ concrete:				
3.15.1		(a) Class 25/19 For wall foundations	m³	17.3	1 766.00	30 897.80
	64.06	Demolishing existing concrete:				
		(a) Plain concrete in:				
3.15.2		(i) Existing wall foundations	m³	25.0	430.00	10 750.00
Total Carried Forward To Summary						41 647.80

BILL 3 - SEGMENT 2

NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.16	6900	NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES				
	866.06	Filled joints:				
3.16.1		a) Horizontal Dowel Joint "Type C" in in channel floor and side slopes with 10mm jointex filler	m	4.0	365.00	1 460.00
Total Carried Forward To Summary						1 460.00

BILL 3 - SEGMENT 2

7400 PATENTED EARTH RETAINING SYSTEMS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.17	7400	PATENTED EARTH RETAINING SYSTEMS				
	74.01	Patented earth retaining systems:				
3.17.1		(d) Terra force Type L13 Earthfilled	m ²	115.0	1 300.00	149 500.00
3.17.2		(e) Terra force Type L13 Concrete filled	m ²	30.0	1 740.00	52 200.00
3.17.3	B74.01	(f) Granular backfill material	m ³	40.0	257.00	10 280.00
	74.02	Excavation for concrete bases for earth retaining systems:				
3.17.4		(a) In soft material	m ²	50.0	18.00	900.00
3.17.5	74.03	Concrete bases for earth retaining systems (class 20/20)	m ²	10.0	1 772.00	17 720.00
3.17.6	B74.04	High-density type polyethylene pressure pipes and fittings, complete with couplings (Ø 110 mm FLO-Drain)	m	50.0	168.00	8 400.00
Total Carried Forward To Summary						239 000.00

BILL 3 - SEGMENT 2

SANS 1200L ALTERATIONS TO EXISTING WATER MAIN SCOUR AND AIR VALVES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
3.18	SANS 1200 L	ALTERATIONS TO EXISTING WATER MAIN SCOUR AND AIR VALVES				
	Particular Specification LX					
3.18.1	LX 8.1	EXISTING SCOUR VALVE ALTERATIONS				
3.18.1.1		Alterations to existing scour valve on the 1675mm diameter steel Steenbras raw water pipe, located at Chainage 1786 of the pipeline and at chainage 1416 of the Sir Lowreys River channel as detailed in Particular Specification LX 1 and indicated on Drawing 4974-0178-DRD-C301	Sum	1.0	63 000.00	63 000.00
3.18.2	LX 8.2	MOVE EXISTING AIR VALVE TO NEW LOCATION				
3.18.2.1		Relocation of existing air valve on chainage 1852 of the 1675mm diameter steel Steenbras raw water pipe to chainage 1711 as detailed in Particular Specification LX 2 and indicated on Drawings 4974-0178-DRD-C302 and -C303	Sum	1.0	63 000.00	63 000.00
Total Carried Forward To Summary						126 000.00

BILL 3 - SEGMENT 2

SUMMARY OF SECTIONS		
Section	Description	Amount R.
3.1	1500 ACCOMMODATION OF TRAFFIC	193 950.00
3.2	1600 OVERHAUL	209 225.25
3.3	1700 CLEARING AND GRUBBING	1 321 500.00
3.4	2200 PREFABRICATED CULVERTS	613 795.00
3.5	2300 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES,	1 440 450.00
3.6	3300 MASS EARTHWORKS	33 541 915.20
3.7	3400 PAVEMENT LAYERS OF GRAVEL	1 743 763.50
3.8	5100 PITCHING, STONWORK AND	47 013 920.76
3.9	5500 FENCING	150 153.00
3.10	5800 LANDSCAPING AND PLANTING PLANTS	3 215 610.00
3.11	5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	283 500.00
3.12	6100 FOUNDATIONS FOR STRUCTURES	68 419.00
3.13	6200 FALSEWORK, FORMWORK AND	23 000.00
3.14	6300 STEEL REINFORCEMENT FOR	15 557.16
3.15	6400 CONCRETE FOR STRUCTURES	41 647.80
3.16	6600 NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR	1 460.00
3.17	7400 PATENTED EARTH RETAINING SYSTEMS	239 000.00
3.18	SANS 1200L ALTERATIONS TO EXISTING WATER MAIN SCOUR AND AIR VALVES	126 000.00
Total Carried Forward To Summary Of Schedules		<u>90 632 866.67</u>

BILL 4 - SEGMENT 3

1500 ACCOMMODATION OF TRAFFIC

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.1	1500	ACCOMMODATION OF TRAFFIC				
4.1.1	B15.01	Accommodating traffic and maintaining temporary deviations	km	1.4	111 280.00	155 792.00
		Temporary traffic-control facilities				
4.1.2	B15.03	(a) Flagmen	man-day	100.0	500.00	50 000.00
Total Carried Forward To Summary:						205 792.00

BILL 4 - SEGMENT 3

1700 CLEARING AND GRUBBING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.2	1700	CLEARING AND GRUBBING				
4.2.1	17.01	Clearing and grubbing. Removal and grubbing of large trees and tree stumps:	ha	4.7	11 888.00	55 864.20
4.2.2	17.02	(a) Girth exceeding 1m up to and including 2m	No	3.0	685.00	2 055.00
4.2.3	17.04	Clearing and grubbing at inlets and outlets of hydraulic structures.	m ²	90.0	114.00	10 260.00
	17.05	Cleaning out of hydraulic structures:				
4.2.4		(a) Pipes with an internal diameter up to and including 750 mm	m ³	7.0	117.00	819.00
4.2.5		(b) Pipes with an internal diameter exceeding 750 mm	m ³	5.0	117.00	585.00
4.2.6		(d) Box culverts exceeding 1.5m vertical dimension	m ³	200.0	117.00	23 400.00
4.2.7	B17.13	Demolish steel Fulton gate including associated reinforced concrete and dispose of resulting material off site	No	1.0	5 232.00	5 232.00
4.2.8	B17.08	Demolish gabions and dispose of resulting material off site.	m ³	100.0	115.00	11 500.00
4.2.9	B17.14	Demolish reinforced concrete throttle structure and dispose of resulting material off site.	No	1.0	5 232.00	5 232.00
Total Carried Forward To Summary						114 947.20

BILL 4 - SEGMENT 3

2100 DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.3	2100	DRAINS				
	21.01	Excavating for open drains:				
4.3.1		(i) 0m up to 1.5m	m ²	200.0	90.00	18 000.00
4.3.2	21.02	Clearing and shaping existing open drains	m ²	25.0	158.00	3 950.00
4.3.3	21.19	Selected backfill material under concrete-lined side drains compacted to 93% of modified AASHTO density	m ³	70.0	113.00	7 910.00
Total Carried Forward To Summary						29 860.00

BILL 4 - SEGMENT 3

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.4	2200	PREFABRICATED CULVERTS				
	22.01	Excavation:				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
4.4.1		(i) 0 m up to 1.5 m	m³	442.0	90.00	39 780.00
4.4.2		(ii) Exceeding 1.5 m and up to 3.0 m	m³	110.0	168.00	18 480.00
4.4.3		(b) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	45.0	50.00	2 250.00
	22.02	Backfilling:				
4.4.4		(a) Using the excavated material	m³	95.0	58.00	5 510.00
4.4.5		(b) Using imported selected material	m³	160.0	245.00	39 200.00
4.4.6		(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling				
		(1) with 5% Cement (by mass)	m³	35.0	172.00	6 020.00
	22.05	Portal and rectangular culverts:				
		(b) Without prefabricated floor slabs				
4.4.7		(iv) 3000mm x 900mm Class 75 S	m	11.0	6 675.00	73 425.00
4.4.8		(v) 3000mm x 1200mm Class 75 S	m	80.6	7 182.00	579 675.20
4.4.9		(vi) 3000mm x 1500mm Class 75 S	m	11.0	7 710.00	84 810.00
4.4.10		(vii) 2400mm x 1200mm Class 75 S	m	19.3	5 575.00	107 597.50
	22.07	Cast in situ concrete and formwork:				
		(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish				
4.4.11		(i) Class 30/20	m³	85.0	1 850.00	157 250.00
4.4.12		(ii) Class 15/20 (blinding)	m³	25.0	1 840.00	46 000.00
		(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class U2 surface finish				
4.4.13		(i) Class 30/20	m³	80.0	1 850.00	148 000.00
4.4.14		(d) Formwork of concrete under subitem 22.07(c) above				
		(i) Vertical formwork for F1 surface finish	m²	320.0	575.00	164 000.00
	22.10	Steel reinforcement				
Total Carried Forward						1 491 997.70

BILL 4 - SEGMENT 3

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						1 491 997.70
4.4.15		(b) High-tensile steel bars	t	17.0	13 880.00	235 960.00
4.4.16		(c) Welded steel fabric	kg	1 600.0	17.22	27 552.00
4.4.17	22.26	Hand excavation to determine the positions of existing services	m³	15.0	550.00	8 250.00
	22.27	Reinstating trenches crossing roads:				
4.4.18		(b) Subbase, 150mm G5	m²	50.0	401.00	20 050.00
4.4.19		(c) Base 150mm G4 (including prime coat)	m²	50.0	592.00	29 600.00
4.4.20		(d) Bituminous surfacing 40mm COLTO Medium (including tack coat)	m²	50.0	188.00	9 400.00
Total Carried Forward To Summary						1 822 809.70

BILL 4 - SEGMENT 3

3 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS.

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.5	2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
	23.01	Concrete kerbing:				
		(a) Precast kerbing				
4.5.1		(i) Type C3 channel as edge beam	m	20.0	205.00	4 100.00
	23.06	Inlet, outlet, transition and similar structures (measured by components):				
4.5.2		(a) Concrete, Class 30/20, Class U2 finish	m³	12.0	1 980.00	23 760.00
4.5.3		(b) Formwork Class F1	m²	8.0	605.00	4 840.00
	23.07	Trimming of excavations for concrete-lined open drains:				
4.5.4		(a) In soft material	m²	4 360.0	16.00	69 760.00
4.5.5		(b) In hard material	m²	400.0	36.00	14 400.00
	23.08	Concrete lining for open drains:				
4.5.6		(a) Cast in situ concrete lining, Class 30/20	m³	640.0	1 920.00	1 228 800.00
4.5.7		(b) Class U2 surface finish to cast in situ concrete lining, Class 30/20 for open drains	m²	4 350.0	22.00	95 700.00
	23.09	Formwork to cast in situ concrete lining for open drains (Class F2 surface finish):				
4.5.8		(a) Two sides with formwork on the internal face only:	m²	360.0	600.00	216 000.00
4.5.9		(c) Two ends of slab	m²	310.0	500.00	155 000.00
	23.10	Sealed joints in concrete linings of open drains				
4.5.10		(a) 10mm Expansion joints as per dwg 4974-0305-DGA-C303	m	530.0	105.00	55 650.00
4.5.11	23.13	Polyethylene sheeting (0.15mm thick) for concrete-lined open drains	m²	2 950.0	10.00	29 500.00
Total Carried Forward To Summary						1 897 510.00

BILL 4 - SEGMENT 3

3300 MASS EARTHWORKS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.6	3300	MASS EARTHWORKS				
	B33.01	Cut and borrow to fill, including all haul:				
		(a) Material in compacted layer thickness of 200 mm and less:				
4.6.1		(i) Compacted to 90% of modified AASHTO density	m³	8 000.0	71.00	568 000.00
4.6.2		(ii) Compacted to 93% of modified AASHTO density	m³	27 532.0	71.00	1 954 772.00
	33.03	Extra over item 33.01 for excavating and breaking down material in:				
4.6.3		(a) Intermediate excavation	m³	2 950.0	0.00	0.00
4.6.4		(b) Hard excavation	m³	4 500.0	150.00	675 000.00
	B33.04	Cut to spoil, including all haul. Material obtained from:				
4.6.5		(a) Soft excavation	m³	30 820.0	36.00	1 109 520.00
4.6.6		(b) Intermediate excavation	m³	810.0	50.00	40 500.00
4.6.7		(c) Hard excavation	m³	380.0	180.00	68 400.00
	33.06	Widening of cuts (extra over items 33.01, 33.02 and 33.04)				
4.6.8		(a) In hard material	m³		180.00	Rate Only
4.6.9	33.10	Roadbed preparation and the compaction of material:				
4.6.10		(a) Compaction to 90% of modified AASHTO density	m³	420.0	41.00	17 220.00
	33.13	Finishing-off cut and fill slopes, medians and interchange areas:				
4.6.11		(a) Cut slopes	m²	30.0	6.00	180.00
4.6.12		(b) Fill slopes	m²	900.0	6.00	5 400.00
4.6.13	B33/32.06	Stockpiling of material	m³	1 430.0	15.00	21 450.00
Total Carried Forward To Summary.						4 480 442.00

BILL 4 - SEGMENT 3

3400 PAVEMENT LAYERS OF GRAVEL MATERIAL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.7	3400	PAVEMENT LAYERS OF GRAVEL MATERIAL				
	834.01	Pavement layers constructed from commercial sources, including all haul:				
		(h) Gravel wearing course compacted to:				
4.7.1		(4) 97% of modified AASHTO density, Type 2, 150mm thick	m ³	360.0	401.00	144 360.00
Total Carried Forward To Summary						144 360.00

BILL 4 - SEGMENT 3

3800 BREAKING UP EXISTING PAVEMENT LAYERS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.8	3800	BREAKING UP EXISTING PAVEMENT LAYERS				
	38.01	Excavating and removing existing bituminous material (except milled material): (b) Material to be disposed of with the average depth of excavation:				
4.8.1		(i) Not exceeding 30 mm	m ²	30.0	38.00	1 140.00
4.8.2		(ii) Exceeding 30 mm but not exceeding 60 mm	m ²	30.0	48.00	1 440.00
4.8.3	38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill: (a) Non-cemented material	m ³	20.0	91.00	1 820.00
	38.05	Excavating material from an existing pavement and/or underlying fill in restricted areas:				
4.8.4		(a) Extra over item 38.01 for bituminous material excavated separately	m ²	60.0	91.00	5 460.00
		(b) Extra over item 38.04 for other existing pavement and/or fill material:				
4.8.5		(i) Non-cemented material	m ²	20.0	91.00	1 820.00
	38.08	Sawing or cutting asphalt or cemented pavement layers:				
4.8.6		(b) Cutting asphalt	m	20.0	25.00	500.00
Total Carried Forward To Summary						12 180.00

BILL 4 - SEGMENT 3

5100 PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.9	5100	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
	51.01	Stone Pitching:				
4.9.1		(i) Method 1	m²	180.0	275.00	49 500.00
	51.04	Concrete pitching and block paving:				
4.9.2		(c) Prefabricated concrete grass blocks	m²	11 750.0	263.00	3 090 250.00
Total Carried Forward To Summary						3 139 750.00

BILL 4 - SEGMENT 3

5200 GABIONS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.10	5200	GABIONS				
	52.01	Foundation trench excavation and backfilling:				
4.10.1		(b) In all other classes of materials	m³	110.0	68.00	7 480.00
4.10.2	52.02	Surface preparation for bedding the gabions	m²	560.0	15.00	8 400.00
	52.03	Gabions:				
		(b) PVC-coated gabion boxes (dimensions of box, 2.7mm galvanized wire and 80x100mm mesh)				
4.10.3		(i) 1.0m long x 1.0m wide x 0.5m high	m³	440.0	1 658.00	729 640.00
4.10.4		(ii) 2.0m long x 1.0m wide x 0.3m high	m³	5.0	2 075.00	10 375.00
4.10.5	52.05	Filter fabric (synthetic, non-woven, continuous filament, needle-punched polyester, grade A4 or equivalent)	m²	1 010.0	20.00	20 200.00
Total Carried Forward To Summary						775 095.00

BILL 4 - SEGMENT 3

5500-FENCING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.11	5500	FENCING				
	555.02	Supply and erect new fencing material for new fences and for supplementing material in existing fencing which are being repaired or removed:				
		(a) Zinc-coated barbed wire (SABS 675)				
4.11.1		(i) High-tensile-grade, single-strand 2,80mm x 1,90mm oval-shaped wire, galvanized	km	0.6	4 462.00	2 677.20
		(b) Zinc-coated smooth wire (SABS 675)				
4.11.2		(i) High-tensile grade, single strand, 2,24mm dia, galvanized	km	0.5	3 675.00	1 837.50
4.11.3		(c) Diamond mesh (2,5mm thick, 64x64mm openings)	m²	60.0	52.00	3 120.00
		(g) Standards				
4.11.4		(i) Timber, 2m long (100-125mm dia)	No	8.0	840.00	6 720.00
4.11.5		(ii) 3,0m x 2,50 kg/m mild steel y-section	No	10.0	126.00	1 260.00
		(h) Droppers				
4.11.6		(i) Timber, 40mm minimum dia, 1,37m long	m	20.0	36.00	720.00
		(i) Straining posts, stays and anchors:				
		(a) Vertical:				
4.11.7		(i) Steel straining posts (101,6mm o/d steel pipe, wall thickness 2,95mm, Galvanised)	No	5.0	1 845.00	9 225.00
4.11.8		(ii) Timber straining posts (125-150mm dia, treated, 2,4m long)	No	10.0	1 417.00	14 170.00
		(b) Inclined:				
4.11.9		(i) Steel stays and anchors (60,33mm o/d steel pipe, wall thickness 2,95mm, Galvanised)	No	3.0	895.00	2 685.00
4.11.10		(ii) Wire stays and anchors (4-cord straining wire)	No	12.0	84.00	1 008.00
		(c) Horizontal:				
4.11.11		(i) Steel stays and anchors (60,33mm o/d steel pipe, wall thickness 2,95mm, Galvanised)	No	2.0	682.00	1 364.00
4.11.12		(ii) Timber stays and anchors (100-125mm dia, 1,2m long)	No	5.0	475.00	2 375.00
4.11.13		(j) New 2,25m high boundary wall constructed using 390x190x190 cement blocks	km	0.1	1 404 750.00	140 475.00
	555.03	New gates				
Total Carried Forward						188 138.70

BILL 4 - SEGMENT 3

5500 FENCING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						188 136.70
4.11.14		(a) 6m wide double leaf farm gate	No	2.0	9 715.00	19 430.00
4.11.15		(b) 6m wide double leaf security gate (Type1)	No	1.0	13 125.00	13 125.00
4.11.16		(k) Palisade fencing	m	220.0	1 024.00	225 280.00
	B55.05	Dismantling existing fences:				
		(a) Fences:				
4.11.17		(i) Stock-proof fences	km	0.2	47 250.00	9 450.00
4.11.18		(iv) Security fences	km	0.1	68 250.00	6 825.00
		(b) Gates				
4.11.19		(f) Pedestrian Gates	No	2.0	525.00	1 050.00
	55/61.02	Excavation:				
		(a) Excavating soft material situated within the following successive depth ranges:				
4.11.20		i) 0m up to 2m	m³	15.0	104.00	1 560.00
	55/61.04	Backfill to excavations utilising:				
4.11.21		(a) Material from the excavation	m³	10.0	78.00	780.00
4.11.22	55/B61.05	Fill within a restricted area (extra over item B33.01)	m³	10.0	31.00	310.00
	55/62.02	Vertical formwork to provide:				
		(a) Class F1 surface finish to:				
4.11.23		(i) Foundations	m²	10.0	500.00	5 000.00
	55/63.01	Steel reinforcement for:				
		(a) Foundations				
4.11.24		(i) Mild steel bars	t	0.1	13 880.00	1 388.00
4.11.25		(iii) Mesh Ref 193	kg	30.0	17.25	517.50
		(b) Block wall cavity				
Total Carried Forward						472 852.20

BILL 4 - SEGMENT 3

5500 FENCING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						472 852.20
4.11.26		(ii) High yield stress steel bars (Type C)	t	0.1	13 880.00	1 388.00
	55/64.01	Cast in situ concrete:				
		(a) Class 25MPa/20mm				
4.11.27		(i) Foundations	m³	5.0	1 825.00	9 125.00
	55/66.06	Filled joints:				
4.11.28		(a) 10mm vertical expansion joint at 10m centres in block wall formed using 10mm jointex	m²	0.5	60.00	30.00
Total Carried Forward To Summary						483 395.20

BILL 4 - SEGMENT 3

5600 ROAD SIGNS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.12	5600	ROAD SIGNS				
	56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-reflective material, where the sign board is constructed from:				
		(c) Pre-painted galvanized steel plate (chromadek or equivalent);				
4.12.1		(i) Area not exceeding 2 m²	m²	2.0	1 065.00	2 130.00
	56.02	Extra over item 56.01 for using:				
		(a) Background of retro-reflective material:				
4.12.2		(iii) Class 111	m²	2.0	292.00	584.00
		(b) Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
4.12.3		(ii) Class 111	m²	2.0	50.00	100.00
	56.03	Road sign supports (overhead road sign structures excluded):				
		(b) Timber				
4.12.4		(i) 75 mm dia. Treated	m	30.0	185.00	5 550.00
4.12.5	56.05	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m³	5.0	182.00	910.00
Total Carried Forward To Summary						9 274.00

BILL 4 - SEGMENT 3

5800 LANDSCAPING AND PLANTING PLANTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.13	5800	LANDSCAPING AND PLANTING PLANTS				
4.13.1	58.01	Trimming:				
4.13.2		(a) Machine trimming	m²	4 500.0	6.00	27 000.00
	58.03	Preparing the areas for grassing:				
		(c) Topsoiling within the road reserve, where the following materials are used:				
4.13.3		(i) Topsoil obtained from other sources by contractor (including all haul)	m²	230.0	59.00	13 570.00
	58.1	Extra work for landscaping				
4.13.4		(a) Extra work for landscaping	PC sum	1.0	50 000.00	50 000.00
4.13.5		(b) Contractor's overhead's profit, etc. on payment item (a) above	%	50 000.00	10.00	5 000.00
Total Carried Forward To Summary						95 570.00

BILL 4 - SEGMENT 3

5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.14	5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
	59.01	Finishing the road and road reserve:				
4.14.1		(b) Single carriageway road	km	0.4	66,340.00	26,536.00
Total Carried Forward To Summary						26 536.00

BILL 4 - SEGMENT 3

6100 FOUNDATIONS FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.15	6100	FOUNDATIONS FOR STRUCTURES				
	61.01	Additional foundation investigations				
4.15.1		(a) Additional foundation investigations	PC sum	1.0	50 000.00	50 000.00
4.15.2		(b) Contractor's overhead's profit, etc. on payment item (a) above	%	50 000.00	10.00	5 000.00
	61.02	Excavation:				
		(a) Excavating soft material situated within the following successive depth ranges:				
4.15.3		(1) 0 m up to 2 m	m ³	1 820.0	36.00	65 520.00
4.15.4		(b) Extra over sub-item 61.02(a) for excavation in hard material irrespective of depth	m ³	64.0	50.00	3 200.00
4.15.5		(c) Extra over subitem 61.02(a) for additional excavation required by the engineer after the excavation has been completed	m ³	50.0	34.00	1 700.00
	61.03	Access and drainage:				
4.15.6		(a) Access	L/sum	1.0	310 000.00	310 000.00
4.15.7		(b) Drainage where no access has been provided	L/sum	1.0	150 000.00	150 000.00
	61.04	Backfill to excavations utilising:				
4.15.8		(a) Material from the excavation	m ³	1 137.0	68.00	77 316.00
		(b) Imported material:				
4.15.9		(i) G7 quality imported draining material	m ³	4 245.0	390.00	1 655 550.00
4.15.10		(ii) Imported material All haul	m ³	1 433.0	68.00	97 444.00
4.15.11		(c) Soil cement	m ³	15.0	812.00	12 180.00
4.15.12	61.05	Fill within a restricted area (extra over item 33.01)	m ³	1 960.0	68.00	133 280.00
	61.08	Foundation (ii) consisting of:				
4.15.13		(d) 75mm binding (Class 15/19 MPa)	m ³	61.0	1 830.00	111 630.00
Total Carried Forward To Summary						2 672 820.00

BILL 4 - SEGMENT 3

6200 FALSEWORK, FORMWORK AND CONCRETE FINISH

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.16	6200	FALSEWORK, FORMWORK AND CONCRETE FINISH				
	62.02	Vertical formwork to provide:				
		(a) Class F1 surface finish to:				
4.16.1		(i) Abutments and wing walls	m ²	535.0	550.00	294 250.00
4.16.2		(ii) Foundations	m ²	228.0	500.00	114 000.00
4.16.3		(iii) Cut-off Wall	m ²	130.0	500.00	65 000.00
4.16.4		(iv) Retaining walls	m ²	808.2	550.00	444 510.00
		(b) Class F2 surface finish to:				
4.16.5		(i) Abutments and wing walls	m ²	539.0	575.00	309 825.00
4.16.6		(ii) Retaining walls	m ²	814.0	575.00	468 050.00
4.16.7		(iii) Stairs in channel lining	m ²	40.0	600.00	24 000.00
	62.03	Horizontal formwork to provide:				
		(a) Class F1 surface finish to:				
4.16.8		(i) Suspended slab	m ²	13.0	600.00	7 800.00
	62.04	Inclined formwork to provide:				
		(a) Class F1 surface finish to:				
4.16.9		(i) Suspended slab haunch	m ²	2.5	600.00	1 500.00
Total Carried Forward To Summary						1 729 035.00

BILL 4 - SEGMENT 3

6300 STEEL REINFORCEMENT FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.17	6300	STEEL REINFORCEMENT FOR STRUCTURES				
	63.01	Steel reinforcement for:				
		(a) Canal Concrete Lining:				
4.17.1		(3) Welded steel fabric (ref395)	kg	93 463.0	15.75	1 472 042.25
		(b) Transition floor				
4.17.2		(i) Mesh Ref 395	kg	7 604.0	17.25	131 169.00
		(c) Abutments and wing walls				
4.17.3		(i) Mild steel bars	t	1.3	13 880.00	18 044.00
4.17.4		(ii) High yield stress steel bars (Type C)	t	13.2	13 880.00	183 216.00
		(d) Cut-off Wall				
4.17.5		(ii) High yield stress steel bars (Type C)	t	1.2	13 880.00	16 656.00
		(e) Foundations:				
4.17.6		(i) Mild steel bars	t	1.9	13 880.00	26 372.00
4.17.7		(ii) High yield stress steel bars (Type C)	t	16.8	13 880.00	233 184.00
		(f) Surface beds				
4.17.8		(i) Mesh Ref 395	kg	2 580.9	17.25	44 520.53
		(g) Retaining walls and wing walls				
4.17.9		(i) Mild steel bars	t	4.3	13 880.00	59 684.00
4.17.10		(ii) High yield stress steel bars (Type C)	t	45.7	13 880.00	634 316.00
		(c) Suspended slab and headwalls				
4.17.11		(i) Mild steel bars	t	0.0	13 880.00	Rate Only
4.17.12		(ii) High yield stress steel bars (Type C)	t	0.4	13 880.00	5 552.00
Total Carried Forward To Summary						2 824 755.78

BILL 4 - SEGMENT 3

6400 CONCRETE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount: R
4.18	6400	CONCRETE FOR STRUCTURES				
	864.01	Cast in situ concrete:				
		(a) Class 25/19 MPa				
4.18.1		(i) Foundations	m³	255.0	1 821.00	469 818.00
4.18.2		(ii) Apron slab and cut-off walls	m³	4.0	1 821.00	7 284.00
4.18.3		(iii) For Canal Lining	m³	3 953.0	1 856.00	7 336 768.00
		(b) For transition section				
		(1) Class 25/19 MPa				
4.18.4		(i) Foundations	m³	258.0	1 786.00	460 788.00
4.18.5		(ii) Apron slab and cut-off walls	m³	4.0	1 786.00	7 144.00
		(2) Class 30/19 MPa				
4.18.6		(i) Abutments and retaining walls	m³	132.0	1 850.00	244 200.00
4.18.7		(ii) Channel	m³	289.0	1 850.00	534 650.00
4.18.8		(iii) Cut-off wall	m³	15.0	1 850.00	27 750.00
4.18.9		(iv) Retaining walls	m³	454.0	1 850.00	839 900.00
4.18.10		(v) Surface beds	m³	98.0	1 850.00	181 300.00
4.18.11		(vi) Wing walls and head walls	m³	2.0	1 850.00	3 700.00
4.18.12		(vii) Suspended slab	m³	3.0	1 850.00	5 550.00
	864.07	Curing of concrete				
4.18.15		(i) Exposed concrete faces	m²	93 463.0	16.00	1 495 408.00
Total Carried Forward To Summary						11 614 260.00

BILL 4 - SEGMENT 3

NES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
4.19	8800	NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES				
	88.01	Cast in situ no-fines concrete				
4.19.1		(d) 50mm no-fines blinding (Class 15/19 MPa)	m²	1 321.0	2 111.00	2 788 631.00
	888.08	Filled joints:				
4.19.2		a) Horizontal Dowel Joint "Type C" in in channel floor and side-slopes with 10mm jointex filler	m	831.0	363.00	301 653.00
4.19.3		b) Horizontal Expansion Joint "Type D" in channel with 10mm jointex filler	m²	10.5	110.00	1 155.00
4.19.4		c) Horizontal Isolation Joint at surface beds with 10mm jointex filler	m	190.4	110.00	20 944.00
	888.07	Unfilled joints:				
4.19.5		(a) Horizontal Toggle Joint "Type A" in channel floor and side slopes	m	5 221.0	263.00	1 373 123.00
4.19.6		(b) Vertical Toggle Joint "Type A" in walls	m²	50.0	263.00	13 150.00
4.19.7		c) Inclined Dowel Joint "Type B" in channel	m	3 174.0	263.00	834 762.00
	888.08	Sealing joints with:				
4.19.8		(a) 300mm bitumen impregnated burlap at precast unit joints	m²	40.0	347.00	13 880.00
	888.19	Drainage pipes and weepholes:				
		(b) Weep holes:				
4.19.9		(i) 75mm dia. uPVC pipes with stone filter wrapped in bidim	No	513.0	174.00	89 262.00
4.19.10		(ii) 50mm dia. uPVC pipes with stone filter wrapped in bidim	No	203.0	173.00	35 119.00
		(a) Non-return Weepholes:				
4.19.11		(i) 100mm dia. Ground water relief valve with stone filter wrapped in bidim	No	500.0	1 753.00	876 500.00
4.19.12	888.21	Synthetic-fibre filter fabric(a) 300mm Filter fabric	m²	29 019.0	19.00	551 361.00
	888.27	Drainage strips				
4.19.13		(a) 200mm wide DN3 netlon drainage strips 2m c/c	m	630.0	50.00	31 500.00
Total Carried Forward						6 931 040.00

BILL 4 - SEGMENT 3

NES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						5 931 040.00
4.10.14	B66.28	Perforated drainage pipes-M55 Nelson drainage pipe or similar wrapped in Grade 2 geotextile (as specified in 2104 (a))	m	356.0	69.00	24 564.00
Total Carried Forward To Summary						6 855 604.00

BILL 4 - SEGMENT 3

SUMMARY OF SECTIONS		
Section	Description	Amount R
4.1	1500 ACCOMMODATION OF TRAFFIC	205 792.00
4.2	1700 CLEARING AND GRUBBING	114 947.20
4.3	2100 DRAINS	29 860.00
4.4	2200 PREFABRICATED CULVERTS	1 822 609.70
4.5	2300 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES,	1 897 510.00
4.6	3300 MASS EARTHWORKS	4 460 442.00
4.7	3400 PAVEMENT LAYERS OF GRAVEL	144 360.00
4.8	3800 BREAKING UP EXISTING PAVEMENT	12 180.00
4.9	5100 PITCHING, STONWORK AND	3 139 750.00
4.10	5200 GABIONS	775 095.00
4.11	5500 FENCING	483 395.20
4.12	5800 ROAD SIGNS	9 274.00
4.13	5800 LANDSCAPING AND PLANTING PLANTS	95 570.00
4.14	5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	26 536.00
4.15	6100 FOUNDATIONS FOR STRUCTURES	2 672 820.00
4.16	6200 FALSEWORK, FORMWORK AND	1 729 035.00
4.17	6300 STEEL REINFORCEMENT FOR	2 824 765.78
4.18	6400 CONCRETE FOR STRUCTURES	11 614 280.00
4.19	6800 NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR	6 955 604.00
Total Carried Forward To Summary Of Schedules		<u>39 013 995.88</u>

BILL 5 - SEGMENT 4

1500 ACCOMMODATION OF TRAFFIC

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.1	1500	ACCOMMODATION OF TRAFFIC				
5.1.1	15.01	Accommodating traffic and maintaining temporary deviations	km	0.9	115 845.00	105 160.50
5.1.2	15.03	Temporary traffic-control facilities (a) Flagmen	man-day	400.0	500.00	200 000.00
Total Carried Forward To Summary						305 160.50

BILL 5 - SEGMENT 4

1700 CLEARING AND GRUBBING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.2	1700	CLEARING AND GRUBBING				
5.2.1	17.01	Clearing and grubbing	ha	1.6	11 886.00	19 017.60
5.2.2	17.02	Removal and grubbing of large trees and tree stumps (a) Girth exceeding 1m up to and including 2m	No	18.0	685.00	12 330.00
5.2.3	17.04	Clearing and grubbing at inlets and outlets of hydraulic structures	m²	18.0	137.00	2 466.00
5.2.4	17.05	Cleaning out of hydraulic structures (a) Pipes with an internal diameter up to and including 750 mm	m³	145.0	177.00	25 665.00
5.2.5		(c) Box culverts up to and including 1,5 m vertical dimension	m³	45.0	177.00	7 965.00
5.2.6		(d) Box culverts exceeding 1,5 m vertical dimension	m³	135.0	177.00	23 895.00
Total Carried Forward To Summary						91 338.60

BILL 5 - SEGMENT 4

2100 DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.3	2100	DRAINS				
5.3.1	21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m	m³	100.0	95.00	9 500.00
5.3.2		(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m³	50.0	50.00	2 500.00
5.3.3	21.02	Clearing and shaping existing open drains	m³	6 370.0	41.00	261 170.00
5.3.4	21.05	Banks and dykes	m³	250.0	41.00	10 250.00
Total Carried Forward To Summary						283 420.00

BILL 5 - SEGMENT 4

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.4	2200	PREFABRICATED CULVERTS				
	22.01	Excavation				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
5.4.1		(i) 0 m up to 1.5 m	m³	750.0	80.00	60 000.00
5.4.2		(ii) Exceeding 1.5 m and up to 3.0 m	m³	92.0	126.00	11 592.00
		Backfilling:				
5.4.3	22.02	(a) Using the excavated material	m³	165.0	78.00	12 870.00
5.4.4		(b) Using imported selected material	m³	12.0	276.00	3 336.00
		(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling				
5.4.5		(i) with 3% Cement	m³	12.0	546.00	6 552.00
	22.03	Concrete pipe culverts:				
		(c) On class C bedding				
5.4.6		(i) 300mm dia. Type 100D	m	60.0	506.00	30 360.00
5.4.7		(ii) 450mm dia. Type 100D	m	4.0	725.00	2 900.00
5.4.8		(iii) 600mm dia. Type 100D	m	7.0	1 108.00	7 742.00
5.4.9		(iv) 750mm dia. Type 100D	m	36.0	1 642.00	59 112.00
	22.05	Portal and rectangular culverts: (a) Complete with prefabricated floor slabs				
5.4.10		(7) 1500mm x 1200mm Type 1005	m	126.0	5 392.00	679 392.00
5.4.11		(9) 1800mm x 900mm Type 755	m	20.0	6 275.00	125 500.00
5.4.12		(14) 2000mm x 1200mm Type 755	m	66.0	7 485.00	494 010.00
		Cast in situ concrete and formwork:				
	22.07	(a) In class A bedding, screeds and the encasing for pipes, including formwork				
5.4.13		(i) Class 15/38	m²	1.0	2 645.00	2 645.00
5.4.14		(ii) Class 25/19	m²	25.0	2 666.00	66 650.00
		(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class 1/2 surface finish				
5.4.15		(i) Class 30/19	m²	125.0	2 001.00	250 125.00
Total Carried Forward						1 812 786.00

BILL 5 - SEGMENT 4

2200 PREFABRICATED CULVERTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						1 612 786.00
		(d) Formwork of concrete under subitem 22.07(c) above				
5.4.16		(i) Vertical formwork for F1 surface finish	m²	230.0	550.00	126 500.00
5.4.17		(ii) Vertical formwork for F2 surface finish	m²	150.0	575.00	86 250.00
5.4.18		(iii) Horizontal formwork for F2 surface finish	m²	19.0	600.00	11 400.00
		Steel reinforcement				
5.4.19	22.10	(a) Mild steel bars	t	2.0	13 880.00	27 760.00
5.4.20		(b) High-tensile steel bars	t	18.0	13 880.00	249 840.00
5.4.21		(c) Welded steel fabric	kg	1 770.0	15.75	27 877.50
		Removing existing concrete				
5.4.22	22.12	(a) Plain concrete	m³	30.0	430.00	12 900.00
5.4.23		(b) Reinforced concrete	m³	95.0	500.00	47 500.00
	22.14	Removing and stacking existing prefabricated culverts (type and size indicated)				
5.4.24		(1) 300mm dia. Type 100D	m	60.0	250.00	15 000.00
5.4.25		(2) 375mm dia. Type 100D	m	4.0	268.00	1 072.00
5.4.26		(3) 600mm dia. Type 100D	m	7.0	375.00	2 625.00
5.4.27		(4) 600mm dia. Type 100D	m	7.0	0.00	0.00
5.4.28		(5) 750mm dia. Type 100D	m	52.0	488.00	24 336.00
5.4.29		(6) 1200mm W x 1000mm H B.C. type 150S	m	18.0	750.00	13 500.00
	22.18	Brickwork				
5.4.30		(b) 230 mm thick	m²	18.0	550.00	9 900.00
5.4.31	22.19	Plaster	m²	16.0	105.00	1 680.00
5.4.32	22.20	Banching	m²	4.0	3 018.00	12 072.00
		Accessories				
	22.21	(a) Manhole covers including frames				
5.4.33		(i) Type 2A, SABS 558/1973	No	1.0	5 385.00	5 385.00
		(c) Step irons				
5.4.34		(iv) Calcamite Type Medium Leg	No	6.0	105.00	630.00
5.4.35	22.28	Hand excavation to determine the positions of existing services	m³	10.0	500.00	5 000.00
Total Carried Forward To Summary						2 494 013.50

BILL 5 - SEGMENT 4

CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.5	23.00	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
	23.01	Concrete kerbing				
		(a) Precast kerbing to City of Cape Town standard details R1A & R1B				
		(3) Mountable kerb MK10				
5.5.1		(ii) Radius 4.01 m to 20 m	m	10.0	270.00	2 700.00
5.5.2		(iii) Straight and to radius not less than 20 m	m	47.0	203.00	9 541.00
		(4) Edging E1				
5.5.3		(iii) Straight and to radius not less than 20 m	m	25.0	135.00	3 375.00
		(3) Mountable kerb & channel CK5				
5.5.4		(iii) Straight and to radius not less than 20 m	m	45.0	357.00	16 085.00
	23.05	Inlet, outlet, transition and similar structures (typical designs):				
5.5.5		(f) In situ transition sections up to 1m long kerb & channel to kerb class 20/19 concrete with U2 finish	No	1.0	630.00	630.00
5.5.6		(g) In situ transition sections up to 1m long kerb to kerb class 20/19 concrete with U2 finish	No	3.0	630.00	1 890.00
5.5.7		(h) In situ transition kerb & channel drop kerb inlet to in situ lined channel class 20/19 concrete with U2 finish	No	1.0	630.00	630.00
	23.07	Trimming of excavations for concrete-lined open drains				
5.5.8		(a) In soft material	m²	12.0	26.00	312.00
	23.08	Concrete lining for open drains:				
5.5.9		(a) Cast in situ concrete lining class 20/19 for V-channel open drain	m²	2.0	3 000.00	6 000.00
5.5.10		(b) Class U2 surface finish to cast in situ concrete for V-channel open drain	m²	12.0	22.00	264.00
		Formwork to cast in situ concrete lining for open drains (Class F2 surface finish)				
5.5.11	23.09	(a) To sides with formwork on the internal face only	m²	5.0	825.00	4 125.00
		Sealed joints in concrete linings of open drains				
Total Carried Forward						45 532.00

BILL 5 - SEGMENT 4

CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
Brought Forward						45 532.00
5.5.12	23.1	(a) Polysulphide sealants	m	4.0	80.00	320.00
		Steel reinforcement				
5.5.13	23.12	(a) Mild steel bars	t	0.0	13 880.00	Rate Only
5.5.14		(b) High-tensile steel bars	t	0.0	13 880.00	Rate Only
5.5.15		(c) Welded steel fabric	kg	40.0	15.75	630.00
5.5.16	23.13	Polyethylene sheeting (0,15 mm thick) for concrete lined open drains	m²	12.0	15.00	180.00
5.5.17	23.14	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	20.0	25.00	500.00
Total Carried Forward To Summary.						47 162.00

BILL 5 - SEGMENT 4

3400 PAVEMENT LAYERS OF GRAVEL MATERIAL

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.6	3400	PAVEMENT LAYERS OF GRAVEL MATERIAL				
	634.01	Pavement layers constructed from commercial sources, including all haul:				
		(a) Gravel selected layer compacted to:				
5.6.1		(i) 93% of modified AASHTO density (150mm thick)	m³	8.0	668.00	5 344.00
		(c) Gravel subbase (unstabilized gravel) compacted to:				
5.6.2		(i) 95% of modified AASHTO density (150mm thick)	m³	45.0	425.00	19 125.00
		(g) Gravel shoulder compacted to:				
5.6.3		(ii) 95% of modified AASHTO density (150mm thick)	m³	2.0	440.00	880.00
Total Carried Forward To Summary						25 349.00

BILL 5 - SEGMENT 4

3800 BREAKING UP EXISTING PAVEMENT LAYERS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.7	3800	BREAKING UP EXISTING PAVEMENT LAYERS				
	38.01	Excavating and removing existing bituminous material (except milled material): (b) Material to be disposed of with the average depth of excavation:				
5.7.1		(2) Exceeding 30 mm but not exceeding 60 mm	m²	475.0	106.00	50 350.00
5.7.2	38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill: (a) Non-cemented material	m²	70.0	110.00	7 700.00
	38.08	Sawing or cutting asphalt or cemented pavement layers:				
5.7.3		(b) Cutting asphalt	m	40.0	25.00	1 000.00
Total Carried Forward To Summary						59 050.00

BILL 5 - SEGMENT 4

4100 PRIME COAT

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.8	4100	PRIME COAT				
	41.01	Prime coat:				
5.8.1		(e) Invert bluminous emulsion	litre	190.0	18.00	3 420.00
Total Carried Forward To Summary						3 420.00

BILL 5 - SEGMENT 4

4200 ASPHALT BASE AND SURFACING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R.
5.9	4200	ASPHALT BASE AND SURFACING				
	42.01	Asphalt base:				
		(a) Using 70/100 pen. bitumen:				
		(1) Continuously graded (maximum size 20.5 mm)				
5.9.1		(i) 80 mm thick	m ³	170.0	342.00	58 140.00
		Asphalt surfacing:				
	42.02	(a) Continuously graded, 50/70 penetration grade				
		(2) Medium graded				
5.9.2		(iv) 40 mm thick	m ²	270.0	216.00	58 320.00
	42.05	Binder variations				
5.9.3		(a) Penetration grade bitumens	t	0.3	7 875.00	2 362.50
Total Carried Forward To Summary						118 822.50

BILL 5 - SEGMENT 4

5100 PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.10	5100	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
	851.02	Riprap:				
		(b) Dumped riprap				
5.10.1		(i) Type A, 2m thick	m ²	630.0	420.00	264 600.00
5.10.2		(ii) Type B, 0.8m thick	m ²	230.0	381.00	87 630.00
		(c) Filter backing (sub-clauses 2104(a)(2) and 5104(b)) consisting of:				
5.10.3		(1) Underlayer for Type A Rip Rap	m ²	78.8	325.00	25 610.00
5.10.4		(2) Underlayer for Type B Rip Rap	m ²	28.8	325.00	9 360.00
5.10.5		(4) Natural Filter layer for Type A Rip rap	m ²	47.3	353.00	16 696.90
5.10.6		(5) Natural Filter layer for Type B Rip rap	m ²	17.3	353.00	6 106.90
		(d) Synthetic-fibre filter fabric				
5.10.7		(1) Grade A7 or equivalent	m ²	605.0	34.00	20 570.00
Total Carried Forward To Summary						430 573.80

BILL 5 - SEGMENT 4

5200 GABIONS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.11	5200	GABIONS				
	52.01	Foundation trench excavation and backfilling;				
5.11.1		(b) In all other classes of materials	m³	910.0	68.00	61 880.00
5.11.2	52.02	Surface preparation for bedding the gabions	m²	1 000.0	15.00	15 000.00
	52.03	Gabions:				
		(b) PVC-coated gabion boxes				
		(1) 1.0m wide x 0.3m deep, 2.7mm galvanized wire and 80x100mm mesh				
5.11.3		(i) by 1.0 m long mesh	m³	4.0	2 072.00	8 288.00
5.11.4		(ii) by 3.0 m long mesh	m³	205.0	2 128.00	436 240.00
		(2) 1.0 m wide by 0.5 m deep				
5.11.5		(i) by 1.0 m long mesh	m³	11.0	2 164.00	23 804.00
5.11.6		(ii) by 3.0 m long mesh	m³	340.0	2 128.00	723 520.00
		(3) 1.0 m wide by 1.0 m wide				
5.11.7		(i) by 1.0 m long mesh	m³	15.0	1 658.00	24 840.00
5.11.8		(ii) by 3.0 m long mesh	m³	1 820.0	1 531.00	2 786 420.00
Total Carried Forward To Summary						4 079 992.00

BILL 5 - SEGMENT 4

5400 GUARDRAILS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.12	5400	GUARDRAILS				
	54.01	Guardrails on timber posts:				
5.12.1		(a) Galvanised	m	52.0	768.00	39 936.00
	54.04	End treatments:				
5.12.2		(b) Bull noses	No	4.0	742.00	2 968.00
5.12.3	54.06	Reflective plates	No	26.0	30.00	780.00
5.12.4	54.07	Removing existing guardrails	m	12.0	120.00	1 440.00
Total Carried Forward To Summary						45 124.00

BILL 5 - SEGMENT 4

5500 FENCING

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.13	5500	FENCING				
5.13.1	55.01	Clearing the fence line, 2m wide strip	km	0.1	15 750.00	1 575.00
		Moving existing fences and gates:				
	55.04	(a) Fences:				
5.13.2		(4) Security fences	km	0.1	378 000.00	37 800.00
	55.05	Dismantling existing fences:				
		(a) Fences:				
5.13.3		(4) Security fences	km	0.1	126 000.00	12 600.00
	55.06	Providing temporary fences and gates:				
5.13.4		(c) Pedestrian fence	km	0.1	25 200.00	2 520.00
Total Carried Forward To Summary						54 495.00

BILL 5 - SEGMENT 4

5600 ROAD SIGNS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.14	5600	ROAD SIGNS				
	56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-reflective material, where the sign board is constructed from:				
		(e) Aluminium sheet regulatory warning and information signs				
		(1) Octagonal				
5.14.1		(ii) 914 mm	No	4.0	1 054.00	4 216.00
		(3) Round				
5.14.2		(i) 610 mm	No	2.0	725.00	1 450.00
		Extra over item 56.01 for using:				
	56.02	(a) Background of retro-reflective material of:				
5.14.3		(2) Class 11	m²	4.0	306.00	1 224.00
		(b) Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
5.14.4		(1) Class 11	m²	2.0	360.00	720.00
	56.03	Road sign supports (overhead road sign structures excluded):				
5.14.5		(b) Steel tubing	l	0.3	18 900.00	5 670.00
5.14.6	56.05	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m³	2.0	182.00	364.00
5.14.7	56.06	Extra over item 56.05 for cement-treated soil backfill	m³	2.0	185.00	370.00
		Dismantling and storing road signs with a surface area of:				
5.14.8	56.09	(a) Up to 2 m²	No	4.0	525.00	2 100.00
Total Carried Forward To Summary						10 114.00

BILL 5 - SEGMENT 4

5700 ROAD MARKINGS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.15	5700	ROAD MARKINGS				
	57.01	Road marking paint:				
		(a) White lines (broken or unbroken)				
5.15.1		(1) 100 mm wide	km	0.1	7 560.00	756.00
		(b) Yellow lines (broken or unbroken)				
5.15.2		(1) 100 mm wide	km	0.2	7 560.00	1 512.00
5.15.3		(e) Yellow lettering and symbols	m²	1.0	75.00	75.00
5.15.4		(g) Kerb markings (any colour)	m²	5.0	90.00	450.00
	57.05	Road studs:				
		(b) Bi-directional				
5.15.5		(1) Stimsonite or similar	No	10.0	58.00	580.00
5.15.6	57.06	Setting out and premarking the lines (Excluding traffic-island markings, lettering and symbols)	km	0.3	1 575.00	472.50
Total Carried Forward To Summary						3 845.50

BILL 5 - SEGMENT 4

5800 LANDSCAPING AND PLANTING PLANTS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.16	5800	LANDSCAPING AND PLANTING PLANTS				
	58.01	Trimming:				
5.16.1		(a) Machine trimming	m ²	12 000.0	4.00	48 000.00
	58.03	Preparing the areas for grassing:				
5.16.2		(a) Ripping	ha	0.5	37 545.00	18 772.50
		(c) Topsoiling within the road reserve, where the following materials are used:				
5.16.3		(2) Topsoil obtained from other sources by the contractor (including all haul)	m ³	650.0	56.00	36 400.00
	58.04	Grassing:				
		(b) Sodding by using the following types of sods:				
5.16.4		(5) Mixture of kweek and Buffalo grass sods	m ²	4 340.0	110.00	477 400.00
5.16.5	58.05	Watering the grass when established by topsoiling only	kl	105.0	10.50	1 102.50
5.16.6	58.07	Mowing the grass	ha	0.5	15 750.00	7 875.00
		Trees and shrubs:				
	58.09	(a) Providing the trees and shrubs				
5.16.7		(2) Shrubs	No.	10.0	89.00	890.00
		(b) Planting and establishing:				
5.16.8		(2) Shrubs	No.	10.0	0.00	0.00
	58.1	Extra work for landscaping				
5.16.9		(a) Extra work for landscaping	PC sum	1.0	10 000.00	10 000.00
5.16.10		(b) Contractor's overheads for profit, etc. on payment item (a) above	%	10 000.00	10.00	1 000.00
Total Carried Forward To Summary						801 440.00

BILL 5 - SEGMENT 4

5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.17	5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
	59.01	Finishing the road and road reserve:				
5.17.1		(b) Single carriageway road	km	0.1	82 925.00	8 292.50
Total Carried Forward To Summary						8 292.50

BILL 5 - SEGMENT 4

6600 NO-FINES CONCRETE, JOINTS, AND DRAINAGE FOR STRUCTURES

Item	Payment	Item Description	Unit	Quantity	Rate	Amount R
5.18	6600	NO-FINES CONCRETE, JOINTS, AND DRAINAGE FOR STRUCTURES				
	866.07	Unfilled joints:				
5.18.1		c) Inclined Dowel Joint "Type B" in channel	m	6.0	265.00	1,590.00
5.18.2	66.15	Concrete parapets	m	40.0	6,250.00	250,000.00
Total Carried Forward To Summary						251,590.00

BILL 5 - SEGMENT 4

SUMMARY OF SECTIONS		
Section	Description	Amount R
5.1	1500 ACCOMMODATION OF TRAFFIC	305 160.50
5.2	1700 CLEARING AND GRUBBING	91 338.60
5.3	2100 DRAINS	283 420.00
5.4	2200 PREFABRICATED CULVERTS	2 494 013.50
5.5	2300 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES,	47 162.00
5.6	3400 PAVEMENT LAYERS OF GRAVEL	25 349.00
5.7	3800 BREAKING UP EXISTING PAVEMENT	58 050.00
5.8	4100 PRIME COAT	3 420.00
5.9	4200 ASPHALT BASE AND SURFACING	118 822.50
5.10	5100 PITCHING, STONWORK AND	430 573.80
5.11	5200 GABIONS	4 079 992.00
5.12	5400 GUARDRAILS	45 124.00
5.13	5500 FENCING	54 495.00
5.14	5600 ROAD SIGNS	16 114.00
5.15	5700 ROAD MARKINGS	3 845.50
5.16	5800 LANDSCAPING AND PLANTING PLANTS	601 440.00
5.17	5900 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	8 292.50
5.18	6600 NO-FINES CONCRETE, JOINTS, AND	251 590.00
Total Carried Forward To Summary Of Schedules		<u>8 919 202.60</u>