



UMZIMKHULU MUNICIPALITY

CONSTRUCTION OF LUKHALWENI ACCESS ROAD

CONTRACT NO.: ULM-INFR019/21

CIDB CLASSIFICATION: 5CE OR HIGHER

COMPILED BY

Vuba Imagineers
P.O. Box 272
IZOTSHA
4242
039-315-6596 (P)
039-315-6488 (F)

ON BEHALF OF

Umzimkhulu Municipality
169 Main Street
UMZIMKHULU
3927
039-259-5000 (P)
039-259-0427 (F)

TENDERS CLOSE ON 16 APRIL 2021 AT 12H00

| TENDERER | |
|---------------|--|
| NAME | |
| ADDRESS | |
| TELEPHONE | |
| FAX | |
| EMAIL | |
| MOBILE | |
| TENDER AMOUNT | |
| SARS TAX PIN | |
| CSD REG. NO. | |
| CIDB REG. NO. | |

Project No.: 20-08

| THIS TABLE SEEKS TO ASSIST THE BIDDERS IN COMPLETING THE TENDER DOCUMENT AND IN NO WAY ABSOLVES THE BIDDER FROM CHECKING HIS BID DOCUMENT | | |
|--|---|-------------|
| SECTION | TITLE | |
| T2.1.1 | Returnable schedule required or to be used for acceptance or rejection of tender | |
| Form Number if Applicable | Description | Tick |
| | Tender Document completed in all respects | |
| | Registration with Municipal database | |
| | Tenderer or its directors are not listed on the Register of Tender Defaulters | |
| | Tenderer has not abused the Supply Chain Management System of the Employer | |
| | Tenderer has not failed to perform on any previous contract with the Employer and has been given written notice to this effect | |
| | All individual items in the BOQ are clearly priced | |
| | Tender offer is signed? | |
| A.1 | Proof of registration with Central Supplier Database attached? | |
| A.2 | Contractor's B-BBEE compliance certificate or sworn affidavit | |
| A.3 | CIDB certificate attached? | |
| A.4 | Valid Tax Clearance Certificate containing a SARS Pin Code attached? | |
| A.5 | MBD 4: Declaration of Interest (in the Service of the State) completed? | |
| A.6 | MBD 5: Declaration for Procurement Above R10 Million (VAT) Included | |
| A.7 | MBD 6.1: Preference Points Claim Form in terms of the Preferential Procurement Regulations, 2017 completed? | |
| A.8 | MBD 6.2: Declaration Certificate for Local Production and Content, Annexure C, D & E completed? | |
| A.9 | MBD 8: Declaration of Bidder's Past Supply Chain Management Practices completed? | |
| A.10 | MBD 9: Certificate of Independent Bid Determination completed? | |
| A.11 | Confirmation that municipal rates and taxes are not behind by more than 90 days attached? | |
| A.12 | Certificate of authority for signatory attached? | |
| A.13 | Contractor's Health and Safety Declaration completed and signed? | |
| A.14 | Letter of good standing with the Compensation Commissioner attached? | |
| A.15 | Certificate of tenderer's visit to site or an attendance register, as applicable, has been completed and signed by the employer's representative or the tenderer? | |
| A.16 | The Compulsory Enterprise Questionnaire has been completed? | |
| A.17 | Certified copies of company registration certificate or id in case of a one-man concern attached? | |
| A.18 | Schedule of proposed subcontractor(s) completed? | |
| SECTION | TITLE | |
| T2.1.2 | Returnable schedules to be used for functionality evaluation | |

| Form Number if Applicable | Description | Tick |
|----------------------------------|--|-------------|
| B.1 | Completion Certificate or Final Approval Certificate and Appointment letter for each project claimed attached? | |
| B.2 | Qualification certificates and CVs for the Site Agent attached? | |
| B.3 | Qualification certificates and CVs for the Foreman attached? | |
| B.4 | Construction Program attached? | |
| B.5 | Owned or Hired plant documentation attached? | |
| B.6 | Contractor's B-BBEE compliance certificate or sworn affidavit attached? | |
| SECTION | TITLE | |
| T2.1.3 | Returnable documents to be supplied/completed as necessary or appropriate or for the completeness of the tender document | |
| Form Number if Applicable | Description | Tick |
| C.1 | Schedule of proposed subcontractors | |
| C.2 | Record of addenda to tender document | |
| C.3 | Resolution of board of directors to enter into consortia or joint ventures (as applicable) | |
| C.4 | Joint venture (as applicable) | |
| C.5 | Audited financial statements for the past three years if the tendered price is above R10 million inclusive of VAT | |
| SECTION | TITLE | |
| T2.1.4 | Returnable schedules to be incorporated into the contract | |
| Form Number if Applicable | Description | Tick |
| D.1 | Non-collusion affidavit to be executed by bidder and submitted with bid | |
| D.2 | Amendments, qualifications and alternatives/alterations | |
| SECTION | TITLE | |
| T2.1.5 | Other returnable schedules to be completed/filled/submitted by the successful tenderer which will be incorporated into the contract | |
| Form Number if Applicable | Description | Tick |
| E.1 | Contractor's Health and Safety Plan | |
| E.2 | Notification form in terms of the occupational health and safety act 1993, Construction Regulation 2003 | |
| E.3 | Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993. | |

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THE TENDER

SUMMARY FOR TENDER OPENING PURPOSES

SUMMARY FOR TENDER OPENING PURPOSES

Name of Tenderer submitting the offer:

Tender amount (as stated in the Form of Offer): R.....

Details of contact person:

Name (Print):

Telephone No.: **Fax No.:**

E-mail:

Mobile Phone:

Notes to Tenderers:

- a. The information above must be transcribed from the completed forms within the document.
- b. In the event of conflict between the data provided in this summary and that given in the Offer, the latter will prevail.

Signature:
(Authorised person to sign on behalf of Tenderer)

Date:

PART T1 TENDERING PROCEDURES

T1.1 TENDER NOTICE AND INVITATION TO TENDER

MBD 1: PART A: INVITATION TO BID

| | | | | | |
|--|--|---------------|--|--|-------|
| YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE UMZIMKHULU MUNICIPALITY | | | | | |
| BID NUMBER: | ULM-INFR019/21 | CLOSING DATE: | 16/4/2021 | CLOSING TIME: | 12h00 |
| DESCRIPTION | Construction of Lukhalweni Access Road | | | | |
| THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7). | | | | | |
| BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE QUOTATION BOX SITUATED AT <i>FINANCE DEPARTMENT</i> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| SUPPLIER INFORMATION | | | | | |
| NAME OF BIDDER | | | | | |
| POSTAL ADDRESS | | | | | |
| STREET ADDRESS | | | | | |
| TELEPHONE NUMBER | CODE | | NUMBER | | |
| CELLPHONE NUMBER | | | | | |
| FACSIMILE NUMBER | CODE | | NUMBER | | |
| E-MAIL ADDRESS | | | | | |
| VAT REGISTRATION NUMBER | | | | | |
| TAX COMPLIANCE STATUS | TCS PIN: | | OR | CSD No: | |
| B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX] | <input type="checkbox"/> Yes <input type="checkbox"/> No | | B-BBEE STATUS LEVEL SWORN AFFIDAVIT | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| [A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE] | | | | | |
| ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED? | <input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF] | | ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED? | <input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3] | |
| TOTAL NUMBER OF ITEMS OFFERED | | | TOTAL BID PRICE | R | |
| SIGNATURE OF BIDDER | | | DATE | | |
| CAPACITY UNDER WHICH THIS BID IS SIGNED | | | | | |
| BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO: | | | TECHNICAL INFORMATION MAY BE DIRECTED TO: | | |
| DEPARTMENT | SCM | | DEPARTMENT | Technical | |
| CONTACT PERSON | Miss O. Basi | | CONTACT PERSON | Mr L. Mgcwaba | |
| MOBILE | 083-782-2218 | | MOBILE | 072-328-8609 | |
| TELEPHONE NUMBER | 039-259-5034 | | TELEPHONE NUMBER | 039-259-5069 | |
| FACSIMILE NUMBER | 039-259-0427 | | FACSIMILE NUMBER | 039-259-0427 | |
| E-MAIL ADDRESS | basio@umzimkhululm.gov.za | | E-MAIL ADDRESS | mgcwabal@umzimkhululm.gov.za | |

PART B: TERMS AND CONDITIONS FOR BIDDING

| | | |
|---|--|---|
| 1. | BID SUBMISSION: | |
| 1.1 | BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION. | |
| 1.2 | ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE | |
| 1.3 | THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT. | |
| 2. | TAX COMPLIANCE REQUIREMENTS | |
| 2.1 | BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS. | |
| 2.2 | BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS. | |
| 2.3 | APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA . | |
| 2.4 | FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3. | |
| 2.5 | BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID. | |
| 2.6 | IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE/PIN/CSD NUMBER. | |
| 2.7 | WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED. | |
| 3. | QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS | |
| 3.1 | IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 3.2 | DOES THE ENTITY HAVE A BRANCH IN THE RSA? | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 3.3 | DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 3.4 | DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 3.5 | IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| <p>IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</p> | | |

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID. NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:.....

DATE:.....

TENDER NOTICE AND INVITATION TO TENDER



RE-INVITATION TO TENDER UMZIMKHULU LOCAL MUNICIPALITY

Umzimkhulu Municipality hereby invites reputable and experienced Service providers to respond on the projects below:

| PROJECT NAME | TENDER NUMBER | CIDB Grading | BREIFING TIME |
|--|----------------|----------------|-------------------|
| Construction of Lukhalweni Access Road – Ward 18 | ULM-INFR019/21 | 5 CE or Higher | 07/04/2021 @ 10am |

Tender documents will be available on the municipal website (www.umzimkhululm.gov.za) and will also be available from the cashier at **169 Main Street, uMzimkhulu, 3297 upon the non-refundable payment of R 400 per document or a bank guaranteed cheque made out to uMzimkhulu Municipality** during working hours between **09:30am and 16:00pm** from the **30th of March 2021**; cut-off time for buying documents is the **07th of April 2021, 15 minutes before the briefing time.**

Compulsory briefing meeting is scheduled to take place at Umzimkhulu Municipality Makhosini Building Boardroom, 247 Mzimkhulu Mlonyana Street, UMzimkhulu 3297.

Invalid or non-submission of the following documents will render the Tenderer disqualified, BBBEE points will not be allocated if the Certificate is not submitted:

- ✓ Registered on Central Suppliers Database (CSD) attach proof of Registration
- ✓ Valid BBBEE certificate with SANAS logo and verified by agencies accredited by SANAS/Commissioned SWORN Affidavit
- ✓ MBD 4, 8 & 9
- ✓ Municipal rates and services certificate / statement / billing for the directors, owners, shareholders of the company to confirm that Municipal rates are not in arrears for more than 90 days or;
 - ★ Attach valid lease agreement if the company is leasing the office space
 - ★ Attach a valid lease agreement if the director is leasing accommodation
 - ★ Attach affidavit if the account is under your parents, siblings, grandparents and you are not paying any Municipal rates
 - ★ Copy of a marriage certificate if Municipal account in under your spouse
- ✓ Certificate of Authority” to sign all documents in connection with this Tender and any contract or agreement which may arise therefrom, duly signed and dated, shall be provided by the Board of Directors of the firm and shall be attached and must be on a Company letter head (example is provided in the tender document).

NB: OBJECTIVE CRITERIA

The municipality reserves the right to award the bid per project to more than one bidder, and not more than one contract per bidder.

Service providers must meet the minimum threshold **percentage for local production and content for the Steel products and content for Steel production and components for Construction of 100% in accordance with the terms of Regulation 13 of the Preferential Procurement Regulations, 2017.**

Only locally product goods or services that meet the stipulated minimum threshold for local production and content as determined by DTI will be considered for acceptance. Any tender that does not meet the minimum threshold is an unacceptable tender.

80/20 Preference Point System will be used on the following project, functionality will be considered and uMzimkhulu Local Municipal SCM policy.

Evaluation criteria

Criteria for functionality

Evaluation minimum threshold is 60% or 56.4 points

| Key aspect of criterion | Basis for points allocation | Max. Points | Verification Method |
|--|--|-------------|--|
| Experience of the Bidder (company) | Number of completed gravel or surfaced or combination of gravel and surfaced roads projects with traceable references and completed within the past 10 years (1 June 2010 to date) <ul style="list-style-type: none"> 5 or more Projects: 20 Points 4 Projects: 15 Points 3 Projects: 10 Points | 20 | Appointment letter and Completion Certificate for each project |
| Qualifications and Experience of Site Agent | Site Agent must have a minimum qualification of a National Diploma in Civil Engineering and years of relevant experience: <ul style="list-style-type: none"> 5 or more years of experience: 20 Points 3-4 years of experience : 15 points 2 years of experience: 10 points | 20 | Certified Copies of required Qualification certificates, <i>certified within 3 months back from tender closing date</i> and Cvs detailing nature and years of experience, per Each personnel |
| Qualifications and Experience of Foreman | Foreman must have a minimum qualification of NQF Level 4 in Civil Construction and years of relevant experience: <ul style="list-style-type: none"> 5 or more years of experience : 20 Points 3-4 years of experience : 15 Points 2 years of experience : 10 Points | 20 | |
| Methodology (Construction Programme) | Methodology shall be presented in a form of a detailed Construction programme in Gantt chart or other format indicating a clear sequencing of Project activities, Time lines, Critical path and Labour demand: <ul style="list-style-type: none"> Correct sequencing, critical path and labour demand: 20 Correct sequencing with critical path or labour demand: 15 Correct sequencing with critical path or labour demand: 10 | 20 | Construction Programme in Gantt Chart format |

| | | | | | |
|----------------------------|---|---|---|-----------|---|
| Plant and Equipment | Owned Plant , points will be allocated as indicated in column 2 below for Heavy Plant and Equipment directly owned by the Tenderer. Hired Plant , points will be allocated as indicated in column 3 below for Heavy Plant and Equipment pre-secured for hiring. Purposes by the Tenderer. Tenderer to produce: *an original commitment letter from a registered Plant Hire Company, clearly indicating the hiring terms and conditions and list of plant that the Company will make available from the list below for the duration of the project, such letter shall be Qualified and certified by the Commissioner of Oaths *an original commitment letter from the Tendered in honor of the Plant Hiring Terms and Conditions agreed upon with the Plant Hire Company. *Proof of Plant Ownership by the Plant Hire | | | 14 | Plant Owner to produce proof of Ownership. Hired Plant , *Certified Confirmation letter with hiring terms and Conditions. *Confirmation letter by the Tenderer. *Proof of Plant Ownership by the Plant Hire. All certifications shall be within 3 months back from tender closing date |
| | Required Plant & Equipment | Points for owned plant & equipment | Points for hired plant & equipment | 14 | |
| | Tractor Loader Backhoe (TLB) | 2 | 1 | | |
| | Motor Grader | 2 | 1 | | |
| | Excavator | 2 | 1 | | |
| | Grid / Pad foot Roller | 2 | 1 | | |
| | Smooth Drum Roller | 2 | 1 | | |
| | Water Tanker | 2 | 1 | | |
| | 2 x 10 cube Tipper Trucks | 2 | 1 | | |
| | All committed plant owner or hired in terms of this bid shall be made available as and when required for the duration of the project. | | | | |

NB: It is compulsory for a bidder to score not less than 50% per segment in the above table. Even if the bidder has scored the 60% of threshold but scores less than 50% on one or more of the segments above the bidder will be non-responsive.

The points associated with the comprehensive proposal will be awarded as reflected in the following the above table.

90 days Price Validity

Contact Details

SCM Compliance enquiries shall be directed to:

Attention : Miss O. Basi
Telephone : (039) 259 5034/083 782 2218
Fax No. : (039) 259 0427
Email Address : basio@umzikhululm.gov.za

All Technical enquiries shall be directed to:

Attention : Mr R. Sithole
Telephone : (039) 315 6596
Fax No : (039) 315 6488

Email Address : chengetai@vubaimagineers.co.za

Attention : Mr L. Mgcwaba
Telephone : (039) 259 5069
Fax No : (039) 259 0427
Email Address : mgcwabal@umzikhululm.gov.za

Closing date

Bid documents in a sealed envelopes clearly indicating the **Bid number and Bid Name**, must be deposited in the tender box of UMzikhulu Local Municipality, located at 169 Main Street, UMzikhulu, 3297 reception area, not later than **12h:00, 16th of April 2021** Telegraphic, telex, telephone, electronic, facsimile and late tenders will not be accepted.

Tenders may only be submitted on the tender documentation provided by the municipality.

The uMzikhulu Municipality Council does not bind itself to accept the lowest bidder. UMzikhulu Municipality Supply Chain Management policy will apply.

.....
Z. S. SIKHOSANA
MUNICIPAL MANAGER

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T1.2 TENDER DATA

Preamble

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

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

F.1.1 ACTIONS

F.1.1.4 The Employer

Name: **Umzimkhulu Municipality**
 Address: **Private Bag X53**
Umzimkhulu
3297
 Phone: **039-259-5000**
 Fax: **039-259-0427**
 Mobile:
 e-mail address:

F.1.2 TENDER DOCUMENTS

The **Tender Document** issued by the employer comprises:

(a) **VOLUME 1: “General Conditions of Contract for Construction Works (2015, 3rd Edition)”**

This document is issued by the South African Institution of Civil Engineering (Short title “General Conditions of Contract 2015”), and is obtainable separately. Tenderers **shall obtain their own copies** from the South African Institution of Civil Engineering (tel 011-805-5947) as hard copies of this document **are not included** in the Tender Document but form part of the contract.

(b) **VOLUME 2: “Standard Specifications for Roads and Bridge Works for State Road Authorities”
Committee of Land Transport Officials, 1998 Edition.**

This document is issued by the South African Institution of Civil Engineering (Short title “COLTO, 1998 Edition”), and is obtainable separately. Tenderers **shall obtain their own copies** from the South African Institution of Civil Engineering (tel 011-805-5947) as hard copies of this document **are not included** in the Tender Document but form part of the contract.

(c) **Volume 3 (This is the only Volume that should be submitted by the bidder) comprises:**

THE TENDER

Part T1: Tendering Procedures
 T1.1: Tender Notice and Invitation to Tender
 T1.2: Tender Data

Part T2: Returnable Documents
 T2.1: List of Returnable Documents
 T2.2: Returnable Schedules

THE CONTRACT

Part C1: Agreements and Contract Data
 C1.1: Form of Offer and Acceptance
 C1.2: Contract Data
 C1.3: Form of Guarantee

Part C2: Pricing Data
 C2.1: Pricing Instructions
 C2.2: Bill of Quantities

Part C3: Scope of Work
 C3: Scope of Work

Part C4: Site Information
 C4: Site information

Part A: Annexures**Anex 1: CIDB Standard Conditions of Tender**

- (d) **VOLUME 4:** A set of drawings issued with Volume 3 for bid purposes (may be bound in at the back of Volume 3 or issued as a separate volume). If issued separately, it need not be returned for tender consideration.
- (e) **VOLUME 5:** **The Occupational Health and Safety Act No 85 of 1993 and Amendment Act No 181 of 1993, and the Construction Regulations 2003 as amended (Government Gazette No 25207 of 18 July 2003, Notice No R1010).**

This document is obtainable separately, and Tenderers shall obtain their own copies as the hard copy of this document is not included with Volume 3 but forms part of the contract.

- (f) In addition, Tenderers are advised, in their own interest, to obtain their own copies of the following acts, regulations and standards referred to in this document as they are essential for the Tenderer to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies and participation of targeted enterprises and labour.
 - (i) The Construction Industry Development Board Act No 38 of 2000 and the Regulations in terms of the CIDB Act 38/2000, Government Notice No 692 of 9 June 2004;
 - (ii) SANS 1921:2004 Construction and Management
Part 1: General Engineering and Construction Works;
Part 6: HIV/AIDS Awareness;
 - (iii) SANS 10396:2003 Implementation of Preferential Construction Procurement Policies using Targeted Procurement Procedures; and
 - (iv) SANS 1914:2003 Targeted Construction Procurement, Parts 1 to 6, dealing with Participation of Targeted Enterprises, Joint Ventures, Targeted Labour etc.

The Tender Document and the drawings shall be obtained from the Employer at the physical address stated in the Tender Notice, upon payment of the deposit stated in the Tender Notice.

F.1.4 COMMUNICATION AND EMPLOYER'S AGENT

The Employer's Agent is:

Name: **Vuba Imagineers (Pty) Ltd**
 Address: **544 Astor Road, Shelly Beach, 4265**
 Tel: **039-315-6596**
 Fax: **039-315-6488**
 Mobile: **076-481-4480**
 e-mail address: **tebogo@vubaimagineers.co.za**

F.2.1 ELIGIBILITY

Only the following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to submit tenders:

- a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for the advertised class of construction work; and
- b) Joint ventures are eligible to submit tenders provided that:
 - 1. every member of the joint venture is registered with the CIDB;
 - 2. the lead partner has a contractor grading designation not lower than the advertised class of construction work; and
 - 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for the advertised class of construction work.

Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **5CE** class of construction work or higher and have a track record, are eligible to submit tenders.

In order to be considered for a contract in terms of this tender, tenderers must achieve the minimum score for quality as stated in F.3.11.9. A more detailed explanation of the quality criteria is given in F3.11.9

F.2.7 CLARIFICATION MEETING

Due to Covid 19 prevalence, there will be no clarification meeting.

F.2.12 ALTERNATIVE TENDER OFFERS

If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent.

Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.

Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.

The Employer reserves the right to accept/decline alternative offers.

F.2.13 SUBMITTING A TENDER OFFER

F.2.13.3 Parts of each tender offer communicated on paper shall be submitted as an original, plus zero (0) copies.

F.2.13.5 Delivery of Tender & F.2.15.1

The Employer's address for delivery of tender offers and identification details to be shown on each tender offer packages are:

Location of Tender Box: **Umzimkhulu Municipality**
Physical Address: **169 Main Street, Umzimkhulu, 3297**
Identification Details: **Contract No.: ULM-INFR019/21**

Tenders will be deposited at the Bid Box.

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

F.2.15 CLOSING TIME

The closing time for submission of tender offers is:

Time: **12h00**
Date: **16 April 2021**
Day: **Friday**

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

F.2.16 TENDER OFFER VALIDITY

The Tender Offer validity period is **12** weeks from the closing time for submission of tenders.

F.2.18 PROVIDE OTHER MATERIAL

The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labor-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.

F.3.4 OPENING OF TENDER SUBMISSIONS

Tenders will be opened immediately after the closing time for tenders at **Umzimkhulu Municipality, 169 Main Street, Umzimkhulu, 3297.**

F.3.4.2 Only the name of the tenderer and the price will be announced.

F.3.11 EVALUATION OF TENDER OFFERS

The procedure for the evaluation of responsive tenders is **Method 2**.

The financial offer will be scored using the respective formula based upon the price threshold herein below:

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R50 000 000, or

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

where the financial value inclusive of VAT of one or more responsive tender offers equals or is less than R50 000 000.

where P_s = Points scored for comparative price of tender or offer under consideration;
 P_t = Comparative price of tender or offer under consideration; and
 P_{\min} = Comparative price of lowest acceptable tender or offer.

F.3.11.9 Scoring Functionality

In order to be considered for a contract in terms of this tender, tenderers must achieve the minimum score for functionality as stated below.

In order to be considered for a contract in terms of this tender, tenderers must achieve the minimum score of 60 % for quality. Tenderers that fail to achieve the minimum score for quality will **NOT** be eligible for further evaluation and their tender offer will be rejected.

It is compulsory for a bidder to score not less than 50 % per evaluation criteria. Even if the bidder has scored the 60 % of the threshold but scores less than 50 % on one or more of the criteria, the bidder will be declared as non-responsive and will be rejected.

| EVALUATION CRITERIA DESCRIPTION | POINTS |
|--|-----------|
| Experience of the bidder (Company) | 20 |
| Qualification and experience of the site agent | 20 |
| Qualification and experience of the foreman | 20 |
| Methodology (Construction Program) | 20 |
| Plant and equipment | 14 |
| TOTAL | 94 |

F.3.11.9.1 Experience of the bidder (Company)

| Projects Experience | Points |
|---|---------------|
| Number of completed gravel, surfaced or a combination of gravel and surfaced roads projects with traceable references and completed within the past 10 years (1 June 2010 to date) | |
| 5 or more projects | 20 |
| 4 projects | 15 |
| 3 projects | 10 |
| Less than 3 | 0 |
| Maximum Points | 20 |

- NOTES: a. A fully signed and certified copy of the Completion Certificate or Final Approval Certificate for each project MUST be submitted.
- b. Appointment letters for the claimed projects MUST be provided.
- c. Failure to submit the required documents will result in no points being allocated.

F.3.11.9.2 Qualifications and experience of the site agent

| Qualifications and experience | Points |
|---|---------------|
| Site agent must have a minimum qualification of a National Diploma in Civil Engineering and years of experience | |
| 5 or more years experience | 20 |
| 3 - 4 years experience | 15 |
| 2 years experience | 10 |
| Less than 2 years | 0 |
| Maximum Points | 20 |

- NOTES: a. Certified copies of required qualification certificates, certified within three months back from tender closing date and CVs detailing nature and years of experience per personnel.

F.3.11.9.3 Qualifications and experience of the foreman

| Qualifications and experience | Points |
|---|---------------|
| Foreman must have a minimum qualification of NQF Level 4 in Civil Construction and years of relevant experience | |
| 5 or more years of experience | 20 |
| 3 - 4 years of experience | 15 |
| 2 years of experience | 10 |
| Less than 2 years of experience | 0 |
| Maximum Points | 20 |

- NOTES: a. Certified copies of required qualification certificates, certified within three months back from tender closing date and CVs detailing nature and years of experience per personnel.

F.3.11.9.4 Methodology (Construction Program)

| Criteria | Points |
|---|-----------|
| Methodology shall be presented in a form of a detailed Construction Program in Gantt chart or other format indicating a clear sequencing of project activities, time lines, critical path and labour demand | |
| Correct sequencing, critical path and labour demand | 20 |
| Correct sequencing with critical path or labour demand | 15 |
| Correct sequencing only | 10 |
| No program submitted or submitted program incorrect | 0 |
| Maximum Points | 20 |

F.3.11.9.5 Plant and equipment

| Plant | Points for Owned Plant and Equipment | Points for Hired Plant and Equipment |
|------------------------------|--------------------------------------|--------------------------------------|
| Tractor Loader Backhoe (TLB) | 2 | 1 |
| Motor Grader | 2 | 1 |
| Excavator | 2 | 1 |
| Grid/Pad foot roller | 2 | 1 |
| Smooth drum roller | 2 | 1 |
| Water tanker | 2 | 1 |
| 2 x 10 cube Tipper Trucks | 2 | 1 |
| Maximum Points | 14 | 7 |

- NOTES: 1. Owned plant
- 1.1 The tenderer should provide certified proof of ownership
 2. Hired plant
 - 2.1 An original commitment letter from a registered plant hire company, clearly indicating the hiring terms and conditions and list of plant that the company will make available from the list above for the duration of the project, such letter shall be qualified and certified by the Commissioner of Oaths.
 - 2.2 An original commitment letter from the tenderer in honor of the plant hiring terms and conditions agreed upon with the plant hire company
 - 2.3 Proof of ownership by the plant hire
 3. All certifications shall be within three months back from tender closing date.
 4. Where documents are not submitted or are incorrect, no points will be allocated.

F.3.13 ACCEPTANCE OF TENDER OFFER

F.3.13.1 Tender offers will only be accepted if:

- a. the Tenderer has submitted a complete Tender Document;
- b. the Tenderer is registered on municipal database;
- c. the Tenderer is registered with CIDB in the grading designation required for the works;
- d. the Tenderer submits CSD registration number and a SARS pin code;
- e. Valid B-BBEE certificate with the SANAS logo and verified by agencies accredited by SANAS/commissioned sworn affidavit;
- f. all MBD forms (1, 4, 6.1, 6.2, 8 and 9) are completed in all respects;
- g. proof via a municipal confirmation/statement/billing from municipal treasury that the rates and taxes are not in arrears by more than 90 days is submitted;
- h. the Certificate of Authority has been included;
- i. the Tender Offer is signed by a person authorised to sign on behalf of the Tenderer;
- j. Tenderer's Health and Safety Declaration of Compliance with the Occupational Health and Safety Act No 85 of 1993 and the Construction Regulations 2003, is signed by an authorized person;
- k. proof of good standing with the Compensation Commissioner and as issued by the Department of Labor (and not a broker) is included with the tender;
- l. the Tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and

- m. Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; the tenderer has not:
 - i) abused the Employer's Supply Chain Management System; or
 - ii) failed to perform on any previous contract with the Employer and has been given written notice to this effect;
- n. all individual items in the Bills of Quantities are clearly priced. By clearly pricing is meant inserting numbers on the rate column and extending as necessary; and
- o. the Tenderer has fully completed the Schedule of Proposed Subcontractors form. The municipality will provide a list of subcontractors and those from within the ward will enjoy preference or priority.

NOTE: In the event of a mistake having been made, it shall be crossed out in ink and be accompanied by a full signature at each and every alteration. The Municipality reserves the right to reject the tender if corrections are not made in accordance with the above (usage of correction ink is not permitted).

F.3.17 COPIES OF THE CONTRACTS

The employer will provide the successful Tenderer with **ONE** paper copy of the signed contract.

PART 2 RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1 Returnable schedules required or to be used for acceptance or rejection of tender

- A.1 Contractor's B-BBEE compliance certificate or sworn affidavit
- A.2 CIDB certificate
- A.3 Valid Tax Clearance Certificate containing a SARS Pin Code
- A.4 MBD 4: Declaration of Interest (in the Service of the State)
- A.5 MBD 6.1: Preference Points Claim Form in terms of the Preferential Procurement Regulations, 2017
- A.6 MBD 6.2: Declaration Certificate for Local Production and Content, Annexure C, D & E
- A.7 MBD 8: Declaration of Bidder's Past Supply Chain Management Practices
- A.8 MBD 9: Certificate of Independent Bid Determination
- A.9 Confirmation that municipal rates and taxes are not behind by more than 90 days
- A.10 Certificate of authority for signatory attached?
- A.11 Contractor's Health and Safety Declaration
- A.12 Letter of good standing with the Compensation Commissioner
- A.13 Schedule of proposed subcontractor(s)

Note: Some of the above schedules may be incorporated into the contract, eg. Contractor's Health and Safety Declaration.

T.2.1.2 Returnable schedules to be used for functionality evaluation

- B.1 Completion Certificate or Final Approval Certificate and Appointment letter for each project claimed
- B.2 Qualification certificates and CVs for the Site Agent
- B.3 Qualification certificates and CVs for the Foreman
- B.4 Construction Program
- B.5 Owned or Hired plant documentation
- B.6 Contractor's B-BBEE compliance certificate or sworn affidavit

T.2.1.3 Returnable documents to be supplied as necessary or appropriate or for the completeness of the tender document

- C.1 Record of addenda to tender document
- C.2 Resolution of board of directors to enter into consortia or joint ventures
- C.3 Joint venture (as applicable)
- C.4 Audited financial statements for the past three years if the tendered price is above R10 million inclusive of VAT

T2.1.4 Returnable schedules to be incorporated into the contract

- D.1 Non-collusion affidavit to be executed by bidder and submitted with bid
- D.2 Amendments, qualifications and alternatives

T2.1.5 Other returnable schedules to be completed/filled/submitted by the successful tenderer which will be incorporated into the contract

- E.1 Contractor's health and safety plan
- E.2 Notification form in terms of the occupational health and safety act 1993, Construction Regulation 2003
- E.3 Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993.

T2.2 RETURNABLE SCHEDULES

**T2.2.1 RETURNABLE SCHEDULES REQUIRED OR TO BE USED FOR
ACCEPTANCE OR REJECTION OF TENDER**

A.1 B-BBEE COMPLIANCE CERTIFICATE OR AFFIDAVIT

The tenderer shall attach a certified copy of the B-BBEE Compliance Certificate or Affidavit. Document shall be certified and valid within three months from date of closure.

A.2 CIDB CERTIFICATE

Attach a CIDB grading certificate and certified within three months from date of tender closure.

A.3 VALID TAX CLEARANCE CERTIFICATE WITH SARS VERIFICATION PIN

Attach a valid Tax Clearance Certificate with SARS verification PIN.

A.4 MBD 4: DECLARATION OF INTEREST (IN THE SERVICE OF THE STATE)**DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favoritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
 - 3.1 Full Name:
 - 3.2 Identity Number:
 - 3.3 Position occupied in the Company (Director, Trustee, shareholder²)
 - 3.4 Company Registration Number:
 - 3.5 Tax Reference Number:
 - 3.6 VAT Registration Number:
 - 3.7 The names of all directors/trustees/shareholders/members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
 - 3.8 Are you presently in the service of the state **YES/NO**
 - 3.8.1 If yes, furnish particulars.

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.....
 - 3.9 Have you been in the service of the state for the past twelve months? **YES/NO**
 - 3.9.1 If yes, furnish particulars.

.....

.....
 - 3.10 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES/NO**
 - 3.10.1 If yes, furnish particulars.

¹ MSCM Regulations: "in the service of the state" means to be -

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

² Shareholder means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

.....
.....

3.11 Are you, aware of any relationship (family, friend, other) between a bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

3.11.1 If yes, furnish particulars

.....
.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature **Date**

.....
Position Name of Bidder

A.5 MBD 6.1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

The following preference point systems are applicable to all bids:

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

- 1.2 The value of this bid is estimated **to not exceed** R50 000 000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

The **80/20** preference point system will be applicable to this tender.

- 1.3 Preference points for this bid shall be awarded for:

- a. Price; and
- b. B-BBEE Status Level of Contribution.

- 1.4 The maximum points for this bid are allocated as follows:

| | POINTS |
|--|------------|
| PRICE | 80 |
| B-BBEE STATUS LEVEL OF CONTRIBUTION | 20 |
| Total points for Price and B-BBEE must not exceed | 100 |

- 1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- 1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

- 2.1 **“all applicable taxes”** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- 2.2 **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 2.3 **“B-BBEE status level of contributor”** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 2.4 **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- 2.5 **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.6 **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- 2.7 **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- 2.8 **“prices”** includes all applicable taxes less all unconditional discounts;

- 2.9 “proof of B-BBEE status level of contributor” means:
- B-BBEE Status level certificate issued by an authorized body or person;
 - A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - Any other requirement prescribed in terms of the B-BBEE Act;
- 2.10 “QSE” means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- 2.11 “rand value” means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20 or 90/10

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

P_{\min} = Comparative price of lowest acceptable bid

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

| B-BBEE Status Level of Contributor | Number of points (90/10 system) | Number of points 80/20 system) |
|---|--|---------------------------------------|
| 1 | 10 | 20 |
| 2 | 9 | 18 |
| 3 | 6 | 14 |
| 4 | 5 | 12 |
| 5 | 4 | 8 |
| 6 | 3 | 6 |
| 7 | 2 | 4 |
| 8 | 1 | 2 |
| Non-compliant contributor | 0 | 0 |

5. BID DECLARATION

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPH 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: _____ = _____ (maximum of 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.)

7. SUB-CONTRACTING

- 7.1 Should the bidder intend to subcontract any portion of the main contract he shall declare the following

Sub-contracting: *(Tick applicable box)*

| | | | |
|-----|--|----|--|
| YES | | NO | |
|-----|--|----|--|

7.1.1 If yes, indicate:

- (i) what percentage of the contract will be subcontracted? _____ %
- (ii) the name of the sub-contractor? _____
- (iii) the B-BBEE status level of the sub-contractor? _____
- (iv) whether the sub-contractor is an EME or QSE?

(Tick applicable box)

| | | | |
|-----|--|----|--|
| YES | | NO | |
|-----|--|----|--|

8 DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of firm:

8.2 VAT registration number:

8.3 Company registration number.....

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture/Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[Tick applicable box]

8.7 MUNICIPAL INFORMATION

Municipality where business is situated.....

Registered Account Number.....

Stand Number.....

8.8 Total number of years the company/firm has been in business?

8.9 I/we, the undersigned, who is/are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I/we acknowledge that:

- (i) The information furnished is true and correct;

- (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- (iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution

WITNESSES:

1.....

.....
SIGNATURE(S) OF TENDERER(S)

2.....

DATE:.....

ADDRESS:.....

.....

.....

.....

A.6 MBD 6.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT, ANNEXURE C, D & E

This Municipal Bidding Document (MBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- 1.2 Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = 1 - \left(\frac{x}{y} \right) 100$$

Where

x = imported content

y = bid price excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date, one week (7 calendar days) prior to the closing date of the bid as required in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

- 1.6 A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation;
2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

| <u>Description of services, works or goods</u> | <u>Stipulated minimum threshold</u> |
|--|-------------------------------------|
| _____ | _____ % |
| _____ | _____ % |
| _____ | _____ % |

3. Does any portion of the goods or services offered have any imported content?
(Tick applicable box)

| | | | |
|-----|--|----|--|
| YES | | NO | |
|-----|--|----|--|

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za

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

| Currency | Rates of Exchange |
|----------------|-------------------|
| US Dollar | |
| Pound Sterling | |
| Euro | |
| Yen | |
| Other | |

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

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

**LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)**

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

IN RESPECT OF BID No.:

ISSUED BY: (Procurement Authority/Name of Municipality/Municipal Entity):

.....

NB:

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

I, the undersigned, (full names)

do hereby declare, in my capacity as

of (name of bidder/entity), the following:

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

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

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

- d. I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- e. I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority/Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ **DATE:** _____

WITNESS No. 1 _____ **DATE:** _____

WITNESS No. 2 _____ **DATE:** _____

Local Content Declaration - Summary Schedule

Note: VAT to be excluded from all calculations

EU GBP [illegible]

| | | | | | | | |
|-------|--|--|--|--|--|--|--|
| | (vi) W326 | | | | | | |
| 71.08 | Steel reinforcement in concrete pavement | | | | | | |
| | (c) Welded wire fabric (Ref#245) | | | | | | |
| | | | | | | | |

| | | | |
|---------------------|--|--|--|
| 3 No. | | | |
| | | | |
| 2196 m ² | | | |
| | | | |

| | |
|-------|--------------------|
| (C20) | Total tender value |
|-------|--------------------|

(C21) Total Exempt imported content

(C22) Total Tender value net of exempt imported content

(C23) Total Imported content)

(C24) Total local content

| (C25) Average local content % of tender | |
|---|--|
| | |

Signature of tenderer from Annex B

Date:

Imported Content Declaration - Supporting Schedule to Annex C

| | | | |
|------|-------------------------------|---|---|
| (D1) | Tender No. | | Note: VAT to be excluded from all calculations |
| (D2) | Tender description: | | |
| (D3) | Designated Products: | | |
| (D4) | Tender Authority: | | |
| (D5) | Tendering Entity name: | | |
| (D6) | Tender Exchange Rate: | Pula <input type="text"/> EU <input type="text" value="9.00"/> GBP <input type="text" value="12.00"/> | |

| A. Exempted imported content | | | | Calculation of imported content | | | | | | Summary | |
|------------------------------|---------------------------------|----------------|-------------------|--|----------------------|------------------------|--------------------------------|---|----------------------------|--|-------------------------|
| Tender item no's | Description of imported content | Local supplier | Overseas Supplier | Foreign currency value as per Commercial Invoice | Tender Exchange Rate | Local value of imports | Freight costs to port of entry | All locally incurred landing costs & duties | Total landed cost excl VAT | Tender Qty | Exempted imported value |
| (D7) | (D8) | (D9) | (D10) | (D11) | (D12) | (D13) | (D14) | (D15) | (D16) | (D17) | (D18) |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | (D19) Total exempt imported value | |
| | | | | | | | | | | This total must correspond with Annex C - C 21 | |

[illegible]

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |

(D32) Total
imported
value by
tenderer

C. Imported by a 3rd party and supplied to the Tenderer

Calculation of imported content

Summary

| Description of imported content | Unit of measure | Local supplier | Overseas Supplier | Foreign currency value as per Commercial Invoice | Tender Rate of Exchange | Local value of imports | Freight costs to port of entry | All locally incurred landing costs & duties | Total landed cost excl VAT | Quantity imported | Total imported value |
|---------------------------------|-----------------|----------------|-------------------|--|-------------------------|------------------------|--------------------------------|---|----------------------------|-------------------|----------------------|
| (D33) | (D34) | (D35) | (D36) | (D37) | (D38) | (D39) | (D40) | (D41) | (D42) | (D43) | (D44) |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

(D45) Total imported value by 3rd party

D. Other foreign currency payments

Calculation of foreign currency payments

Summary
of
payments

| Type of payment | Local supplier making the payment | Overseas beneficiary | Foreign currency value paid | Tender Rate of Exchange | Local value of payments |
|-----------------|-----------------------------------|----------------------|-----------------------------|-------------------------|-------------------------|
| (D46) | (D47) | (D48) | (D49) | (D50) | (D51) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**(D52) Total of foreign currency payments declared by tenderer and/or
3rd party**

Signature of tenderer from
Annex B

**(D53) Total of imported content & foreign currency payments - (D32), (D45) &
(D52) above**

Date:

**This total must
correspond with
Annex C - C 23**

ANNEX E

SATS
1286.2011**Local Content Declaration - Supporting Schedule to Annex C**

| | | |
|------------------------------------|--|---|
| (E1) Tender No. | | Note: VAT to be excluded from all calculations |
| (E2) Tender description: | | |
| (E3) Designated products: | | |
| (E4) Tender Authority: | | |
| (E5) Tendering Entity name: | | |

| Local Products (Goods, Services and Works) | Description of items purchased | Local suppliers | Value |
|--|--------------------------------|-----------------|-------|
| | (E6) | (E7) | (E8) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| (E9) Total local products (Goods, Services and Works) | | | 0 |

(E10) **Manpower costs** (Tenderer's manpower cost) 0

(E11) **Factory** (Rental, depreciation & amortisation, utility costs, consumables) 0

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc.) 0

(E13) Total local content 0

**This total must correspond with
Annex C - C24**

Signature of tenderer from Annex B

Date: _____

LOCAL PRODUCTION AND CONTENT

Kindly note that should the Local Production and Content in respect of the items listed under section 3 of the MBD6.2 and detailed in Annexure C (C8, C9 and C16). The minimum threshold stipulated must be met.

For assistance in completing the MBD6.2 and Annexure C kindly contact the Department of Trade and Industry on:

| | | | |
|----|------------------|--------------|--|
| 1. | Thandi Phele | 012 394 1356 | tphele@thedti.gov.za |
| 2. | Tapiwa Samanga | 012 394 5157 | TSamanga@thedti.gov.za |
| 3. | Miyelani Masinga | 012 394 1664 | MMasinga@thedti.gov.za |
| 4. | Rendani Mulaudzi | 012 394 1412 | RMulaudzi@thedti.gov.za |
| 5. | Raphael Kitiaka | 012 394 3500 | MRKitiaka@thedti.gov.za |
| 6. | Mamosai Selek | 012 394 5598 | CMatidza@thedti.gov.za |

If the quantity of required items cannot be wholly sourced from South African based manufacturers and/or at the stipulated designated local content threshold at any particular time, bidders should obtain written exemption from the Department of Trade and Industry to supply the remaining portion of the required items at a lower local content threshold.

The Department of Trade and Industry
Private Bag X84
Pretoria
0001

For Attention:

Dr Tebogo Makube
Chief Director: Industrial Procurement
Tel: 012 394 3927
Fax: 012 394 4927
e-mail: TMakube@thedti.gov.za

Proof of exemption must be submitted, as well as the response from the Department of Trade and Industry.



Private Bag X84, PRETORIA, 0001, the dti Campus, 77 Meintjies Street, Sunnyside, 0002, Tel: (012) 394 0000 the dti
Customer Contact Centre local: 0861 843 384 International: +27 12 394 9500, www.thedti.gov.za

GUIDANCE DOCUMENT FOR THE CALCULATION OF LOCAL CONTENT

1. DEFINITIONS

Unless explicitly provided in this guideline, the definitions given in SATS 1286:2011 apply.

2. GENERAL

2.1 Introduction

This guideline provides tenderers with a detailed description of how to calculate local content of products (goods, services and works) by components/material/services and enables them to keep an updated record for verification requirements as per the SATS 1286:2011 Annexure A and B.

The guideline consists of two parts, namely:

- a written guideline; and
- three declarations that must be completed:
 - Declaration C: “Local Content Declaration – Summary Schedule” (see Annexure C);
 - Declaration D: “Imported Content Declaration – Supporting Schedule to Annex C” (see Annexure D); and
 - Declaration E: “Local Content Declaration – Supporting Schedule to Annex C” (see Annexure E).

The guidelines and declarations should be used by tenderers when preparing a tender. A tenderer must complete Declarations D and E, and consolidate the information on Declaration C.

Annexure C must be submitted with the tender by the closing date and time as determined by the Tender Authority. The Tender Authority reserves the right to request that Declarations D and E also be submitted.

If the tender is successful, the tenderer must continuously update Declarations C, D and E with actual values for the duration of the contract.

NOTE:

Annexure A is a note to the purchaser in SATS 1286:2011; and Annexure B is the Local Content Declaration IN SATS 1286:2011.

2.2 What is local content?

According to SATS 1286:2011, the local content of a product is the tender price less the value of imported content, expressed as a percentage. It is, therefore, necessary to first compute the imported value of a product to determine the local content of a product.

2.3 Categories: Imported and Local Content

The tenderer must differentiate between imported content and local content.

Imported content of a product by components/material/services is separated into two categories, namely:

- products imported directly by the tenderer; and
- products imported by a third party and supplied to the tenderer.

2.3.1 Imported Content

Identify the imported content, if any, by value for products by component/material/services. In the case of components/materials/services sourced from a South African manufacturer, agent, supplier or subcontractor (i.e. third party), obtain that information and Declaration D from the third party.

Calculate the imported content of components/materials/services to be used in the manufacture of the total quantity of the products for which the tender is to be submitted.

As stated in clause 3.2.4 of SATS 1286:2011: “If information on the origin of components, parts or materials is not available, it will be deemed to be imported content.”

2.3.1.1 Imported directly by the tenderer:

When the tenderer import products directly, the onus is on the tenderer to provide evidence of any components/materials/services that were procured from a non-domestic source. The evidence should be verifiable and pertain to the tender as a whole. Typical evidence will include commercial invoices, bills of entry, etc.

When the tenderer procures imported services such as project management, design, testing, marketing, etc and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.2 Imported by a third party and supplied to the tenderer:

When the tenderer supplies components/material/services that are imported by any third party (for example, a domestic manufacturer, agent, supplier or subcontractor in the supply chain), the onus is on the tenderer to obtain verifiable evidence from the third party.

The tenderer must obtain Declaration D from all third parties for the related tender. The third party must be requested by the tenderer to continuously update Declaration D. Typical evidence of imported content will include commercial invoices, bills of entry etc.

When a third party procures imported services such as project management, design, testing, marketing etc. and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.3 Exempt Imported Content:

Exemptions, if any, are granted by the Department of Trade and Industry (the dti). Evidence of the exemptions must be provided and included in Annexure D.

2.3.2 **Local Content**

Identify and calculate the local content, by value for products by components/materials/services to be used in the manufacture of the total quantity of the products.

3 ANNEXURE C

3.1 Guidelines for completing Annexure C: Local Content Declaration – Summary Schedule

Note: The paragraph numbers correspond to the numbers in Annexure C.

C1. Tender Number

Supply the tender number that is specified on the specific tender documentation.

C2. Tender description

Supply the tender description that is specified on the specific tender documentation.

C3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

C4. Tender Authority

Supply the name of the tender authority.

C5. Tendering Entity name

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd).

C6. Tender Exchange Rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

C7. Specified local content %

Provide the specified minimum local content requirement for the tender (i.e. 80%), as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MDB) 6.2.

C8. Tender item number

Provide the tender item number(s) of the products that have a local content requirement as per the tender specification.

C9. List of items

Provide a list of the item(s) corresponding with the tender item number. This may be a short description or a brand name.

Calculation of local content

C10. Tender price

Provide the unit tender price of each item excluding VAT.

C11. Exempted imported content

Provide the ZAR value of the exempted imported content for each item, if applicable. These value(s) must correspond with the value(s) of column D16 on Annexure D.

C12. Tender value net of exempted imported content

Provide the net tender value of the item, if applicable, by deducting the exempted imported content (C11) from the tender price (C10).

C13. Imported value

Provide the ZAR value of the items' imported content.

C14. Local value

Provide the local value of the item by deducting the Imported value (C13) from the net tender value (C12).

C15. Local content percentage (per item)

Provide the local content percentage of the item(s) by dividing the local value (C14) by the net tender value (C12) as per the local content formula in SATS 1286.

Tender Summary

C16. Tender quantity

Provide the tender quantity for each item number as per the tender specification.

C17. Total tender value

Provide the total tender value by multiplying the tender quantity (C16) by the tender price (C10).

C18. Total exempted imported content

Provide the total exempted imported content by multiplying the tender quantity (C16) by the exempted imported content (C11). These values must correspond with the values of column D18 on Annexure D.

C19. Total imported content

Provide the total imported content of each item by multiplying the tender quantity (C16) by the imported value (C13).

C20. Total tender value

Total tender value is the sum of the values in column C17.

C21. Total exempted imported content

Total exempted imported content is the sum of the values in column C18. This value must correspond with the value of D19 on Annexure D.

C22. Total tender value net of exempted imported content

The total tender value net of exempt imported content is the total tender value (C20) less the total exempted imported content (C21).

C23. Total imported content

Total imported content is the sum of the values in column C19. This value must correspond with the value of D53 on Annexure D.

C24. Total local content

Total local content is the total tender value net of exempted imported content (C22) less the total imported content (C23). This value must correspond with the value of E13 on Annexure E.

C25. Average local content percentage of tender

The average local content percentage of tender is calculated by dividing total local content (C24) by the total tender value net of exempted imported content (C22).

4. ANNEXURE D

4.1 Guidelines for completing Annexure D: “Imported Content Declaration – Supporting Schedule to Annexure C”

Note: The paragraph numbers correspond to the numbers in Annexure D.

D1. Tender number

Supply the tender number that is specified on the specific tender documentation.

D2. Tender description

Supply the tender description that is specified on the specific tender documentation.

D3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

D4. Tender authority

Supply the name of the tender authority.

D5. Tendering entity name

Provide the tendering entity name (i.e. Unibody Bus Builders (Pty) Ltd).

D6. Tender exchange rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

Table A. Exempted Imported Content

D7. Tender item number

Provide the tender item number(s) of the product(s) that have imported content.

D8. Description of imported content

Provide a list of the exempted imported product(s), if any, as specified in the tender.

D9. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D10. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the exempted imported product(s).

D11. Imported value as per commercial invoice

Provide the foreign currency value of the exempted imported product(s) disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D12. Tender exchange rate

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D13. Local value of imports

Convert the value of the exempted imported content as per commercial invoice (D11) into the ZAR value by using the tender exchange rate (D12) disclosed in the tender documentation.

D14. Freight costs to port of entry

Provide the freight costs to the South African Port of the exempted imported item.

D15. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the exempted imported product(s) as stipulated in the SATS 1286:2011.

D16. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported by adding the corresponding item values in columns D13, D14 and D15. These values must be transferred to column C11 on Annexure C.

D17. Tender quantity

Provide the tender quantity of the exempted imported products as per the tender specification.

D18. Exempted imported value

Provide the imported value for each of the exempted imported product(s) by multiplying the total landed cost (excl. VAT) (D16) by the tender quantity (D17). The values in column D18 must correspond with the values of column C18 of Annexure C.

D19. Total exempted imported value

The total exempted imported value is the sum of the values in column D18. This total must correspond with the value of C21 on Annexure C.

Table B. Imported Directly By Tenderer

D20. Tender item numbers

Provide the tender item number(s) of the product(s) that have imported content.

D21. Description of imported content:

Provide a list of the product(s) imported directly by tender as specified in the tender documentation.

D22. Unit of measure

Provide the unit of measure for the product(s) imported directly by the tenderer.

D23. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported product(s).

D24. Imported value as per commercial Invoice

Provide the foreign currency value of the product(s) imported directly by tenderer disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D25. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D26. Local value of imports

Convert the value of the product(s) imported directly by the tenderer as per commercial invoice (D24) into the ZAR value by using the tender exchange rate (D25) disclosed in the tender documentation.

D27. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported directly by the tenderer.

D28. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported directly by the tenderer as stipulated in the SATS 1286:2011.

D29. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported directly by the tenderer by adding the corresponding item values in columns D26, D27 and D28.

D30. Tender quantity

Provide the tender quantity of the product(s) imported directly by the tenderer as per the tender specification.

D31. Total imported value

Provide the total imported value for each of the product(s) imported directly by the tenderer by multiplying the total landed cost (excl. VAT) (D29) by the tender quantity (D30).

D32. Total imported value by tenderer

The total value of imports by the tenderer is the sum of the values in column D31.

Table C. Imported by Third Party and Supplied to the Tenderer**D33. Description of imported content**

Provide a list of the product(s) imported by the third party and supplied to the tenderer as specified in the tender documentation.

D34. Unit of measure

Provide the unit of measure for the product(s) imported by the third party and supplied to tenderer as disclosed in the commercial invoice.

D35. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D36. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported products.

D37. Imported value as per commercial invoice

Provide the foreign currency value of the product(s) imported by the third party and supplied to the tenderer disclosed in the commercial invoice accepted by SARS.

D38. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D39. Local value of imports

Convert the value of the product(s) imported by the third party as per commercial invoice (D37) into the ZAR value by using the tender exchange rate (D38) disclosed in the tender documentation.

D40. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported by third party and supplied to the tenderer.

D41. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported by third party and supplied to the tenderer as stipulated in the SATS 1286:2011.

D42. Total landed costs excluding VAT

Provide the total landed costs (excluding VAT) for each product imported by third party and supplied to the tenderer by adding the corresponding item values in columns D39, D40 and D41.

D43. Quantity imported

Provide the quantity of each product(s) imported by third party and supplied to the tenderer for the tender.

D44. Total imported value

Provide the total imported value of the product(s) imported by third party and supplied to the tenderer by multiplying the total landed cost (D42) by the quantity imported (D43).

D45. Total imported value by third party

The total imported value from the third party is the sum of the values in column D44.

Table D. Other Foreign Currency Payments**D46. Type of payment**

Provide the type of foreign currency payment. (i.e. royalty payment for use of patent, annual licence fee, etc).

D47. Local supplier making the payment

Provide the name of the local supplier making the payment.

D48. Overseas beneficiary

Provide the name of the overseas beneficiary.

D49. Foreign currency value paid

Provide the value of the listed payment(s) in their foreign currency.

D50. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D51. Local value of payments

Provide the local value of each payment by multiplying the foreign currency value paid (D49) by the tender rate of exchange (D50).

D52. Total of foreign currency payments declared by tenderer and/or third party

The total of foreign currency payments declared by tenderer and/or a third party is the sum of the values in column D51.

D53. Total of imported content and foreign currency payment

The total imported content and foreign currency payment is the sum of the values in column D32, D45 and D52. This value must correspond with the value of C23 on Annexure C.

5. ANNEXURE E

5.1 Guidelines to completing Annexure E: “Local Content Declaration - Supporting Schedule to Annexure C”

The paragraph numbers correspond to the numbers in Annexure E

E1. **Tender number**

Supply the tender number that is specified on the specific tender documentation.

E2. **Tender description**

Supply the tender description that is specified on the specific tender documentation.

E3. **Designated products**

Supply the details of the products that are designated in terms of this tender (for example, buses/canned vegetables).

E4. **Tender authority**

Supply the name of the tender authority.

E5. **Tendering entity name**

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd) Ltd).

Local Goods, Services and Works

E6. **Description of items purchased**

Provide a description of the items purchased locally in the space provided.

E7. **Local supplier**

Provide the name of the local supplier that corresponds to the item listed in column E6.

E8. **Value**

Provide the total value of the item purchased in column E6.

E9. **Total local products (Goods, Services and Works)**

Total local products (goods, services and works) is the sum of the values in E8.

E10. **Manpower costs:**

Provide the total of all the labour costs accruing only to the tenderer (i.e. not the suppliers to tenderer).

E11. **Factory overheads:**

Provide the total of all the factory overheads including rental, depreciation and amortisation for local and imported capital goods, utility costs and consumables. (Consumables are goods used by individuals and businesses that must be replaced regularly because they wear out or are used up. Consumables can also be defined as the components of an end product that are used up or permanently altered in the process of manufacturing, such as basic chemicals.)

E12. **Administration overheads and mark-up:**

Provide the total of all the administration overheads, including marketing, insurance, financing, interest and mark-up costs.

E13. **Total local content:**

The total local content is the sum of the values of E9, E10, E11 and E12. This total must correspond with C24 of Annexure C.

A.7 MBD 8: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Municipal Bidding Document must form part of all bids invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The bid of any bidder may be rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
4. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

| Item | Question | Yes | No |
|-------|--|---------------------------------|--------------------------------|
| 4.1 | Is the bidder or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was applied). <u>The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.</u> | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4.1.1 | If so, furnish particulars: | | |
| 4.2 | Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? (To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445). | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4.2.1 | If so, furnish particulars: | | |
| 4.3 | Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years? | es <input type="checkbox"/> | No <input type="checkbox"/> |
| 4.3.1 | If so, furnish particulars: | | |
| 4.4 | Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

| | | | |
|-------|--|---------------------------------|--------------------------------|
| 4.4.1 | If so, furnish particulars: | | |
| 4.5 | Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4.5.1 | If so, furnish particulars: | | |

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

A.8 MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging)². Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - a. has been requested to submit a bid in response to this bid invitation;
 - b. could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - c. provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or

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

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

consortium³ will not be construed as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a. prices;
 - b. geographical area where product or service will be rendered (market allocation)
 - c. methods, factors or formulas used to calculate prices;
 - d. the intention or decision to submit or not to submit, a bid;
 - e. the submission of a bid which does not meet the specifications and conditions of the bid; or
 - f. bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signature

Date

Position

Name of Bidder

³

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

A.9 MUNICIPAL RATES AND TAXES

Proof (certified within three months of tender closure) is to be provided that the Tenderer's municipal rates and taxes are not in arrears for more than three months. Tenderers who rent and are not subject to these rates and taxes should provide a Lease Agreement. Those that operate their businesses in the villages should get a letter of confirmation from the municipal treasury office.

A.10 CERTIFICATE OF AUTHORITY FOR SIGNATORY

Signatory for companies shall confirm their authority thereto by attaching a duly signed and dated copy of the relevant resolution of the board of directors, members of a close corporation, or sole proprietor to this form. The resolution must be on an official letterhead.

An example is given below:

Mr/Ms/Mrs/Miss whose signature appears below, has been duly authorized to sign all documents in connection with the Tender for Contract No.:

and any contract that may arise therefrom on behalf of (name of Tenderer in block letters)

.....

SIGNED ON BEHALF OF THE COMPANY:

IN HIS/HER CAPACITY AS:.....

DATE:

SIGNATURE OF AUTHORISED SIGNATORY:.....

WITNESS: 1.

2.

A.11 CONTRACTOR'S HEALTH AND SAFETY DECLARATION

In terms of Clause 4(4) of the OHS 1993 Construction Regulations 2003 (referred to as the Regulations hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No. 85 of 1993 and the OHS 1993 Construction Regulations 2003.

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

Declaration by Tenderer

1. I, the undersigned, hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No. 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No. 181 of 1993), and the OHS 1993 Construction Regulations 2003.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
3. I hereby confirm that adequate provision has been made in my tendered rates and prices in the Schedule of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHS 1993 Construction Regulations 2003, including the cost of the specific items listed in the tables hereafter.
4. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
5. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHS 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
6. I hereby confirm that, I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
7. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHS 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.
8. I am aware of the fact that, should I be awarded the contract, I must submit the notification required in terms of Regulation 3 of the OHS 1993 Construction Regulations 2003 before I will be allowed to proceed with any work under the contract.

DATE: SIGNATURE OF TENDERER:

A.12 LETTER OF GOOD STANDING WITH THE COMPENSATION COMMISSIONER

Attach a letter of good standing from the Compensation Commissioner as issued by the Department of Labor and not by a broker. It must be certified and not older than three months from the date of tender closure.

A.13 SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify that it is our intention to employ the subcontractor(s) listed below for the mandatory 10 % set aside.

We confirm that all subcontractors who are contracted to construct works are registered with the Construction Industry Development Board (CIDB) or are eligible to do so.

| | Name and address of proposed subcontractor | Nature and extent of work | Previous experience with subcontractors |
|---|--|---------------------------|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

Date: Signature of Tenderer

**T.2.1.2 RETURNABLE SCHEDULES TO BE USED FOR
FUNCTIONALITY EVALUATION**

B.1 COMPLETION CERTIFICATES OR FINAL APPROVAL CERTIFICATES AND APPOINTMENT LETTERS FOR EACH PROJECT CLAIMED

The tenderer should attach all required documents as appropriate.

B.2 QUALIFICATION CERTIFICATES AND CV FOR THE SITE AGENT

Attach all required information herein.

B.3 QUALIFICATION CERTIFICATES AND CV FOR THE FOREMAN

Attach all required information herein.

B.4 CONSTRUCTION PROGRAM

Attach the required information herein.

B.5 OWNED OR HIRED PLANT DOCUMENTATION

Attach all necessary information herein.

B.6 CONTRACTOR'S B-BBEE COMPLIANCE CERTIFICATE OR SWORN AFFIDAVIT

Attach all necessary information herein.

**T.2.1.3 RETURNABLE DOCUMENTS TO BE SUPPLIED/COMPLETED
AS NECESSARY OR APPROPRIATE OR FOR THE COMPLETENESS
OF THE TENDER DOCUMENT**

C.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communication received from the Employer's representative before the submission of this tender offer, amending or amplifying the tender document, have been taken into account in this tender offer.

| | Dated | Title or Details |
|-----|--------------|-------------------------|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |
| 10. | | |

Attach additional pages if more space is required.

Signed:

Date:

Name :

Position:

Tenderer:

C.2 RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES (AS APPLICABLE)

Resolution of a meeting of the Board of Directors/Members/Partners* of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

on _____ (date)

Resolved that:

1. The Enterprise submit a Bid/Tender, in consortia/joint venture with the following enterprise:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the consortia/joint venture)

to the Employer and for the work explained in the Scope of Work.

Tender No.: _____ (Tender Number as per Tender Document)

2. Mr/Mrs/Miss/Ms*:

in his/her* capacity as: _____ (position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under Item 1 above.

3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture/consortium deriving from, and in any way connected with, the Contract to be entered into with the Employer in respect of the project described under Item 1 above.

The Enterprise chooses as its domicilium citandi et executandi for all purposes arising from this joint venture/consortium agreement and the Contract with the Employer in respect of the project under Item 1 above:

Physical address: _____

_____ (code)

Postal address:

_____ (code)

Telephone: _____ (with code)

Fax: _____ (with code)

Email: _____

| | Name | Capacity | Signature |
|----|------|----------|-----------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |

- Note:
1. * Delete which is not applicable
 2. This resolution must be signed by all the Directors/Members/Partners of the Bidding Enterprise.
 3. Should the number of Directors/Members/Partners exceed the space available above, additional names and signatures must be added on a separate page.

C.3 JOINT VENTURE AGREEMENT (AS APPLICABLE)

Attach a Joint Venture agreement as applicable.

C.4 AUDITED FINANCIAL STATEMENTS FOR THE PAST THREE YEARS IF THE TENDERED PRICE IS ABOVE R10 MILLION INCLUSIVE OF VAT (AS APPROPRIATE)

*Tenderer to attach as appropriate **should** his tender price **exceed** R10 million.*

**T.2.1.4 RETURNABLE SCHEDULES TO BE INCORPORATED INTO
THE CONTRACT**

D.1 NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

I, _____, being first duly sworn, deposes

and says that he or she is _____ of _____
(state position in company) (Bidder)

the party making the foregoing bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation;

- ✓ that the bid is genuine and not collusive or sham;
- ✓ that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding;
- ✓ that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract;
- ✓ that all statements contained in the bid are true;
- ✓ and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Bidder: _____

By: _____

Position: _____

Signature: _____

Date: _____

Subscribed and sworn to before me this _____ day of _____ 20____ in _____

(city/town)

Commissioner of Oaths _____
(Name) *(Signature)*

Commissioner's official stamp:

D.2 AMENDMENTS, QUALIFICATIONS AND ALTERNATIVES

This is not an invitation for amendments, qualifications, deviations or alternatives but should the Tenderer desire to make any departures from the provisions of this Contract, he shall set out his proposals clearly hereunder. The Employer will not consider any amendments or alternative offers unless forms under a and b are filled to the satisfaction of the Employer.

a. Amendments

| Page | Clause or Item No. | Proposed Amendment |
|------|--------------------|--------------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

- Notes:
1. Proposals for amendments to the General and Special Conditions of Contract will not be considered and may invalidate the offer,
 2. The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his tender.

b. Alternatives

| Proposed Alternative | Description of Alternative |
|----------------------|----------------------------|
| | |
| | |
| | |
| | |
| | |
| | |

- Notes:
1. Individual alternative items that do not justify an alternative tender, and an alternative offer for time for completion should be listed here.

2. In the case of a major alternative to any part of the work, a separate Bill of Quantities, program, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.
3. Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.

Date:

Signature of Tenderer:

**T2.1.5 OTHER RETURNABLE SCHEDULES TO BE
COMPLETED/FILLED/SUBMITTED BY THE SUCCESSFUL TENDERER
WHICH WILL BE INCORPORATED INTO THE CONTRACT**

E.1 CONTRACTOR'S HEALTH AND SAFETY PLAN

(Not to be submitted with tender offer)

The successful Tenderer, only, shall be required to submit the Contractor's Health and Safety Plan as required in terms of regulations 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2003, and referred to in Form J and in T2.1, after acceptance of the tender.

E.2 NOTIFICATION FORM IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, CONSTRUCTION REGULATIONS 2003

This form must be completed and forwarded, prior to commencement of work on site, by all Contractors that qualify in terms of Regulation 3 of the Construction regulations 2003, to the office of the Department of Labour.

1. (a) Name and postal address of Contractor:.....
.....
- (b) Name of Contractor's contact person:.....
Telephone number:.....
2. Contractor's compensation registration number:.....
3. (a) Name and postal address of client:.....
.....
- (b) Name of client's contact person or agent:.....
Telephone number:.....
4. (a) Name and postal address of designer's for the project:.....
.....
- (b) Name of designer's contact person:.....
Telephone number:.....
5. Name of Contractor's construction supervisor on site appointed in terms of Regulation
6(1):.....
Telephone number:.....
6. Name/s of Contractor's sub-ordinate supervisors on site appointed in terms of
Regulation 6(2):.....
7. Exact physical address of the construction site or site office:.....
.....
8. Nature of the construction work:.....
9. Expected commencement date:.....
10. Expected completion date:.....
11. Estimated maximum number of persons on the construction site:.....
12. Planned number of subcontractors on the construction site accountable to the
Contractor:.....
13. Name(s) of subcontractors already chosen:.....
.....

SIGNED BY:

CONTRACTOR:.....

DATE:

CLIENT:.....

DATE:

E.3 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993

THIS AGREEMENT is made between
(hereinafter called the EMPLOYER) of the one part, herein represented by

.....

In his capacity as:.....

AND:

(hereinafter called the CONTRACTOR) of the other part, herein represented by

.....

in his capacity as

duly authorised to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

Contract No. (Contract Title).....

.....

for the construction, completion and maintenance of the works;

NOW THEREFORE the parties agree as follows:

1. **The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.**
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertaking as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site of premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charges which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at f or and on behalf of the **CONTRACTOR**

on this day day of 20

SIGNATURE:

NAME AND SURNAME:

CAPACITY:.....

WITNESS: 1.
2.

Thus signed at f or and on behalf of the **EMPLOYER**
on this day of day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:.....

WITNESS: 1.
2.

THE CONTRACT

PART C1: AGREEMENT AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

FORM OF OFFER AND ACCEPTANCE**(AGREEMENT)****OFFER**

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

.....

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

By the representative of the Tenderer, deemed to be duly 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 (in words); R.....(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.

For the Tenderer:

Signature

Name

Capacity

Date

Name and address of organization:

.....

.....

Signature and name of witness:

Signature:

Name:

Date:

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract, are contained in

- Part 1 Agreements and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

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

The Tenderer shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfill any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

For the Employer:**Signature****Name****Capacity****Date**

Name and address of organization: Umzimkhulu Municipality
169 Main Street
Umzimkhulu
3297

Signature and name of witness:**Signature:****Name:****Date:**

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to 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 document arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract,

4.1 **Subject:**

Details:

4.2 **Subject:**

Details:

4.3 **Subject:**

Details:

4.4 **Subject:**

Details:

4.5 **Subject:**

Details:

4.6 **Subject:**

Details:

4.7 **Subject:**

Details:

4.8 **Subject:**

Details:

By the duly authorised representative signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

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

For the Tenderer:

Signature

Name

Capacity

Date

Name and address of organization:

.....

Signature and name of witness:

Signature:

Name:

Date:

For the Employer:

Signature

Name

Capacity

Date

Name and address of organization: Umzimkhulu Municipality
 169 Main Street
 Umzimkhulu
 3297

Signature and name of witness:

Signature:

Name:

Date:

CONFIRMATION OF RECEIPT

The Tenderer (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the ____ (day) of _____ (month) 20__ (year) at _____ (place)

FOR THE CONTRACTOR:

Signature _____

Name _____

Capacity _____

Signature and name of witness:

Signature:

Name:

Date:

C1.2 CONTRACT DATA

CONTRACT DATA

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF THE CONTRACT

The General Conditions of Contract for Construction Works (2015, 3rd Edition) published by the South African Institution of Civil Engineering and herein referred to as GCC 2015, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (tel 011-805 5947) or www.saice.org.za.

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

CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, 3rd Edition, 2015, are applicable to this Contract. An asterisk (*) placed next to a Clause number denotes the inclusion of an additional/new sub-clause for which no equivalent appears in GCC 2015.

| Compulsory Data | | | | | | | | | | | | | | | | | |
|------------------------|--|-----------------|---------------|-----------------|-----------------|--------------|------------|------|------|------------|--------------|------|--------------|---------|--------------|---------|----------------------------|
| GCC Clause | Information | | | | | | | | | | | | | | | | |
| 1.1.1.13 | The Defects Liability Period is 12 months from the date of the Certificate of Completion for everything else except gravel roads for which it will be six months. | | | | | | | | | | | | | | | | |
| 1.1.1.14 | The time for achieving Practical Completion is 240 days from the Commencement Date. | | | | | | | | | | | | | | | | |
| 1.1.1.15 | The name of the Employer is Umzimkhulu Municipality . | | | | | | | | | | | | | | | | |
| 1.1.1.16 | The name of the Employer's Agent is Vuba Imagineers (Pty) Ltd | | | | | | | | | | | | | | | | |
| 1.1.1.26 | The Pricing Strategy is the Re-measurement Contract | | | | | | | | | | | | | | | | |
| 1.2.1.2 | <p>The address of the Employer is:</p> <table border="0"> <tr> <td><u>Physical</u></td><td><u>Postal</u></td></tr> <tr> <td>169 Main Street</td><td>Private Bag X53</td></tr> <tr> <td>Umzimkhulu</td><td>Umzimkhulu</td></tr> <tr> <td>3297</td><td>3297</td></tr> <tr> <td>Telephone:</td><td>039-259-5000</td></tr> <tr> <td>Fax:</td><td>039-259-0427</td></tr> <tr> <td>Mobile:</td><td></td></tr> <tr> <td>E-mail:</td><td></td></tr> </table> | <u>Physical</u> | <u>Postal</u> | 169 Main Street | Private Bag X53 | Umzimkhulu | Umzimkhulu | 3297 | 3297 | Telephone: | 039-259-5000 | Fax: | 039-259-0427 | Mobile: | | E-mail: | |
| <u>Physical</u> | <u>Postal</u> | | | | | | | | | | | | | | | | |
| 169 Main Street | Private Bag X53 | | | | | | | | | | | | | | | | |
| Umzimkhulu | Umzimkhulu | | | | | | | | | | | | | | | | |
| 3297 | 3297 | | | | | | | | | | | | | | | | |
| Telephone: | 039-259-5000 | | | | | | | | | | | | | | | | |
| Fax: | 039-259-0427 | | | | | | | | | | | | | | | | |
| Mobile: | | | | | | | | | | | | | | | | | |
| E-mail: | | | | | | | | | | | | | | | | | |
| 1.2.1.2 | <p>The address of the Employer's Agent is:</p> <table border="0"> <tr> <td><u>Physical</u></td><td><u>Postal</u></td></tr> <tr> <td>544 Astor Road</td><td>P.O. Box 272</td></tr> <tr> <td>Shelly Beach</td><td>Izotsha</td></tr> <tr> <td>4265</td><td>4242</td></tr> <tr> <td>Telephone:</td><td>039-315-6596</td></tr> <tr> <td>Fax:</td><td>039-315-6488</td></tr> <tr> <td>Mobile:</td><td>072-578-4411</td></tr> <tr> <td>Email:</td><td>chuma@vubaimagineers.co.za</td></tr> </table> | <u>Physical</u> | <u>Postal</u> | 544 Astor Road | P.O. Box 272 | Shelly Beach | Izotsha | 4265 | 4242 | Telephone: | 039-315-6596 | Fax: | 039-315-6488 | Mobile: | 072-578-4411 | Email: | chuma@vubaimagineers.co.za |
| <u>Physical</u> | <u>Postal</u> | | | | | | | | | | | | | | | | |
| 544 Astor Road | P.O. Box 272 | | | | | | | | | | | | | | | | |
| Shelly Beach | Izotsha | | | | | | | | | | | | | | | | |
| 4265 | 4242 | | | | | | | | | | | | | | | | |
| Telephone: | 039-315-6596 | | | | | | | | | | | | | | | | |
| Fax: | 039-315-6488 | | | | | | | | | | | | | | | | |
| Mobile: | 072-578-4411 | | | | | | | | | | | | | | | | |
| Email: | chuma@vubaimagineers.co.za | | | | | | | | | | | | | | | | |
| 4.4.2 | 10 % of the tender price shall be subcontracted to a registered contractor. The Employer will make a list available to the Tenderer/Contractor during tender stage. | | | | | | | | | | | | | | | | |

| | |
|-----------------|---|
| 5.1.1 and 5.8.1 | <p>The non-working days are Sundays.</p> <p>The special non-working days are:</p> <ol style="list-style-type: none"> 1. All gazetted public holidays falling outside the year end break. 2. The year end break commencing on 17 December 2021 and ending on 2 January 2022. |
| 5.3.1 | <p>The documentation required before commencement with Works execution is:</p> <ol style="list-style-type: none"> 1. Health and Safety Plan (Refer to Clause 4.3) 2. Initial programme (Refer to Clause 5.6) 3. Security (Refer to Clause 6.2) 4. Insurance (Refer to Clause 8.6) 5. Letter of Good Standing from the Compensation Commissioner (Refer to Clause 4.3) 5. A signed subcontract document for the mandatory minimum 10 % set aside (Refer to Clause 4.4.2) |
| 5.3.2 | The time to submit the documentation required before commencement with Works execution is 28 days. |
| 5.5.1 | The Works shall be completed within 240 days. |
| 5.13.1 | The penalty for failing to complete the Works is R2 000 per day. |
| 5.14.1 | <p>Add the following to the clause:</p> <p>The Works would be deemed to have reached Practical Completion once the following have been completed:</p> <ul style="list-style-type: none"> • road is open to traffic |
| 5.16.3 | <p>The latent defect period is:</p> <ul style="list-style-type: none"> • for civil engineering works <ul style="list-style-type: none"> ▸ 2 years for gravel roads ▸ 5 years for surfaced roads excluding bridges and tunnels ▸ 10 years for the rest • 5 years for building works • 3 years for electrical and mechanical works |
| 6.10.1.5 | The percentage advance on materials not yet built into the Permanent Works is 80 % subject to a minimum value of R100 000. |
| 6.10.3 | <p>The limit of retention money is 5 % of the Contract Price.</p> <p>The percentage retention on the amounts due to the Contractor is 10 %.</p> |
| 8.6.1.1.2 | The value of plant and materials supplied by the Employer to be included in the insurance sum is R0.00. |
| 8.6.1.3 | The limit of indemnity for liability insurance is R2 000 000 per claim. |
| 10.5.3 | The number of Adjudication Board Members to be appointed is one . |

PART 2: DATA PROVIDED BY THE CONTRACTOR

| | | | | | | | | | | | | | | | | | | |
|--|--|--|-------------------------|--|--|-----------|--|-----------|--|-----------|---|-----------|---|-----------|--|-----------|--|-----------|
| 1.1.1.9 | The name of the Contractor is | | | | | | | | | | | | | | | | | |
| 1.2.1.2 | <p>The address of the Contractor is:</p> <table border="0"> <tr> <td><u>Physical</u></td> <td><u>Postal</u></td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>Telephone:</td> <td></td> </tr> <tr> <td>Fax:</td> <td></td> </tr> <tr> <td>Mobile:</td> <td></td> </tr> <tr> <td>Email:</td> <td></td> </tr> </table> | | <u>Physical</u> | <u>Postal</u> | | | | | | | Telephone: | | Fax: | | Mobile: | | Email: | |
| <u>Physical</u> | <u>Postal</u> | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Telephone: | | | | | | | | | | | | | | | | | | |
| Fax: | | | | | | | | | | | | | | | | | | |
| Mobile: | | | | | | | | | | | | | | | | | | |
| Email: | | | | | | | | | | | | | | | | | | |
| 4.4.2 | <p>Proposed names of subcontractors that will be considered for the mandatory minimum 10 % value set aside.</p> <table border="0"> <tr> <td>Number</td> <td>Name</td> </tr> <tr> <td>1</td> <td>.....</td> </tr> <tr> <td>2</td> <td>.....</td> </tr> <tr> <td>3</td> <td>.....</td> </tr> </table> | | Number | Name | 1 | | 2 | | 3 | | | | | | | | | |
| Number | Name | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 6.2.1 | <p>The Contract Price value inclusive of VAT shall be used for the calculation of the security offered.</p> <table border="0"> <tr> <td>Type of Security</td> <td>Contractor's Choice "Yes" or "No"</td> </tr> <tr> <td>Cash deposit of % of the Contract Sum.</td> <td>Yes or No</td> </tr> <tr> <td>Fixed Performance Guarantee of % of the Contract Sum</td> <td>Yes or No</td> </tr> <tr> <td>Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period</td> <td>Yes or No</td> </tr> <tr> <td>Retention of % of the value of the Works.</td> <td>Yes or No</td> </tr> <tr> <td>Cash deposit of % of the Contract Sum plus retention of % of the value of the Works</td> <td>Yes or No</td> </tr> <tr> <td>Fixed Performance Guarantee of % of the Contract Sum plus retention of % of the value of the Works</td> <td>Yes or No</td> </tr> <tr> <td>Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period plus retention of % of the value of the Works</td> <td>Yes or No</td> </tr> </table> <p><i>Should no choice be made, the second option will be assumed to have been selected.</i></p> | | Type of Security | Contractor's Choice "Yes" or "No" | Cash deposit of % of the Contract Sum. | Yes or No | Fixed Performance Guarantee of % of the Contract Sum | Yes or No | Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period | Yes or No | Retention of % of the value of the Works. | Yes or No | Cash deposit of % of the Contract Sum plus retention of % of the value of the Works | Yes or No | Fixed Performance Guarantee of % of the Contract Sum plus retention of % of the value of the Works | Yes or No | Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period plus retention of % of the value of the Works | Yes or No |
| Type of Security | Contractor's Choice "Yes" or "No" | | | | | | | | | | | | | | | | | |
| Cash deposit of % of the Contract Sum. | Yes or No | | | | | | | | | | | | | | | | | |
| Fixed Performance Guarantee of % of the Contract Sum | Yes or No | | | | | | | | | | | | | | | | | |
| Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period | Yes or No | | | | | | | | | | | | | | | | | |
| Retention of % of the value of the Works. | Yes or No | | | | | | | | | | | | | | | | | |
| Cash deposit of % of the Contract Sum plus retention of % of the value of the Works | Yes or No | | | | | | | | | | | | | | | | | |
| Fixed Performance Guarantee of % of the Contract Sum plus retention of % of the value of the Works | Yes or No | | | | | | | | | | | | | | | | | |
| Variable Performance Guarantee of % of the Contract Sum for the first period and % of the Contract Sum for the second period plus retention of % of the value of the Works | Yes or No | | | | | | | | | | | | | | | | | |

| 6.8.3 | <div>The variation in cost of special materials is (Tenderer to fill in as necessary):</div> <table><tr><th>Type of special material</th><th>Unit</th><th>% of rate or price</th></tr><tr><td></td><td></td><td></td></tr></table> | Type of special material | Unit | % of rate or price | | | |
|--------------------------|--|--------------------------|------|--------------------|--|--|--|
| Type of special material | Unit | % of rate or price | | | | | |
| | | | | | | | |

PART 3: THE VARIATION TO THE GENERAL CONDITIONS OF CONTRACT

This Contract will be based on the *General Conditions of Contract for Construction Works - Print 3.1, 2015*, issued by the South African Institution of Civil Engineering. (Short title: *General Conditions of Contract 2015 or GCC 2015*)

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under *Special Conditions of Contract*.

1. GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions of Contract shall amplify, modify or supersede, as the case maybe, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions of Contract hereafter are numbered SCC followed in each case by the number of the applicable Clause or Sub-Clause in the General Conditions of Contract 2015, and the applicable heading.

An asterisk (*) placed next to an SCC subclause number denotes the inclusion of an additional/new subclause for which no equivalent appears in General Conditions of Contract 2010.

2. VARIATIONS TO THE GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works (2015), published by the South African Institution of Civil Engineering, is applicable to this Contract.

4. CONTRACTOR'S GENERAL OBLIGATIONS

SCC4.1.2 CONTRACTOR'S LIABILITY FOR HIS OWN DESIGN ERRORS

In Sub-Clause 4.1.2, line 5, amend *any drawing* to read *any design, drawing*.

SCC4.6.1 PATENT AND PROTECTED RIGHTS

Special Conditions of Contract, Specifications (other than Standardised Specification), Bill of Quantities and Drawings are the copyright of Vuba Imagineers.

SCC4.11.3* LOCAL LABOUR

Where it is a requirement that the Contractor employ local labour and local subcontractors on site, the Contractor shall, taking cognisance of the requirements of this Clause, appoint local labour subcontractors as required for the execution of the works and shall train and supervise them as may be necessary to execute and complete the tasks or functions for which they were employed. The preferred categories and ratios are as follows:

- $\frac{1}{3}$ (one third) of labour be women (above youth age category of 35 years);
- $\frac{1}{3}$ (one third) of labour be youth (men and women, 18 to 35 year age); and
- $\frac{1}{3}$ (one third) of labour be men (above youth age category of 35 years).

5. TIME AND RELATED MATTERS

SCC5.4.1 ACCESS TO AND POSSESSION OF SITE

Add to sub-clause 5.4.1:

The Site will only be given to the Contractor after all the required documentation shall have been submitted and approved by the Employer.

SCC5.12.1 EXTENSION OF TIME FOR COMPLETION

Add to sub-clause 5.12.1:

In general, extension of time for the completion of the Works will, in terms of the General Conditions of Contract, be granted only for additional work and circumstances which could not have been reasonably foreseen.

No extension of time for completion will be granted on account of normal inclement weather, but extension of time shall be determined for abnormal rainfall or wet conditions that effect on progress of the Works. The extension granted will be calculated according to the following formula and data in the table below:

Rainfall Data
Station: Paddock

| MONTH | AVG. NO. OF DAYS Rainfall > 10 mm | AVG RAINFALL (mm) |
|--------------|---|--------------------------|
| January | 1.8 | 100.8 |
| February | 1.5 | 78.1 |
| March | 1.7 | 105.2 |
| April | 0.6 | 89.5 |
| May | 0.6 | 40.3 |
| June | 0.1 | 17.9 |
| July | 0.5 | 70.6 |
| August | 0.3 | 45.8 |
| September | 0.7 | 60.4 |
| October | 2.1 | 134.2 |
| November | 2.4 | 123.2 |
| December | 2.6 | 149.7 |
| | AVERAGE TOTAL | 1015.7 |

$$V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$$

Where:

V = Extension of time in calendar days in respect of the calendar month under consideration.

N_w = Actual number of days during the calendar month under consideration on which a rainfall of 10mm or more has been recorded.

N_n = Average number of days, derived from rainfall records, on which rainfall of 10 mm or more per day has been recorded during the relevant calendar month as per the data tabulated in the table.

R_w = Actual total rainfall in mm recorded during the calendar month under consideration.

R_n = Average total rainfall in mm for the relevant calendar month, derived from existing rainfall records.

X = 20 mm

If V is negative and its absolute value exceeds N_n , then V shall be taken as equal to minus N_n .

The extension of time for a part of a month shall be calculated by substituting pro rata values for the variables in the equation.

The total delay will be taken into account for the determination of the total extension of time for the contract shall be the algebraic sum of the monthly totals for the period under consideration. But if the grand total is negative, the time for completion shall not be reduced on account of abnormal rainfall. The total extension of time for any calendar month shall not exceed $(N_c - N_n)$ calendar days, where N_c = number of calendar days in the month under consideration.

The factor $(N_w - N_n)$ shall be considered to represent a fair allowance for variations from the average number of days during which rainfall equal or exceeds 10mm.

The factor $(R_w - R_n)/X$ shall be considered to represent a fair allowance for variations from the average for the number of days during which the rainfall did not equal or exceed 10mm per day, but when wet conditions prevent or disrupt work.

The total extensions of time shall be the algebraic sum of all monthly totals for the period under considerations, but if the total is negative the time for completion shall not be reduced due to Subnormal rainfall.

This formula does not take into account flood damage which could cause further or concurrent delays and such will be treated separately as far as extension of time is concerned.

Accurate rain gauge readings shall be taken at a suitable point on the site daily at 08h00 unless otherwise agreed to by the Employer's Agent, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with by unauthorized persons.

Should any doubts arise about the accuracy of rainfall measurements, the Employer's Agent may, at his discretion, use rainfall records from the South African Weather Bureau taken at the station nearest to the site.

Should any extension of time granted cause the time for completion to overlap with the special non-working days during the December and January builder holiday as defined in the Contract Data and that was not part of the contract period as at commencement, no additional time related General Items allowances will be paid for this period, except proven costs involved for the maintenance of insurances required in terms of the contract. The General Items allowances tendered will be deemed to allow for costs for the period of inactivity during the builder's holiday.

6. PAYMENT AND RELATED MATTERS

7. QUALITY AND RELATED MATTERS

SCC7.2.1 QUALITY OF PLANT, WORKMANSHIP AND MATERIALS

Add at the end of sub-clause 7.2.1:

Unless otherwise directed in writing by the Employer's Agent, materials for the Permanent Works shall be new and unused.

SCC7.5.1 EXAMINATION OF WORK BEFORE COVERING UP

Add at the end of sub-clause 7.5.1:

The Contractor shall give a 48 hours notice to the Employer's Agent of his intention to cover.

SCC7.5.3 NOTICE TO BE GIVEN WHEN READY FOR TESTING

In the first line of the first sentence, **replace** *adequate* with *48 hours*.

In the third sentence of the first line **delete** *or almost ready*.

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C1.3 FORM OF GUARANTEE

PERFORMANCE GUARANTEE**GUARANTOR DETAILS AND DEFINITIONS**

“Guarantor” means:

.....

Physical address:

.....

“Employer” means: Umzimkhulu Municipality

“Contractor” means:

.....

“Employer’s Agent” means: Vuba Imagineers (Pty) Ltd

“Works” means: The construction of Lukhalweni Access Road.

“Site” means: Location where the works shall be executed under this 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:

.....

.....

Type of Performance Guarantee: (*Insert Variable or Fixed*)

“Expiry Date” means: the date on which the Certificate of Completion is issued (*Give date*) or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

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.

1. VARIABLE PERFORMANCE GUARANTEE

1.1 Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:

1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:

R

(Amount in words:.....)

.....)

1.1.2 From the day following the date of the said interim payment certified up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, whichever occurs first:

R

(Amount in words:)

.....)

.....)

1.2 The Employer's Agent and/or Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50 % of the Contract Sum, has been issued and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

2.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

2.2 The Guarantor's period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.

2.3 The Employers Agent and/or Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

3.1 The Guarantor hereby acknowledges that:

3.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be misconstrued as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.

3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.

3.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:

3.2.1 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 3.2.2;

3.2.2 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 3.2.1 and the sum certified has still not been paid;

3.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.

3.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, 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:

3.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or

- 3.3.2 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 3.3; and
- 3.3.3 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.
- 3.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.
- 3.5 Where the Guarantor has made payment in terms of 3.3, 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.
- 3.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.
- 3.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider 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.
- 3.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 3.10 This Performance Guarantee is neither negotiable nor transferrable and shall expire in terms of 1.1.2 or 2.2 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.
- 3.11 The Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3 shall be regarded as a liquid document for the purposes of obtaining a court order.
- 3.12. Where this Performance Guarantee is issued in the Republic of South Africa, the Guarantor hereby consent in terms of Section 45 of the Magistrates' 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):

C1.4 CESSION OF RIGHTS FOR MATERIALS ON SITE

CESSION OF RIGHTS FOR MATERIALS ON SITE**Claim for materials on site****Payment Certificate No.**..... **Date:**.....**Contract:**.....**Employer:**.....**Contract No.:**.....**Contractor:**.....I/We, the undersigned,
(Print name)in my/our capacity as of
(Print Capacity) (Company)

hereby confirm that the Contractor is the bona fide owner of the goods and materials described in the attached schedule and the Contractor hereby cedes assigns and transfers all the right, title and interest claim and demand in and due to the materials and goods described in the attached schedule in favour of the Employer

All rights of the Employer in and to this Cession shall become effective immediately upon the Contractor obtaining payment for goods referred to on the attached schedule (less payment of retention monies that may be validly retained in respect thereof) from which time forward the ownership of all the stated goods and materials will vest in and pass irrevocably to the Employer.

Notwithstanding the foregoing all risk or loss and/or damage to the said goods and materials whilst in the Contractor's stores up until such time that a Certificate of Completion is issued shall be the responsibility of the Contractor.

This Cession shall neither constitute a novation of nor amend the terms of the Contract existing between the Employer and the Contractor nor shall it in any manner vitiate any of the rights and obligations imposed on either party.

Signed by:..... **Date:**.....
for and on behalf of the Contractor.

Witnessed by:..... **Date:**.....

(Note: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 6.10.1.5 of the General Conditions of Contract 2015).

PART C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

PRICING INSTRUCTIONS

1. Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SABS 1200 Standardized Specifications for Civil Engineering Construction referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of SABS 1200-A, *General*.
2. The units of measurements described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

| | | |
|----------------------|---|-----------------------|
| % | = | percent |
| h | = | hour |
| ha | = | hectare |
| kg | = | kilogram |
| kl | = | kiloliter |
| km | = | kilometer |
| km-pass | = | kilometer-pass |
| kPa | = | kilopascal |
| kW | = | kilowatt |
| l | = | liter |
| m | = | meter |
| mm | = | millimeter |
| m ² | = | square meter |
| m ² -pass | = | square meter-pass |
| m ³ | = | cubic meters |
| m ³ -km | = | cubic meter-kilometer |
| MN | = | meganewton |
| MN.m | = | meganewton-meter |
| MPa | = | megapascal |
| No. | = | number |
| Prov sum | = | Provisional sum |
| PC sum | = | Prime Cost sum |
| R/only | = | Rate only |
| sum | = | lump sum |
| t | = | ton (1 000 kg) |
| W/day | = | Work day |
3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
5. It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards)
6. Where the Scope of Work requires detailed drawings or designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered for such items.
7. Items against which **Nil** or **zero (0)** is entered are to be considered to be fully priced and the Tenderer will provide the items in questions as specified at **zero (0)** or **Nil** price.
8. Rates are to be inserted in **black ink**. Any amendments must be neatly crossed and initialled. The use of correction ink is **NOT** permitted.
9. The Tenderer shall also fill in a rate against the items where the words Rate Only appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.
10. The tendered rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.
11. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual

amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

12. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
13. The short description of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
14. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the COLTO 1998 Standardized Specifications.

C2.2 PRICING SCHEDULE

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------------|---|----------|-----------|------|---------|----|
| | | | | | R | c |
| 1200 | GENERAL REQUIREMENTS AND PROVISIONS | | | | | |
| PS12.06 * | Use of local labour: | | | | | |
| | (c) Community Liaison Officer : Allowance for total remuneration paid. | Prov Sum | 1.00 | | 32,000 | 00 |
| | (d) Profit on Item (c) | % | 32,000.00 | | | |
| PS12.07 * | Quality assurance testing and monitoring. | | | | | |
| | (a) Engineer's quality assurance testing and monitoring exclusive of Contractor's quality control testing and monitoring. | Prov Sum | 1.0 | | 225,000 | 00 |
| | (b) Profit on Item (a) | % | 225,000.0 | | | |
| PS12.08 * | Geotechnical investigations | | | | | |
| | (b) Borrow pit investigations | Prov Sum | 1.0 | | 100,000 | 00 |
| | (c) Profit on Item (b) | % | 100,000.0 | | | |
| PS12.09 * | Topographical surveys | | | | | |
| | (a) New or extension of topographical surveys | Prov Sum | 1.0 | | 125,000 | 00 |
| | (b) Profit on Item (a) | % | 125,000.0 | | | |
| PS12.10 * | EIA/EMPr auditing, monitoring and evaluation | | | | | |
| | (a) Compliance monitoring of EIA/MPr during construction | Prov Sum | 1.0 | | 195,000 | 00 |
| | (b) Profit on Item (a) | % | 195,000.0 | | | |
| PS12.11 * | Health and safety auditing, monitoring and evaluation | | | | | |
| | (a) Compliance monitoring with health and safety issues during construction | Prov Sum | 1.0 | | 130,000 | 00 |
| | (b) Profit on Item (a) | % | 130,000.0 | | | |
| PS12.12 * | Dealing with existing services | | | | | |
| | (a) Allowance for dealing with existing services | Lump Sum | 1.0 | | 120,000 | 00 |
| PS12.13 * | Engineer's construction monitoring for the duration of the contract | | | | | |
| TOTAL CARRIED FORWARD | | | | | | |

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------|---|----------|-----------|------|---------|----|
| | | | | | R | c |
| BROUGHT FORWARD | | | | | | |
| | (a) Allowance for remuneration of the Employer’s Agent for carrying out Level 2 construction monitoring | Prov Sum | 1.0 | | 140,000 | 00 |
| | (b) Profit on Item (a) | % | 140,000.0 | | | |
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SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------|------|------|--------|---|
| | | | | | R | c |
| 1300 | CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS | | | | | |
| 13.01 | The Contractor's general obligations : | | | | | |
| | (a) Fixed obligations | Lump Sum | 1.00 | | | |
| | (b) Value-related obligations | Lump Sum | 1.00 | | | |
| | (c) Time-related obligations | Month | 8.00 | | | |
| | NB: The combined total tendered for sub-items (a), (b) and (c) shall not exceed 15% of the tender sum. | | | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

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

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|------|------|------|--------|---|
| | | | | | R | c |
| 1400 | HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL | | | | | |
| PS14.03 | Office and laboratory fittings, installations and equipment : | | | | | |
| | (a) Items measured by number : | | | | | |
| | (xix) Rain gauge | No | 1.00 | | | |
| | (xx) Contract nameboard | No | 1.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

ACCOMMODATION OF TRAFFIC

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|---------|------|------|--------|---|
| | | | | | R | c |
| 1500 | ACCOMMODATION OF TRAFFIC | | | | | |
| 15.03 | Temporary traffic-control facilities | | | | | |
| | (a) Flagmen | man-day | 25.0 | | | |
| | (b) Portable STOP and GO-RY signs | No. | 2.0 | | | |
| | (c) Road signs R- and TR series | | | | | |
| | (i) Circular 600 mm diameter | No. | 2.0 | | | |
| | (ii) Rectangular 900 mm x 675 mm | No. | 2.0 | | | |
| | (i) Movable barricade/ road sign combination - (1200 mm) | No. | 2.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 1600: OVERHAUL

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|-------------------|-----------|------|--------|---|
| | | | | | R | c |
| 1600 | OVERHAUL | | | | | |
| 16.01 | Overhaul on material hauled in excess of a free-haul of 0.5 km, for haul up to or through 1.0 km (restricted overhaul) | m ³ | 3,682.00 | | | |
| 16.02 | Overhaul on material hauled in excess of 1.0 km (ordinary overhaul) | m ³ km | 36,823.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 1700: CLEARING AND GRUBBING

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---------------------------------------|----------------|---------|------|--------|---|
| | | | | | R | c |
| 1700 | CLEARING AND GRUBBING | | | | | |
| PS17.01 | Clearing and grubbing | ha | 2.53 | | | |
| PS17.07 * | Removal of top soil | | | | | |
| | (a) Remove top soil and dispose of it | m ³ | 3,210.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 1800: DAYWORKS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------|-----------|------|--------|----|
| | | | | | R | c |
| 1800 | DAYWORKS | | | | | |
| PS18.01 | Personnel during normal working ours | | | | | |
| | (a) Unskilled labour | hr | 5.00 | | | |
| | (b) Semi-skilled labour | hr | 5.00 | | | |
| | (c) Skilled labour | hr | 5.00 | | | |
| | (d) Ganger | hr | 5.00 | | | |
| | (e) Flagmen | hr | 5.00 | | | |
| PS18.02 | Plant | | | | | |
| | (a) Air compressor complete with drills, jackhammers, etc. | hr | 5.00 | | | |
| | (b) Truck as follows: | | | | | |
| | (I) 3 to 5t | hr | 10.00 | | | |
| | (ii) 5.1 to 10t | hr | 5.00 | | | |
| | (c) Concrete mixer - 0.3m ³ | hr | 10.00 | | | |
| | (d) Trench vibrating roller or pad 0.6 m width | hr | 10.00 | | | |
| | (e) Front end loader, 0.9 m ³ | hr | 10.00 | | | |
| | (f) Backactor, 0.3m ³ | hr | 10.00 | | | |
| | (g) Watercart, 5000 L | hr | 10.00 | | | |
| | (h) Excavator | hr | 10.00 | | | |
| | (i) TLB | hr | 40.00 | | | |
| | (j) Grader CAT 140G or equivalent | hr | 50.0 | | | |
| | (k) Dozer (D4) | hr | 40.0 | | | |
| PS18.03 | Materials | | | | | |
| | (a) Procurement of materials | Prov Sum | 1.00 | | 25,000 | 00 |
| | (b) Contractor's handling costs, profit and all other charges in respect of Sub-item PS18.03(a) | % | 25,000.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 1900*: COMPLIANCE WITH OTHER REGULATIONS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|----------|-----|------|--------|---|
| | | | | | R | c |
| 1900* | COMPLIANCE WITH OTHER REGULATIONS | | | | | |
| PAM3.2 .1 | Preparation of risk assessment, safe work procedures, the project H&S file, plan, the provision of PPE and protection clothing (inclusive of face masks), sanitisers, body temperature thermometer and any other H&S matters that the contractor deems necessary | Lump Sum | 1.0 | | | |
| PAM3.2 .2 | Full compliance with all H&S matters during the construction of the works under the contract. | Lump Sum | 1.0 | | | |
| PH9.2.1 | Preparation of workshop plan, safe work procedures, the provision of all required condoms and utensils, posters, running workshops. | Lump Sum | 1.0 | | | |
| PZ2.6.1 | Compliance with the environmental issues | | | | | |
| | (a) Full compliance with the Environmental Management Program | Lump Sum | 1.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|------|--------|------|--------|---|
| | | | | | R | C |
| 2100 | DRAINS | | | | | |
| PS21.01 | 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 | 300.00 | | | |
| | (ii) 1.5 m up to 2.0 m | m³ | 12.00 | | | |
| | (b) Extra over sub-item 21.01 (a) for excavation in hard and boulder material, irrespective of depth | m³ | 52.00 | | | |
| PS21.03 * | Excavation for subsoil drainage systems: | | | | | |
| | (a) Excavating soft material situated within the following depth ranges below the surface level: | | | | | |
| | (i) 0 m up to 1.5 m | m³ | 104.0 | | | |
| | (ii) Exceeding 1.5 m and up to 3.0 m | m³ | 46.0 | | | |
| | (b) Extra over sub-item 21.03 (a) for excavation in hard and boulder material, irrespective of depth | m³ | 12.0 | | | |
| 21.06 | Natural permeable material in subsoil drainage systems (Crushed stone): | | | | | |
| | (b) Crushed stone obtained from commercial sources (26 mm stone size). Ref dwg: C100-01 | m³ | 92.0 | | | |
| 21.08 | Pipes in subsoil drainage systems: | | | | | |
| | (c) High density poly-ethylene pipes and fittings, complete with couplings; 110 mm diameter perforated geopipes | m | 83.0 | | | |
| 21.10 | Synthetic- fibre filter fabric; Biddim A3 or simila approved | m² | 290.0 | | | |
| 21.15 | Overhaul for material hauled in excess of 1.0km free-haul (normal overhaul) | m³km | 334.00 | | | |
| 21.19 | Selected backfill material under concrete-lined side drains compacted to 93% of modified AASHTO density | m³ | 184.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 2200: PREFABRICATED CULVERTS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|----------------|--------|------|--------|---|
| | | | | | R | c |
| 2200 | PREFABRICATED CULVERTS | | | | | |
| PS22.01 | (a) Excavating soft material situated within the following depth ranges below the surface level: | | | | | |
| | (i) 0 m up to 1.5 m | m ³ | 150.00 | | | |
| | (ii) Exceeding 1.5 m and up to 3.0 m | m ³ | 23.00 | | | |
| | (b) Extra over subitem 22.01(a) for excavation in hard and boulder material, irrespective of depth | m ³ | 40.00 | | | |
| PS22.02 | Backfilling | | | | | |
| | (a) Using the excavated material within 1,0 km | m ³ | 98.00 | | | |
| | (b) Using imported selected material | | | | | |
| | (i) From commercial sources (G7 material) | m ³ | 98.0 | | | |
| PS22.03 | Concrete pipe culverts (Class 75D) | | | | | |
| | (c) On class C bedding (Interlocking joint pipe, SANS 677) | | | | | |
| | (i) 600 mm Ø | m | 126.00 | | | |
| 22.14 | Removing and stacking existing prefabricated culverts | | | | | |
| | (i) up to 600 mm diameter | m | 18.0 | | | |
| 22.17 | Manholes, catchpits, precast inlet and outlet structures complete | | | | | |
| | b) Catchpits as indicated on dwg C100-01 | No. | 18.0 | | | |
| 22.18 | Brickwork | | | | | |
| | (a) 230 mm thick | m ² | 75.00 | | | |
| 22.19 | Plaster | m ² | 150.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND
CONCRETE LININGS FOR OPEN DRAINS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------------|----------|------|--------|---|
| | | | | | R | c |
| 2300 | CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS | | | | | |
| 23.08 | Concrete lining for open drains | | | | | |
| | (a) Cast in situ concrete lining (20MPa/19 mm, V-drain, 100 mm thick including welded wire mesh Ref. 193) | m ³ | 184.00 | | | |
| | (b) Class U2 surface finish to cast in situ concrete (V-drain) | m ² | 1,840.00 | | | |
| 23.09 | Formwork to cast in situ concrete lining for open drains (Class F2 surface finish) | | | | | |
| | (b) To sides with formwork on both internal and external faces (each face measured) | m ² | 315.0 | | | |
| | (c) To ends of slabs | m ² | 300.0 | | | |
| 23.10 | Sealed joints in concrete linings of open drains as detailed on drawing C100-01 | m | 368.0 | | | |
| PS23.21 * | Precast concrete site access slab | | | | | |
| | a) Type A across 1000 mm drain | No. | 7.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 3100: BORROW MATERIALS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---------------------------------|----------------|--------|------|--------|---|
| | | | | | R | c |
| 3100 | BORROW MATERIALS | | | | | |
| 31.01 | Excess overburden | m ³ | 750.00 | | | |
| 31.03 | Finishing-off borrow areas in : | | | | | |
| | (a) Hard material | ha | 0.30 | | | |
| | (c) Soft material | ha | 0.30 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 3300: MASS EARTHWORKS (ROAD)

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------------|--|----------------|----------|------|--------|---|
| | | | | | R | c |
| 3300 | MASS EARTHWORKS | | | | | |
| 33.01 | Cut and borrow to fill including a freehaul up to 0.5 km | | | | | |
| | (a) Material in compacted layer thickness of 200 mm and less | | | | | |
| | (ii) Compacted to 93 % of modified AASHTO density | m ³ | 6,610.00 | | | |
| | (iv) G7 material from commercial sources compacted to 93% of modified AASHTO density | m ³ | 1,656.0 | | | |
| 33.03 | Extra over item 33.01 for excavating and breaking down material in | | | | | |
| | (b) Hard excavation | m ³ | 414.00 | | | |
| 33.04 | Cut to spoil, including freehaul up to 0.5 km. Material obtained from | | | | | |
| | (a) Soft excavation | m ³ | 1,656.00 | | | |
| | (c) Hard excavation | m ³ | 368.00 | | | |
| 33.07 | Removal of unsuitable material (including freehaul of 0.5 km) | | | | | |
| | (a) In layer thickness of 200 mm or less | | | | | |
| | (ii) Unstable material | m ³ | 288.00 | | | |
| 33.08 | Widening of cuts (extra over items 33.01, 33.02 and 33.04) | | | | | |
| | (a) In hard material | m ³ | 80.00 | | | |
| | (b) In all other materials | m ³ | 98.00 | | | |
| 33.10 | Roadbed preparation and the compaction of material | | | | | |
| | (a) Compaction to 90 % of modified AASHTO density | m ³ | 2,995.00 | | | |
| 33.12 | In situ treatment of roadbed | | | | | |
| | (a) In situ treatment by ripping | m ³ | 180.00 | | | |
| 33.13 | Finishing-off cut and fill slopes, medians and interchange areas | | | | | |
| | (a) Cut slopes | m ² | 4,642.00 | | | |
| | (b) Fill slopes | m ² | 5,527.00 | | | |
| 33.16 | Widening of fills as specified in subclause 3307(i) extra over | | | | | |
| TOTAL CARRIED FORWARD | | | | | | |

SECTION 3300: MASS EARTHWORKS (ROAD)

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------|-------------------|------|--------|------|--------|---|
| | | | | | R | c |
| BROUGHT FORWARD | | | | | | |
| | (a) Item 33.01(a) | m³ | 288.00 | | | |
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SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|--|----------------|---------|------|--------|---|
| | | | | | R | c |
| 3400 | PAVEMENT LAYERS OF GRAVEL MATERIAL | | | | | |
| 34.01 | Pavement layers constructed from gravel taken from cut or borrow, including freehaul up to 1.0 km | | | | | |
| | h) Gravel wearing course: | | | | | |
| | ii) 150 mm layer compacted to 95% Mod AASHTO | m ³ | 2,674.0 | | | |
| | iii) 150 mm layer of G7 Material from commercial sources compacted to 95% of Modified AASHTO density | m ³ | 1,070.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 5100: PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------------|--------|------|--------|---|
| | | | | | R | c |
| 5100 | PITCHING, STONEWORK AND PROTECTION AGAINST EROSION | | | | | |
| 51.01 | Stone pitching: | | | | | |
| | (b) Grouted stone pitching | m ² | 138.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 5200: GABIONS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------------|----------|------|--------|---|
| | | | | | R | c |
| 5200 | GABIONS | | | | | |
| 52.02 | Surface preparation for bedding the gabions | m ² | 673.00 | | | |
| 52.03 | (a) Galvanised gabion boxes: | | | | | |
| | (i) 1m x 1m x 1m | m ³ | 535.00 | | | |
| | (ii) 1m x 1m x 0.5m | m ³ | 58.00 | | | |
| | (c) Galvanized gabion mattresses | | | | | |
| | (i) 6m x 2m x 0.3m | m ³ | 58.00 | | | |
| 52.04 | Filter fabric | | | | | |
| | (a) Polyester geotextile A3 or similar approved | m ² | 1,311.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

5400 GUARDRAILS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|------|------|------|--------|---|
| | | | | | R | c |
| 5400 | GUARDRAILS | | | | | |
| 54.01 | Guardrails on timber posts: | | | | | |
| | (b) Painted | m | 23.0 | | | |
| 54.04 | End treatments: | | | | | |
| | a) End wings | No. | 5.0 | | | |
| | b) Bull noses | No. | 5.0 | | | |
| | (e) End treatments in accordance with the drawings where single guardrail sections are used | No. | 5.0 | | | |
| 54.05 | Additional guardrail posts: | | | | | |
| | (a) Timber | No | 5.0 | | | |
| 54.06 | Reflective plates | No | 7.0 | | | |
| PS54.14 | Sealing of the tops of the timber guardrail post and spacer block combinations using 40/50 penetration-grade bitumen. | No. | 9.0 | | | |
| PS54.15 | Nailing of gang-nail plates to the tops of the sealed sealed timber guardrail posts. | No. | 9.0 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 5500: FENCING

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------------|--|----------------|--------|------|---------|----|
| | | | | | R | c |
| 5500 | FENCING | | | | | |
| 55.01 | Clearing the fence line, 2 m wide strip | km | 0.35 | | | |
| 55.02 | 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 | km | 0.35 | | | |
| | b. Zinc-coated smooth wire | km | 0.35 | | | |
| | c. Diamond mesh | m ² | 621.00 | | | |
| | d. Wire netting | m ² | 621.00 | | | |
| | g. Standards | No | 69.00 | | | |
| | h. Droppers | No | 138.00 | | | |
| | i. Straining posts, stays and anchors | | | | | |
| | (i) Vertical | | | | | |
| | 2. Timber straining posts | No | 69.00 | | | |
| | (iii) Horizontal | | | | | |
| | 2. Timber stays and anchors | No | 69.00 | | | |
| | 3. Wire stays and anchors | No | 69.00 | | | |
| 55.03 | New gates (pedestrian steel) | No | 7.00 | | | |
| 55.04 | Moving existing fences and gates | | | | | |
| | a. Fences | | | | | |
| | iii. Pedestrian fences | km | 0.12 | | | |
| | iv. Security fences | km | 0.06 | | | |
| | b. Gates | No | 7.00 | | | |
| 55.05 | Dismantling existing fences | | | | | |
| | a. Fences (all types) | | | | | |
| | iii. Pedestrian fences | km | 0.12 | | | |
| | iv. Security fences | km | 0.06 | | | |
| | b. Gates | No | 7.00 | | | |
| PS55.10 * | Negotiations, evaluations, measurements, consultations related to affected properties. | | | | | |
| | (a) Engineer's consultations, meetings, evaluations | Prov Sum | 1.0 | | 150,000 | 00 |
| TOTAL CARRIED FORWARD | | | | | | |

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|-----------------|------------------------|------|-----------|------|--------|---|
| | | | | | R | c |
| BROUGHT FORWARD | | | | | | |
| | (b) Profit on Item (a) | % | 150,000.0 | | | |
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SECTION 5600: ROAD SIGNS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|--|--|------|--------|---|
| | | | | | R | c |
| 5600 | ROAD SIGNS | | | | | |
| PS56.01 * | Road sign boards with painted or coloured background. Symbols, lettering and borders in Class I retroreflective material, where the signboard is constructed from: (d) Standard steel profile (chromadek 1.6 mm thick) for 40 km/h speed limit complete with brackets and clamps: (i) R1 (ii) R201 (iii) W201 (iv) W208 (v) W209 (vi) W326 | No No No. No. No. No. | 4.00 7.00 3.00 3.00 2.00 3.00 | | | |
| PS56.03 | Road sign supports (overhead road sign supports structures excluded) (b) Timber (i) 100 dia. (creosote treated) | m | 55.00 | | | |
| 56.05 | Excavation and backfilling for sign supports (not applicable to kilometre posts) | m ³ | 6.00 | | | |
| 56.06 | Extra over item 56.05 for cement treated soil backfill | m ³ | 2.50 | | | |
| 56.07 | Extra over item 56.05 for rock excavation | m ³ | 1.20 | | | |
| PS56.10 * | Extra over item 56.05 for concrete backfill | m ³ | 2.5 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SECTION 7100: CONCRETE PAVEMENTS

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT | |
|----------------------------------|---|----------------|----------|------|--------|---|
| | | | | | R | c |
| 7100 | CONCRETE PAVEMENTS | | | | | |
| 71.02 | Concrete pavement excluding texturing and curing (25 MPa, 100 mm thick) | m ² | 2,196.00 | | | |
| 71.03 | Extra over item 71.02 for concrete pavement requiring hand placing | m ² | 138.00 | | | |
| 71.04 | Texturing and curing the concrete pavement | | | | | |
| | (a) Burlap-dragged and grooved texture | m ² | 2,196.00 | | | |
| | (b) Curing | m ² | 2,196.00 | | | |
| 71.06 | Joints | | | | | |
| | (a) Expansion joints complete (excluding dowels) | m | 440.00 | | | |
| | (b) Longitudinal hinge joints | | | | | |
| | (i) Sealed hinge joints (as per drawing) | m | 440.00 | | | |
| 71.08 | Steel reinforcement in concrete pavement | | | | | |
| | (c) Welded wire fabric (Ref#245) | m ² | 2,196.00 | | | |
| TOTAL CARRIED FORWARD TO SUMMARY | | | | | | |

SUMMARY OF SECTIONS

| SECTION | DESCRIPTION | AMOUNT (RAND) |
|---------|--|------------------|
| 1200 | GENERAL REQUIREMENTS AND PROVISIONS | |
| 1300 | CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS | |
| 1400 | HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL | |
| 1500 | ACCOMMODATION OF TRAFFIC | |
| 1600 | OVERHAUL | |
| 1700 | CLEARING AND GRUBBING | |
| 1800 | DAYWORKS | |
| 1900 | COMPLIANCE WITH OTHER REGULATIONS | |
| 2100 | DRAINS | |
| 2200 | PREFABRICATED CULVERTS | |
| 2300 | CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS | |
| 3100 | BORROW MATERIALS | |
| 3300 | MASS EARTHWORKS (ROAD) | |
| 3400 | PAVEMENT LAYERS OF GRAVEL MATERIAL | |
| 5100 | PITCHING, STONWORK AND PROTECTION AGAINST EROSION | |
| 5200 | GABIONS | |
| 5400 | GUARDRAILS | |
| 5500 | FENCING | |
| 5600 | ROAD SIGNS | |
| 7100 | CONCRETE PAVEMENTS | |
| | Sub-total | <hr/> |
| | CONTINGENCIES (10%) | <hr/> |
| | Sub-total | <hr/> |
| | VAT (15%) | <hr/> |
| | TOTAL CARRIED FORWARD TO FORM OF OFFER AND ACCEPTANCE | <hr/> |

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PART C3: THE SCOPE OF WORK

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's Objectives

Umzimkhulu Municipality intends to construct a new Lukhalweni access road to standard gravel roads. This is envisaged to improve livelihoods of local people through employment creation and local subcontracting of emerging businesses in the beneficiary community. Vehicular access will be greatly improved and the never ending repairs of vehicles necessitated by bad roads will reduce drastically.

C3.1.2 Overview of the Works

The works involve the upgrading of existing informal access road to standard 5 m wide roads with gravel wearing course. In brief, the works involve:

- 3.1 km length of access road upgrade construction
- Associated storm water management by means of side drains, mitre drains and culverts

No temporary works are envisaged in this contract.

C3.1.3 Extent of the Works

C3.1.3.1 Scope of Works

The works which involve the upgrade construction of Lukhalweni access road comprises the following:

- ▶ 2.2 ha of clearing and grubbing;
- ▶ 4 081 m³ of top soil removal;
- ▶ 5 747 m³ of roadbed preparation and compaction to 93 % Mod AASHTO;
- ▶ 2 325 m³ of imported G7 material to act as gravel wearing course and compacted to 95 % of Mod AASHTO; and
- ▶ 16 no of traffic signs

C3.1.3.2 Features Requiring Special Attention

C3.1.3.2.1 Labour Intensive Construction Methods

C3.1.3.2.1.1 General

The Contractor's attention is specifically drawn to the fact that certain aspects of the Works which can be executed using labour intensive methods, and semi-skilled labour, shall be carried out as such. The Employer's purpose in using labour intensive construction methods is to provide employment for as many of the unemployed people in the area as possible.

A list of local labour including their names and abilities (or trades if any) will be made available to the Contractor by the Community Liaison Officer (CLO). The CLO will be responsible for assisting the Contractor in sourcing local labour. As such, the Contractor will be required to submit labour requirements to the CLO for his swift action. The CLO shall ensure that the labour required by the Contractor is available within 24 hours.

The Contractor will only be allowed to use his own personnel in respect of specialized activities. Equipment such as picks and spades shall be supplied by the Contractor on a "lease-lend" basis to each "subcontractor". All manufactured materials shall be purchased by the Contractor and supplied to the "subcontractors" as necessary. The Contractor is at liberty to employ specific "subcontractors" for specific tasks, or to employ such "subcontractors" for a variety of tasks.

The method of payment and any other necessary agreement between the Contractor and his "subcontractors" shall be drawn up by the Contractor himself. The Contractor is expected to declare the payment rates to the local labour prior to engagement and the dates for payment as well as the duration of employment. Any local labour disputes will be brought to the attention of the CLO. The Project Steering Committee will be required to assist the CLO on matters which cannot be resolved by him and which do not need the interference of the Engineer. However such shall be reported during monthly site meetings.

C3.1.3.2.1.2 Labour Intensive Aspects of the Works

With respect to the construction of the Works, labour intensive means that, with the exception of the following activities, all work associated therewith shall be carried out by hand:

- (a) Excavation of "hard rock" and "intermediate material", as defined in Sub-clause 3303 COLTO 1998: Mechanical equipment such as trench excavator and jack hammers or air drills for blasting work may be used. For measurement and payment purposes this "intermediate material" will be classified as soft material.
- (b) Trench excavation in soft material for trenches greater than 1.2m in depth: Mechanical trench excavators may be used for the full depth of the trench.
- (c) Compaction of the trench bottom, pipe bedding, fill blanket and backfill material: Equipment such as plate compactors may be used.

- (d) Importation of bedding and selected backfill material from approved sources and the removal of surplus/unsuitable material to spoil sites: Digger-loaders and trucks may be used.
- (e) Mixing of concrete: Concrete mixers may be used.
- (f) Loading, transportation including that portion of the trip on site, and off-loading of all materials which have to be imported to the site from sources off the Site or which have to be removed from site and taken to destinations off the site: Trucks and mechanical lifting equipment may be used.
- (g) Loading, transportation on Site and placing of heavy components such as precast concrete manhole rings, transition slabs or adaptor slab for stormwater manholes: Digger-loaders, trucks and mechanical lifting equipment may be used.

C3.1.3.2.1.3 Documentation

Every fortnight the Contractor shall submit to the Engineer a schedule listing all the local labour employed on the project and giving the wages earned, sex, age and disability status. **No Payment Certificates will be processed without proof of employed labour which proof must accompany the certificate.**

C3.1.3.2.1.4 Drawings and Quantities are Provisional

All drawings and quantities issued with this document are preliminary. Prior to commencement of the construction, all levels and dimensions shall be carefully checked with the Engineer and be revised if necessary.

The quantities in the Schedule are provisional only and do not necessarily present the actual and final amount of work to be done. Unless otherwise stated, items will be measured nett in accordance with the drawings and actually installed and no allowance will be allowed for waste.

The contract amount for the complete contract shall be computed from the actual measured quantities of authorized work done to the satisfaction of the Engineer, valued at prices tendered against the respective items in the Schedule of Quantities.

It will be prudent for the Contractor to constantly liaise with the Engineer regarding work to be done since any extra work done by the Contractor which should have first been confirmed with the Engineer will not be paid. This also applies to buying of materials.

C3.1.3.2.1.5 Safety Regulations

Both the “Factories, Machinery and Building Work Act (Act 22 of 1941)” and the “Machinery and Occupational Safety Act (Act 6 of 1983)” must, wherever they appear in the COLTO 1998 standardized specifications, be replaced by the “Occupational Health and Safety Act (Act 85 of 1993)”.

C3.1.4 Location of the Works

The project site is located within Harry Gwala District Municipality under the administration of Umzimkhulu Municipality in Kwazulu-Natal.

The project site can be accessed by proceeding from Port Shepstone and head north west onto N2 for about 98 km and taking the right turn in Gaybrook area onto a gravel road for about 17.2 km to arrive at the roads which are located in Lukhalweni area. The respective site coordinates are as shown in Table 1.

Table 1 Access road locality coordinates

| Coordinates | |
|----------------|----------------|
| 30°27'50.67" S | 29°45'10.69" E |

The site falls within a sparsely built up communal land and Plate 1 shows the aerial view of the project sites. Also, drawings C000-01 to C000-04 show the project area relative to the provincial boundaries, district municipal boundaries, ward and the locality of the project site.

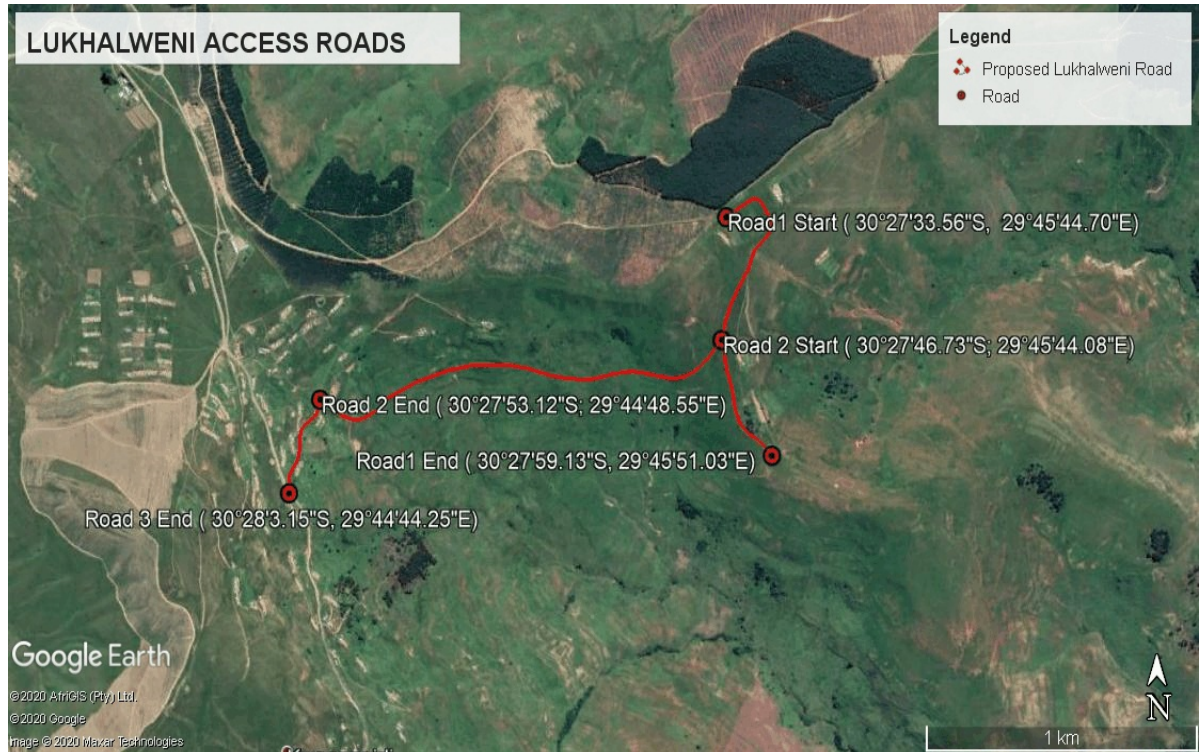


Plate 1: Google Earth image of Lukhalweni access roads

C3.1.5 Temporary Works

Borrow pits used during the construction shall be remediated to the Engineer's satisfaction.

C3.2 ENGINEERING

C3.2.1 Design Services and Activity Matrix

| WORKS DESIGNED | RESPONSIBILITY |
|--|---|
| Concept, feasibility and overall process | Engineer |
| Basic engineering and detail layouts to tender stage | Engineer |
| Final design to be approved for construction stage | Engineer |
| Temporary works | N/A |
| Preparation of as-built drawing | Engineer with data being provided by the contractor |

C3.2.2 Employer's Design

The Employer or his agent shall be responsible for the design of the works.

C3.2.3 Design Brief

The Contractor will not be responsible for any design and hence there will be no design brief necessary.

C3.2.4 Drawings

C3.2.4.1 Contractor

The contractor shall be responsible for collecting and submitting all data for the production of as-built drawings by the engineer.

As the work progresses, the Contractor shall keep full records of all amendments to and deviations from the drawings as issued to the Contractor at the start of the contract. This information must be submitted monthly by the Contractor with his payment certificate, to the Engineer. The true positions, invert levels and ground levels of all services shall be indicated on

the drawings, for which purpose the Contractor shall receive a separate complete set of drawings from the Engineer, at no cost.

The completion certificate shall only be issued after the Engineer has received a properly completed set of “**as built**” drawings from the Contractor. No separate payment shall be made for this service as all costs related thereto shall be deemed to be included in the related items. The software used for producing such as-built drawings shall be fully compatible with AllyCAD and/or AUTOCAD.

C3.2.4.2 Employer

The list of the drawings prepared by the Employer are reflected in the following table.

| ITEM NO. | DRAWING NO. | DRAWING TITLE |
|-----------------|--------------------|---|
| 1 | C000-01 | Provincial Layout |
| 2 | C000-02 | District Municipality Layout |
| 3 | C000-03 | Local Municipality Layout |
| 4 | C000-04 | Locality Plan |
| 5 | C100-01 | Drainage, Signs and Road Details |
| 6 | C100-02 | Concrete Pavement Details |
| 7 | C100-03 | Fence Details |
| 8 | C100-04 | Typical Concrete Access Slab |
| 9 | C100-05 | Typical Mitre Drain Details |
| 10 | C100-06 | Typical Pipe Road Crossing Details |
| 11 | C100-07 | Project Name Board |
| 12 | C200-01 | Road 1 to Road 3 Plan Layout With Background Image |
| 13 | C200-02 | Road 1 to Road 3 Plan Layout Without Background Image |
| 14 | C200-03 | Road 1 Plan Layout With Background Image - (Chainage 0 to 640) |
| 15 | C200-04 | Road 1 Plan Layout Without Background Image - (Chainage 0 to 640) |
| 16 | C200-05 | Road 1 & Road 2 Plan Layout With Background Image - Road 1: (Chainage 550 to 1095) & Road 2: (Chainage 0 - 300) |
| 17 | C200-06 | Road 1 & Road 2 Plan Layout Without Background Image - Road 1: (Chainage 550 to 1095) & Road 2: (Chainage 0 - 300) |
| 18 | C200-07 | Road 1 & Road 2 Plan Layout With Background Image - Road 1: (Chainage 550 to 840) & Road 2: (Chainage 0 - 680) |
| 19 | C200-08 | Road 1 & Road 2 Plan Layout Without Background Image - Road 1: (Chainage 550 to 840) & Road 2: (Chainage 0 - 680) |
| 20 | C200-09 | Road 2 Plan Layout With Background Image - (Chainage 650 - 1340) |
| 21 | C200-10 | Road 2 Plan Layout Without Background Image - (Chainage 650 - 1340) |
| 22 | C200-11 | Road 2 & Road 3 Plan Layout With Background Image - Road 2: (Chainage 1210 to 1660) & Road 3: (Chainage 0 - 367) |
| 23 | C200-12 | Road 2 & Road 3 Plan Layout Without Background Image - Road 2: (Chainage 1210 to 1660) & Road 3: (Chainage 0 - 367) |
| 24 | C300-01 | Road 1 Cross Sections - (Chainage 10 to 370) |
| 25 | C300-02 | Road 1 Cross Sections - (Chainage 380 to 760) |
| 26 | C300-03 | Road 1 Cross Sections - (Chainage 770 to 1095) |
| 27 | C300-04 | Road 2 Cross Sections - (Chainage 10 to 250) |
| 28 | C300-05 | Road 2 Cross Sections - (Chainage 255 to 630) |
| 29 | C300-06 | Road 2 Cross Sections - (Chainage 635 to 970) |
| 30 | C300-07 | Road 2 Cross Sections - (Chainage 980 to 1370) |
| 31 | C300-08 | Road 2 Cross Sections - (Chainage 1375 to 1661) |
| 32 | C300-09 | Road 3 Cross Sections - (Chainage 10 to 290) |
| 33 | C300-10 | Road 3 Cross Sections - (Chainage 300 to 367) |
| 34 | C400-01 | Road 1 Long Section - (Chainage 0 to 690) |
| 35 | C400-02 | Road 1 Long Section - (Chainage 690 to 1095) |
| 36 | C400-03 | Road 2 Long Section - (Chainage 0 to 680) |
| 37 | C400-04 | Road 2 Long Section - (Chainage 680 to 1360) |
| 38 | C400-05 | Road 2 Long Section - (Chainage 1360 to 1661) |
| 39 | C400-06 | Road 3 Long Section - (Chainage 0 to 367) |

C3.2.5 Design Procedures

Not applicable.

C3.3 PROCUREMENT

C3.3.1 Preferential Procurement Procedures

C3.3.1.1. Requirements

The Award Criteria as described in Annex A of SANS 10396:2003 will be applicable.

C3.3.1.2 Resource Standard Pertaining to Targeted Procurement

Not applicable.

C3.3.2 Subcontracting**C3.3.2.1 Scope of Mandatory Subcontract Works**

The contractor shall decide the scope of work that he intends to subcontract at a value of at least 10 % of the Contract Price.

C3.3.2.2 Preferred Subcontractors/Suppliers

The Employer will make a list of subcontractors available during the tender stage so that such is available for the contractor to choose from.

C3.3.2.3 Subcontracting Procedures

The Contractor will prepare a subcontracting document to be priced by his selected subcontractor(s) and the conditions of contract will preferably be the General Conditions of Subcontracting 2018 (GCSC 2018).

C3.3.2.4 Attendance on Subcontracts

The main contractor will attend to the subcontractor in all respects.

C3.4 CONSTRUCTION**C3.4.1 Works Specifications****C3.4.1.1 Applicable COLTO Standards**

Although not bound in nor issued with this document, the COLTO Standardized Specifications for Road and Bridge Works for State Authorities (1998 Edition), as amended in Annexure, form part of this document. The term *project specifications* must be replaced by the term *scope of work* wherever it appears in these standardized specifications.

C3.4.1.3 Applicable National and International Standards

Not applicable.

C3.4.1.4 Particular/Generic Specifications

None

C3.4.1.5 Certification by recognized Bodies

Not applicable.

C3.4.1.6 Agreement Certificates

Not applicable.

C3.4.2 Plant and Materials**C3.4.2.1 Plant and Materials Supplied by the Employer**

No plant will be made available by the Employer.

C3.4.2.2 Materials, Samples and Shop Drawings

No samples are required.

No shop drawings are required.

All materials installed on the works shall be new, of quality, not defective and, if applicable, carry the SABS stamp of approval.

C3.4.3 Construction Equipment

C3.4.3.1 Requirements for Equipment

The construction equipment shall be in good working order and be repaired within two working days if broken down. Replacement of equipment shall be necessary if the one broken cannot be put into operations within five days or its downtime is more than 40 hours in a month.

Equipment and plant return forms shall be completed on daily, weekly and monthly basis and shall be accessible for inspection by the Engineer during working hours. Only monthly plant returns shall be made available during monthly progress meetings.

The plant return forms attached in the Contract Forms shall be used for reporting.

C3.4.3.2 Equipment Provided by the Employer

The Employer will not provide any equipment.

C3.4.4 Existing Services

C3.4.4.1 Known Services

The Employer will endeavor to provide drawings showing existing services. However, these may not be accurate and the contractor is urged to exercise care when excavating.

Overhead cables, poles, ballast to railway line, irrigation channels, etc. are to be treated as known services and payment for the protection thereof shall be deemed to be included in appropriate/associated items like excavation, etc.

C3.4.4.2 Locating, Marking and Exposing of Services

The payment item for exposing services not shown on the drawings but indicated to the Contractor on site, will be measured in number or in cubic meter of excavation and will include for all hand excavation in all materials to expose the service, irrespective of the depth or type of service. Care must be taken not to damage services during hand excavation thereof. Any remedial work will be for the account of the Contractor.

C3.4.4.3 Treatment of Existing Services

All existing services shall be maintained in operation, unless prior arrangements have been made with the relevant authority and written permission for an interruption of the service has been granted and adequate notice has been given to the affected parties.

C3.4.4.3.1 Protection of Services

Where existing services are either indicated on drawings, supplied to the Contractor or indicated on site, or in the course of excavation the Contractor identifies any services, these services, as well as telegraph or telephone poles, or any existing structures, shall be shored, strutted or slung and sufficiently protected to ensure that no damage will be done to them until backfilling has been completed. In the case of electric and telephone cables, if these are exposed during the course of excavation, the Contractor shall not refill the excavation around such cables until the cables have been inspected and passed as intact by the responsible authorities.

The protection of electric and GPO poles will be measured in number. Overhead services must be protected. No additional payment for protection of overhead services will be made and the cost must be included in the rates for excavation.

Protection of service will only apply to existing services. Protection of services installed during the execution of this contract will not be paid for separately and must be included in rates for excavation and pipe laying of new pipes.

Services which are within 0.15 m from each other (wall to wall) will be measured as one service with respect to exposure, crossing and working parallel to services.

C3.4.4.3.2 Connecting to Existing Services

One week prior to commencing work to connect into an existing service, the Contractor will notify the Local Authority and the Engineer in writing of his intention to do so. The rate provided in the Bill of Quantities shall include for all labour charges, since materials are measured separately.

C3.4.4.4 Use of Detection Equipment for the Location of Underground Services

The employer will request drawings showing existing underground cables (electric and data/voice) from relevant authorities which drawings shall be handed over to the contractor. Use of detection equipment to locate underground

services is allowed and shall only be used on written instruction by the Engineer. The payment for such equipment shall be based upon proven costs and allowed overheads as per the Contract Data.

C3.4.4.4 Damage to Services

C3.4.4.4.1 Known Services

The contractor will be fully responsible for costs associated with damage to existing services caused by his actions.

C3.4.4.4.2 Unknown Services

Services which were unknown or which could not have been predicted to exist by the contractor will be paid by the Employer on materials and dayworks basis and only after the Engineer shall have determined that the services could not have been predicted to exist.

C3.4.4.5 Reinstatement of Services and Structures Damaged During Construction

The Employer or authority responsible for the damaged services as well as the Engineer shall be notified of the damage within one hour by the Contractor. The contractor shall, in his notification, declare, in his opinion who is responsible for costs associated with repair. The Engineer shall agree or disagree with the contractor's opinion. The reinstatement shall be carried out in consultation with the authority involved.

C3.4.5 Site Establishment

C3.4.5.1 Services and Facilities Provided by the Employer

Some or most of the following services will be available at a cost to the contractor.

C3.4.5.1.1 Water

Potable water is not available on site.

C3.4.5.1.2 Electricity

Electricity is available on site but its sufficiency and dependency cannot be guaranteed. Connection to the electric power can be arranged with **Eskom**.

C3.4.5.1.3 Telecommunication

There are no telecommunication lines in the project area. Generally, mobile reception is available but no guarantee is given on these services.

C3.4.5.1.4 Ablution facilities

The Employer will not provide any ablution facilities.

C3.4.5.1.5 Medical/First Aid facilities

There is no clinic or medical services within the project area.

C3.4.5.1.6 Fire Protection Services

The Employer does provide fire fighting services but these services cannot be guaranteed to cover the project site.

C3.4.5.1.7 Sewage Disposal

There is no sewage disposal plant on site.

C3.4.5.2 Facilities Provided by the Contractor

The Contractor shall provide for the use of the Engineer, maintain and service, as applicable, the items itemized in the Project Specifications.

Unless specified otherwise, on completion of the Works these facilities shall revert to the Contractor who shall remove them from the site.

The term "use of the Engineer" will be deemed to include, as appropriate, use by the Engineer's staff and the Engineer's Representative and his staff.

C3.4.5.3 Storage and Laboratory Facilities**C3.4.5.3.1 Storage facilities**

In terms of Subclause 1302(a) of Colto (1998 Edition), the Contractor shall provide sufficient suitable storage facilities on site. Perishable materials shall be protected against moisture, direct sunlight and contact with harmful chemicals, as applicable. The Contractor shall take steps to prevent damage to or the theft of any materials on site. No extension of time will be considered in respect of delays due to such damage or theft occurring.

C3.4.5.3.2 Laboratory

No laboratory facilities are required on site.

C3.4.5.4 Other facilities and Services**C3.4.5.4.1 Medical facilities**

The Contractor shall make medical facilities and safety equipment available, in accordance with the Occupational Health and Safety Regulations.

C3.4.5.4.2 Security Services

The contractor shall be responsible for providing security services for his equipment, plant, facilities, etc. on site. No extension of time nor costs will be considered in respect of delays due to theft occurring.

C3.4.5.5 Vehicles and Equipment**C3.4.5.5.1 Vehicles**

The Engineer does not need a site vehicle for this contract.

C3.4.5.5.2 Computers

No engineer's computer is required.

C3.4.5.5.3 Survey and Testing Equipment

The required survey equipment will be that reflected in the Project Specifications.

Testing associated with concrete strength shall be done by a laboratory approved by the Engineer.

C3.4.5.6 Advertising Rights

The Contractor is not authorized to advertize other than on the nameboard prescribed for the contract.

C3.4.5.7 Notice Boards

The notice board shall be as per the applicable drawing and labeling shall be provided by the Engineer at the commencement of the contract.

C3.4.6 Site Usage

The site shall only be used for the sole purpose of executing the works.

C3.4.7 Permits and Wayleaves

The Employer will be responsible for arranging permits to connect, for the purpose of the permanent works, on all services under different authorities. The Employer will also request drawings showing underground services from different authorities as necessary.

In general, the Employer will be responsible for obtaining way leaves.

C3.4.8 Alterations, Additions, Extensions and Modifications to Existing Works

Some pipes will be cut off and blanked to isolate them from interconnecting with the two separate areas fed by different reservoirs. Connection to blanked-off pipes will also be part of the Works.

C3.4.9 Inspection of Adjoining Properties

In the event that blasting or any other activity that may have the potential to damage a building is to be carried out, the Contractor, CLO, Engineer, member of the project steering committee and the house owner will thoroughly inspect the building as to existing cracks, structural condition and integrity in order to compile a report on the status quo of the building. The Contractor shall also take and keep pictures.

C3.4.10 Water for Construction Purposes

There is no potable water on site.

It will be deemed that the Contractor shall have included all expenses relating to procuring, transporting, storing and distributing water for construction purposes in the General Items. No extra payment will be made for water use and all expenses associated with sourcing (wherever so chosen by the Contractor) of water will be assumed to be covered in the Preliminary and General items and/or items which require use of water.

C3.4.11 Survey Control and Setting out of the Works

Setting out for the execution of the works is the responsibility of the contractor. The Employer will provide survey control points which have been previously coordinated to the Contractor before commencement of the work. It will be the responsibility of the Contractor to protect the control points and reestablish them if he damages them at his cost.

The setting out of the works shall be the responsibility of the Contractor and shall be dealt with in accordance with Clause 1206 of COLTO (Edition 1998).

C3.5 MANAGEMENT

Unless otherwise stated or provided for separately, all management activities shall be deemed to be priced in the General Items or any other appropriate and relevant items.

C3.5.1 Management of the works

C3.5.1.1 Applicable SANS 1921 Standards

SANS 1921-1: 2004 - Part 1: General Engineering and Construction Works.

SANS 1921-5: 2004 - Part 5: Earthworks activities which are to be performed by hand.

In the event that any conflict arises between these standards and the Scope of Works, the latter shall prevail.

C3.5.1.2 Particular/Generic Specifications

- Construction Health and Safety Specifications
- Environmental Management Plan
- HIV/AIDS Specifications

C3.5.1.3 Planning and Programming

C3.5.1.3.1 Submitted Program

It is a requirement of the contract that a program in bar chart form be submitted within the time stated in the Contract Data. The program will indicate the time during which parts of the work will be done. Such a program shall be submitted on a monthly basis for the approval of the Engineer and shall take into account the applicable construction period.

The Contractor shall submit an all inclusive program which will, among others, show how he proposes to finish the Works.

In addition to the requirements of Sub-Clause 5.6.2 of the General Conditions of Contract, the Contractor's program shall show:

- a. the various activities, related to a time scale, for each element of the Works, including those of Subcontractors or other Contractors, in sufficient detail to be able to assess construction progress;
- b. critical path activities and their dependencies;
- c. key dates in respect of work to be carried out by others; and
- d. key dates in respect of information to be provided by the Engineer and/or others.

In addition to the requirements of Sub-Clause 5.6.2 of the General Conditions of Contract, the Contractor shall submit with his program, a copy of any network diagram used in producing the program. If any change to the critical path occurs, the Contractor shall as soon as practicable notify the Engineer in writing. The Contractor's program and method statement will not be accepted as the basis for claims for additional compensation without due reference to all relevant associated factors.

The Engineer may instruct the Contractor to put certain components of the Works at certain position in the program.

C3.5.1.3.2 General Allowances

When drawing up his program, the Contractor shall, take into consideration and make allowances for, inter alia:

- a. expected weather conditions and their effects,
- b. known physical conditions or artificial obstructions (e.g.; road crossings, fences, trees, pavements and existing lines and cables),
- c. dealing with existing services, and
- d. the accommodation and safeguarding of public access and traffic.

C3.5.1.3.3 Review of Progress

The Contractor shall review his progress fortnightly and should the progress be behind schedule by **more than two weeks**, he shall then submit a revised program and method statement of how he proposes to make up the lost time.

If, in the opinion of the Engineer, the revised program will not make up the lost time, the Engineer shall have the right to issue a reorganization order to the Contractor to ensure that an acceptable program is produced. All expenses as a result of the reorganization shall be at the Contractor's costs.

C3.5.1.4 Sequence of the Works

The Contractor will be responsible for planning and sequencing all activities towards executing the project.

C3.5.1.5 Software Application for Programming

The software to be used by the Contractor shall be MS Projects or any other equivalent software.

C3.5.1.6 Methods and Procedures

C3.5.1.6.1 Cleanliness of the Site

The Contractor shall take note that progressive and systematic finishing and tidying will form an essential part of this contract. On no account shall spoil, rubble, materials, equipment or unfinished operations be allowed to accumulate in such a manner as to unnecessarily be a hindrance to or impede the activities of others. In the event of this occurring, the Employer shall have the right to withhold payment for as long as may be necessary in respect of the relevant works in the area(s) concerned.

Unhygienic habits and other behavior that may cause contamination of any part of the Works or the surrounding areas are strictly prohibited. The Contractor shall ensure that good sanitary conditions prevail throughout the Site and that all his workmen are aware of, and comply with, this rule.

C3.5.1.6.2 Protection of Trees and Shrubs

The Contractor shall:

- take all precautions to prevent:
 - the erosion of soils and/or
 - loss of or injury to domestic and other animals on any property used or occupied by the Contractor;
- refrain from destroying, removing or clearing trees, timber and scrub to any extent greater than is necessary for the execution of the Contract;
- take care to cause the minimum of disturbance to the fauna and flora;
- take precautions to keep the risk of fire to a minimum;
- arrange that timber for firewood be obtained only from such places as may be approved by the Engineer;
- take such measures as to ensure that his employees are aware of all laws and restrictions governing the hunting, disturbing, capturing or destroying of animals and birds in the vicinity of the camp or the Works or the taking of fish from any water; and
- prohibit all firearms from the site and temporary camps.

C3.5.1.6.3 Blasting Operations

No blasting will be permitted within 10 m of any structure, pipeline, or service unless the Contractor can satisfy the Engineer that his proposed blasting methods and controls are such that no damage will be caused to the adjoining structure, pipeline or service.

In any event the Engineer will require the Contractor to plan and execute each blast in such a manner as to ensure that no

damage will be caused to any structure, pipeline or service. In addition, the Engineer will require vibro-recordings to be taken at no additional cost to the Employer. No blasting is to be carried out in Eskom servitudes or way leaves unless the Eskom authorities have been advised in writing three weeks prior to blasting. Where blasting is done adjacent to power lines, the Contractor shall arrange for a representative of Eskom to be present prior to and during any blasting.

C3.5.1.6.4 Borrow Pits and Disposal of Excess Materials

The Employer will identify an appropriate borrow pit from where road construction materials will be sourced. The area where excess materials can be disposed of will be indicated to the Contractor by the Engineer. Both the borrow pit and the disposal site shall be finished to the satisfaction of the Engineer.

C3.5.1.6.5 Work on or Adjacent to Structures or Services

When work is being executed on or adjacent to structures and services, great care should be exercised not to cause any damage or failure to them. The Contractor may need to provide protection for the structure or service. At any rate, the Contractor shall keep handy all contact details of the owners or operators of the structures and services. In the event of damage, the responsible owner or operator shall be advised together with the Engineer in writing within 24 hours. This correspondence should be preceded by a telephone call which shall be made immediately the failure or damage is noticed.

C3.5.1.6.6 Management and Disposal of Water on the Site

The Contractor shall direct all water from whatever source away from the construction area but not to trafficked roads and residential sites. If open channels are not suitable for dealing with water, then water tanks shall be used to suck or pump the water and dispose of it at places or areas indicated by the Engineer.

Payment related to dealing with water is deemed to be included in the rates.

C3.5.1.6.7 Access, Roads, Maintenance of Accesses and Walkways

The road to the borrow pit, disposal area and other sites supporting the construction works shall be maintained by the Contractor for his use. Dust and nuisance shall be kept to a minimum in order not to affect operations on site. No separate payment shall be made for this item and it will be deemed that the overhaul rate includes for this activity.

C3.5.1.6.8 Cooperation with Others on the Site

The Contractor must take note that other Contractors may be on the same or adjacent sites. The Contractor shall, through the Engineer, liaise with these Contractors to ensure the smooth and uninterrupted operation of all contracts. If no specific item is included in the Preliminary and General Section, allowance for these operations shall be made in the tendered rates and no additional compensation or claims will be certified or evaluated for delays or costs that may result from work on the site by others.

If an item is included in the Schedule of Quantities, payment thereof will be made as a lump sum split over period of interaction between or among the contractor. Payment of this item will be deemed as full compensation for delays, disturbances, access, etc and no other compensation or claim will be considered or certified.

C3.5.1.6.9 Existing Premises and Adjoining Properties

When excavating within sites with existing premises, the site owner shall be notified and under no circumstances shall a trench be left open overnight.

C3.5.1.6.10 Dealing with Underground and Other Existing Services, Cable and Pipe Trenches and Covers

Any service found underground shall be assumed live or operational and shall be cared for appropriately until proven otherwise. Before executing the works, the Contractor shall compile a list of authorities responsible for the expected services. Their contact details should be within reach for in case a damage occurs.

Any service found which does not reflect on the drawing for existing services shall be so noted in the drawing and the relevant authority advised as such.

C3.5.1.6.11 Dealing with Objects of Historical or Environmental Interest

Any historical or environmental objects of interest discovered during the project execution shall be safely kept and delivered to the Employer within 48 hours. Under no circumstances should existing graves be dug.

C3.5.1.6.12 Title to Materials from Excavation and Demolition

Any materials of interest found during excavation shall be safely kept and delivered to the Employer within 48 hours. This excludes demolition materials whose rights will vest with the Contractor.

C3.5.1.6.13 Site Records

All site records (site request book, visitor's book, daily activity book, etc.) shall be kept till the issue of Certificate of Completion.

C3.5.1.6.14 Hours of Work

The hours of work shall be those reflected in the Contract Data. Contractor employees and his sub-contractors shall conduct themselves in a good and constructive manner while on site.

C3.5.1.6.15 Noise, Dust, Water, Waste and Other Impediments

The Contractor shall exercise due care to reduce noise, dust, water, waste and other impediments. In addition, his actions should not encourage soil erosion and in the event that soil erosion occurs, the Contractor shall provide mitigating measures.

Dust should be controlled by spraying with water and waste shall be disposed of appropriately. No separate payment shall be made since this activity shall be deemed to fall under Environmental Management Plan which is separately priced.

C3.5.1.6.16 Checking Work of Others

The Contractor will not be responsible for checking works of other contractors.

C3.5.1.6.17 Access for Other Contractors

The Contractor shall at all times not block access to other Contractors on site and shall advise the Engineer of any other contractor that needs to work close or adjacent to where the Contractor is working. Both contractors shall exchange contact details.

C3.5.1.6.18 Giving Notice of Work to be Covered up

The Engineer shall be advised in writing and be given adequate notice for any intention by the Contractor to cover up work.

C3.5.1.6.19 Scaffolding and Temporary Works

Any scaffolding to be erected on site shall be erected by a properly qualified person.

C3.5.1.6.20 Care of the Works, Plant and Materials

The Contractor shall remain responsible for caring of the works, plant and materials installed until the commencement of the Defects Liability Period.

C3.5.1.6.21 Establishing and Removing Equipment from the Site

The Contractor, Engineer and the CLO shall decide where the Contractor should put his camp. Upon removal of equipment from site, the Contractor shall reestablish vegetation in order to reduce the possibility of erosion.

C3.5.1.6.22 Samples and Mock Ups

At the start or any time during the project execution, the Engineer may, with the Contractor, establish a test/quality section which would serve as a benchmark for the rest of the applicable work.

C3.5.1.6.23 Progress Photographs

The Contractor shall take and keep pictures of excavated trenches, completed bedding, manhole construction, etc. to depict progress and keep records of site activities. In general, the photographs should be sufficient to give an idea of construction progress. The pictures taken shall be of e-mail quality and jpg format. The frequency of picture shall be determined by the contractor but in general shall be taken every other day. Data to be reflected on the photographs includes date and time if possible.

C3.5.1.6.24 Maintenance Until Completion

The Contractor shall maintain all installed infrastructure until it gets handed over to the Employer after which the Defects

Liability Period will be in effect.

C3.5.1.6.25 Plant Codification

There is no plant that would need to be codified.

C3.5.1.6.26 Training of Operators

Not applicable.

C3.5.1.6.27 Materials Storage Facilities and Samples for Tests and Inspections to Be Provided

The Contractor shall arrange for all his storage facilities and any samples which are to be kept for use by the Engineer to be safely kept. The Contractor shall conduct his test prior to calling the engineer to witness a test. All testing and sampling shall be in accordance with the Scope of Works.

C3.5.1.7 Quality Plans and Control

The Contractor shall test his works in accordance with the specifications and shall not conceal any failed product. There may be instances where the Engineer approves a test section which shall form a standard for all the site works. In that instance therefore, the Contractor would be assumed to have maintained the standard throughout the execution of the project.

No quality plan document is required of the Contractor but it will be expected of him to have a system of checking and confirming quality on site before such work is to be tested by the Engineer as the case may be.

C3.5.1.8 Environment

The Contractor shall develop his own plan to minimize dust nuisance, erosion, quagmire conditions, noise level, pollution of streams and any other activity that may have a detrimental effect on the environment.

The Contractor shall **provide a plan** to the Engineer stating his physical plan of project execution. This plan will not necessarily be approved by the Engineer, but he may provide comments on it for action by the Contractor.

C3.5.1.9 Accommodation of Traffic on Public Roads Occupied by the Contractor

As part of good construction monitoring activities, the Contractor will provide signage where public transport or access may be interrupted. Vehicular access interruption to site should be kept at a minimum. That is, at close of business everyday, each resident should be able to access his site with a vehicle unless proper arrangements have been made with the affected party in writing.

The work will take place in built-up areas and the Contractor shall take this into account in his program and methods of construction. He shall take special account of the following:

- (a) Pedestrian access to each erf, and
- (b) Vehicular access to specific erven can be restricted only after notice in writing, at least two days before construction.

Any additional cost incurred by the Contractor due to the above will be deemed to be covered by the tendered rates.

C3.5.1.10 Other Contractors on Site

In the event that other Contractors are assigned through separate contracts to work within or close to the site, the Employer will, if at all possible, advise the Contractor of such contractors.

C3.5.1.11 Testing, Completion, Commissioning and Correction of Defects

The Contractor is required to carry out his own process control testing and leveling at his cost, but if he so wishes, and agrees to abide by the results of the Engineer's acceptance control tests, he may dispense with his own tests. However, should the Contractor wish to use the Engineer's testing facilities, he will be charged for the various tests at the rates ruling at the time. The process control testing and leveling costs are deemed to be included in the applicable work items.

Any additional tests requested by the Contractor, or any retests required due to failure of the initial tests, will be charged to the Contractor at the rate ruling at the time.

The Contractor shall carry out all testing as prescribed in the Scope of Works or the Project Specifications. He must first satisfy himself that the minimum test criteria has been attained before calling upon the Engineer to test or witness the test.

The Contractor will be fully responsible for making corrections to the defects found on the Works prior to commissioning as appropriate and necessary.

C3.5.1.12 Recording of Weather

On daily basis, i.e. Monday to Sunday, the Contractor will take rain gauge measurements at 08h00. The rainfall data shall be kept in such a way that it is available for inspection by the Engineer and that the records are safe and written in black ink.

C3.5.1.13 Format of Communication

All communication shall be in writing and be transmitted through post, hand-delivery or by fax. An electronic communication must be followed by a telephone call to confirm receipt. All electronic communication should be sent in duplicate meaning that it must be sent to at least two recipients of the Engineer, Contractor or other. This will help guard against lost emails or those that are not responded to by the intended recipient.

The pro formas for site instructions and site requests are attached in Annexes.

C3.5.1.14 Key Personnel

The Contractor shall ensure that he deploys competent and adequate personnel on site at all times.

C3.5.1.15 Management Meetings

One of the key success factors for this project is continuous communication between the contractor and community representatives. Community participation must be allowed through the CLO. The Contractor will, therefore, be required to provide, as one of the permanent project staff, a project facilitator to liaise and communicate with the community and the labor force.

The CLO must be appointed and paid for by the Contractor for the duration of the contract.

All management meetings shall be attended by the following institutions who will have delegated authority to represent their institutions:

- ▶ Umzimkhulu Municipality
- ▶ Vuba Imagineers
- ▶ CLO
- ▶ Contractor

Monthly management meetings shall be arranged once the contractor is on site. Monthly technical meetings will only be attended by the Engineer and the Contractor.

Dates for all meetings will be publicized at project commencement.

C3.5.1.16 Forms for Contract Administration

The Contractor is expected to fill in the forms provided in the Annexure and will be discussed during monthly management meetings. These forms will assist to capture plant, rainfall readings, labor, etc. Further forms relating to labor returns will be provided to the successful tenderer.

These forms are available electronically and may be requested from the Engineer.

C3.5.1.17 Electronic Payments

The Contractor will be expected to provide full banking details in order to assist the Employer in effecting electronic payments. The minimum information required is:

- ☐ Account holder
- ☐ Account number
- ☐ Branch code
- ☐ Branch name
- ☐ Bank name

C3.5.1.18 Daily Records

The Contractor shall keep a daily record of the work force, plant and activity schedule (daily site diary) and such should be available for inspection by the Engineer or authorized individuals.

C3.5.1.19 Bonds and Guarantees

The guarantees and bonds shall be delivered to the Engineer at the address shown in the Contract Data.

C3.5.1.20 Payment Certificate

Measurements for use in preparing claims shall be done by both the Contractor and the Engineer during agreed days. **The Contractor shall not submit payment claims of less than R100 000 excluding VAT since such will not be processed.**

C3.5.1.21 Permits

No permits are required by the Contractor's staff members to gain entrance to site.

C3.5.1.22 Proof of Compliance with the Law

It will be expected that the Contractor will, at all times comply with all applicable laws. However, the Employer may, at his discretion, request proof of compliance with specific laws related to the project.

C3.5.1.23 Insurance Provided by the Employer

The Employer shall effect insurance of the Works after the issue of the Completion Certificate. The insurance, however, will not absolve the Contractor from his responsibilities during the Defects Liability Period.

C3.5.2 Health and Safety

Both the "Factories, Machinery and Building Work Act (Act 22 of 1941)" and the "Machinery and Occupational Safety Act (Act 6 of 1983)" must, wherever they appear in the COLTO 1998 standardized specifications, be replaced by the "Occupational Health and Safety Act (Act 85 of 1993)".

C3.5.2.1 Health and Safety Requirements and Procedures

The Department of Labour must be informed of the intention to commence work by use of the form bound with the forms that are to be filled by the Contractor. In addition, the Contractor's Health and Safety Plan shall be submitted by the Contractor after acceptance of the offer. The Contractor's Health and Safety Declaration must also be completed. The HIV/AIDS forms attached in ANNEXES should be completed and submitted as necessary.

C3.5.2.2 Protection of the Public

In areas where public access was prevented, the Contractor shall ensure that when the barriers are removed, safe public access is enhanced.

The Contractor shall erect danger tapes where necessary to identify, for the public, any danger zones. Danger zones will include, among others, dug holes and trenches not yet backfilled. The cost of the erection, maintenance and removal of danger tapes will be deemed to be covered by the rates for the establishment of facilities for the Contractor.

The Contractor shall at all times ensure that his operations do not endanger any member of the public.

As the various work sites fall within residential areas, the Contractor shall take special precautions to prevent public access to any danger areas.

C3.5.2.3 Barricades and Lighting

When the Contractor, after obtaining permission, has to work during night time, the proper lighting and barricading shall be done during the day such that it functions as expected at night.

All areas where excavation is not yet backfilled shall be barricaded by means of red danger tape as an absolute minimum. Barricading for extended periods of time will not be acceptable. The Contractor may have to consider backfilling.

If the natural light is inadequate for the type of work to be undertaken, the Contractor shall, at his own expense, provide adequate lighting.

C3.5.2.4 Traffic Control on Roads

All construction vehicles shall carry and operate warning lights. Where right of way is required by the construction vehicles, proper signage or control must be in place.

C3.5.2.5 Measures Against Disease and Epidemic

In order to prevent the spread of diseases and explosion of epidemics, sanitary conditions should prevail on site at all time. Quagmire conditions should be reduced and/or prevented. Appropriate protective clothing must be made available to site staff at all times.

C3.5.2.6 AIDS Awareness

The HIV/AIDS specifications reflect the minimum that a Contractor should abide by. Appropriate forms that should be used to report on HIV/AIDS awareness are contained in ANNEXES.

ANNEXES

C5.2 PROJECT SPECIFICATIONS

VARIATIONS TO STANDARD SPECIFICATIONS

1. STANDARD SPECIFICATIONS

Where reference is made to Standard Specifications in the Contract documents, it shall mean the **COLTO Standard Specification for Road and Bridge Works 1998 Edition**.

2. PROJECT SPECIFICATION CLAUSES REFERRED TO IN THE STANDARD SPECIFICATIONS, AND AMENDMENTS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

In certain clauses the COLTO Standard Specifications allow a choice to be specified in the Project Specification between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this Contract are contained in this part of the Project Specification. It also contains the necessary additional Specifications (apart from those included in other parts of the Project Specification) required for this Contract.

The clauses and payment items in this part of the Project Specification are preceded by a “PS”, followed by a number corresponding to the number of the relevant clause or payments item in the Specifications. New clauses and payment items not covered by clauses or payment items in the Standard Specification have been included and have also been designated with the prefix “PS” followed by a new number with an asterisk (*) placed superior to the number. Such clauses and items have been given a new number following upon the last number used in the particular section of the COLTO Standard Specifications referred to.

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

PS1205 WORKMANSHIP AND QUALITY CONTROL

Add the following:

The cost of the Engineer's quality control tests shall be included as a provisional sum. If however, the Contractor disputes any of the Engineer's test results, the Engineer may order that an independent laboratory should repeat such tests. If the results of the independent Laboratory confirm the Engineer's results, the Contractor shall pay for the cost of the Employer.

PS1207 NOTICES, SIGNS AND ADVERTISEMENTS

Replace the last paragraph with;

The nameboards shall be removed by the Contractor before the issue of the Final Approval Certificate.

PS1209 PAYMENT

(b) Rates to be inclusive

Add the following to the first paragraph:

VAT shall be excluded from the rates and provided for as a lump sum in the Summary of the Bill of Quantities.

(e) Materials on site

Insert the following paragraph after the last paragraph.

Before payment of materials on site is made, the Engineer may demand that the Contractor provide proof that:

- (i) material have been paid for and that ownership vests with the Contractor;*
- (ii) the material are insured for their full value; and*
- (iii) if the Contractor has not made full payment, a written undertaking shall be given by the owner to transfer ownership to the Contractor.*

The Contractor hereby agrees and accepts the ownership of materials on site, fully insured by the Contractor, shall transfer to the Employer on payment of such monies in terms of this clause.

(g)* Brandnames

Where materials have been specified by brandnames, the rates tendered will be held to have been based on that material. Other similar materials may be submitted to the Engineer for approval.

PS1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Amend the sub-clause as follows:

In (d) after the word **medians** insert, *sidewalks, pedestrian, pathways*

Add the following to the list:

- (i)* the trimming and landscaping of all diversion, spoil site, borrow-pits and quarries.*

PS1214 CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVES AND OF SERVICES MOVED, DAMAGED OR ALTERED

- (a)(iii)* the Employer will arrange for the right of access to any land outside the road reserve which the Contractor, with the approval of the Engineer, wishes to temporarily use or occupy, for the purpose of a borrow pit, spoil area, haul or construction road, traffic diversion, stockpiling of material, crushing plant or work area.*

In all such cases the Contractor shall not be required to pay compensation to the owner of the land, nor will he give any undertaking or make any promises towards landowners in this regard. The Employer himself will enter into negotiations with landowners and will then pay any compensation applicable directly to the owners.

Replace Sub-clause (b)(ii) with the following:

Compensation, if applicable, for land taken or for land temporarily used or occupied outside the area provided by the Employer.

(f)* Clearance agreements from landowners

The Contractor shall provide the Engineer with copies of all written agreements obtained from landowners under Sub-clauses (b) to (e) before the Final Certificate will be signed by the Engineer. Should any of the written agreements not be obtained from any of the landowners, the maintenance period, together with all its obligations, will be extended until such time as all the certificates are obtained.

The acquiring of any certificate shall not free the Contractor from the carrying out of his obligations to the affected landowner.

PS1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

At the end of paragraph **Method (I) (Rainfall formula)**, append the following:

Rain data applicable will be that reflected in subclause 42.2 of the Special Conditions of Contract.

PS1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED WORK IS COMMENCED

Add the following at the end of sub-clause (a)

The Contractor shall be fully responsible for the protection of underlying pavement layer and the draining and/or keeping dry of such excavations, and his planning shall make provision for the speedy back-filling and/or drainage of excavations during wet periods.

PS1230* PLANS AND OTHER INFORMATION

The reduced drawings forming part of the tender documents shall be used for tender purposes only.

Any information in the possession of the Contractor, which is required by the Engineer for completing his as-built drawings, shall be supplied to the Engineer before a Certificate of Completion will be issued.

Only figure dimensions shall be used and drawings shall not be scaled unless so instructed by the Engineer. The Engineer will supply any dimensions which may have been omitted from the drawings.

PS1231* PROTECTION OF TREES AND OF AREAS ADJACENT TO THE SITE

The Contractor shall ensure that no damage whatsoever is caused as a result of his operations or otherwise by his workmen in the areas adjacent to the Site.

No trees shall be felled without the written permission of the Engineer. Trees that are not to be felled shall not be mutilated in any way. No firewood may be collected.

No fires may be lit except at places approved by the Engineer. The Contractor shall ensure that the fire hazard on and near the Site is reduced to a minimum and shall take immediate and effective steps to extinguish any fire that may break out.

Burning of vegetation and trees cleared from the site and/or any other material may only be done on site if permitted in writing by the Engineer, and shall then be strictly controlled by a competent supervisor, shall be carried out strictly in accordance with any directions given and shall be carried out solely at the risk of the Contractor.

The Contractor shall remove rejected and surplus material, debris and rubbish at the earliest opportunity and shall on a day-to-day basis keep the Site neat and tidy to the satisfaction of the Engineer.

All scarred areas, borrow and spoil areas, cut and fill slopes, all temporary haul and access roads and tracks and any other areas where the vegetation has been removed or damaged, shall be reinstated to restore the area as possible to its original state. Such reinstatement shall include the removal of refuse, debris and construction infrastructure and materials, the scarifying of all hardened surfaces, the replacement and spreading of unused material, the correction of drainage deficiencies to provide free drainage, the flattening of cut and fill slopes and the shaping and trimming of surface, all as necessary or as directed by the Engineer.

PS1232* DEALING WITH WATER ON WORKS

For the purpose of meeting the requirements of Clause 1217, the Contractor shall provide, operate and maintain in sufficient quantity such pumping equipment, well points, pipes and other equipment as may be necessary, and he shall also provide any sumps, furrows, cofferdams and other temporary works as may be necessary to minimize damage, inconvenience or interference.

The cost of dealing with water will be held to have been included in the tendered rates of the items where dealing with water is required.

In all cases, the Contractor will be held to have made himself thoroughly conversant with Site conditions and allowed accordingly in his tender.

The Contractor shall be responsible for handling all flow in the river and subsurface water in such a way that construction can proceed with minimum risk and at no time shall river flow be blocked. To this end, the Contractor shall divert flow around the working area(s) to the Engineer's approval. The Contractor shall take particular care to ensure the safety of the Works against damage by flooding.

PS1233* MEASUREMENT AND PAYMENT

Except as provided for hereinafter the Contractor's obligations under Section 1200 will not be measured and paid for separately and compensation for the work involved in complying with these obligations will be deemed to be covered by the prices tendered for the various items of work included in this Contract.

| Item | Unit |
|--|-------------------------------|
| PS12.01* Excavation for Location, Protection, or Shifting of Existing Services | |
| (a) Excavating soft materials with pneumatic tools, back-actors or similar mechanical equipment within the following depth ranges below the surface level: | |
| (i) 0,0 m to 1,5 m | cubic metre (m ³) |
| (ii) 1,5 m up to 3.0 m | cubic metre (m ³) |
| (b) Extra-over for excavation in hard material irrespective of depth | |
| (i) Extra-over sub-item PS12.01 (a) | cubic metre (m ³) |

The provision of Clause 2218, Item 22.01 shall apply mutatis mutandis to Item PS12.01 expect that a distinction will also be made between excavations made with mechanical/pneumatic tools and those made with hand tools.

| Item | Unit |
|--|-------------------------------|
| PS12.02* Back-filling of Excavations Made for Locating, Protecting, Adjusting or Shifting Existing Services | |
| (a) Using the excavated materials | cubic metre (m ³) |
| (b) Using the imported selected material | cubic metre (m ³) |
| (c) Extra-over items PS12.02 (a) and (b) for stabilising with 3% Ordinary Portland Cement | cubic metre (m ³) |

The provisions of Clause 2218 Item 22.02 shall apply mutatis mutandis to Item PS12.02.

| Item | Unit |
|--|----------------------|
| PS12.03* Overhaul of Excavated and Backfilled Materials Hauled in Excess of the 1,0 Km - Freehaul Distance Applicable to Items PS12.01 and PS12.02 but Excluding Ordinary Portland Cement | m ³ - km' |

The provisions of Clause 2218 Item 22.25 shall apply mutatis mutandis to Item PS12.03.

| Item | Unit |
|---|--------------------------------|
| PS12.04* Keeping Pavement Excavation Dry | square metre (m ²) |

The tendered rate shall include full compensation for all activities required to keep pavement excavations dry throughout the construction period.

Payment will only be made for pavement excavations opened in existing paved roads, which are to be reconstructed.

| Item | Unit |
|---|----------|
| PS12.05* Temporary River Crossing | |
| (a) Construction, maintenance and removal on completion of temporary river crossing for Contractor's purposes | lump sum |

| Item | Unit |
|---|-----------|
| PS12.06* Use of Local Labour | |
| a. In-service training of local labour | lump sum |
| b. Management of local labour | lump sum |
| c. Community Liaison Officer: Allowance for Total remuneration paid | Prov. Sum |
| (d) Profit on Item (c) | % |

EXPLANATION

- (a) Payment of the lump sum tendered shall include full compensation for the cost of additional training including supervision, materials, plant, time and other incidentals necessary for the in-service training of local labour and will be made on a pro rata basis of the actual number of person-days worked against the total person-days tendered for local temporary labour.
- (b) Payment of the lump sum tendered shall include full compensation for any additional costs of management of local labour not included in other scheduled items such as the costs of increased supervision, administration and management and will be made on a pro rata basis of the actual number of person-days worked against the total person-days tendered for local temporary labour.
- (c) Payment to the Community Liaison Officer shall be an all inclusive amount which will be paid directly to the CLO.

| Item | Unit |
|--|-----------|
| PS12.07* Quality Assurance Testing and Monitoring | |
| (a) Engineer's quality assurance testing and monitoring exclusive of the Contractor's quality control testing and monitoring | Prov. Sum |
| (b) Profit on Item (a) | .% |

The tendered rate shall include costs associated with carrying out, by the Engineer, tests (compaction, materials parameters, concrete tubes, etc.) and monitoring (levels of finished layers, etc.) to confirm attainment of specifications. Any failed tests shall be at the cost of the Contractor. The Contractor's quality control testing and monitoring is deemed to be included in tendered sums relevant to the testing and monitoring of the specific items.

| Item | Unit |
|---|-----------|
| PS12.08* Geotechnical Investigations | |
| (a) Foundation investigations for bridges | Prov. Sum |
| (b) Borrow pit investigations | Prov. Sum |
| (c) Profit on item (a) | % |

The tendered rate shall include costs associated with carrying out, by the Engineer, materials selection, sampling, shallow and deep foundation investigations, borrow pit location and assessments, etc.

| Item | Unit |
|---------------------------------------|------|
| PS12.09* Topographical Surveys | |

| | | |
|-----|---|-----------|
| (a) | New or extension of topographical surveys | Prov. Sum |
| (b) | Profit on item (a) | % |

The tendered rate shall include costs associated with carrying out, by the Engineer, of all topographical surveys be they new or extension to existing for design purposes.

| Item | Unit |
|------|------|
|------|------|

PS12.10* EIA/EMPr auditing, monitoring and evaluation

| | | |
|-----|---|-----------|
| (a) | Compliance monitoring of EIA/EMPr during construction | Prov. Sum |
| (b) | Profit on item (a) | % |

The tendered rate shall include costs associated with carrying out, by the Engineer, all auditing, monitoring and evaluation of the approved EIA/EMPr.

| Item | Unit |
|------|------|
|------|------|

PS12.11* Health and safety auditing, monitoring and evaluation

| | | |
|-----|---|-----------|
| (a) | Compliance monitoring with health and safety issues during construction | Prov. Sum |
| (b) | Profit on item (a) | % |

The tendered rate shall include costs associated with carrying out, by the Engineer, all auditing, monitoring and evaluation of the approved Health and Safety aspects.

| Item | Unit |
|------|------|
|------|------|

PS12.12* Dealing with existing services

| | | |
|-----|--|----------|
| (a) | Allowance for dealing with existing services | Lump Sum |
|-----|--|----------|

The unit of measurement shall be a Lump Sum spent only after written instruction from the Engineer is received by the Contractor. Before payment is made, the Contractor together with the Engineer shall evaluate the costs associated with dealing with that specific service and only after an agreement shall have been reached will commencement of operations be authorized.

The tendered rate shall include full compensation for protecting, removing and relaying and backfilling underground services in accordance with the Engineer's instructions. Excavation will be measured and paid for elsewhere. All overhead services are deemed to be included in the tendered rates and no separate payment will be made for protecting and dealing with overhead services save if the service needs to be relocated in which case it will be paid under this item.

| Item | Unit |
|------|------|
|------|------|

PS12.13* Engineer's construction monitoring for the duration of the contract (specify level)

| | | |
|-----|---|-----------|
| (a) | Allowance for remuneration of the Employer's Agent for carrying out Level 2 construction monitoring | Prov. Sum |
| (b) | Profit on Item (a) | % |

SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**PS1302 GENERAL REQUIREMENTS**

- a. Camps, constructional plant and testing facilities

The offices of the contractor will also be used by the engineer only for holding site meetings. Consequently, such offices shall be furnished to allow delegates as contemplated in Paragraph C3.6.1.15 of the Scope of Works.

SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL**PS1402 OFFICES AND LABORATORIES****(h) Communication System**

Replace Sub-clause (h) with the following:

The Contractor shall supply airtime to the Engineer for use on prepaid mobile phone by his staff.

PS1407* SURVEY EQUIPMENT

The Contractor shall provide the following survey equipment for use by the Engineer:

- a. 1 x tacheometer capable of reading to 20 seconds of arc with tripod,
- b. 1 x engineer's automatic level with tripod,
- c. 1 x aluminium level staff with bubble,
- d. 1 x steel tape of length 30 m, and
- e. all steel and wood pegs, concrete, hammers, picks, etc., that the Engineer may require.

The Contractor shall provide proof, at the start of the Contract, that the level have recently been serviced by an acceptable institution and shall, throughout the construction, service and maintain all survey equipment and he shall insure same and indemnify the Employer and the Engineer against all claims for loss, breakage or theft of such equipment.

On completion of the Works, the equipment will be returned to the Contractor.

PS1406 MEASUREMENT AND PAYMENT**PS14.03 Office and laboratory fittings, installations and equipment****(a) Items measured by number**

Add the following sub-items:

- (xix) Rain gaugen umber (No)
 (xx) Contract nameboard.....n umber (No.)

SECTION 1500: ACCOMMODATION OF TRAFFIC**PS1502 GENERAL REQUIREMENTS**

Replace the heading of Clause 1502 (a) with:

Handing Over of Site

and precede the first paragraph with the following:

The entire site will be handed over to the Contractor at the commencement of the contract.

(j)* Use of the road by the public

The Contractor shall make every effort to reduce the degree of inconvenience to the traveling public. The Contractor and his workmen shall act in a courteous manner in all dealings with the public.

Failure or refusal by the Contractor to take the necessary precautions for the safety and convenience of the public as set out in the specifications or as ordered by the Engineer or required by Statutory Authority, shall be sufficient cause for the Engineer to close down all work under the contract until such time as the Contractor has complied with all requirements.

(k)* Construction vehicle and equipment

The Contractor shall fit amber flashing lights to all vehicles and plant used on the site in such a way that they are visible from any direction. The flashing lights shall be maintained in good working order and shall be switched on while the engine of the vehicle is running.

Rotating amber flashing lights shall be of the magnetic type. The traveling public shall have the right of way on public roads and the Contractor shall control the actions of his workmen and the movement of his equipment and vehicles in such a way that they will not constitute a hazard to the traveling public.

No specific payment will be made for any of the requirements in this sub-section. The Contractor's tendered rates for the relevant items in the Schedule of Quantities shall include for full compensation for all possible additional costs which may arise from the above. No claims for extra payments will be considered.

SECTION 1600: OVERHAUL**PS1602 DEFINITIONS****(a) Overhaul material**

Add the following to Sub-clause (i)

Overhaul material shall also include the following:

Any material, irrespective of the type of material, which is removed from existing pavements and spoiled, or which is hauled directly to other parts of the site or to approved stockpiles or from stockpiles to a working area.

(vii)* No overhaul shall apply to materials from commercial sources. The Contractor's tendered rates for all materials from commercial sources shall be deemed to include full compensation for hauling the materials to its point of use on site.

(c) Haul distance

Add the following paragraph at the end of this Sub-clause:

The haul distance of any material which is removed from existing pavements shall be measured along the shortest route from the place of excavation to the point of use (should the material be re-used directly) or to the approved stockpile, and the shortest distance from the approved stockpile to the point of use.

(d) Free-haul distance

Add the following paragraph at the end of this Sub-clause:

The free-haul distance in regard to any material which is removed from existing pavements shall be 1.0 km. In the case of material hauled to a stockpile and then hauled again for re-use, the free-haul distance shall apply only once.

SECTION 1700: CLEARING AND GRUBBING**PS1703 EXECUTION OF WORK****(a) Areas to be cleared and grubbed**

Delete **normally** in the first line of the second paragraph.

PS1704 MEASUREMENT AND PAYMENT**PS17.01 Clearing and grubbing**

At the end of first paragraph, add: *The removal of top soil shall be dealt with under a different payment item and is expressly excluded from the rate of this item.*

| Item | Unit |
|--|-------------------------------|
| PS17.07* Removal of top soil | |
| (a) Remove top soil and dispose of it..... | cu bic meter, m ³ |
| (b) Remove top soil and stockpile for later use..... | cu bic meters, m ³ |

The unit of measurement shall be the cubic meter of top soil removed which shall be taken to have vegetation that does not qualify to be cleared and grubbed.

The tendered rate shall include full compensation for all work necessary for excavating the top soil to depths between 150 and 400 mm, loading, removing, transporting and/or disposing of it.

SECTION 1800*: DAYWORKS**PS1801 SCOPE**

This section covers the listing of daywork items in accordance with the General Conditions of Contract Clause 6.5 for the use in determining payment for work which cannot be quantified in specific units in the Schedule of Quantities, or work ordered by the Engineer during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the Schedule of Quantities.

PS1802 ORDERING OF DAYWORKS

No daywork shall be undertaken unless written authorisation has been obtained from the Engineer.

PS1803 MEASUREMENT AND PAYMENTItemUnit**PS18.01 Personnel during normal working hours**

- | | | |
|-----|--------------------------|-----------|
| (a) | Unskilled labour..... | h our (h) |
| (b) | Semi-skilled labour..... | h our (h) |
| (c) | Skilled labour..... | h our (h) |
| (d) | Ganger..... | h our (h) |
| (e) | etc. | |

PS18.02 Plant

- | | | |
|-----|--------------|-----------|
| (a) | Specify..... | Ho ur (h) |
|-----|--------------|-----------|

PS18.03 Materials

- | | | |
|----|---|-----------------|
| a. | Procurement of materials | Provisional sum |
| b. | Contractor's handling costs, profit and all other charges in respect of Sub-item PS1803 | |
| | (a) | P ercentage(%) |

The unit of measurement for items PS18.01 and PS18.02 shall be the hour for the item of plant or personnel. Non working hours for transport breakdown, lack or operation of any other reason shall not be measured. The time shall be taken from the time that the personnel and/or plant depart until return.

Measurement shall only be for work instructed and directed by the Engineer, where the Engineer considers no other appropriate rate is available in the Schedule of Quantities. Prior to the commencement of any work by the labourers described under item PS18.01, the Contractor must obtain written consent form the Engineer regarding the classification of all labourers in terms of "unskilled", "semi-skilled" and "skilled labourers".

The tendered rates for labour for item PS18.01 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence, allowances, employer's contributions, additional payment for overtime, where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non-mechanical plant and equipment and consumable stores, for all administrative, supervisory, operative and contingent costs, relating to the supply of personnel.

The tendered rates for plant for item PS18.02 shall be an all-inclusive hire charge for the use of the vehicle and driver or plant/equipment and operator and shall apply only to vehicles plant and equipment nominated in writing by the Engineer, for all administrative, supervisory operative and contingent cost, and profit, relating to the running of the plant.

The unit of measurement for sub-item PS18.03 (a) shall be the amount actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the general conditions of contract. Only the actual quantities of materials used, as verified by the engineer, shall be paid for.

The percentage tendered for sub-item PS18.03 (b) shall be percentage of the amounts actually paid for the procurement of materials as ordered under sub-item PS18.03(a) and shall be in full and final compensation in respect of the contractor's handling costs, profit and all other charges in connection with the procurement and supply of the materials to the point of usage.

The abovementioned tendered rates shall be full compensation for the various items as specified and no further profit shall be paid.

SECTION 1900*: COMPLIANCE WITH OTHER REGULATIONS**PS1901 SCOPE**

This section covers the contractor's compliance with the following regulations: HIV/AIDS, Health and Safety, Environmental Impact Assessment issues and/or Environmental Management Program. The details regarding what is expected of the contractor are spelt out in the various Particular/Generic Specifications listed in the Scope of Work under Management section. These specifications are attached in the document and form part of the Scope of Work.

PS1902 MEASUREMENT AND PAYMENT

All measurement and payment items are contained in the relevant Particular/Generic Specifications and such specifications shall be consulted before pricing the relevant items.

SECTION 2100: DRAINS

PS2101 SCOPE

Amend the first paragraph to read:

This section covers all work both rehabilitative and new work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the Employer's Agent, and the test flushing of subsoil drains.

PS2102 OPEN DRAINS

In the third line of subclause (a) **replace** *streams* with water flow.

Replace the second paragraph of subclause (b) with the following:

Irrespective of the method of excavation whether hand or machine excavation, open drains deeper than 1,5 m, such as median drains, side drains and open drains on excavation-slope benches, shall be classed as "cut" and shall be measured and paid for under section 3300, provided they fall under the above dimensional limits. Where on account of the shape of such open drains, excavation by bulk excavating equipment is not possible and either hand excavation or special excavating equipment, such as tractor loader bucket, or similar equipment, would be required, such excavation shall be classified as open-drain excavation for payment.

Replace the first and second paragraph of subclause (c) with the following:

- (c) Open drains shall be constructed within 5 % true to line, grade and cross-section and shall be so maintained for the duration of the contract. Open drains shall at all points be graded to flow in the direction of intended flow without low points where water may pond.

Care shall be taken to avoid excavation below the required grades for the open drains and any excavation carried out below the required grade shall be backfilled with material of minimum G7 quality and compacted to at least 93 % of MDD density by the Contractor at his own cost.

PS2103 BANKS AND DYKES

At the end of the first paragraph **add** the following:

Where open drains with bank/dyke are constructed as combination, excavation and fill shall be measured and paid for separately.

In the second paragraph **replace** 90 % of modified AASHTO with 93 % of MDD

PS2104 SUBSOIL DRAINAGE

Delete the subclauses (a), (b) and (c) and **replace** with the following:

- (a) *Materials*

- (i) *Pipes*

The pipes for subsoil drainage systems to be used shall be either unplasticised PVC (PVC-U) pipes or high-density polyethylene (HDPE) pressure pipes with smooth inner bore and internal diameters as indicated on the drawings or in the Contract Documentation. Pipes shall have the specified internal diameter, which shall be not less than 100 mm (except for composite subsoil drainage systems), and shall be one of the following types:

- (1) *PVC-U pipes complying with SANS 791 for solid wall pipes (category-heavy duty) or SANS 1601 for structured wall pipes (stiffness class 350), which may be slotted or perforated for drainage inflow as specified. The carrier portions of pipes shall not be slotted or perforated.*
- (2) *HDPE pipes to be used with aggregate filled subsoil drains systems shall be slotted or perforated for groundwater in-flow as specified. HDPE pipes shall have a ring stiffness >450 kPa and slotted/perforated with 30 % solid invert and of twin wall construction, with a smooth inner bore and ribbed outer wall. The carrier portions of pipes shall not be slotted or perforated.*

The size of perforations in perforated pipes shall in all cases be 8 mm in diameter \pm 1.5 mm and the number of perforations per meter shall not be less than 26 for 100 mm diameter pipes and 52 for 150 mm diameter pipes. Perforations shall be spaced in two rows for 100 mm pipes and as shown on the drawings for 150 mm pipes.

Slotted pipes shall have a nominal slot width of 8 mm \pm 1.5 mm. The arrangement of slots shall be 240 degrees of the circumference with the flow channel invert of 120 degrees. The total slot area shall not be less than that required for perforated pipes.

- (3) Pipes for geocomposite fin type subsoil drainage systems may be HDPE, extruded into an open lattice wall structure with a wall thickness of minimum of 5 mm. Of the circumference area, 70 % shall consist of an open structure, and the remaining 30 % being the invert, shall be solid. Openings in the mesh structure shall be greater than 5mm but less than 12 mm in size. Alternatively, PVC-U or HDPE pipes as specified above for aggregate filled drains may be used. The water infiltration capacity of the all types of pipes under a 200 mm static head shall not be less than 20 litres per second per metre pipe length (ℓ/s/m) for 65 mm diameter pipes; not less than 55 ℓ/s/m for 100 mm diameter pipes and not less than 80 ℓ/s/m for 150 mm diameter pipes.

All slotted or perforated pipes shall retain 30 % of the pipe invert for conveyance of drainage and the top of the pipes shall externally carry a longitudinal marker line to ensure that pipes are correctly placed during construction.

Pipes without slots or perforations required for conveying ground water from the subsoil drainage proper, to the point of discharge, shall be PVC-U or HDPE pipes of the types specified.

Pipes must be stored in a shaded area without exposure to direct sunlight, and stacked according to supplier's instructions.

(ii) Natural and crushed permeable material

Natural permeable filter materials for subsoil drainage shall consist of sand and/or crushed stone of suitable grading. Natural permeable materials shall conform to the following requirements:

Sand used for natural permeable material shall be clean, hard sand obtained from approved sources. The sand shall comply with the requirements of SANS 1083, Table 1: Fine aggregate for concrete, and shall be either coarse, medium or fine grade as specified. The nominal maximum particle size for the various grades shall be as shown in Table PS2104/1, and all sand shall be washed clean with not more than 2 % of the material passing through the 0.075 mm sieve.

TABLE PS2104/1 NATURAL PERMEABLE MATERIALS: SAND

| Grade | Nominal maximum particle size (mm) |
|--------|------------------------------------|
| Coarse | 5 |
| Medium | 2 |
| Fine | 0.2 |

Crushed stone used for natural permeable material shall comply with the requirements given in SANS 1083: Table 2: Coarse aggregate for concrete (new sieve sizes), and shall be either be fine (14 mm nominal size) or coarse (20 mm nominal size) grade as specified. Crushed stone shall be washed clean with not more than 2 % of the material passing through the 0.075 mm sieve.

When no suitable sand and/or crushed stone is available from borrow pits or designated quarries, the Employer's Agent may require that it be procured from commercial sources.

(iii) Geotextiles

Should the use of geotextiles be specified in subsoil drainage systems, or as filter separation blankets, or for any other purposes, it shall comply with the requirements as specified herein.

The geotextile required for each specific purpose, shall satisfy the criteria given in Table PS2104/2 for the grade of geotextile specified in the schedule of quantities, drawings and/or Contract Documentation for that purpose.

The geotextile used for subsoil drains shall be grade 2 or 3, and grade 1 for separation blankets with a filtration function; or as specified by the Employer's Agent.

Geotextiles shall be stored under suitable cover and shall not be exposed to direct sunlight periods in excess of 30 days and shall be protected from mechanical damage during delivery and construction.

(1) Composition and manufacturing

The geotextile shall be manufactured from a synthetic polymer, processed into a permeable, homogeneous sheet. The sheet shall be of non-woven needle punched and mechanically bonded construction.

On account of the temperature and moisture susceptibility of polyamide, this synthetic product is not considered acceptable.

(2) Classification

The geotextile shall be classified according to the mechanical properties thereof, in terms of its strength, penetration load, puncture resistance and the minimum water-percolation rate or through flow as measured in the permeability test. Table B2104/2 shall be used for determining the grade of a geotextile.

TABLE PS2104/2 GRADE CLASSIFICATIONS OF GEOTEXTILES

| Properties | | Units | Grade | | | Test Method |
|---------------------------|------------------|---------------------|--------------------|---------|------|----------------------|
| | | | 1 | 2 | 3 | |
| Tensile Strength | minimum | kN | 16 | 12 | 7 | SANS 1525/ISO 10319 |
| | elongation | % | 40-60 | | | |
| Trapezoidal Tear Strength | minimum | N | 600 | 440 | 240 | ASTM D4533 |
| Penetration Load | minimum | N | 3500 | 2400 | 1500 | SANS 12236/ISO 12236 |
| Puncture Resistance | Max Diam of Hole | mm | 18 | 26 | 32 | SANS 13433/ISO 13433 |
| Water Percolation | minimum | l/m ² /s | 40 | | | SANS 11058/ISO 12958 |
| Permeability | @ 50mm head | m/s | 5x10 ⁻³ | | | SANS 11058/ISO 12958 |
| Pore Size | O95W | μm | 100-200 | 150-250 | | SANS 12956/ISO 12956 |

Notes:

-The standard equivalent atmosphere for testing and the preconditioning atmosphere for all geotextile tests (SANS tests and other) shall have a relative humidity falling within the range of 0 to 80 per cent and a temperature within the range of 15°C to 35°C.

-The resistance of a geotextile to puncture is the average diameter of the hole formed when a 45 degree pointed cone with a mass of 1 kg is dropped through 500 mm height onto the geotextile fixed in the holding device.

(3) Durability

A geotextile is required to comply with the following durability specifications:

-Resistance to chemical attack

The geotextile shall withstand the level of aggressiveness of the soil and ground water given below without significant loss of its strength and hydraulic properties during its design life of 25 years.

The geotextile shall withstand soil and ground water with a pH in the range of 4 to 9 (pH to be determined by SANS 10224, SANS 3001).

The geotextile shall withstand soil (as paste) and ground water containing salts with a conductance of up to 1.0 S/m (conductivity to be determined by SANS 10224, SANS 3001).

-Resistance to ultra-violet light

The geotextile shall maintain at least 80 % of its original strength after direct exposure to sunlight of 1500 hours as determined under ASTM D5355 or ASTM D7238 and EN ISO 12224.

-Resistance to rot

The geotextile shall be manufactured of an entirely rot-proof polymer.

(4) Selection

The geotextile required shall satisfy the criteria for a grade 1, 2 and/or 3 geotextile for the selected application as specified in the schedule of quantities, drawings or Contract Documentation and shall satisfy the criteria for this grade of geotextile as given in Table PS2104/2.

The Contractor shall, at least 45 days before the installation of the geotextile(s), submit to the Employer's Agent samples and the specifications of the geotextile he proposes to use, to enable the Employer's Agent to verify the suitability and confirm the use thereof and ensure that the geotextile meets the design requirements as well as is suited to the insitu conditions and materials to be drained. No extra payment shall be made for providing the samples required by the Employer's Agent.

(5) *Testing*

The Contractor shall, at his own cost, submit a certificate by an approved laboratory to prove compliance with specified tests as stated in section 8100. Alternatively, verifiable testing by the supplier may be submitted for approval to the Employer's Agent.

The tests to be carried out on geotextiles relate to the material and the method of manufacture and are mainly to ascertain that the correct grade and type of geotextile is supplied, and that the material is equivalent in quality to that specified for use in the works. This includes geotextile qualities regarding soil retention; permeability; clogging; durability and strength. Compatibility testing can be done for filtration using the ASTM D5101 - Measuring the Soil-Geotextile System Clogging Potential by the Gradient Ratio.

(6) *Polymer film sheeting*

Plastic for subsoil drainage systems to be used shall be polymer film type sheeting of 150 to 250 micron (0.15 to 0.25 mm) thickness, complying with SANS 952-1.

(7) *Concrete*

All concrete work shall be carried out in accordance with the requirements in Sections 6200, 6300 and 6400 of these specifications, read together with the provisions of this Section. Cement shall comply with SANS 50197-1 for CEM I or CEM II with a strength class of 32.5 or greater, and a rate of strength gain of N or greater.

Unless the Contractor obtains the concrete from a commercial concrete supplier, the Contractor shall be responsible for providing suitable materials, determining the mix proportions and manufacturing the concrete of the required quality to comply with SANS 50206.

The mix design shall be based upon obtaining an average concrete compressive strength sufficiently above the specified characteristic compressive strength so that, considering the expected variability of the concrete and test procedures, no more than 5 percent of strength tests will be expected to fall below the specified characteristic compressive strength.

Where concrete is supplied by a commercial source outside the direct control of the Employer's Agent, the concrete supplier shall ensure compliance with the requirements of SANS50206 (SANS878), and the Contractor shall take full responsibility to implement acceptance control testing in accordance with the specification.

All concrete mixed on the site of works shall be weigh-batched unless the Contractor can demonstrate to the Employer's Agent that his method of proportioning the concrete ingredients consistently produces uniform concrete, which meets the strength requirements.

Concrete shall be properly mixed to a uniform consistency. The total period between the times that the cement is placed into the mix until mixing starts shall not exceed 15 minutes.

Concrete shall be so transported to its final position that segregation or loss of any of the ingredients or contamination will be prevented and that the mix is of the required workability at the point and time of placing. It shall be protected against rain, heat, direct sunlight and/or evaporation by means of covers. No additional water may be added in transit or where delivered or placed.

The time lapse from the start when the concrete is mixed up to the time of placing and compacting the concrete shall not exceed 45 minutes in mild weather or 30 minutes when the concrete temperature is 30oC or higher.

(8) *Galvanised woven wire mesh*

Galvanised woven wire mesh manufactured from 3,5 mm dia wire, 250 mm x 250 mm in area, with a 12 mm x 12 mm mesh size, shall be built into the outlets of subsoil drainage systems as specified.

Galvanised woven wire mesh shall comply with the requirements of SANS 675.

(b) *Construction of subsoil drainage systems*

(i) *With natural permeable material*

Trenches required for subsoil drainage systems shall be excavated to the dimensions and gradients shown on the drawings or as specified by the Engineer, neatly trimmed to line and level. In case of deeper excavations, or excavations in unstable or saturated ground, the Contractor shall take all necessary steps to assure the safety of such excavations and to ensure that specified lines and levels are complied with. Such steps may entail the provision of temporary shoring or battering of side slopes. All such steps shall be deemed to be included in the tendered rates for excavations.

A layer of natural permeable material of the grade and thickness as shown on the drawings shall be placed on the bottom of the trench and be lightly tamped and finished to the required gradient.

Pipes of the type and size specified shall then be firmly bedded on the natural permeable material, true to line and level, and be coupled in accordance with the pipe manufacturer's requirements. Thereafter the trench shall be backfilled with the specified natural permeable material to such height above the pipes as shown on the drawings or as specified by the Engineer. The natural permeable material shall be lightly compacted and trimmed to the required level. Further layers of finer specified natural permeable material shall then be placed, in layers not exceeding 300mm in thickness at a time lightly compacted and finished to an even surface, as specified by the Engineer. The remainder of the trench, if any, shall be backfilled with approved impermeable material and as specified by the Engineer, in layers not exceeding 100 mm, and compacted to at least the same density as the surrounding material. The trench shall be specially protected against the ingress of water until the impermeable layer has been completed. The width of the backfill as measured for payment shall not exceed the specified width of the trench.

The total thickness of each type of natural permeable material shall be carefully controlled for thickness and level, using suitable spacers where required. When successive layers are placed, the lower layer shall not be walked on and, as far as possible, shall not be disturbed. Care shall be taken to prevent the contamination of natural permeable material during construction of the subsoil drainage system and all natural permeable material contaminated by soil or silt shall be removed and replaced by the Contractor at his own cost.

Perforated and slotted pipes shall be joined by means of couplings, the provision and installation of which shall be deemed to be covered under the rates for the pipes. Perforated pipes shall be laid with perforations either at the top or bottom as specified on the drawings, specifications or specified by the Engineer.

The higher end of each subsoil drainage pipe shall be sealed off with a loose concrete cap of class 20/20 concrete, as shown on the drawings and at the lower end, the pipe shall be built into a concrete head wall providing a positive outlet, or it shall be connected to structures for stormwater pipes or concrete culverts. The complete system, together with head walls, shall be constructed in one process starting at the lower end. No continuous section of subsoil drain shall be longer than 80m long and cleaning eyes constructed in accordance with the details shown on the drawings shall be spaced at a maximum spacing of 80 m.

Any section of a subsoil drainage system constructed of pipes without perforations or slots shall be backfilled with impermeable backfill material as described herein. Where suitable, the excavated material may be used for backfilling.

(ii) *With polymer film lining to trenches for subsoil drainage systems*

Where shown on the drawings or specified by the Engineer, trenches for subsoil drainage systems shall be lined with approved polymer film sheeting 0.15 mm or 0.25 mm thick as shown on the drawings or specified in the Contract Documentation. The polymer film sheet shall cover the bottom of the trench and shall extend upwards on both sides for as far as may be specified by the Engineer in each particular case, in order to form a waterproof channel. At joints the polymer film sheeting shall be heat welded together or lapped by a minimum of 200 mm. Lapping shall be in direction of the flow of water.

Pipes of the type and size specified shall be installed as specified, true to level and grade, and be coupled in accordance with requirements.

When backfilling the trench with the specified natural permeable material, care shall be taken not to displace or damage the polymer film lining in any way. The use of plastics other than polymer film will be considered, provided that the material is proven to the Engineer to be of equal or better quality.

(iii) *With geotextiles*

Where specified that geotextiles shall be used for lining in subsoil drainage systems, it shall be procured, furnished and installed as specified and shown on the drawings. The lining shall not be displaced or damaged in any way when the trench is being filled with the specified natural permeable material. The geotextile shall be lapped both longitudinally and transversely by at least 300mm or as specified by the manufacturers. The longitudinal lap shall be positioned on top of the

box forming the drain and shall be stitched together with plastic/galvanised wire or strong synthetic thread at one metre intervals. The transverse lap shall be in the direction of flow.

Pipes of the type and size specified shall be installed as specified, true to line and grade, and be coupled in accordance with the pipe manufacturer's requirements.

(iv) *With composite in-plane drainage systems*

Wherever specified, composite in-plane drainage systems shall be constructed in accordance with the details shown on the drawings and in accordance with the manufacturer's requirements. The elements of the system shall be assembled above ground in manageable lengths, and all exposed surfaces shall be sealed with an approved geo-fibre seal. The trench sides shall be vertical, and the composite in-plane system shall be installed against the side through which the subsoil flow is expected. The trench shall then be backfilled with natural permeable sand, which shall be saturated with water after placement, up to the prescribed level. The upper part of the trench shall be backfilled with impermeable material, which shall be compacted to the density of the surrounding material, in layers not exceeding 100 mm in thickness.

(v) *Proving of pipes in subsoil drainage system*

The laying of slotted/perforated pipes supplied in coils shall be subject to providing a method statement which includes proving during installation, to ensure that the invert is accurately installed.

On completion of the pipe laying and prior to backfilling over pipes, all pipe joints shall be surveyed as proof of their installation to line and grade. After backfilling, the pipes shall be proved by pulling through a cylindrical cleaning brush followed by a wooden mandrill $\pm 400\text{mm}$ long and 5mm in diameter less than the bore of the pipe. Proving of installed pipes shall not be paid for separately and the cost thereof shall be deemed to be included in the rate tendered for laying the pipe.

(c) *Test flushing*

Final acceptance of longitudinal subsoil drains constructed by the contractor will be subject to satisfactory test flushing after completion and installation of the rodding eye inlets. Flushing tests shall be carried out in the presence of the Engineer's representative by flushing the drain and metering the outflow to ensure the drain is clear of blockage. Should blockages be apparent the Contractor shall locate and clear the obstruction and repeat the test.

Proving of the lack of obstructions may also be undertaken by camera equipment inserted into the subsoil drains should this be specified by the Engineer.

PS2105 CLASSIFICATION OF MATERIALS

Replace the paragraphs with following:

All excavations for open drains and subsoil drainage systems shall be excavated in the position and to the required dimensions. Overbreak in width or depth, unless specified by the Engineer, shall be filled and compacted by the Contractor and shall not be measurable for payment.

All excavations under this Section shall be classified as follows for payment purposes:

Hard material

Material which cannot be excavated except by drilling and blasting, or with the use of pneumatic tools or mechanical breakers,

and

Boulders exceeding 0.1 m^3 ; where more than 40 % by volume of any material consists of boulders, each exceeding 0.1 m^3 in size, the volume of material so defined shall be classified as hard material

Existing stabilised road layers

Existing layer material which has been stabilised (irrespective of stabilising agent) and requires careful cutting and excavation without damage to surrounding existing road layers, by whichever method.

Soft material

All material not classified as hard material or existing stabilised road layers shall be classified as soft material.

PS2107 MEASUREMENT AND PAYMENT

Item

Unit

PS21.01 Excavation for open drains:

Amend subitem 21.01(b) to read as follows:

(b) *Extra over subitem 21.01(a) for excavation in hard and boulder material, irrespective of depth* cubic metre (m³)

Add the following subitem:

(c) *Extra over subitem 21.01(a) for excavation in existing stabilised road layers, irrespective of depth* cubic metre (m³)

Replace the second sentence of the first paragraph with the following:

Only excavation for open drains as defined in subclause PS2102(b) shall be measured.

Add the following sentence at the end of the second paragraph:

Payment made for either hard, boulder or stabilised existing road layers shall only be measured for the one applicable extra over category.

Replace the third paragraph with the following:

The tendered rates shall include full compensation for the excavation of the material to the required dimensions, lines, levels and grades, the trimming of the open drain and the loading and disposal/utilisation of the material as directed, including a free-haul over a distance of 1.0 km.

Replace the fourth paragraph with the following:

For payment purposes a distinction shall be made between materials as defined in clause PS2105.

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

PSB21.03 Excavation for subsoil drainage systems

Amend subitem 21.03(b) to read as follows:

(b) *Extra over subitem 21.03(a) for excavation in hard and boulder material, irrespective of depth* cubic metre (m³)

Add the following subitem:

(c) *Extra over, subitem 21.03(a) for excavation in existing stabilised road layers, irrespective of depth* cubic metre (m³)

Add the following sentence at the end of the first paragraph:

Payment made for either hard, boulder or stabilised existing road layers shall only be measured for the one applicable extra over category.

Replace the second paragraph with the following:

The tendered rates shall include full compensation for the excavation of the material to the required dimensions, lines, levels and grades, the trimming of the open drain and the loading and disposal/utilisation of the material as directed, including a free-haul over a distance of 1.0 km. For payment purposes a distinction shall be made between materials as defined in clause PS2105.

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

PS21.04 Impermeable backfilling to subsoil drainage systems

Add the following new subitems

(a) *Un-stabilised natural gravel obtained from:
(state approved sources on the site or commercial sources)* cubic metre (m³)

(b) *G5 material obtained from:*
(state approved sources on the site or commercial sources) cubic metre (m³)

(c) *Extra over subitems PS21.04(a) and (b) for stabilisation with 4.0 % CEM II (32.5) cement* cubic metre (m³)

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS21.05 Banks and dykes

Add the following sentence at the end of the first paragraph:

Where open drain with bank/dyke combinations are constructed, excavation shall be measured and paid under item PS21.01.

| Item | Unit |
|------|------|
|------|------|

Amend items 21.06 and 21.07 to read as follow:

PS21.06 Natural permeable material in subsoil drainage systems (approved washed crushed-stone):

PS21.07 Natural permeable material in subsoil drainage systems (approved washed sand):

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

Amend items 21.09 and 21.10 as follows:

PS21.09 Polymer film sheeting (state thickness), or similar approved, for lining subsoil drainage systems:

PS21.10 Geotextiles (indicate type, grade, etc.):

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS21.12 Concrete outlet structures, manhole boxes, junction boxes, and cleaning eyes for subsoil drainage systems:

In the second paragraph **replace** *compacting to 90% of modified AASHTO density*, **with** *compacting to 93% of MDD*.

Add the following paragraph:

The tendered rate shall also include full compensation for procuring and finishing the galvanised woven wire mesh, cutting, waste, installing the wire mesh at outlets and keeping the wire mesh in the pipe openings clean for the duration of the contract period.

Amend item 21.13 to read as follows:

PS21.13 Caps for subsoil drain pipes as specified:

| | |
|--------------------------|-------------|
| (a) <i>Concrete caps</i> | number (No) |
|--------------------------|-------------|

| | |
|---------------------------------|-------------|
| (b) <i>Cast iron metal caps</i> | number (No) |
|---------------------------------|-------------|

| | |
|--|-------------|
| (c) <i>Other caps (Glass fibre reinforced, PVC etc.) (specified)</i> | number (No) |
|--|-------------|

Add the following new items:

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

| | |
|---|---|
| <i>PS21.20 Exposing of existing subsoil drains</i> | <i>cubic metre (m³)</i> |
|---|---|

The unit of measurement shall be the cubic metre of material removed to expose the subsoil drain for the purposes of refurbishment existing subsoil drains. This item shall not be applicable in cases where complete substitution or replacement of existing subsoil drains is specified.

The tendered rate shall include full compensation for all labour and tools required for removing the material. The re-instatement of the subsoil drain elements, as may be specified, shall be paid for under the relevant items for constructing a new subsoil drain.

PS21.21 Breaking into existing drainage structures and install subsoil drain pipe**number (No)**

The unit of measurement shall be the number of subsoil drain pipes built into existing drainage structures in accordance with the details on the drawings or as specified by the Employer's Agent.

The tendered rate shall include full compensation for supplying all labour, constructional plant and materials required, for all excavation, breaking into existing drainage structures, building pipes into the newly formed accesses, sealing around the pipes and making the joints watertight, breaking out existing benching and channeling where required and reconstructing them complete with granolithic rendering to suit the new pipe arrangement, backfilling and compacting to 93 % of MDD, transporting (including all haulage) and disposing of all surplus excavated material and debris to approved dumping sites provided by the Contractor, and dealing with the flows in the existing structures.

No distinction will be made between different types of structures, or diameters of subsoil drain pipes.

PS21.22 Clearing of existing subsoil drains:

- | | | |
|-----|----------------------------------|-----------|
| (a) | Cleaning rod, brush and flushing | metre (m) |
| (b) | Hydro jetting | metre (m) |

The unit of measurement for subitem (a) clearing of existing subsoil drains shall be the metre of drain cleared with a sewer cleaning rod and brush, thorough flushing and mandrill testing.

The unit of measurement for subitem (b) hydro jetting will include the establishment on site, hydro jetting and vacuuming of specified drains at various locations on site.

The tendered rates shall include full compensation for all labour, equipment, tools, water and transport required for clearing existing subsoil drains and for disposal of the cleared material to approved sites."

SECTION 2200: PREFABRICATED CULVERTS

PS2201 SCOPE

Add the following:

This section also covers the replacing and/or lengthening of existing culverts, modification of and repairs to existing catch pits.

PS2203 MATERIALS

Replace the first paragraph with the following:

The material specifications are the required specifications for the materials as placed and/or processed in its final position.

It is the Contractor's responsibility to ensure that the materials delivered to the site shall meet these specified requirements.

Prior to the manufacture of any prefabricated units by the Contractor's manufacturer, the manufacturer shall submit his Quality Plan to the Employer's Agent to verify that all prefabricated units will be manufactured in full compliance with the relevant SANS requirements. No prefabricated units shall be ordered until the Employer's Agent has satisfied himself that the proposed units have been or will be manufactured to the required specifications and tolerances as well as the load bearing requirements. In particular the manufacturer shall check each prefabricated portal culvert unit for steel cover compliance, and random checking of units shall not be accepted. The Employer's Agent's representative may visit the factory at any stage to ascertain adherence to the quality plan. Should the manufacturer fail to adhere to their Quality Plan the Employer's Agent may exercise the right to reject the use of products from the manufacturer concerned. No claim from the Contractor for any resultant cost or delay due to such rejection, and due to procurement from a new manufacturer, shall be entertained.

Materials removed under this section from existing works, except where excavated materials are specified to be reused or disposed of, or except where provision has been made in the schedule of quantities for their reuse or specific disposal, shall be deemed to be the property of the Contractor.

(a) Prefabricated concrete pipe culvert units

Add the following to this subclause:

All broken, bent, chipped, cracked, dented, corroded or otherwise damaged or substandard units shall be repaired to the Employer's Agent's specification or, where this is not acceptable or does not comply with the relevant SANS specification, they shall be removed and replaced with undamaged units, at the Contractor's cost.

(b) Portal and rectangular prefabricated concrete culvert units

Add the following to this subclause:

For durability requirements, due to the reduced cover provided for pre-cast culverts all durability testing shall be done in accordance to Clause PS6404(h) shall fall within the severe category. For units within the 5km zone from the coast the very severe category shall be used and increased cover shall be as specified by the Employer's Agent.

Portal and rectangular prefabricated units shall be transported and handled with sufficient care to prevent stressing, cracking or damage to the unrestrained elements of the units. Cracks or damage shall constitute adequate reason for rejection by the Employer's Agent or required confirmation by the manufacturer of their serviceability.

All broken, bent, chipped, cracked, dented, corroded or otherwise damaged or substandard units shall be repaired to the Employer's Agent's specification or, where this is not acceptable or does not comply to the SANS specification, they shall be removed and replaced with undamaged units, at the Contractor's cost.

Slab units which are thinner than the specified thickness, or which may exhibit signs of substandard work shall be removed and replaced with units which conform to the specifications.

Replace subclause (g) Defects and its contents with the following:

(g) U-PVC culverts

U-PVC culverts shall comply to the requirements of SANS 791 for solid wall pipes (category-heavy duty), and shall have socketed ends should joining be required.

Add the following subclause:

(j) Steel reinforcement

All steel reinforcement work shall be carried out in accordance with the requirements of Section 6300.

PS2204 CONSTRUCTION METHODS

Replace paragraphs after subclause (b) with the following:

If lengthening of existing culverts are specified such lengthening shall generally be according to the "embankment method". The Contractor shall at all times ensure that the existing drainage is at all times maintained and any damage caused as a result of blocked culverts during construction shall be repaired at the Contractor's cost.

All new prefabricated culverts/portals shall be installed by the "trench method", unless specified otherwise by the Employer's Agent.

The bottom of the excavation for culverts that are to be replaced or lengthened shall be inspected by the Employer's Agent prior to the placing of the bedding material.

Where the material is found to be unsuitable, it shall be removed to a depth specified by the Employer's Agent and then replaced with selected material compacted to at least 93 % MDD in layers not exceeding 150 mm thickness.

Design invert levels of drainage culverts shall be verified on site by the Employer's Agent with the assistance of the Contractor before installation of new or lengthened culverts may commence.

In all cases where soft founding material is classified as suitable for bedding construction, the in-situ material shall be scarified, moistened and compacted to a depth of 150 mm below founding level to 93 % MDD, as specified by the Employer's Agent. The depth of preparation and compaction of founding material shall be as indicated on the drawings or as specified by the Employer's Agent.

The larger sizes of portal or rectangular culverts shall normally be constructed by the embankment method.

Surface drainage shall be controlled by the construction of temporary earth berms and drainage diversion channels.

The Contractor shall strictly comply with all the appropriate statutory safety provisions in regard to trench excavations.

PS2205 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

(b) Width of excavation

Add the following paragraph after the first paragraph:

The width of excavation shall be as indicated on the drawings. The specifications given elsewhere in this section for backfilling the culverts shall apply mutatis mutandis to pipe culverts, inlet and outlet structures, catchpits and manholes.

PS2207 UNSUITABLE FOUNDING CONDITIONS

Amend the last three lines of the second sentence of the first paragraph to read as follows:

... or other approved material, such as rockfill, drainage layer material or natural permeable material (approved wash crushed stone) compacted in accordance with specifications or as instructed by the Employer's Agent. Such material shall be classed as backfill for purposes of payment.

PS2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS

(a) Concrete pipe culverts

(iv) Rock foundation

In the first and third paragraphs **amend Class B to read Class C.**

(b) Portal and rectangular culverts

(iii) Placing the portal portions of culverts

Add the following:

The upper portion of portal and rectangular culverts shall not be placed until the in situ concrete floor slab has attained half its 28 day strength. Furthermore, on completion of backfilling, no traffic, including construction traffic, shall be permitted over the complete culvert until the in situ concrete has achieved its 28 day strength.

PS2211 BACKFILLING OF PREFABRICATED CULVERTS

Amend the first line of the second paragraph to read as follows:

The material used for the backfilling alongside the culvert shall be selected material of at least G7 quality or other material as instructed by the Employer's Agent.

In the last sentence of the fourth paragraph **amend** 90% of modified AASHTO density **to read** 93% of MDD.

In the ninth paragraph **amend** Portland cement **to read** CEM II class 32.5 cement.

PS2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES

(e) **Manhole covers, grid inlets, etc.**

Replace the first paragraph with the following:

Manhole covers and frames, grid inlets and accessories of metal, or non metal composition shall be supplied and/or manufactured in accordance with the details shown on the drawings and be of the size and type indicated. Frames, grid inlets and covers which are of project specific requirements shall be manufactured and installed as indicated on the drawings, and all steel elements shall be galvanised in accordance with SANS 121. Frames, grids/gratings covers and accessories of cast iron, synthetic or composite materials shall comply with the requirements of SANS 558, SANS 1115, or SANS 50124 and be of the strength class, size and type specified.

PS2215 SERVICE DUCTS

Insert the following at the end of the first paragraph:

(v) *HDPE Sleeve Pipes*

HDPE sleeve pipes shall be:

- *Corrugated cable ducts complying with the requirements of SANS IEC 61386-24: 2005 for sleeves to be laid in trenches.*
- *HDPE pipes for drilling shall be manufactured from PE63 – PN4 and shall comply with the requirements of SANS 427.*

Add the following at the end of the penultimate paragraph:

Before closing, all sleeves or ducts shall be proved as specified in sub-sub-clause B2104(b)(v).

PS2218 MEASUREMENT AND PAYMENT

Item

Unit

PS22.01 Excavation

Amend subitem 22.01(b) to read as follows:

Extra over subitem 22.01(a) for excavation in hard and boulder material, irrespective of depth

cubic metre (m³)

Add the following subitems:

(c) *Extra over subitem 22.01(a) for excavation in existing stabilised road layers, irrespective of depth*

cubic metre (m³)

(d) *Extra-over subitem 22.01(a) for excavation by hand*

cubic metre (m³)

Replace the sixth paragraph with the following:

For payment purposes a distinction shall be made between materials as defined in clause PS2105. Payment made for either hard, boulder or stabilised existing road layers shall only be measured for the one applicable extra over category.

Add the following paragraphs:

The unit of measurement for subitem (d) shall be the cubic metre of material excavated by means of labour using hand tools only. This item shall only apply where the dimensions of the area to be excavated are such as to render excavation by machinery impractical and where the Employer's Agent has specifically ordered or authorised excavation by hand. This item shall not apply where machine excavation would have been possible but the contractor chooses to use hand excavation instead.

The tendered rate for subitem (d) shall be additional to the rates tendered for subitem (a) and include full compensation for all additional costs in excavating the material using hand held tools.

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS22.02 Backfilling:

Amend subitem (a) to read as follows:

| | | |
|-----|--|-------------------------------|
| (a) | Using excavated material within 1,0 km | cubic metre (m ³) |
|-----|--|-------------------------------|

Amend subitem (b) to read as follows:

(b) Using imported selected material:

| | | |
|------|--|-------------------------------|
| (i) | From commercial sources (state type) | cubic metre (m ³) |
| (ii) | From approved sources on site (state type) | cubic metre (m ³) |

Amend subitem (c) to read as follows:

(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling:

| | | |
|-----|---|-------------------------------|
| (i) | With wet mixture of approved backfill material mixed with 5% CEM II class 32.5 cement | cubic metre (m ³) |
|-----|---|-------------------------------|

| | | |
|------|---|-------------------------------|
| (ii) | With stiff mixture of approved backfill material mixed with 3% CEM II class 32.5 cement | cubic metre (m ³) |
|------|---|-------------------------------|

Replace the third and fourth paragraphs with the following:

The tendered rates for subitems (a) and (b) shall include full compensation for backfilling with specified approved material under, alongside and over culverts and associated structures, for watering, and for compacting the specified approved backfill material to the specified density. The tendered rate for subitem (a) shall, in addition, include full compensation for procuring, furnishing and hauling of specified approved backfill material from excavations within 1.0 km. The tendered rate for subsubitem (b)(i) shall, in addition, include full compensation for procuring, furnishing and hauling of specified approved backfill material from commercial sources irrespective of haul distance. The tendered rate for subsubitem (b)(ii) shall, in addition, include full compensation for procuring and furnishing of specified approved backfill material from approved sources on site further than 1.0 km, including a free haul of 1.0 km.

The tendered rates for subsubitems (c)(i) and (c)(ii) shall be additional to the rates tendered for subitems (a) and (b) and shall include full compensation for all incidentals required for the complete backfilling with soil cement as specified.

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS22.03 Concrete pipe culverts:

Replace the second paragraph with the following:

The tendered rates shall include full compensation for providing, testing, loading, transporting and unloading the culverts, for providing and placing all specified bedding but excluding concrete bedding, and for the installation, laying and jointing of the culverts, as specified.

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS22.12 Removing existing concrete:

Insert the following after the word *demolition* in the second paragraph: ... *to a specified maximum size of 300 mm*

Add the following items:

| Item | Unit |
|---|--------------------|
| PS22.29 Cutting of concrete pipes (diameter indicated) | number (No) |

The unit of measurement shall be the number of pipes that have been cut on the instruction by the Employer's Agent.

The tendered rate shall be full compensation for the cutting, by means of mechanical saw (angle grinder) and finishing off the pipes for the specific angle of skew at which the pipes must be laid.

Cutting of the pipes shall only be paid for if the inlet or outlet structures are at such a skew angle in respect to the centre line of the pipes that cutting is required and where non-standard lengths are required. The maximum skew angle at which pipes are allowed to be cut shall be 30 degrees and the maximum length of pipe measured along the shortest side, shall be 1.5 m.

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS22.30 Breaking into existing drainage structures and building in pipes or culverts of the following size

(pipe diameter and/or culvert size to be stated) *number (No)*

The unit of measurement is the number of each type and size of existing drainage structure that is being modified as shown on the drawings or as specified by the Employer's Agent.

The tendered rates shall include full compensation for providing all labour, constructional plant and materials required, for all excavation, breaking into existing drainage structures, building into the newly formed accesses, sealing around the edges and making the joints watertight, breaking out existing benching and channelling where required and reconstructing them complete with granolithic rendering to suit the new drainage arrangement, backfilling and compacting to at least 93 % of MDD and dealing with the flows in the existing structures.

| Item | Unit |
|-------------|-------------|
|-------------|-------------|

PS22.31 Removing and demolishing existing prefabricated culverts

(type and size indicated) metre (m)

The unit of measurement shall be the metre of existing prefabricated culverts removed and demolished.

The tendered rate shall include full compensation for lifting, loading, transporting to approved spoil sites, off-loading, demolish to a specified maximum size of 300 mm and covering demolished pieces at approved spoil sites prefabricated culverts as specified.

Payment for any excavation and backfilling required for removing and demolishing prefabricated culverts shall be made separately under items PS22.01 and PS22.02.

The free haul distance shall be 5.0 km.

Add the following clause:

PS2219 CONSTRUCTION TOLERANCES**(a) Culverts**

Culverts, inlets, outlets, catchpits and manholes shall be constructed to following tolerances:

(i) Horizontal alignment

The maximum deviation from the true position of the edges or centreline shall be 25 mm.

(ii) *Vertical alignment*

The invert level shall nowhere deviate by more than 25 mm from the required level and nowhere shall the inverts have an adverse grade.

(iii) *Trueness of exposed surface*

When tested with a 3.0 m straight-edge, no exposed formed or cast concrete or precast surface shall have surface irregularities exceeding 10 mm.

(iv) *Cross-sectional dimensions*

All cross-sectional dimensions shall be within 10 mm of the specified dimensions, and the average thickness of a floor, wall or roof slab shall not be less than the specified thickness.

(b) Surface finish

All unformed exposed concrete surfaces shall have a class U2 surface finish and all formed exposed concrete surfaces shall have a class F2 surface finish.

SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS

PS2301 SCOPE

Add the following:

This section also covers the replacement of damaged concrete kerbing, channelling and lining.

PS2302 MATERIALS

Amend subclause (d) to read:

(d) Bedding and backing material

Replace the first and second paragraph with the following:

The bedding and backing material for concrete kerbs and channels shall consist of Class 20/20 cast insitu concrete.

Concrete shall comply with the requirements of section 6400.

Add the following subclause:

(e) Polymer film sheeting

Plastic for drainage systems to be used shall be polymer film type sheeting of 150 to 250 micron (0.15 to 0.25 mm) thickness, complying with SANS 952-1.

PS2304 CONSTRUCTION

(a) Excavation and preparation of bedding

(i) Kerbs and channels

In the first sentence of this subsubclause amend *approved bedding material at least 75 mm thick* to read *approved bedding material at least 50 mm thick*.

Add the following to this subsubclause:

If necessary due to pavement layer thicknesses some of the layer on which the bedding material is to be placed will have to be removed in order to ensure that the minimum thickness of 50 mm bedding beneath the kerbs and channels can be placed. The Contractor will be held to have allowed for the removal of this material in the rates for kerbing and channelling.

(b) Prefabricated concrete kerbing and channelling

Amend the end of the second paragraph to read as follows:

... road junctions, where the kerb units shall be 0,5 m in length for curve radii between 5,0 m and 20.0 m and 0.3 m in length for curve radii between 1.0 m and 5.0 m. For curves with a radius less than one metre the kerbs shall be cast in situ. Any associated prefabricated concrete channelling units shall also comply with the above requirements.

Replace the third paragraph with the following:

Prefabricated concrete kerbs shall be laid with a Class 20/20 cast in situ concrete bedding and support behind the kerbs in accordance with the details shown on the drawings.

Add the following paragraph:

Special care shall be taken to assure that expansion joints are constructed and sealed as shown on the drawings or specified by the Employer's Agent.

(c) Cast in situ kerbs and channels

Add the following paragraph:

Special care shall be taken to assure that expansion joints are constructed and sealed as shown on the drawings or specified by the Employer's Agent.

(g) Concrete-lined open drains

In the last paragraph replace *,be covered with polyethylene sheeting 0.15 mm thick with ,be covered with polymer film type sheeting of 150 micron (0.15 mm) thickness.*

Add the following to the last paragraph:

Alternatively the surface could be sprayed with invert bituminous emulsion as soon as possible after the excavations have been trimmed and compacted. The sprayed surfaces shall be maintained until the concrete lining is cast. The nominal rate of application of the emulsion shall be 0.5 litre/m² unless otherwise instructed by the Employer's Agent.

(i) Construction sequence

Replace the contents of this subclause with the following:

Where new base layers and kerb and channels or concrete lined open drains alongside the road edge are constructed, the method of construction sequence shall be determined by the Contractor taking into account stormwater surface drainage, base layer construction and protection of completed base layer, kerb and channels or concrete lined open drains alongside the road edge.

The Contractor shall submit to the Employer's Agent for approval, his construction sequence with specific reference to reasons for said sequence. The submission to and approval by the Employer's Agent shall not relieve the Contractor of this duties and responsibilities in terms of the specifications. Furthermore no additional claims due to the Contractor's construction sequence shall be allowed. All additional costs due to the Contractor's construction sequence shall be deemed included in the tendered rates for items related to the Works.

- (i) *Where kerbs and channelling or concrete lined open drains alongside the road edge are constructed before the base*

In this case slip-form units or cast in situ units may be constructed. During working and constructing the base, precautionary measures shall be taken to prevent the concrete work from being damaged or disturbed.

- (ii) *Where kerbs and channelling or concrete lined open drains alongside the road edge are constructed after the granular base*

The base shall be constructed wider than the specified width, after which a neat excavation shall be made for the kerbing or channelling or concrete lined open drains alongside the road edge. Any over-excavation shall be back filled with concrete cast simultaneously with the kerbs and channelling or concrete lined open drains alongside the road edge.

- (iii) *Where kerbs and channelling or concrete lined open drains alongside the road edge are constructed after the bitumen stabilised base*

The bitumen stabilised base shall be constructed wider than the specified width and shall then be cut back accurately with a mechanical saw to a marked line to give a neat joint line between the kerbs or channelling or concrete lined open drains alongside the road edge and the bitumen stabilised base layer. The bitumen stabilised base layer shall then be removed to the required depth.

- (iv) *Where kerbs and channelling or concrete lined open drains alongside the road edge are constructed after the asphalt base and/or asphalt surfacing*

The asphalt base and/or asphalt surfacing shall be constructed wider than the specified width and shall then be cut back accurately with a mechanical saw to a marked line to give a neat joint line between the kerbs or channelling or concrete lined open drains alongside the road edge and the asphalt layer. The surfacing and base shall then be removed to the required depth.

Add the following subclause:

(l) Demolition of existing kerb and channel and concrete lined drains

Where shown on the drawings and/or indicated by the Employer's Agent, the existing kerb and channel and concrete lined drains shall be demolished to a specified maximum size, removed and transported to an approved spoil site as provided by the Contractor. All adjoining existing work shall be protected against damage during such excavation and removal. Any damage to such work shall be made good at the Contractor's cost.

PS2307 MEASUREMENT AND PAYMENT

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

PS23.07 Trimming of excavations for concrete-lined open drains:

Replace the first and second paragraphs with the following:

No payment for this item shall be made under this Contract. All costs related to the trimming of excavations for concrete-lined open drains are deemed included in item PS21.01.

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

Amend item 23.13 to read:

PS23.13 *Polymer film sheeting (0.15 mm thick) for concrete-lined open drains*

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

PS23.14 Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains

Add the following paragraph:

No payment for this item shall be made for cutting of bituminous surfacing and pavement layers ,constructed under this Contract, for the construction of concrete kerbing, channelling or concrete-lined drains.

Add the following items:

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

| | |
|--|------------------------------------|
| PS23.16 Demolition and removal of existing kerbs and/or channel, concrete lined drains (specify maximum size) | cubic metre (m³) |
|--|------------------------------------|

The unit of measurement shall be the cubic metre of material demolished measured in situ before demolition or excavation.

The tendered rate shall include full compensation for breaking up the existing concrete or reinforced concrete to a specified maximum size, removal from site to an approved spoil site, clearing the excavation of all loose debris and to backfill the excavation where new concrete is not required.

The tendered rates shall also include full compensation for transporting the products of demolition for a free-haul distance of 1.0 km.

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

PS23.17 Extra over items 23.01 and 23.02 for concrete kerbing or concrete kerbing and channelling on curves:

| | |
|---|-----------|
| (a) on curves of radii more than or equal to 5.0 m but less than 20.0 m | metre (m) |
| (b) on curves with radii more than or equal to 1.0 m but less than 5.0 m | metre (m) |
| (c) on curves with radii less than 1.0 m | metre (m) |

The unit of measurement shall be the metre of concrete kerbing or kerbing and channelling combination complete as constructed, measured along the front face of the kerb.

The tendered rate shall include full compensation for the additional costs involved in setting out, preparing and constructing as specified on curves with radii less than 20 m.

| | |
|-------------|-------------|
| Item | Unit |
|-------------|-------------|

| | |
|---|------------------|
| PS23.18 Cast in-situ concrete (specify class of concrete) edge beams (specify size) as per specified drawing | metre (m) |
|---|------------------|

The unit of measurement shall be the metre of cast in-situ concrete edge beam constructed in accordance with the drawings or as instructed by the Employer's Agent, measured along the front face of the cast in-situ concrete edge beam.

The tendered rate shall include full compensation for the necessary saw cutting of (existing or constructed under this Contract) bituminous surfacing and pavement layers, excavation (in all classes), compacting bottom of trench to 93% of MDD, formwork, finishing, and for procuring, furnishing and installing all materials, protecting against vehicular damage until concrete strength is achieved and filling and pointing all joints.

Item**Unit**

PS23.19 Extra over items 23.01 and 23.02 for drop kerbs at pedestrian crossings and driveways

metre (m)

The unit of measurement shall be the metre of drop kerb installed measured from the starting point where the kerb on one side starts tapering down, across the lowered section as specified, up to the end where the kerb is at its correct level on the other side.

The tendered rate shall include full compensation for the additional costs involved in having to excavate and construct deeper and inclined, and shall include full compensation for all the labour, excavation, materials and backfill to complete the pedestrian crossing or driveway access as specified.

PS23.20 Construction sequence where new base layers and kerb and channels or concrete lined open drains alongside the road edge are constructed

metre (m)

The unit of measurement shall be the metre of kerb and channels or concrete lined open drains alongside the road edge constructed with new base layers, measured along the front face of the concrete unit.

The tendered rate shall include full compensation for the additional costs involved in terms of the approved construction sequence where new base layers and kerb and channels or concrete lined open drains alongside the road edge are constructed.

Item**Unit**

PS23.21* Precast concrete site access slab

(a) Slab (type, drawing)

.number, No.

The unit of measurement shall be the number of precast concrete slab whose dimension shall be provided in a drawing.

The tendered rate shall include full compensation for the design, manufacture, delivery to site and placement on gate access.

SECTION 3200: SELECTION, STOCKPILING AND BREAKING-DOWN THE MATERIAL FROM BORROW PITS AND CUTTING AND PLACING AND COMPACTING THE GRAVEL LAYER

PS3201 SCOPE

Add the following:

The provision of Section 3200 relating to borrow pits shall apply mutatis mutandis to such places where material is worked in situ or material is recovered from an existing road. Similarly the provisions of Section 3200 relating to material from borrow pits shall apply mutatis mutandis to material worked in situ or material recovered from an existing road.

PS3204 BREAKING-DOWN THE MATERIAL

(b) Further breaking-down of pavement material

Replace sub-items (b) (ii)(1) to (8) with the following:

For the purpose of this specification, normal grid-rolling shall mean the following:

- (1) *The material shall be placed or bladed to the one side of the road to provide working space for breaking down the material.*
- (2) *A portion of the material shall be spread in a thin layer, to a width which the grid roller shall be able to cover in a single pass, on a compact surface.*
- iii. *The grid roller, which shall proceed at a speed of at least 12 km/h and shall have a minimum mass of 13,5 tons, shall do four complete roller passes over the material.*
- (4) *Any oversized material shall be removed by hand, and/or constructional plant as provided in Clause 3210.*
- *The broken-down material shall be placed in a windrow to the opposite side of the material still to be broken-down.*
- (6) *Repeat Steps (2) to (5), but place the second windrow next to the first.*
- *To mix the material, the two windrows formed in Steps (2) to (6) shall then be bladed into a single windrow to the side of the road.*
- (8) *Repeat Steps (2) to (7) until all the material that needs to be broken-down has been treated*

SECTION 3300: MASS EARTHWORKS

PS3302 MATERIALS

(b) Fill

Add the following to Sub-clause (i):

At least 20 % of rockfill material by mass pass the 4.75 mm sieve in order to obtain maximum densities.

Add the following to Sub-clause 3302(b)(ii):

The minimum CBR at 93 % modified AASHTO density of the material, at a depth between 0 m and 1.0 m below final surface, shall be 7.

In addition, a maximum swell of 1.5 % at 100% modified AASHTO density shall apply.

PS3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION

(a) Classes of excavation

(i) Soft excavation

Delete the paragraph starting with

“or

A tractor-scraper unit subclause 3303(a)(ii)”

(ii) Intermediate excavation

Delete this subclause in its entirety.

(iii) Hard excavation

Delete the first paragraph and **replace** it with the following:

Hard excavation shall be excavation in material that cannot be efficiently excavated using the equipment in subclause 3303(a)(i).

(iv) Boulder excavation class A

Delete this subclause in its entirety.

(v) Boulder excavation class B

Delete this subclause in its entirety.

PS3305 TREATING THE ROADBED

(a) Removing unsuitable material

Add the following to the first paragraph:

Roadbed material within 0.7 m of the finished road level shall have a minimum CBR of 3 at 90 % of modified AASHTO density. Any material which does not meet this requirement shall be treated as unsuitable and removed.

PS3307 FILLS

(d) Benching

Add the following to the first paragraph:

Where existing fills are to be widened, or where fills are to be constructed adjacent to existing fills, the existing side slopes shall be benched in accordance with the details shown on the drawings or the

instructions of the Engineer and no work to widen a fill shall commence until instructions in this regard have been issued.

Replace the first sentence of the second paragraph with the following:

The dimensions of benches as well as the extent by which existing fills have to be cut back prior to forming the benches shall be subject to the Engineer's approval.

Replace the word **two** in the second paragraph with *three*.

Add the following at the end of this Sub-clause:

Method C

The first bench shall be cut into the existing road prism to the height determined by the Engineer. The combined width of the bench and the additional fill widening required shall be adequate for accommodating normal-width self-propelled construction equipment. Material from the top of the existing fill shall be cut down into the bench formed, spread and compacted in layers until the fill widening is complete to the full depth of the bench.

A further bench shall be cut into the existing fill and the process of cutting down and compacting existing material repeated. This process shall continued until a level platform is formed to the full width of the final widened fill.

Fill material shall then be imported and a new fill constructed on the platform to the required fill levels.

SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

PS3405 CONSTRUCTION TOLERANCES

(a) Level

Replace the table in the subclause with the following:

| Layer | H ₉₀ | H _{max} |
|------------------------------|-----------------|------------------|
| Selected layers | 25 mm | 33 mm |
| Sub-base layers | 15 mm | 20 mm |
| Base layers | 12 mm | 15 mm |
| Shoulders and wearing course | N/A | 25 mm |

Add the following:

Level control for the various pavement layers shall be done at least at the following intervals in the longitudinal direction.

| Layer | Interval |
|--|----------|
| Selected layer, sub-base, shoulders and wearing course | 20 m |
| Base | 10 m |

(b) Layer thicknesses

Replace the table in the subclause with the following:

| Layer | D ₉₀ | D _{max} | D _{ave} |
|------------------------------|-----------------|------------------|------------------|
| Selected layers | 25 mm | 35 mm | 8 mm |
| Sub-base layers | 18 mm | 24 mm | 5 mm |
| Base layers | 15 mm | 22 mm | 5 mm |
| Shoulders and wearing course | N/A | 30 mm | 0 mm" |

PS3406 QUALITY OF MATERIALS AND WORKMANSHIP

Replace the second paragraph with the following:

Test results and measurements shall be assessed in accordance with the provisions of Section 8200.

PS3407 MEASUREMENT AND PAYMENT

Delete and replace the paragraph under the clause heading with the following:

For this Contract measurement and payment under items 34.08, 34.09 and 34.13 are not applicable. The cost of additional work in restricted areas shall be included in the bulk rates.

Add the following:

The tendered rates for items under this sections shall also include full compensation for all additional cost related to construction joints in new layers, as specified in subclause B3208(d), due to the construction of layer in half-widths or partial-widths.

SECTION 5600: ROAD SIGNS**PS5601 SCOPE**

In the second paragraph amend **the South African Road Traffic Signs Manual** to read *the latest edition of the South African Road Traffic Signs Manual and the Road Traffic Act No 29 of 1989 and Regulations*.

Add the following paragraph:

Signs shall comply in all respects with the requirements of SABS 1519-1990 notwithstanding any conflicting requirements which may be included in this Section.

PS5602 MATERIALS**(g) Retro-reflective material**

In the first sentence replace “CKS 191” with “SABS 1519-1990. The following terms shall be deemed to have the same meaning:”.

Add the following paragraphs:

The durability of non-reflective and Class I signs shall be guaranteed for a minimum of seven years and Class II and Class III signs for ten years. The performance warranty with regard to coefficient of retro-reflection, chromaticity co-ordinates and durability shall also be provided for retro-reflective sheeting.

Reflective materials shall be readily identifiable as to their specific class and marked as such by the manufacturer in terms of SABS 1519-1990. The identification mark for each class shall be provided to the Engineer.

PS5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS**(a) Road sign boards**

Add the following to the third paragraph:

All reinforcement frames required shall be supplied with an undercoat and a high quality spray finish. Where epoxy glue is used to fix sign boards to frames the glue shall last for the specified sign guarantee period.

(f) Roads sign supports

Delete this Sub-clause and replace with the following:

(i) Supports for large signs (sign area > 2 m²)

Support for large ground mounted signs shall be constructed in accordance with the details shown on the drawings. Where the details provided do not suit the framework and attachment details of the road sign boards proposed for use, the Contractor shall design new supports and submit the details to the Engineer for approval before manufacture.

(ii) Support for small sign (sign area < 2 m²)

Some small ground mounted signs shall be supported on steel posts. The posts shall be fabricated from 76 mm outside diameter 3 mm steel tubing or 102 mm outside diameter 2.8 mm steel tubing as directed by the Engineer to suit the type and size of the sign to be supported. The open ends of all posts shall be closed either by the use of standard fitting or by welding on a mild steel plate. The posts shall be galvanized and painted grey.

PS5604 ROAD SIGN FACES AND PAINTING**(a) Colours, symbols and legends**

In the second paragraph delete everything after **conform to** and replace with *comply with the requirements of SABS 1091.*

Add the following paragraphs:

All reflective signs shall be solid colours and not silk screened. Non-reflective borders, diagonals, letters and legends on non-reflective signs shall be made of cast vinyl material with a seven year durability. Colour impregnated reflective material shall be used and applied according to the requirements of the sheeting manufacturer.

All symbols, letters and numerals shall be applied with a single piece of material.

All borders shall be restricted as follows:

*Round signs - not more than four pieces
Octagonal sign - not more than eight pieces
Triangular signs - not more than three pieces*

Diagonals and all other sign components shall be restricted to the minimum number of pieces required.

Overlap between adjacent pieces shall be a minimum of 10 mm.

(e*) **Information marking**

Information marking shall appear on each sign as required by SABS 1518-1990 except that the size of lettering shall not exceed 30 mm. The address or telephone number of the sign manufacturer may not appear on the sign. If a sign is made up of a number of panels the required information marking shall appear on at least two panels. The materials used for marking shall remain intact on the sign for the duration of the specified guarantee periods. Where double sided signs are required the manufacturer shall submit for approval by the Engineer the proposed method for information marking.

PS5606 ERECTING ROAD SIGNS

(b) **Excavation and backfilling**

In the first sentence of the first paragraph after the words **shown on the drawings** add *or as directed by the Engineer.*

PS5609 MEASUREMENT AND PAYMENT

| | |
|---|-------------|
| <u>Item</u> | <u>Unit</u> |
| PS56.01 Road sign boards with painted or coloured background. Symbols, lettering and borders in Class I retroreflective material, where the signboard is constructed from: | |

| | | |
|-----|--|--|
| (d) | Standard steel profile (chromadek 1.6 mm thick) for 40 km/h speed limit complete with brackets and clamps: | |
|-----|--|--|

| | | |
|-----|-------------------------|--------------|
| (i) | list signs are required | Number (No.) |
|-----|-------------------------|--------------|

PS56.03 Road sign supports (overhead road sign structures excluded)

In sub-item (b) after **steel tubing** add *diameter and type indicated*

Add the following new item:

| | |
|-------------|-------------|
| <u>Item</u> | <u>Unit</u> |
|-------------|-------------|

PS56.10* Extra Over Item 56.05 for Concrete Backfill(m³)

The unit of measurement shall be the cubic metre placed according to the dimensions shown on the drawings or as directed by the Engineer.

The tendered rate shall include full compensation for the additional cost of backfilling with concrete.

SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES

PS6302 MATERIALS

– Steel bars

Replace the second paragraph with the following:

The use of cold-worked bars will not be permitted.

PS6303 STORING THE MATERIALS

Add the following:

This Contract shall be regarded as being in an aggressive environment as far as the storage of steel reinforcement is concerned and therefore steel shall be store in sheds or other approved under-cover storage.

PS6306 PLACING AND FIXING

Add at the end of the second paragraph:

Spacers of approved design include approved plastic or other proprietary spacers, or purpose made precast mortar blocks.

Where mortar blocks are used they shall be properly shaped so as not to slip out of position and shall be made of mix as the mortar of the concrete in which they are to be placed. The mortar shall be well compacted by approved means onto the moulds to result in blocks with a density of a least 2 300 kg/m³ and which are free from honeycombing. They shall be cured in water for at least 7 days. Mortar blocks which have not been manufactured and cured strictly in accordance with these requirements or which are in any other way considered unsatisfactory by the Engineer, will be rejected and shall be removed from the Site.

Add the following:

Substitution of the mild steel reinforcement as indicated on the drawings by an equivalent area of high tensile steel reinforcement or vice versa will not be permitted.

SECTION 6400: CONCRETE FOR STRUCTURES**PS6402 MATERIALS****a. Cement**

Replace this Sub-clause with the following:

Only ordinary portland cement with a guaranteed low alkali content (i.e. equivalent sodium oxide content calculated as $[Na_2O + 0,658 K_2O]$) of less than 0.6% by mass of cement, complying with SABS 471, shall be used in the Works. Test certificates to this effect shall be submitted to the Engineer for each cement consignment.

PS6403 STORING THE MATERIALS**(a) Cement**

Add the following at the end of this sub-clause

Cement shall either be stored on a floor above ground level or on a waterproof sheet which will protect it from moisture.

PS6404 CONCRETE QUALITY**b. Strength concrete**

Add the following after the first paragraph:

The mixes of the various classes of strength concrete shall be designed to have a mean strength greater than the lower acceptance limit based on an initial standard deviation of 5.5 MPa.

After 15 samples of a particular class of concrete have been tested, the Contractor may, with the Engineer's approval, adjust the mix proportions to approach more closely the acceptance limit L_a .

For all reinforced concrete work, the cement/water ratio of the mix, shall not be less than 1.90.

PS6407 PLACING AND COMPACTING**a. General**

Add the following at the end of this Sub-clause:

The placing of concrete during other than daylight hours will only be permitted with the prior arrangement and written approval of the Engineer.

PS6408 CONSTRUCTION JOINTS

No vertical substructure construction joints other than those shown on the drawings will be allowed. Horizontal construction joints in the substructure which are necessitated by the method of construction employed by the Contractor will be allowed subject to the Engineer's approval.

PS6409 CURING AND PROTECTING

Add the following Sub-clauses at the end of this clause:

(h)* Curing of concrete

Curing of concrete shall be carried out thoroughly as this is one of the most important steps in securing a durable and impervious concrete mix. All concrete shall be kept continuously wet for at least 7 days.

Only water from an approved source shall be used for curing. Water from a river or stream which is contaminated shall not be used.

(i)* Curing membranes

The use of membrane curing compounds will be allowed subject to the Contractor producing sufficient cube test results which conclusively indicate the adequacy of the compound by comparing cubes which have been cured with the proposed curing membrane and left exposed to the elements with an equal number of air cured and water cured cubes, i.e. provided the curing membrane cured cubes attain at least 85% of average compressive strength of the water cured cubes. A discolouration and weathering test shall also be carried out on a sample concrete surface of at least 5m².

Any curing compound which weathers in unsightly manner, will not be acceptable. If approved, the curing compound may only be used on vertical faces of cast in situ members of the structures.

Before any membrane curing compound is used, each batch shall be tested on a trial surface to ensure that it forms a satisfactory membrane, and any compound which is unsatisfactory, in the opinion of Engineer, shall be rejected. Surfaces where curing membranes are used shall be treated in such a manner that the final concrete texture and colour blends in with the rest of the concrete work.

Furthermore, the Engineer may, at his discretion, require the Contractor to immediately adopt an effective alternative means of curing any area of the structure to which a membrane has been applied which in the opinion of the Engineer, is unsatisfactory.

PS6414 QUALITY OF MATERIALS AND WORKMANSHIP

a. Criteria for compliance with the requirements

The 28 day cube crushing strength of concrete shall be judged in accordance with Clause 8305.

Accelerated compressive strength test shall be carried out at 7 days on cubes taken from concrete poured in those sections of retaining wall or bridge where the Contractor plans to continue concreting subsequent sections or to allow construction traffic loads on the structure prior to the 28 days crushing strength of the concrete being available. The minimum frequency of sampling shall be not less than 1 sample for volumes 0 to 50 m³, 2 samples for 50 to 100 m³ and for 3 samples for over 100 m³ of concrete.

b. Procedure in the event of non-compliance with the requirements

In the first line of sub-clause 6414 (b)(i), replace 56 days” with 35 days”.

PS6415 MEASUREMENT AND PAYMENT

Insert the following new Sub-clause at the beginning of clause 6416:

(a)* General

In addition to the requirements of Items 64.01, 64.02 and 64.03, the tendered rates shall also include for the provision of the necessary cube moulds and the making, curing, transporting and testing of concrete cubes, all to the approval of the Engineer.

(b) Design variations

No compensation will be made for design variations requested by the Contractor in order to accommodate amendments to reinforcing positioning or any other amendment requested by the Contractor for the accommodation of his construction techniques or for construction simplification as approved, requiring additional material and/or resulting in extra costs. Such authorised variations will be held to have been adequately covered in the Contractor's rates and prices and measurement and payment will be in accordance with the original drawings and tendered rates and prices respectively.

PS64.01 Cast in situ concrete

Add the following at the end of this Sub-clause:

Where foundation slabs are cast directly against the face of the excavations, the volume of the concrete measured for payment shall include the total volume of concrete placed, up to a maximum over the neat footing dimensions in plan of 200 mm. No formwork to the footing shall be measured when the concrete is cast against the face of the excavations.

Add the following new item:

| <u>Item</u> | <u>Unit</u> |
|---|--------------------------------|
| PS64.07* Bituminous coating of concrete surfaces in contact with the earth | square metre (m ²) |

The unit of measurement shall be the square metre of concrete surface to which a prime coat and two finishing coats of bituminous emulsion have been applied as specified.

The tendered rate shall include full compensation for procuring and furnishing all materials and for all labour, equipment and incidentals required for and the completion of the work as specified.

C3.7 HIV/AIDS

HIV/AIDS REQUIREMENTS

PH1.SCOPE

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

Raising awareness about HIV/AIDS through education and information on the nature of the disease, how its is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers.

- Informing Workers of their rights with regard to HIV/AIDS in the workplace.
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices.

PH2. DEFINITIONS AND ABBREVIATIONS

PH2.1 DEFINITIONS

Service Provider: The natural or juristic person recognised and approved by the Department of Public Works as a specialist in conducting HIV/AIDS awareness programmes.

Service Provider Workshop Plan: A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent.

Worker: Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in all.

PH2.2 ABBREVIATIONS

| | | |
|------|---|-------------------------------------|
| HIV | : | Human Immunodeficiency Virus |
| AIDS | : | Acquired Immune Deficiency Syndrome |
| STI | : | Sexually Transmitted Infection |

PH3. BASIC METHOD REQUIREMENT

The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers.

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor.

- ◆ Number of Workers and Sub-contractors on site;
- ◆ When new Workers of Sub-contractors will join the construction project;
- ◆ Duration of Workers and Sub-contractors on site;
- ◆ How the maximum number of Workers can be targeted with workshops;
- ◆ How the Contractor prefers workshops to be scheduled, e.g. three hourly sessions per Worker, or one 2.5 hour workshop per Worker;
- ◆ Profile of Workers, including educational level, age and gender (if available);
- ◆ Preferred time of day or month to conduct workshops;
- ◆ A Gantt chart reflecting the construction programme, for scheduling of workshops; and
- ◆ Suitable venues for workshops

The Contractor shall submit to the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

The Service Provider Workshop Plan shall address, but will not be limited to the following:

- 3.1 The nature of the disease;
- 3.2 How it is transmitted;
- 3.3 Safe sexual behaviour;

- 3.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.5 Attitudes towards other people with HIV/AIDS;
- 3.6 Rights of the Worker in the workplace;
- 3.7 How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- 3.8 How the Service Provider will support the Awareness Champion;
- 3.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.10 How the workshops will be presented, including frequency and duration;
- 3.11 How the workshops will fit in with the construction programme;
- 3.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- 3.13 How the video will be used;
- 3.14 How the Service Provider will elicit maximum participation from the Workers; and
- 3.15 A questions and answers slot (interactive session)

The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated

PH4. HIV/AIDS AWARENESS EDUCATION AND TRAINING
PH4.1 WORKSHOPS

The Contractor shall ensure that all Workers attend the workshops.

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. A video of HIV/AIDS in the construction industry, which can be obtained from all Regional Offices of the Department of Public Works, is to be screened to Workers at workshops. In order to enhance the learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops.

PH4.2 RECOMMENDED PRACTICE
PH4.2.1 Workshop Schedule

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan.

Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session.

PH4.2.2 Service Providers

A database of recommended Service Providers is available from all Regional Offices of the Department of Public Works. In the event that this is not available, the contractor will engage a credible Service Provider.

PH4.2.3 HIV/AIDS Specific Learning Outcomes and Assessment Criteria

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met.

PH4.2.3.1 UNIT 1: The Nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Assessment Criteria:

- 1. Define and describe HIV and AIDS
- 2. List and describe the progression of HIV/AIDS

PH4.2.3.2 UNIT 2: Transmission of the HI Virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted.

Assessment Criteria:

1. Record in what bodily fluids the HI virus can be found
2. Describe how HIV/AIDS can be transmitted
3. Demonstrate the ability to distinguish between how HIV/AIDS is transmitted and misconceptions around transmittance of HIV/AIDS

PH4.2.3.3 ***UNIT 3: HIV/AIDS Preventative Measures***

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HI virus from entering the bloodstream.

Assessment Criteria:

1. Report on how to minimise the risk of HIV/AIDS infection
2. Report on precautions that can be taken to prevent HIV/AIDS infection
3. Explain or demonstrate how to use a male and female condom
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS transmission

PH4.2.3.4 ***UNIT 4: Voluntary HIV/AIDS Counselling and Testing***

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counselling.

Assessment Criteria:

1. Describe methods of testing for HIV/AIDS infection
2. Report on why voluntary testing is important
3. Report on why pre- and post-test counselling is important

PH4.2.3.5 ***UNIT 5: Living with HIV/AIDS***

After studying and understanding this unit, the Workers will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS.

Assessment Criteria:

1. List and describe ways to manage HIV/AIDS
2. Describe nutritional needs of people living with HIV/AIDS
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS
4. Explain the need for counselling and support to people living with HIV/AIDS

PH4.2.3.6 ***UNIT 6: Treatment Options for People with HIV/AIDS***

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people.

Assessment Criteria:

1. Discuss anti-retroviral therapy
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS
4. Describe post exposure prophylactics

PH4.2.3.7 ***UNIT 7: The Rights and Responsibilities of Workers in the Workplace with Regard to HIV/AIDS***

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way.

Assessment Criteria:

1. Discuss the rights of a person living with HIV/AIDS in the workplace
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace
3. Report on why acceptance and non-discrimination of colleagues living with HIV/AIDS is important

PH4.3 *DISPLAYING OF PLASTIC LAMINATED POSTERS AND DISTRIBUTION OF INFORMATION BOOKLETS*

The Contractor shall obtain a set of four laminated posters conveying different key messages and information booklets, which are available from all Regional Offices of the Department of Public Works.

The above mentioned posters and information booklets have been prepared to raise awareness and to share information about HIV/AIDS and STI's.

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover.

The posters on display must always be intact, clear and readable.

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site.

PH5. PROVIDING WORKERS WITH ACCESS TO CONDOMS

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health.

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agents, shall be made available on site within 14 days of site hand over. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site hand over may be necessary, to ensure that condoms are available within 14 days of site handover.

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds.

PH6. ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers.

PH7. APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION

Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the construction period. The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner.

The Awareness Champion shall be responsible for:

- 7.1 Liaising with the Service Provider on organising awareness workshops;
- 7.2 Filling condom dispensers and monitoring condom distribution;
- 7.3 Handing out information booklets;
- 7.4 Placing and maintaining posters

PH8. MONITORING

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract.

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent.

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent.

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Department's Project Manager, through the Representative/Agent.

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract.

PH MEASUREMENT AND PAYMENT

PH9.1 Principles

Tenderers (including those sub-contractors and/or suppliers who are preparing prices/quotations for submission to the main Tenderer) must ensure that they make adequate financial provision in their tenders for full compliance with the HIV/AIDS specifications. Financial provision shall therefore be made by each Tenderer for, inter alia, the following:

- ◆ Carrying out and conducting workshops
- ◆ Creating awareness of HIV/AIDS.
- ◆ Preparation of a workshop plan.
- ◆ Dispensing of all type and required condoms, utensils, posters, etc.

PH9.2 PAYMENT

| Item | Unit |
|---|----------|
| PH9.2.1 Preparation of workshop plan, safe work procedures, the provision of all required condoms and utensils, posters, running workshops | Lump Sum |

The amount will be paid on monthly basis and on proof of progress.

[illegible]

[illegible]

| | |
|---|---------------------------------|
| Date of progress inspection (dd/mm/yy) _____ | |
| — | |
| Reporting period: (dd/mm/yy) _____ | |
| to (dd/mm/yy) _____ | |
| Deviations from HIV/AIDS awareness program plan: | |
| | |
| | |
| Corrective actions | |
| | |
| | |
| Representative/Agent | Departmental Project Manager |
| Date | Date |

SCHEDULE B**HIV/AIDS AWARENESS PROGRAM: SERVICE PROVIDER REPORT**

Reporting period (dd/mm/yy): _____ to (dd/mm/yy): _____

Number of workshops conducted in reporting period: _____

Number of scheduled workshops according to approved workshop plan: _____

Deviations from workshop plan:

| |
|--|
| |
|--|

State reasons for deviating from workshop plan

| |
|--|
| |
|--|

Corrective actions:

| |
|--|
| |
|--|

Service Provider_____
Contractor_____
Date_____
Date

| SCHEDULE B | |
|----------------------------|---------------------------------|
| HIV/AIDS AWARENESS PROGRAM | |
| WORKSHOP CONTENT ADDRESSED | |
| 1 | 1. HIV/AIDS Awareness Program |
| 2 | 2. HIV/AIDS Awareness Program |
| 3 | 3. HIV/AIDS Awareness Program |
| 4 | 4. HIV/AIDS Awareness Program |
| 5 | 5. HIV/AIDS Awareness Program |
| 6 | 6. HIV/AIDS Awareness Program |
| 7 | 7. HIV/AIDS Awareness Program |
| 8 | 8. HIV/AIDS Awareness Program |
| 9 | 9. HIV/AIDS Awareness Program |
| 10 | 10. HIV/AIDS Awareness Program |
| 11 | 11. HIV/AIDS Awareness Program |
| 12 | 12. HIV/AIDS Awareness Program |
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| 93 | 93. HIV/AIDS Awareness Program |
| 94 | 94. HIV/AIDS Awareness Program |
| 95 | 95. HIV/AIDS Awareness Program |
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| 97 | 97. HIV/AIDS Awareness Program |
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| 99 | 99. HIV/AIDS Awareness Program |
| 100 | 100. HIV/AIDS Awareness Program |

[illegible]

SCHEDULE C**CONTRACTOR HIV/AIDS PROGRAM REPORT**

Project name: _____

Project location: _____

Contract value of project: R_____

HIV/AIDS Program duration (dd/mm/yy): _____ to (Dd/mm/yy): _____

AWARENESS MATERIAL

Describe location of posters displayed during the program: _____

Comments on posters: _____

Indicate total number of booklets distributed: _____

Comments on booklets: _____

CONDOMS

Indicate total number of male condoms distributed: _____

Indicate total number of female condoms distributed: _____

Describe where male condom dispenser was placed: _____

Describe where female condom dispenser was placed: _____

HIV/AIDS WORKSHOPS

Indicate the total number of HIV/AIDS workshops conducted: _____

Indicate the duration of workshop: _____

Indicate the total number of Workers that participated in the HIV/AIDS workshops: _____

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry:

Comments on HIV/AIDS workshops on site: _____

GENERAL

Briefly describe program activities and satisfaction with outcome: _____

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programs on site:

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers

| | | |
|-----|----|------------------------------|
| Yes | No | Currently developin g one |
|-----|----|------------------------------|

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sickness. One or more of the following might indicate an HIV/AIDS related death:

Excessive weight loss
Reactive TB
Hair loss
Severe tiredness

Coughing or chest pain
Pain when swallowing
Persistent fever
Diarrhoea

Vomiting
Meningitis
Memory loss
Pneumonia

Number of HIV/AIDS-related deaths: _____

Contractor

Date

Departmental Project Manager

Date

C3.8 ENVIRONMENTAL MANAGEMENT PROGRAM

PZ1 INTRODUCTION

PZ1.1 SCOPE

This specification is additional to the South African Bureau of Standards Standardised Specification for Civil Engineering Contracts and must be read in conjunction with the said specification.

This specification covers the principles, responsibilities and requirements generally applicable to implement effective environmental management during the execution of any construction contract. The aim of this specification is to ensure that construction activities are conducted in an environmentally and socially responsible manner.

PZ1.2 INTERPRETATIONS

This specification contains clauses that are generally applicable to the implementation of effective environmental management on construction contracts. Interpretations of, and variations to, this specification are set out in the project specification.

PZ1.2.1 Supporting specifications

Reference is made to the SABS 1200 standards which are to be read in conjunction with this specification. All aspects of these SABS requirements which are relevant to environmental management during construction contracts will apply.

PZ1.2.2 Principles

The following principles should be considered at all times during construction phase activities:

- The Environment is considered to be composed of both biophysical and social components.
- Construction is a disruptive activity and all due consideration must be given to the environment, particularly the social environment, during the execution of a project to minimise the impact on affected parties.
- Minimisation of areas disturbed by construction activities will minimise many of the construction related environmental impacts of the project and reduce rehabilitation requirements and costs.
- As minimum requirements, all relevant standards relating to international, national, provincial and local legislation, as applicable, shall be adhered to. This includes requirements relating to waste emissions (e.g. hazardous, airborne, liquid and solid), waste disposal practices, noise regulations, road traffic ordinance etc.
- All effort should be made to minimise, reclaim or recycle 'waste' material

PZ1.3 DEFINITIONS

For the purpose of this specification, the definitions given in SABS 1200 shall apply. Additional definitions which shall apply to this specification are as follows:

Environmental Control Officer: Either an Employer's staff member or an Environmental Consultant assigned to the project on a part or full-time basis. The Environmental Control Officer will be part of the Project staff and will advise the Engineer on all environmental matters relating to the works, in terms of this specification and the project specification, if applicable.

Environmental Officer: Either an Employer's employee (e.g. Quality Assurance Inspector) or Consultant designated to monitor the implementation and compliance with the environmental specifications and environmental management plan on a daily basis.

Cleared surface: "surface vegetation" as referred to in SABS 1200 C 2.3 will be deemed to be any woody or herbaceous vegetation but exclude grasses, sedges, rushes and reeds.

Clearing and grubbing shall for the purpose of this specification mean the removal of all woody and herbaceous vegetation including stumps, but excluding grass and groundcover vegetation.

Engineer: Is to read Engineer or Supervisor (in the case of the NEC contract), whichever is applicable to the Contract.

Interested and Affected Parties (IAP): All persons who may be affected by the project either directly or indirectly, or who have an interest or stake in the area to be affected by the project. IAPs include landowners, tribal or local authorities, public interest groups etc.

Liquid Waste Stream: Any reagent solutions, fuels, oils, greases, contaminated run-off, sewerage and wash water, etc.

Open Trench: Open trench will, for the purpose of this specification, be deemed to include: clearing and grubbing; stripping of topsoil; trenching; placing of bedding; pipe-laying; placing of selected fill; backfilling to ground level; removing excess material; construction of cross berms to channel water (if required); and replacement of topsoil to final finished level (refer to Figure 1: Appendix A).

Progressive Reinstatement: Reinstatement of disturbed areas to topsoil profile on an ongoing basis, immediately after selected construction activities (e.g. backfilling of a trench) are completed. This allows for passive rehabilitation (i.e. natural recolonisation by vegetation) to commence. See also 'Open Trench' and 'Rehabilitation'.

Project Manager: The person responsible for co-ordinating and integrating activities across multiple, functional lines.

Rehabilitation: Rehabilitation is defined as the return of a disturbed area to a state which approximates the state (where possible) which it was before disruption. Rehabilitation for the purposes of this specification is aimed at post-reinstatement revegetation of a disturbed area and the ensurance of a stable land surface. Revegetation should aim to accelerate the natural succession processes so that the plant community develops in the desired way, i.e. promote rapid vegetation establishment.

Riparian vegetation: Vegetation occurring on the banks of a river or stream (i.e. vegetation fringing a water body). In this specification, riparian vegetation in terms of removal, storage and replacement (see PZ3 17.1 and PZ3 17.2), is only applied to sedge, grass, ground-cover, reed, bulrush, or herbaceous component of riparian vegetation and excludes the woody component.

Sedges: Grass-like plants growing in wetland/ marshy areas or adjacent to water.

Subsoil: Subsoil is the soil horizons between the topsoil horizon and the underlying parent rock. Subsoil often has more clay-like material than the topsoil. Subsoil is of less value to plants, in terms of nutrient (food) and oxygen supply, than topsoil. When subsoil is exposed it tends to erode fairly easily.

Timeous: At least 5 working days prior to an activity.

Topsoil: This is defined as the A horizon of the soil profile. Topsoil is the upper layer of soil from which plants obtain their nutrients for growth. It is often darker in colour, due to the organic (humic) fraction. Topsoil is deemed for the purposes of this specification as the layer of soil from the surface to the specified depth required for excavation (see PZ3 5.3, relevant SABS 1200 clause and project specification). Where topsoil is referred to, it is deemed to be both the soil and grass / ground cover fraction. (see 'Cleared Surface')

Veld: This is defined for the purpose of this specification as unimproved natural vegetation areas (e.g. grasslands).

Water body: Any open body of water including streams, dams, rivers, lakes, and the sea.

Wetland: A seasonally, temporally, or permanently wet area which also may exhibit a specific vegetation community. It is often marshy in character.

Wetland Vegetation: Vegetation which is indicative of a wetland environment - for example, sedges, rushes, reeds, hydrophilic grasses and ground-covers, but for the purposes of this specification excludes woody species.

Xeriscaping: Landscaping with vegetation which has a low water usage. The objective is to conserve as much water as possible, whilst still beautifying an area (i.e. conservation and aesthetics). Concept embraces utilising indigenous as opposed to exotic plants.

PZ1.4 ABBREVIATIONS

| | |
|-------|---|
| DWAF: | Department of Water Affairs and Forestry |
| ECO: | Environmental Control Officer |
| EMP: | Environmental Management Plan |
| EMPR: | Environmental Management Programme Report |
| EO: | Environmental Officer |
| IAPs: | Interested and Affected Parties |
| IEM: | Integrated Environmental Management |
| MSDS: | Material Safety Data Sheet |
| NEC: | New Engineer Contract or The Engineering and Construction Contract |
| ⊗: | Indicates the project specification must be referred to, to clarify the clause. |

PZ1.5 DRAWINGS

Drawings referred to in this specification are included in C4.4 Drawings of Section C4 Site Information.

PZ1.6 FORMS

Forms referred to in this specification are included in Part T2 or attached to this environmental specification.

PZ1.7 CONDITIONS OF CONTRACT

PZ1.7.1 Duties and Powers of the Project Manager

The Project Manager is ultimately responsible for ensuring compliance with the environmental specification and upholding the Employer's Environmental Policy on a project.

The Project Manager:

- arranges information meetings for or consults with IAPs about the impending construction activities;
- may on the recommendation of the Engineer and /or Environmental Officer order the Contractor to suspend any or all works on site if the Contractor or his Subcontractor/ supplier fails to comply with the said specifications;
- maintains a register of complaints and queries by members of the public at the site office as per attached pro-forma. This register is forwarded to the Environmental Control Officer on a monthly basis.

PZ1.7.2 Duties and Powers of the Engineer/Supervisor (NEC)

The Engineer or Supervisor is responsible for:

- enforcing the environmental specification on site;
- monitoring compliance with the requirements of the specification;
- assessing the Contractor's environmental performance in consultation with the Environmental Officer from which a brief monthly statement of environmental performance is drawn up for record purposes;
- documenting, in conjunction with the Contractor, the state of the site prior to construction activities commencing. This documentation will be in the form of photographs or video record.

PZ1.7.3 Duties and Powers of the Environmental Control Officer

The Environmental Control Officer:

- briefs the Contractor about the requirements of the Environmental Specification and/ or Environmental Management Plan, as applicable;
- advises the Project Manager and Engineer/ Supervisor about the interpretation, implementation and enforcement of the Environmental Specification and other related environmental matters;
- attends site meetings, as necessary;
- monitors the Constructor's compliance with this specification and the project environmental specification as applicable;
- undertakes periodic audits of the effectiveness of the environmental specifications on the site;
- communicates environmental policy issues to the Project Manager;
- provides technical advice relating to environmental issues to the Engineer/ Supervisor and Project Manager;
- reports on the performance of the project, in terms of environmental compliance.

PZ1.7.4 Duties and Powers of the Environmental Officer

The Environmental Officer:

- attends site meetings;
- monitors the site for compliance with the Environmental Specification and EMP;
- reports on the performance of the project in terms of environmental compliance to the ECO and Project Manager as per the pro-forma attached;
- liaises with the ECO on matters of policy and those requiring clarity and advice.

PZ1.7.5 Extent of the Contractor's Obligations

The Contractor is required to:

- provide information on previous environmental management experience and company environmental policy;
- supply method statements for all activities requiring special attention as specified and/or requested by the Project Manager, Environmental (Control) Officer and/or Engineer during the duration of the Contract;
- be conversant with the requirements of this environmental specification and the project specification as applicable;
- brief his staff about the requirements of the environmental specification;
- comply with requirements of the Environmental (Control) Officer in terms of this specification and the project specification, as applicable, within the time period specified;

- ensure any sub-contractors/ suppliers who are utilised within the context of the contract comply with the environmental requirements of the Employer, in terms of the specifications. The Contractor will be held responsible for non-compliance on their behalf;
- bear the cost of any delays, with no extension of time granted, should he or his Sub-Contractors/ Suppliers contravene the said specifications such that the Engineer orders a suspension of work. The suspension will be enforced until such time as the offending party(ies), procedure, or equipment is corrected;
- bear the costs of any damages/ compensation resulting from non-adherence to the said specifications or written site instructions;
- comply with all applicable legislation in terms of 7.6 below;
- ensure that he informs the engineer timeously of any foreseeable activities which will require input from the Environmental (Control) Officer.

The Contractor will conduct all activities in a manner that minimises disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.

PZ1.7.6 Compliance with Applicable Laws

The supreme law of the land is “The Constitution of the Republic of South Africa”, which states:

“Every person shall have the right to an environment which is not detrimental to his or her health or well being”

Laws applicable to protection of the environment in terms of Environmental Management (and relating to construction activities) include but are not restricted to:

Animals Protection Act, Act No 71 of 1962

Atmospheric Pollution Prevention Act, No 45 of 1965 Conservation of Agricultural Resources Act, No 43 of 1983

Environmental Conservation Act, No 73 of 1989 Environmental Planning Act, Act No 88 of 1967

Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, No 36 of 1947

Forest Act, No 122 of 1984

Forest and Veld Conservation Act, Act No 13 of 1941 Hazardous Substances Act, No 15 of 1973

Lake Areas Development Act No 34 of 1975 Land Survey Act, No 9 of 1921

Minerals Act, No 50 of 1991

Mountain Catchment Act, No 63 of 1970

National Monuments Act, No 28 of 1969

National Parks Act, No 57 of 1976

National Resources Development Act, Act no 51 of 1947 Occupational Health and Safety Act, No 85 of 1993 Provincial and Local Government Ordinances and Bylaws Soil Conservation Act, Act No 76 of 1969

Water Act, No 54 of 1956

Water Services Act No 108 of 1997

and all regulations framed thereunder and amendments there to.

PZ1.7.7 Compliance with the Environmental Specification

The Contractor is deemed not to have complied with the Environmental Specification if:

- within the boundaries of the site, site extensions and haul/ access roads there is evidence of contravention of clauses;
- if environmental damage ensues due to negligence;
- the Contractor fails to comply with corrective or other instructions issued by the Project Manager or Engineer within a specified time,
- the Contractor fails to respond adequately to complaints from the public.

Application of a penalty clause will apply for incidents of non-compliance. The penalty imposed will be per incident. Unless stated otherwise in the project specification, the penalties imposed per incident or violation will be:

| | |
|---|-------|
| Failure to demarcate working servitudes | R1000 |
| Working outside of the demarcated servitude | R2000 |
| Failure to strip topsoil with intact vegetation | R1000 |
| Failure to stockpile topsoil correctly | R500 |
| Failure to stockpile materials in designated areas | R500 |
| Pollution of water bodies (including increased suspended solid loads) | R1000 |
| Failure to control stormwater runoff | R1000 |
| Failure to provide adequate sanitation | R500 |
| Unauthorised removal of woody vegetation | R2000 |
| Failure to erect temporary fences | R500 |
| Failure to provide adequate waste disposal facilities and services | R500 |

| | |
|---|-------|
| Failure to reinstate disturbed areas within the specified time-frame | R3000 |
| Failure to rehabilitate disturbed areas within the specified time-frame | R3000 |
| Any other contravention of the project specific specification | R400 |
| Any other contravention of the particular (general) environmental specification | R300 |

PZ2 SITE ESTABLISHMENT AND HOUSEKEEPING

PZ2.1 LAYOUT

The Contractor will take into account any of the limitations identified in the project specification with regard to establishment of site, in particular the location of access routes, and establishment layout.

Notwithstanding the provision of a project specification, the Contractor will provide the Project Manager and Environmental Control Officer with a layout design of the site indicating the position of all of the following, as applicable: offices, ablution facilities, storage areas, workshops, laboratories, batching plant, particulate matter stockpile area (i.e. soil/ granular chemicals/ cement fines etc), waste disposal facilities, hazardous substances storage area, access routes, etc. This layout plan is to be submitted prior to site establishment for acceptance. Any changes to this plan require review by the Project Manager in conjunction with the ECO.

The Contractor will take into account prevailing wind directions when designing the site layout to minimise impacts due to dust, unpleasant odours etc.

The Contractor will take into account the positions of residences when designing the site layout in order to minimise noise impacts on the residents.

Site security lighting is to be positioned such that the direct beam is focused away from residential properties and does not pose a nuisance or danger to road users.

No site establishment will be allowed within 100 m of a water body or drainage channel or on a flood plain unless approved by the Environmental (Control) Officer or specified in the project specification.

PZ2.2 SITE CLEARANCE

No trees or shrubs may be removed without the prior permission of the Environmental Officer, unless in keeping with the final site reinstatement and rehabilitation plan.

Topsoil is to be stripped from all areas where permanent or temporary structures and access roads are to be constructed. Topsoil conservation is to be in terms of clause PZ3 5.3 of this document.

PZ2.3 SERVICES

PZ2.3.1 Sanitation

Portable chemical toilets are to be utilized at site unless a connection to sewer is possible or a proper septic tank system is installed. In the case of the septic tank, the installation will require the relevant approvals from the local authority and will require removal upon completion of the contract, unless otherwise directed.

Sanitation facilities will be located within 100 m from any point of work, but not closer than 50 m to a water body.

PZ2.3.2 Solid Waste Facilities

Facilities for solid waste collection are to be provided. These are to be at least a 200 l drum and clearly identified as the point for waste disposal.

Waste is to be separated into paper, glass and metal with separate collection points for each. The Contractor will ensure that the appropriate recycling contractors receive this waste.

The Contractor is to institute a daily litter collection programme. The collected waste is to be disposed of regularly and proportionately to its generation at a site designated for waste disposal.

No burning will be permitted on any site unless by approved incineration methods and in a low risk fire area. In the case of incineration, ash is to be co-disposed with spoil in a designated spoil dump.

No burying of waste will be allowed on any site.

PZ2.3.3 Cooking and Heating Facilities

No open fires will be allowed anywhere on site.

Contained fires (i.e. in a fire drum) will be allowed for heating and cooking only in designated areas, in other cases cooking is restricted to gas or electrical equipment.

PZ2.4 FUELS, HAZARDOUS SUBSTANCES AND OTHER LIQUID POLLUTANTS

PZ2.4.1 Storage and handling

All potentially hazardous raw and waste materials are to be handled by trained staff and stored on site in accordance with manufacturer's instructions and relevant legal requirements. The product MSDS is to be lodged with the Engineer.

Storage and handling areas for fuels, lubricants, chemicals and other hazardous substances are to be paved with concrete to prevent accidental contamination of the soil. Alternatively, an impermeable liner may be placed beneath above-ground storage tanks. The integrity of the liner is to remain intact for the duration of the contract, until removal.

Open storage vessels, for example shutter lubricant drums, are to be stored under cover to prevent 'splash' contamination.

All storage areas are to be bunded (with at least sandbags) and have a peripheral collection drain, with oil interceptors (if required).

The bunded area is to be sufficiently large to contain a spillage equivalent to the volume of one container of the substances stored.

All products to be dispensed from 200 litre drums will be done so with appropriate equipment, and not dispensed by tipping of the drum.

Daily checks are to be conducted on the dispensing mechanism of above-ground storage tanks to ensure the timeous identification of faults.

Collection containers (e.g. drip trays) are to be placed under all dispensing mechanisms of hydrocarbon or hazardous liquid substances to ensure contamination from leaks and dispensing is contained.

The dispensing mechanism of diesel and petrol storage tanks is to be stored in a container when not in use.

PZ2.4.2 Control of pollutants

A drainage diversion system is to be installed to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, work shops, chemical and fuel stores, etc if applicable.

Contaminated runoff and waste water is to be directed into a collection system (e.g. sump, attenuation dam, PVC porta-ponds etc.) for treatment or collection and disposal. The final collection point (e.g. sump) is to be PVC lined.

Collected contaminated runoff/ wastewater is to be pumped out of the final collection point and disposed of at an appropriate landfill site. Sump liners are to be treated in the same manner.

The treated waste water, effluent and contaminated runoff may require analysis prior to discharge as detailed in the project specification or instructed by the Environmental Officer.

Details regarding proposed methods for treatment of pollutants are to be submitted to the Environmental (Control) Officer for acceptance upon award of the Contract.

Any spillages, irrespective of their size, are to be contained and cleaned up immediately. The Pollution Control section may provide technical assistance for clean up, if required. No spills may be hosed down into a stormwater drain or sewer.

Use of specialized cleanup techniques and/ or products may be required depending on the spill. This will be instructed by the Environmental Control Officer. These will be to the Contractor's cost.

PZ2.5 GENERAL

Site staff are not permitted to use any open water body or other natural water source (e.g. springs) for purposes of bathing, or the washing of clothes, machinery or vehicles. Nor draw water from a spring without the permission of the community utilising that spring.

PZ2.6 MEASUREMENT AND PAYMENT

PZ2.6.1 Compliance with the environmental issues

- (a) Full compliance with the Environmental Management Program.....L/Sum
- (b) Full compliance with the requirements of the Environmental Impact Assessment specific to the works.....L/Sum

The rate shall include for the compliance, in all respects, of the works, monitoring, assessing, safeguarding, reducing nuisance and all other aspects of the environment associated with ensuring that at all times the environment is not degraded.

The lump sum will be broken down and paid in accordance with monthly drawdowns and never paid out in full once.

PZ3 CONSTRUCTION

PZ3.1 CONSTRUCTION METHODS AND PROGRAM

PZ3.1.1 Construction Method

The Contractor will provide method statements for construction activities (14 working days prior to the activity commencing) relating to the following environments and those listed in the project environmental specification, unless methods have been prescribed in this or the project environmental specification:

- rivers, streams, or any other open water body;
- wetlands;
- access roads (see PZ3.13 below);
- steep slopes (i.e. steeper than 1:4) or less if friable material is present;
- indigenous bush/ forest;
- close proximity (i.e. 50 m or less) to a residential dwelling;
- drilling and/or blasting of rock.
-

If a construction method employed by the Contractor is not environmentally acceptable to the Employer, the Contractor may be instructed to cease the utilisation of that method in favour of a more environmentally acceptable one, proposed either by himself or the Employer.

PZ3.1.2 Construction Programme

The Contractor will programme construction so as to minimise the impact on the environment and provide this programme to the Environmental Control Officer for perusal and acceptance at the onset of the contract period. The Environmental Control Officer is to be made aware of any amendments to the construction programme or alterations to the scope of work in order that their impacts on the environment can be assessed.

The Contractor (through the Project Manager) will ensure that all affected landowners/ authorities are advised of the proposed programme at the beginning of the contract period.

PZ3.2 AREAS OCCUPIED / DEMARCATION OF SITE

Routes for temporary access and haul roads are to be located within the approved demarcated areas and vehicle movement is to be confined to these roads. Movement of vehicles outside the designated working areas is not permitted without authorisation from the Engineer.

All construction activities are restricted to working areas designated on the drawings and/or demarcated and approved by the Engineer. Materials including spoil are stockpiled at designated areas.

Any areas disturbed outside of the demarcated areas or without permission of the Environmental (Control) Officer or Engineer will be subject to reinstatement and rehabilitation (as per PZ4 below) to the Contractor's cost.

In terms of pipeline projects, a general maximum working servitude width of 15 m will apply for machine excavation unless otherwise indicated in the project specification. A maximum width of 6 m will apply for manual excavation. These maximum working servitude widths may vary depending on the sensitivity of the environment, as detailed in the project specification.

In sensitive biophysical environments, for example wetlands, indigenous forest / bush, pristine natural grasslands, and sensitive social environments, as defined in the project specification or by the Environmental Control Officer, the working servitude is reduced as indicated in the project specification.

The working servitude shall contain all construction related activities, including, stockpiling of materials, placing of toilets, vehicle movement areas, etc.

Demarcation of linear projects (executed with machine excavation) and features (e.g. pipelines, access roads, etc.) will be by means of wooden stakes. These stakes will be at least 1 m high, painted white and placed at least every 15 m, on either side of the linear feature, in all areas where works are occurring. Progressive movement of stakes is required as linear projects progress.

In the case of a fenced site, the boundary fences will be denoted as the outermost limit of the site, but internal areas may be demarcated with stakes as above. The site boundaries of non-fenced, but 'contained' projects are to be delineated using stakes or temporary fencing, depending on the hazard which that site poses.

PZ3.3 SUPPLY OF WORKS FACILITIES

No water may be abstracted from water bodies for the purposes of construction, without approval of the Engineer in consultation with the Environmental Control Officer.

PZ3.4 CLEANLINESS

SABS 1200 AD, clause 5.2.4, second sentence, is to read: "No rubbish or debris shall be deposited below the full supply level (FSL)."

PZ3.5 SITE CLEARANCE

PZ3.5.1 Clearance

Spoil sites will require clearing and grubbing in addition to those areas in terms of SABS 1200 C 5.1.

The site shall only be cleared immediately prior to construction activities commencing i.e. at the last practicable stage.

No trees or indigenous shrubs may be removed without the prior permission of the Environmental (Control) Officer, unless in keeping with the final site reinstatement and rehabilitation plan.

PZ3.5.2 Disposal of materials

Material obtained from clearing and grubbing operations shall be disposed of at appropriate municipal disposal facilities. They are not to be disposed of as per Paragraph 1 of Sub-clause 3.1 of SABS 1200 C.

Wood obtained from clearing and grubbing operation remains the property of the landowner/ community and must be stacked at sites designated by relevant person. The Contractor will be required to remove and dispose of any wood from site at a designated site for vegetation disposal, should the landowner/community not require it.

All tree trunks and branches of diameter greater than 50 mm are to be cut into lengths not exceeding 2400 mm.

Brush wood (i.e. < 50 mm diameter) is to be disposed of, or utilized as specified in the project specification or upon instruction of the Engineer.

PZ3.5.3 Conservation of topsoil

The Contractor is required to strip topsoil (as defined in this specification) together with grass, groundcover and sedges from all areas where permanent or temporary structures are located, construction related activities occur, and access roads are to be constructed, etc. The depth to which topsoil will be stripped shall be 200 mm unless stated otherwise in the project specification.

Topsoil is to be handled twice only - once to strip and stockpile, and secondly to replace, level, shape and scarify.

Topsoil is to be replaced along the contour.

Topsoil is to be replaced by direct return (i.e. replaced immediately on the area where construction is complete), rather than stockpiling it for extended periods. This is feasible for progressive construction (e.g. pipelines), but not necessarily so for reservoirs, site establishments, dams, etc.

Topsoil stockpiles are not to exceed 2 m in height.

Topsoil stockpiles are to be maintained in a weed free condition (i.e. no 'broad-leaved' plants regarded as weeds in terms of the Conservation of Agricultural Resources Act No 43 of 1989, or those plants regarded as a 'general nuisance in the area' are to be growing on the stockpiles). The Environmental Control Officer will provide guidance as to which plants are weeds and require removal.

The stockpiles are not to be contaminated with sub-soil, or any other waste material.

Topsoil may not be compacted in any way, nor may any object be placed or stockpiled on it.

Topsoil may not be compacted in any way, nor may any object be placed or stockpiled on it.

Topsoil which is to be stockpiled for periods exceeding 4 months is to be vegetated. In summer a mixture of *Eragrostis tef* (Teff) and *Eragrostis curvula* (Weeping Lovegrass) (ratio 1:2) is to be applied at an application rate of 6 kg/ha, unless otherwise instructed in the project specification.

In winter, a mixture of *Lolium multiflorum* (Annual/Italian Rye grass) and *Eragrostis curvula* (Weeping Lovegrass) (ratio 1:1) is to be applied at an application rate of 6kg/ha (see PZ4 5.3 for sowing times), unless otherwise instructed in the project specification. Fertiliser is to be applied as per PZ4 5.2.

PZ3.5.4 Cutting of trees

Any tree branches which require removal are to be properly pruned and sealant applied to the cut surface, if required.

The Contractor's attention is drawn to Sub-clause 5.2.3.3 of SABS 1200 C with respect to work in indigenous forests.

Any indigenous trees or bush which require removal in terms of the project, and which have not been identified in the project specification or EMP, are to be timeously indicated to the Environmental Officer prior to work affecting them.

PZ3.5.5 Landscape Preservation and Conservation of Flora

Notwithstanding Clause 5.7 of SABS 1200 C, the Contractor will be required to transplant designated plants to alternative locations as specified in the project specification or identified by the Environmental Control Officer, upon the instruction of the Engineer.

Transplanting shall be undertaken by employing the following method:

Removal

- Mark the orientation of the tree/shrub (for example, the north-facing side of the trunk indicated by a small arrow made with indelible ink) trunk. Do not scratch a mark on the surface of the trunk;
- Delineate a circle from the trunk with a radius equivalent to the drip-line of the tree, or as indicated by the Environmental Control Officer on site;
- Excavate the tree with an intact rootball.

Replanting

- A hole 500 mm larger in diameter than the anticipated rootball must be prepared in advance of the tree removal in order that the tree can be replanted immediately;
- The tree must be positioned as per its original orientation;
- A planting method known as 'puddling' must be employed. This method involves the addition of soil and water simultaneously to expels air from the planting hole. Place the tree in its new hole, making sure the top surface of the rootball is level with the ground level. Place a hose pipe in the hole and leave it running whilst extra soil is added around the rootball;
- 'Compact' the tree in the hole and attach tree stays for stabilisation.

Compensatory planting of species may be required should transplantation not be feasible, as indicated in the project specification or upon instruction of the Engineer.

PZ3.6 EARTHWORKS

PSZ3.6.1 Backfill material

With reference to SABS 1200 DB sub-clause 3.5, no material stripped or excavated which is classed, in terms of this specification, as topsoil, may be used as backfill in any excavation.

PZ3.6.2 Excavation and backfilling

During excavation 'conservation of topsoil', as specified in PZ3 5.3 above will apply.

Excavated material is to be stockpiled along a pipeline trench within the working servitude, unless otherwise authorised.

Surplus excavated soft, intermediate and hard rock material shall not be disposed of along the pipeline trench as indicated in SABS 1200 DB sub-clause 5.6.3 and 5.6.4, but shall be removed to a spoil site (see PZ3.15 below) designated during the

project if applicable, or agreed by the Engineer in conjunction with the Environmental Control Officer and Project Manager.

In certain cases, for example to help stabilise the disturbed area or to reinstate the natural aesthetics of an area, excess excavated intermediate and hard material may be disposed of in a designated manner along a pipeline trench, as indicated by the Environmental Control Officer and Project Manager, or in the project specification. In this case, rock material shall not exceed 250 mm in maximum dimension (see PZ4 2.1).

In terms of SABS 1200 DB 5.6.5 and SABS 1200 LB 3.4.2, deficiency of backfill material shall not be made up by excavation within the free haul distance of 0.5 km of site, without the prior approval of the Engineer of the source of the material. Where backfill material is deficient, it should ideally be made up by importation from an approved borrow pit (i.e. one which operates within the ambient of an EMPR.) (See also PZ3 14 below).

The Contractor will backfill in accordance with the requirements of progressive reinstatement.

The maximum length of open trench shall be specified in the project specification.

PZ3.7 SAFETY

All works which may pose a hazard to humans and animals are to be adequately protected and appropriate warning signs erected. The Contractor's attention is drawn to SABS 1200 D section 5.1 in this regard.

With reference to SABS 1200 D 5.1.1.3, where blasting is required in terms of the project, the Contractor will ensure that all structures in the vicinity that could be affected by the activity will be inspected and their condition photographically recorded (as necessary), prior to blasting.

Notice of intent to blast is to be provided to landowners timeously.

Speed limits, appropriate to the vehicle driven, are to be observed at all times on access roads. Operators and drivers are to ensure that they limit their potential to endanger humans and animals at all times, by observing strict safety precautions.

PZ3.8 PLANT

PZ3.8.1 Silencing of plant

With reference to SABS 1200 A amend: "built up areas": to read as "all areas within audible distance of residents (albeit urban, peri-urban or rural areas)."

Appropriate directional and intensity settings are to be maintained on all hooters and sirens. Silencer units on equipment and vehicles are to be maintained in good working order.

Construction activities are to be confined to normal working hours (07h30 - 17h00) Mondays to Saturdays, except for the activities designated to be carried out at night.

PZ3.8.2 Appropriate use of plant

The Contractor will at all times use plant which is appropriate to the task in order to minimise the extent of damage to the environment.

PZ3.9 DEALING WITH WATER ON WORKS

PZ3.9.1 Disinfection of Potable Water Infrastructure

Disinfection water is to be neutralised before release of this water to the environment.

PZ3.9.2 Discharge of water from site

Any water which is discharged from site is to comply with the relevant Water Quality Guidelines implemented by DWAF.

Water discharged to the stormwater / sewer system may only be done so with the permission of the relevant local authority.

PZ3.10 CONTROL OF EROSION

Surface erosion protection measures will be required to prevent erosion where slopes are steeper than 1:8 on all soil types.

Erosion protection measures required may include all or some of the below, as specified in the project specification or upon instruction of the Engineer in conjunction with the Environmental (Control) Officer:

- use of groundcover or grass
- construction of cut off berms (earth and/or rockpack) - these are to be angled across the contour and normally would approximate an angle of 30° from the bisector of the contour.
- placing of brush wood on bare surface;
- pegging of wattle trunks or branches along the contour;
- hard landscaping, e.g. use of Loffelstein walls, ground anchors, gabions etc.

Scour chambers are to be fitted with energy dissipaters, or the jet of water directed onto a protected (i.e. grouted stone pitching/ rock pack/ reno mattress) area to dissipate water velocity and to control and prevent erosion.

Storm water drainage measures might be required on site to control runoff and prevent erosion.

PZ3.11 CONTROL OF POLLUTION

No waste in a solid, liquid or gaseous state shall be emitted from or spilled on the site without the approval of the Engineer.

No mixed concrete shall be deposited directly onto the ground prior to placing. A board or other suitable platform is to be provided onto which the mixed concrete can be deposited whilst it awaits placing.

Excess concrete from mixing shall be deposited in a designated area awaiting removal to an approved landfill site.

The Contractor will contain wash water from cement mixing operations, by directing the water into a sump for collection. The material contained in the sump will be removed to an appropriate landfill site.

No concrete rubble shall be present at the site.

Liquid wastes will not be disposed of to storm water drains. They may be disposed of to sewer only if permitted by (local council) legislation.

In the event of pollution of a water body (including sediment loading), the Contractor will provide alternative water supply to users of that water body until the quality of the water body is restored to its previous unpolluted state. For the sake of this clause, pollution is deemed to be a state which is substandard to the normal quality of the water body, but is not necessarily in contravention of the South African Water Quality guideline standards for a prescribed activity.

Any ancillary damages resulting from pollution of a water body will be repaired / remediated at the Contractor's cost.

Where, due to construction requirements, pollution of a water body may potentially occur, the Contractor is to ensure adequate measures (e.g. attenuation/ settlement dams / oil absorbent products) are in place to prevent pollution. A method statement is to be provided to this effect (see PZ3 1).

PZ3.12 CONTROL OF FIRE

The Contractor will ensure he has the necessary fire fighting equipment on site in terms of SABS 1200. This will include at least rubber beaters when working in 'veld' areas, and at least one fire extinguisher of the appropriate type when welding activities are undertaken, irrespective of the site.

PZ3.13 USE AND MAINTENANCE OF ACCESS FACILITIES

PZ3.13.1 Responsibility

The Project Manager [not the Contractor (SABS 1200 AD 5.3.1)] will be responsible for obtaining permission for temporary and permanent rights of way over all private property affected by project activities.

The Project Manager will ensure that the Contractor has kept a photographic record of all access facilities and that these are reinstated to a state not worse than upon commencement of the project and to the satisfaction of the landowner (notwithstanding that the project's objective is not to upgrade landowners' access roads).

PZ3.13.2 Fencing

Temporary fencing is to consist of 1.2 m bonnox fencing, or similar, suitably tensioned and supported on 1.8 m fencing standards at 3 m intervals, with all necessary straining posts and stays.

All temporary fencing as indicated by the Engineer is removed on completion of the contract.

PZ3.13.3 New Access Roads

Any construction roads created for execution of the project are to be designed to incorporate adequate drainage and water attenuation structures.

Any access roads which incorporate 'cut and fill' aspects and/or which are to be surfaced during construction are to be authorised by the Environmental Control Officer and Project Manager. Prior to construction of the road, the Contractor will be required to provide a sketch plan of the road layout (referenced to local topographic, natural and man-made structures). Slope steepness, road width, drainage structures and their frequency will need to be documented and accompany the sketch layout.

Construction access roads may not be wider than that necessary (maximum width 4 m) for movement of vehicles in one direction only. Should two way traffic be required, points people are to control vehicle movement on the 'single lane' road or passing bays are to be used where specified in the project specification or as identified by the Engineer in conjunction with the Environmental Control Officer, unless otherwise stated in the project specification.

The cut and fill slopes of permanent roads will require grassing, as specified in the project specification or by the Environmental Control Officer, to increase stability and reduce aesthetic impacts. Hard landscaping may be required as per the project specification.

Temporary construction roads will require rehabilitation on completion of construction activities for which they were required. These roads will require rehabilitation as per PZ4 4 or as specified in the project specification. In the case of access 'tracks', only ripping to loosen compaction will be required unless otherwise stated by the Environmental Control Officer or project specification.

Access roads created by the project may only remain unrehabilitated on written request of the landowner, with his acceptance of the state of the road and a clause that the landowner accepts all responsibility for the road and its state.

PZ3.13.4 Maintenance of Existing Access Roads

The Contractor will record, photographically, the state of existing roads which are to be used for access, prior to plant utilizing these roads.

During the contract period, the Contractor will ensure that all existing water attenuation and drainage structures are maintained in a state in which they can optimally perform their function.

Upon completion of the construction period, the Contractor will ensure that the access roads are returned to a state not worse than prior to construction commencing.

PZ3.14 BORROW PITS

Where the Contractor is required to import material this shall be from commercial sources or borrow areas specified in the project specification.

The Contractor may source material from alternative borrow pits provided: the site location; method of winning material and reinstatement and rehabilitation are environmentally acceptable and approved by the Environmental Control Officer.

In this regard, the Contractor shall give the Environmental Control Officer in writing, 30 days prior to opening up alternative borrow pits the following information for acceptance:

- quantities of borrow material required;
- method statement for excavation of material including depth and extent of excavation;
- anticipated 'active life' of the borrow area;
- proposal for reinstatement and rehabilitation of borrow area, including final profile;
- written approval from the landowner/ relevant authority that material may be removed from their land subject to their stated conditions, requirements, and royalties, and if the proposal is acceptable to the Environmental Control Officer.
-

Development and rehabilitation of borrow pit areas are likely to include the following activities (but these must not be regarded as exhaustive):

- Stripping and stockpiling of topsoil as per PZ3 5.3 of this specification;
- Removal (to nominal depth of 500 mm) and stockpiling of sub-soil;
- Infill of borrow pit with spoil material;
- Contouring of borrow pit to approximate natural topography and/ or reduce erosion impacts on the site;
- Placement of excavated subsoil over spoil material;

- Placement of stripped topsoil on subsoil;
- Grassing of topsoil in terms of clause PZ4 4 of this specification.
-

The Contractor is to familiarise himself with the requirements of the Minerals Act No 50 of 1991 in terms of borrow pit development, and the requirements of the EMPR, as applicable.

PZ3.15 SPOIL SITES

Where the Contractor is required to spoil material, spoil sites must be identified which are environmentally acceptable and approved by the ECO, unless spoil site areas have been identified in the project specification, in which case these will be the designated spoil sites.

If no spoil sites have been previously identified together with reinstatement and rehabilitation criteria, the Contractor is to provide the following information to the ECO at least 30 days prior to requiring sites to spoil material:

- the location, description of and access to alternative sites identified in order that they may be assessed;
- the quantity of material to be spoiled;
- the type of material to be spoiled (i.e. blast rock/ excavated rock/ soft shale/ subsoil etc.);
- the proposed method of spoiling;
- the proposed reinstatement and rehabilitation plan including final profile;
- written approval from the landowner/ relevant authority that material may be spoilt on land subject to their stated conditions and requirements and if the proposal is acceptable to the ECO.

Development and rehabilitation of spoil areas are likely to include the following activities (but these must not be regarded as exhaustive):

- Stripping and stockpiling of topsoil as per PZ3 5.3 of this specification;
- Removal (to nominal depth of 500 mm) and stockpiling of sub-soil;
- Placement of spoil material;
- Contouring of spoil site to approximate natural topography and/ or reduce erosion impacts on the site;
- Placement of excavated subsoil over spoil material;
- Placement of stripped topsoil on subsoil;
-

Grassing of topsoil in terms of clause PZ4 4 of this specification.

PZ3.16 NUISANCE

PZ3.16.1 Dust

At all times the Contractor shall control dust on the site, access roads, borrow pits and spoil dumps with water, chemical soil stabilisers or temporary surfacing as specified in the project specification or upon instruction of the Engineer.

Dust control shall be sufficient so as not to have significant impacts in terms of the biophysical and social environments. These impacts include visual pollution, decreased safety due to reduced visibility, health aspects, and ecological impacts due to dust particle accumulation.

On gravel or earth roads, vehicle speeds may not exceed 30 km per hour.

PZ3.16.2 Noise

The operational layout of the construction site is to be designed to control and reduce noise from source (see clause PZ2 1).

Machinery and vehicle silencer units are to be maintained in good working order. Offending machinery and /or vehicles will be banned from use on site until they have been repaired.

Construction activities generating output levels of 85 dB(A) or more (excessively noisy), in residential areas, are to be confined to working hours (08h00 - 17h00) Mondays to Fridays only.

‘Normal’ or ‘noisy’ working hours may only be extended with the prior written approval of the Project Manager, who has been notified, at least 7 days in advance, of the impending work requiring extension.

The Project Manager will ensure that the neighbours are timeously forewarned of imminent noisy activities.

Should community complaints be received with regard to noise generation, the Contractor will, at the discretion of the Project Manager and Environmental Control Officer, provide an independent and registered noise monitor to undertake a survey of noise output levels from site, and implement measures to reduce noise to legislated levels.

PZ3.16.3 Visual

All site establishment components, as well as equipment, will be positioned to limit visual intrusion to neighbours (see clause PZ2 1 above).

The type and colour of roofing and cladding materials are to be selected to reduce reflection.

Security lighting (both temporary and permanent) and lighting required for specific works activities must be placed such that it is not a nuisance to residents and the general public.

PZ3.16.4 Interference with neighbours and public

No construction staff may approach site neighbours, for whatever reason, without the knowledge and permission of the Project Manager.

Complaints from neighbours and public with regard to interference from contract staff will be regarded in a serious light, and the offender(s) may be subject to disciplinary action.

PZ3.16.5 Disruption of Services

Disruption of services, e.g. road access, water and electricity, must be kept to a minimum at all times.

Where service disruption is unavoidable, the Contractor is to advise the Project Manager (at least 7 days in advance), who in turn will timeously warn the affected parties.

PZ3.17 SPECIAL ENVIRONMENTS

PZ3.17.1 Wetlands

Pipeline trenches which traverse wetlands shall be constructed as specified in the project specification. The Contractor will submit a method statement for work in wetland areas as per PZ3 1.1

Construction may not permanently alter the surface or subsurface flow of water through the wetland.

The Contractor shall submit a method statement for review at least 14 days prior to commencing construction in a wetland.

The Contractor will remove all wetland vegetation with their root ball intact. This vegetation is to be kept moist at all times. It is to be placed in the shade and covered with moistened hessian cloth until replanting, which is to be undertaken immediately surface reinstatement is complete.

No construction materials may be stockpiled in any wetland areas.

The pre-construction profile of the wetland shall be returned to one similar as before construction, with no created “ridge or channel” features present.

PZ3.17.2 River/stream courses

The Contractor shall submit a method statement for review 14 days prior to commencing construction. The method statement should highlight (but not be confined to) the following issues:

- detailed plan of crossing including pipe protection works;
- how water flow will be diverted during construction (if applicable);
- containment of contaminated runoff and waste water;
- width of working servitude (if not already detailed in project specification);
- final expected profile of river/ stream banks;
- reinstatement and rehabilitation of river/ stream banks.

The Contractor will remove herbaceous riparian vegetation as indicated in the project specification or by the Environmental Control Officer, with their root ball intact. This vegetation is to be kept moist by means of placing it in the shade, covered with moistened hessian cloth until it is replanted.

The Contractor shall not modify the banks or bed of a water course unless as specified in the project specification.

Rocks for use in gabion baskets/reno mattresses may not be obtained from a water course.

The Contractor will not pollute any water body as a result of construction activities (see also PZ3 11).

The Contractor shall not cause any physical damage to any aspects of a water course, other than those necessary to complete the works as specified and in accordance with the accepted method statement.

Where a stream or river crossing requires the diversion of water, a method statement is to be provided to the Environmental Control Officer in this regard for review.

PZ3.18 MEASUREMENT AND PAYMENT

Measurement and payment for compliance with clauses of the specification will be made as follows. All other costs of compliance are deemed to be included in the Contractor's rates.

| Item | Unit |
|---|----------------|
| a. Areas occupied/ Demarcation of Site <u>Wooden Stakes</u> Supply installation and removal on completion per linear meter of boundary staked | m |
| b. Site Clearance Site Clearance as specified shall be scheduled in SABS 1200 and shall include the costs of complying with this specification | |
| c) Conservation of Topsoil Measurement for this item will be per m3 and will be inclusive of clearing and grubbing all in one operation. Removal and replacement of topsoil as specified shall be as scheduled in the relevant SABS 1200 specification (SABS 1200 D) <u>Grassing of temporary topsoil stockpiles</u> | |
| i. Supply of materials and planting as specified | m ² |
| ii. Maintenance by watering, weeding and fertilising | m ² |
| d) Landscape preservation and Conservation of flora <u>Transplanting of trees/ shrubs of main stem girth:</u> | |
| i. up to 400 mm | Sum |
| ii. over 400 mm | Sum |

The rate shall include removal, replanting and watering of plants as specified.

e) Control of Fire
Provision of fire fighting equipment as specified shall be scheduled in SABS 1200 A, AA, AD and AH.

f) Temporary Fencing
Supply, installation, maintenance and removal of temporary fencing as per specification m

g) Nuisance
i. Dust
Control of dust as specified shall be scheduled in the applicable SABS 1200 specification

h) Special Environments
i. Wetlands

Removal of vegetation with intact root zone (minimum depth 150 mm) m²

PZ4 REINSTATEMENT AND REHABILITATION

Scope:

The intention of this section is to ensure that the condition of the areas disturbed by the project are returned to a state that approximates what they were before the project or better, within reason. The concept of progressive reinstatement is fundamental to cost effective (both financial and environmental) rehabilitation of a site. This concept must be followed at all times. Where landscaping is utilised, the concept is to utilise and restore indigenous plants to the site, in terms of the concept of xeriscaping.

Reinstatement will be required for all areas disturbed by the project. For pipeline projects, this will include the full working servitude, not just the top of actual excavation as per SABS 1200 DB (subclause 5.9.1.1)

Reinstatement and rehabilitation will ensure that all areas disturbed by the project are returned, within reason, to a state not worse than before the project commenced.

The Contractor will reinstate and rehabilitate all disturbed areas outside of the demarcated working area (as defined in terms of clause PZ3 2 or the project specification) at his own cost and to the satisfaction of the Environmental Control Officer and Project Manager.

PZ4.1 HOUSEKEEPING

All areas are to be cleared of rubble associated with construction. This includes the removal of surplus materials, excavation and disposal of consolidated waste concrete and concrete wash water, litter, etc.

All soil contaminated by hydrocarbons, for example from leaking machines, refuelling spills etc., is to be excavated to the depth of contaminant penetration, placed in 200 litre drums and removed to an appropriate landfill site.

PZ4.2 FINISHING

PZ4.2.1 Final Grading

Final levels of all disturbed areas are, where feasible in terms of the project requirement, to be consistent with the natural topography of the area.

In certain instances, it will be acceptable to reinstate rock onto a works area (e.g. pipeline servitude), provided that that rock does not exceed 250 mm in maximum dimension and is placed in a manner consistent with the natural surrounds as indicated by the Environmental Control Officer and Project Manager.

All drainage lines affected by construction are to be reinstated to approximate their original profile. Where this is not feasible due to technical constraints, the profile is to be agreed upon by the Environmental Control Officer and Project Manager.

All compacted (disturbed) areas (including stockpile areas) are to be ripped (along contour) to a depth of 150 mm prior to the replacement of topsoil.

PZ4.2.2 Topsoiling

Topsoil is to be replaced to a minimum depth of 100 mm.

Topsoil is not to be compacted, but once replaced is to be scarified (to a depth of 50mm) consistent with the natural contour.

If insufficient topsoil is available, subsoil or similar material may be used that may be a suitable substrate after addition of soil improving substances e.g. compost, pH rectifiers (lime or gypsum) etc. Soil testing may be required at an approved facility.

PZ4.3 REINSTATEMENT OF WATER COURSES AND WETLAND AREAS

The Contractor will ensure that water course banks are returned to their original profile unless the project specification states otherwise.

The surface reinstatement of wetland areas is to ensure that no depressions remain which could act as channels for preferential water flow thereby affecting the hydrological regime of the wetland.

The Contractor will preserve all riparian and wetland vegetation for use in rehabilitation of those environments. This vegetation is to be kept moist at all times. It is to be placed in the shade and covered with moistened hessian cloth until replanting, which is to be undertaken immediately surface reinstatement is complete.

Plants are to be, as nearly as possible, replanted in areas from which they were removed.

PZ4.4 VEGETATION RE-ESTABLISHMENT

The Contractor will ensure that all areas disturbed by contract activities are revegetated to the specified standard.

This standard is deemed to be an 85 % cover with no areas in excess of 0.04 m² / m² remaining unvegetated.

Revegetation shall match the vegetation type which previously existed (e.g. kikuyu pastures are to be returned to kikuyu pasture; 'veld' grass to 'veld' grass, etc.), unless stated otherwise in the project specification.

Prior to re-grassing, and if required:

- the area is to be scarified or ripped (along contour) to a depth of 50 mm to loosen compaction.
- weeds present on site are to be removed.

Re-grassing, where required, will be either by means of seeding, instant turf (sods), sprigs or plugs as specified in the project specification or as specified by the ECO.

Where sprigs or plugs are utilised, they are to be planted at 200 mm centres. The fertiliser shall be applied as per PZ4 5.2. During summer, 25 mm of irrigation shall be applied each week until reasonable (60%) ground cover has been obtained. During winter 15 mm of irrigation shall be applied each week until reasonable (60%) ground cover has been obtained. The amount of irrigation to be applied will make up the difference between rainfall recorded on site and minimum requirement.

Where instant turf is utilised, it shall be laid as specified in the project specification. The fertiliser shall be applied as per PZ4 5.2. During summer, 25 mm of irrigation shall be applied each week until all the turf is visibly growing. During winter 15 mm of irrigation shall be applied each week until all the turf is visibly growing. The amount of irrigation to be applied will make up the difference between rainfall recorded on site and minimum requirement.

Grassing shall be undertaken by a specialist grassing Sub-contractor, unless permission is granted otherwise by the Engineer upon receipt of a written motivation from the Contractor.

The Contractor shall state in writing when the regrassing operation will commence and its expected duration (dates).

Grassing in 'veld' areas is to be undertaken as per PZ4 5 below. *Cynodon dactylon* species may be excluded or substituted from this mixture at the discretion of the Environmental Control Officer, or as specified in the project specification. The seed bulk may be made up with the *Eragrostis tef*.

PZ4.5 VELD GRASS" GRASSING SPECIFICATION

The area to be grassed should be estimated and converted to hectares, e.g. 100 m X 100 m = 10 000 m² = 1 ha. All fertilizer and seeding rates used in this specification are with respect to hectares.

PZ4.5.1 Regional areas

For re-grassing three distinctive areas exist. These are defined as:

- the Coastal area (a narrow band running from the coast to ?15 km inland of the coast)
- the Coastal hinterland (a broad band (?50 km wide), generally defined as westwards of the coastal belt, and below 800 m a.s.l.)
- the area above ≈ 800 m a.s.l. (also called Midlands area).

PZ4.5.2 Fertiliser

Standard 2:3:2 (N:P:K) fertiliser shall be used on all sites. The rate of application will be:

- 200 kg/ha in the Coastal Hinterland areas, and
- 300 kg/ha in the Midlands and Coastal areas.

PZ4.5.3 Planting times

Summer (includes Spring) is considered to be between the 1 September and 28 (29) February.

Winter (includes Autumn) is considered to be between 1 March and 31 August.

Re-grassing will be undertaken (as far as possible) in summer as germination and establishment of grasses is most effective, assuming reasonable spring rains.

Vegetation re-establishment is likely in many cases to be held off until this suitable growing season.

Hydroseeding with a winter mix will only be specified where regrassing is urgently required and cannot wait until the summer season. In this case irrigation will be required as per PZ4 5.4 below.

PZ4.5.4 Establishment and maintenance

During summer, 25 mm of irrigation shall be applied each week until reasonable (60%) ground cover has been obtained.

During winter (where annual rye grass is specified) 15 mm of irrigation shall be applied each week until reasonable (60%) ground cover has been obtained.

If rapid establishment is required, additional watering may be necessary as specified in the project specification

The amount of irrigation to be applied will make up the difference between rainfall recorded on site and the minimum requirement.

PZ4.5.5 Grass Seed Selection and Application Rates

The specific seed selection and application rates for each of the defined areas are covered separately, as follows.

PZ4.5.5.1 Coastal area

Summer mix (1 September - 28 February)

| Grass species | Common name | General application rate (kg/ha) |
|----------------------|--------------------|---|
| Eragrostis tef | Teff | 5 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 10 |
| Digitaria eriantha | Smuts' fingergrass | 5 |
| Total | | 30 |

Winter mix (1 March - 31 August)

| Grass species | Common name | General application rate (kg/ha) |
|---|--------------------------|---|
| Lolium multiflorum cultivar - Midmar | Annual/Italian rye grass | 10 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 5 |
| Total | | 25 |

PZ4.5.5.2 Coastal hinterland

Summer mix (1 September - 28 February)

| Grass species | Common name | General application rate (kg/ha) |
|----------------------|------------------------|---|
| Eragrostis tef | Teff | 5 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 10 |
| Cenchrus ciliaris | Blue buffalo grass | 2 |
| Cynodon dactylon | Couch/Kweek/Star grass | 10 |
| Total | | 37 |

Winter mix (1 March - 31 August)

| Grass species | Common name | General application rate (kg/ha) |
|---|--------------------------|---|
| Lolium multiflorum cultivar – Midmar | Annual/Italian rye grass | 10 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 5 |
| Cenchrus ciliaris | Blue buffalo grass | 2 |
| Cynodon dactylon | Couch/Kweek/Star grass | 3 |
| Total | | 30 |

PZ4.5.5.3 Midlands area

Summer mix (1 September - 28 February)

| Grass species | Common name | General application rate (kg/ha) |
|----------------------|------------------------|---|
| Eragrostis tef | Teff | 4 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 10 |
| Digitaria eriantha | Smuts' fingergrass | 2 |
| Cynodon dactylon | Couch/Kweek/Star grass | 2 |
| Paspalum notatum | Lawn paspalum | 2 |
| Total | | 30 |

Winter mix (1 March - 31 August)

| Grass species | Common name | General application rate (kg/ha) |
|--------------------------------------|--------------------------|----------------------------------|
| Lolium multiflorum cultivar - Midmar | Annual/Italian rye grass | 10 |
| Eragrostis curvula | Weeping lovegrass | 10 |
| Chloris gayana | Rhodes grass | 5 |
| Paspalum notatum | Lawn paspalum | 2.5 |
| Total | | 27.5 |

PZ4.5.6 Seeding methods

Two methods are recommended, namely hydroseeding and hand-broadcasting. The required method shall be as specified in the project specification.

All seed supplied should be labelled in accordance with the Government Seed Act No. 20 of 1961 and the Contractor shall be required to produce such certification, if requested by the Engineer.

PZ4.5.6.1 *Hydroseeding*

The Grassing Contractor shall be conversant with this method.

Cellulose pulp (consisting of either wood shavings, shredded straw, shredded paper or cotton waste) shall be added to the mix to be applied at a rate of 250 kg/ha.

In addition to the cellulose pulp, compost (consisting of either chicken litter, kraal manure, sugar cane filter cake or mushroom compost) shall be incorporated at a rate of 5 m³/ha (?100 X 50 kg fertiliser bags/ha).

PZ4.5.6.2 *Hand-broadcasting*

Fertiliser, at the appropriate rate, is to be distributed by hand in a manner to ensure that there is an even spread of fertiliser over the site. This is to be done prior to seeding.

The seed mix is to be weighed and made up in an appropriately large container which shall be stirred to ensure no settling out of the grass seed, and a uniform distribution of the different types of seed.

The seed is to be distributed by hand in a regular grid broadcasting manner to ensure that there is an even spread of grass over the entire site.

The area seeded is to be raked over once the seed and fertiliser have been applied to incorporate these elements into the topsoil.

PZ4.5.7 General

Where there is a possibility of neighborhood livestock grazing a rehabilitated site these should, as far as is practicable, be excluded for the first 3 months of re-grassing.

PZ4.6 LANDSCAPING

Landscaping of the site may be required as indicated in the project specification.

Compensatory planting of trees or shrubs may be required should the transplantation of such not be successful in terms of PZ3 5.5 or due to plants removed in terms of PZ3 5.4

Planting of trees will be in accordance with the following method:

- All tree holes shall be square in plan;
- Tree holes shall be a minimum of 600 mm by 600 mm square by 700 mm deep;
- Holes are to be backfilled with excavated soil in a ratio of 3:1 with compost. The compost is to be weed free and have been composted at temperatures in the order of 65°C. Where possible, any available topsoil should be placed in the hole at the level where the tree rootball will rest. A handful (half-a-cup) of each Superphosphate and 2.3.2 should be mixed into the soil-compost mix;
- The tree holes are to be backfilled to the point where the tree and its rootball are in the desired position. The tree is to be removed temporarily and the hole filled with water and allowed to drain away. This operation of watering and draining should be repeated at least four times in order that the surrounding ground and hole are thoroughly moist. The tree is then to be replaced and the remaining soil replaced;
- All trees shall be tied (using a tree tie) to a suitable timber stake planted in the ground to a depth of at least 500 mm. The stake shall have a minimum diameter of 35 mm and shall be at least 300 mm higher than the planted tree;
- Water retaining basins of at least 500 mm diameters are to be formed around each tree;
- The Contractor is to apply at least 10 litres of water per tree per fortnight for a period of at least 3 months.

The planting of shrubs will be in accordance with the tree planting method with the exception that the holes are to be a minimum of 400 mm by 400 mm square by 500 mm deep, and that the tree stakes and ties are not required.

PZ4.7 ALIEN PLANT CONTROL

All sites disturbed by construction activities will be monitored for colonisation by invasive alien plant species.

The Environmental Control Officer will identify those plants which require removal during both the construction and maintenance period, for the Contractor's action.

The Environmental Control Officer will provide advice as to effective methods of removal and control of alien plant species.

PZ4.8 MEASUREMENT AND PAYMENT

Measurement and payment for compliance with clauses of the specification will be made as follows. All other costs of compliance are deemed to be included in the Contractor's rates.

| <u>Item</u> | <u>Unit</u> |
|---|----------------------|
| (a) Finishing | |
| i. Final Grading | |
| Ripping of compacted and disturbed areas to 150 mm depth | m ² |
| Handtrimming | m ² |
| ii. Topsoiling | |
| Replacement of topsoil to minimum depth of 100 mm or such other depth as specified in the project specification | m ² |
| Scarification of replaced topsoil to depth of 50 mm and final hand trimming using spades and rakes | m ² |
| Soil testing at an approved facility | sum per sample |
| Soil Improvements required prior to vegetation re-establishment: | |
| Compost (supplied, placed and mixed into the soil) | ton |
| pH Rectifiers (supplied, placed and mixed into the soil) | kg or ton |
| Fertiliser (2:3:2) (supplied, placed and mixed into the soil) | ton |
| iii. Vegetation Re-establishment | |
| Hand-broadcasting with appropriate grass seed mix | m ² or ha |
| Deemed to be inclusive of soil preparation and improvements, materials and labour as specified in PZ4 5. | |
| Hydroseeding with appropriate grass seed mix | m ² or ha |
| Deemed to be inclusive of soil preparation and improvements, materials and labour as specified in PZ4 5. | |
| Sprig planting | m ² or ha |
| Deemed to be inclusive of soil preparation and improvements, materials and labour | |
| Plug planting | m ² or ha |
| Deemed to be inclusive of soil preparation and improvements, materials and labour | |
| Instant Turf | m ² or ha |
| Deemed to be inclusive of soil preparation and improvements, materials and labour | |
| Maintenance | m ² or ha |
| Deemed to be inclusive of watering, weeding, etc. | |
| (c) Landscaping | |
| i. Planting of trees in bag sizes: | |
| a. up to and including 10 litre | Sum |
| b. over 10 litre up to and including 20 litre | Sum |
| c. over 20 litre | Sum |

| | | |
|-----|--|-----|
| ii. | Planting of shrubs in bag sizes: | |
| a. | up to and including 10 litre | Sum |
| b. | over 10 litre up to and including 20 litre | Sum |

The rate shall include supply of plants and materials, preparation of plant holes, planting and maintenance until established.

PUBLIC COMPLAINTS REGISTER

[illegible]

MONITORING OF COMPLIANCE WITH ENVIRONMENTAL SPECIFICATIONS

PROJECT NAME :

CONTRACT NUMBER :

PROJECT MANAGER :

ENGINEER'S REPRESENTATIVE/SUPERVISOR :

CONTRACTOR :

CONTRACT PERIOD :
(including start and completion dates)

PERIOD COVERED :

REPORT PREPARED BY :

Signature

Environmental Control Officer REPORT**PROJECT NAME:****CONTRACT N°.****DATE OF SITE INSPECTIONS DURING REPORTING PERIOD:**

| Specification Breach | Spec. No. | Remedial Action Recommended | Due Date | Authority Responsible | Action Taken |
|-----------------------------|------------------|------------------------------------|-----------------|------------------------------|---------------------|
| | | | | | |
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PUBLIC COMPLAINTS

| Complainant | Designation/Affiliation | Date of Complaint | Reason for Complaint | Action taken and date |
|-------------|-------------------------|-------------------|----------------------|-----------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

GOOD PERFORMANCE REPORT

List any aspects of the Contract in which the Contractor is performing well and beyond that which is required in terms of the specification.

Photographs

Include photographs which illustrate aspects of non-compliance and good performance.

| | |
|--------------|--------------|
| Photograph 1 | Photograph 2 |
| Caption | Caption |

C3.9 OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS

PAM CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

PAM1.1 *BACKGROUND TO THE PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION*

The Construction Regulations (July 2003) place the onus on the Client to prepare a pre-construction health and safety specification, highlighting all risks not successfully eliminated during design.

PAM1.2 *PURPOSE OF THE PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION*

To assist in achieving compliance with the Occupational Health and Safety Act 85/1993 and the now promulgated Construction Regulations (July 2003) in order to reduce incidents and injuries. This pre-construction specification shall act as the basis for the drafting of the construction phase Health and Safety plan. These specifications in no way release Construction from compliance with the relevant Legal requirements.

The pre-construction specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the health and safety of all persons potentially at risk may receive the same priority as other facets of the project e.g. cost, programme environment; etc.

PAM1.3 *IMPLEMENTATION OF THE PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION*

This specification forms an integral part of the contract, and the Contractor is required to use it as pre-tender phase when pricing his tender. The Principal Contractor shall forward a copy of this specification to all Contractors at their bidding stages so that they can in turn price their bids accordingly.

PAM 2 PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

PAM2.1 *SCOPE*

This Specification covers the requirements for eliminating and mitigating incidents and injuries on the project.

The scope also addresses legal compliance, hazard identification and risk assessment, risk control, and promoting a health and safety culture amongst those working on the project. The specification also makes provision for the protection of those persons other than employees.

PAM2.2 *INTERPRETATIONS*

PAM2.2.1 Application

This specification is a compliance document drawn up in terms of South African legislation and is therefore binding. It must be read in conjunction with relevant legislation as noted previously.

PAM2.2.2 Definitions

The definitions as listed in the Occupational Health and Safety Act 85/1993 and Construction Regulations (July 2003) shall apply.

PAM2.3 *MINIMUM ADMINISTRATIVE REQUIREMENTS*

PAM2.3.1 Notification of Intention to Commence Construction Work

The Contractor shall notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification must be forwarded to the Client prior to work commencing on site

PAM2.3.2 Assignment of Contractor's Responsible Persons to Supervise Health and Safety on Site

The Contractor shall submit supervisory appointments as well as any relevant appointments in writing (as stipulated by the OHS Act and Construction Regulations, prior to commencement of work. Proof of competency must be included. See Annexure B.

PAM2.3.3 Competency for Contractor's Appointed Competent Persons

Contractor's competent persons for the various risks management portfolios shall fulfil the criteria as stipulated under the definition of Competent in accordance with the Construction Regulations (July 2003). Proof of competence for the various appointments must be included.

PAM2.3.4 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Principal Contractor shall submit a letter of good standing with its Compensation Insurer to the Client as proof of registration. Sub Contractors shall submit proof of registration to the Principal Contractor before they commence work on site.

PAM2.3.5 Occupational Health and Safety Policy

The Principal Contractor and all Sub Contractors shall submit a Health and Safety Policy signed by their Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented by the Company.

PAM2.3.6 Health and Safety Organogram

The Principal Contractor and all sub Contractors shall submit an organogram, outlining the Health and Safety Site Management Structure including the relevant appointments/ competent persons. In case where appointments have not been made, the organogram shall reflect the intended position. The organogram shall be updated when there are any changes in the Site Management Structure.

PAM2.3.7 Preliminary Hazard Identification Risk Assessment and Progress Hazard Identification and Risk Assessment

The Contractor shall cause a hazard identification to be performed by a competent person before commencement of construction work, and the assessed risks shall form part of the construction phase health and safety plan submitted for approval to the Client. The risk assessment must include;

- A list of hazards identified as well as potentially hazardous tasks;
- A documented risk assessment based on a the list of hazards and tasks;
- A set of safe working procedures (method statement) to eliminate, reduce and /or control the risks assessed;
- A monitoring and review procedure of the risks assessment as the risk change

The Principal Contractor shall ensure that all Sub Contractors are informed, instructed and trained by a competent person regarding any hazards, risks and related safe work procedures before any work commences and thereafter at regular intervals as the risk change and as new risks develop. Proof of this must be kept for inspection by the Client or the Clients's Representative.

The Principal Contractor be responsible for ensuring that all persons who could be negatively affected by it operations are informed and trained according to the hazards and risks and are conversant with the safe work procedures, control measures and other related rules (tool box talk strategy to be implemented.)

PAM2.3.8 Health and Safety Representative

The Principal Contractor and all other Contractors shall, after due consultation with the parties concerned, ensure that an H&S Representative is appointed in writing as soon as there are 20 persons employed on site. Additional H&S Representative are required once the workforce exceed 50 persons. Copies of the appointments are to be attached to the H&S plan. Each H&S Representatives is to be trained to carry out their respective function and must carry out regular inspections, keep records, and report all findings to the responsible persons forthwith, and also at the next H&S meeting. Copies of these documents are to be kept in the Project H&S File.

PAM2.3.9 Health and Safety Committees

The Principal Contractor shall ensure that project health and safety meetings are held monthly and minutes are kept on record. Meetings must be organised and chaired by the Principal Contractor's Responsible Person. All Contractor's Responsible Persons and Health and Safety Representative shall attend the monthly health and safety meetings. Sub Contractors shall also have their own internal health and safety committees in accordance with the OHS Act 85/1993 and minutes of their meetings shall be forwarded to the Principal Contractor on a monthly basis.

PAM2.3.10 Health and Safety Training

PAM2.3.10.1 Induction

The Principal Contractor shall ensure that all site personnel undergo a risk specific health and safety induction training session before starting work. A record of attendance shall be kept in the health & safety file. A suitable venue must be supplied to house this training.

PAM2.3.10.2 Awareness

The Principal Contractor shall ensure that , on site periodic toolbox talks take place at least once per week. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the health and safety file. All Contractors have to comply with this minimum requirement. At least one of th Toolbox talks shall be on an environmental related issue.

PAM2.3.10.3 *Competency of Site Personnel*

All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on regular basis e.g. periodic audits by the Client, progress meetings, etc. The Principal Contractor is responsible to ensure that competent Sub Contractors are appointed to carry out construction work.

PAM2.3.10.4 *Rules of Conduct*

Principal Contractors, their sub contractors and all employees under their control, including any visitor brought onto site must adhere to the following rules of conduct on site.

YOU MAY NOT

- Partake, posses or sell drugs or alcoholic beverages on site. Any employee or visitor whose action and demeanour show symptoms of possible narcosis or drunkenness shall be removed from site
- Indulge in practical jokes, horseplay, fighting or gambling.
- Destroy or tamper with safety devices, symbolic signs, or wilfully and unnecessarily discharge fire extinguishers.
- Bring onto site or have in your possession a firearm or lethal weapon.
- Assault, intimidate or abuse any other person.
- Operate construction equipment (vehicles or plant) without the necessary training, license and authorisation.
- Display insubordination towards any supervisor, foreman or Manager , in respect of carrying out properly issued instructions or orders for health and safety reasons
- Enter any area where you have no business, authorised to do so by the person in charge.
- Negligently , carelessly or wilfully cause damage to property of others.
- Refuse to give evidence, or deliberately make false statements during investigations.

PAM2.3.11 *General Record Keeping*

The Principal Contractor and all Sub Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993; and with the Construction Regulations (July 2003). The Principal Contractor shall ensure that all records of incidents/accidents, training, inspections, audits, etc. are kept in the health and safety file held in the site office. The Principal Contractor must ensure that every Sub Contractor opens its own health and safety file, maintains the file and makes it available on request.

PAM2.3.11.1 *Inspections*

The following items must be regularly inspected and maintained (where applicable) and appropriate records kept on site:

- First Aid dressing registers
- Fire equipment
- Lifting equipment
- Lifting Gear
- Portable electric

PAM2.3.12 *Health and Safety Audits, Monitoring and reporting*

The Client (or the Client's Representative) shall conduct monthly health and safety audits of the work operations including a full audit of physical site activities as well as an audit of the administration of health and safety. The Principal Contractor is obligated to conduct similar audits on all Sub Contractors appointed by them. Detailed reports of the audit findings and results shall be reported on at all levels of project management meetings/forums. Copies of the Client's audit reports shall be kept in the Primary Project Health and Safety File while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to the client. Sub Contractors have to audit their sub-contractors and keep records of these audits in their health and safety files, and make them available on request.

PAM2.3.13 *Emergency Procedures*

The Principal Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement of work on site. The procedure shall detail the response plan including the following key elements.

- List of key competent personnel;
- Details of emergency services;
- Actions or steps to be taken in the event of specific types of emergencies;
- Information on hazardous material/situations.

Emergency procedure(s) shall include, but shall not be limited to fire, spills, accidents to employees, use of hazardous substances, bomb threats, major incidents/accidents, etc. The Principal Contractor shall advise the Client in writing forthwith of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) must be maintained and available to site personnel.

PAM2.3.14 First Aid Boxes and First Aid Equipment

The Principal Contractor and all Sub Contractors shall appoint in writing First Aider(s). The appointed First Aider(s) are to be qualified or sent for accredited first aid training. Valid certificates are to be kept on site. The Principal Contractor shall provide an on-site First Aid Station with first aid facilities, including first aid boxes adequately stocked at all times. All Sub contractors with more than 5 employees shall supply their own first aid box. Sub Contractors with more than 10 employees shall have a trained, certified first aider on site at all times.

PAM2.3.15 Accident/Incident Reporting and Investigation

Injuries are to be categorised into first aid; medical; disabling; and fatal. The Principal Contractor must stipulate in its construction phase health and safety plans how it will handle each of these categories. When reporting injuries to the Client, these categories shall be used. The Principal Contractor shall investigate all injuries, with a report being forwarded to the Client forthwith. All Contractors have to report on the 4 categories of injuries to the Principal Contractor at least monthly. The Principal Contractor must report all injuries to the Client in the form of a detailed injury report at least monthly. Where necessary, in terms of Clause 24(1) of the Occupational Health and Safety Act, incidents shall be reported to an inspector.

PAM2.3.16 Hazards and Potential Situations

The Principal Contractor shall immediately notify other Sub Contractors as well as the Client of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

PAM2.3.17 Personal Protective Equipment (PPE) and Clothing

The Principal Contractor shall ensure that all workers are issued and wear hard hats, safe footwear, hand gloves, safety goggles, overalls, and face masks. Some of this equipment may be worn as and when required. The Principal Contractor and all Sub-Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times. The Principal Contractor shall clearly outline procedures to be taken when PPE or Clothing is:

- Lost or stolen;
- Worn out or damaged.

The above procedure applies to Sub Contractors and their contractors, as they are all Employers in their own right.

PAM2.3.18 Occupational Health and Safety Signage

The Contractor shall provide adequate on-site OHS signage. Including but not limited to “no unauthorised entry”, “report to site office”, “beware of overhead work”, “hard hat area”. Signage shall be posted up at all entrances to site as well as on site in strategic locations e.g. access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations.

PAM2.3.19 Permits

Permits may be required for certain activities and these are not limited to but may include the following:

- Use of Explosives and Blasting
- Work for which a fall prevention plan is required
- Use of cradles
- Excavation

PAM2.3.20 Contractors and their Sub-contractors

The Principal Contractor shall ensure that all Sub Contractors under its control comply with this Specification, the OHS Act 85/1993, Construction Regulations (July 2003), and all other relevant legislation that may relate to the activities

directly or indirectly. The Contractor, when appointing other Contractors as “Sub-contractors”, shall mutatis mutandis ensure compliance.

PAM2.3.21 Non-Compliance

Should the Contractor fail to comply with the provisions of the Regulations 3 to 28 as listed in Regulation 30, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 30.

PAM2.4 SPECIFIC PROJECT REQUIREMENTS

PAM2.4.1 Demolition Work

Prior to any demolition work being carried out, the Principal Contractor shall submit a safe working procedure and a detailed engineering survey for approval by the Client. Approval will then be issued to the Principal Contractor to proceed with the demolition work. The Principal contractor shall ensure that demolition work complies with the Construction Regulations (July 2003).

PAM2.4.2 Excavations, Shoring, De watering or Drainage

The Principal Contractor and any relevant Sub Contractors shall make provision in their tender for shoring, dewatering or drainage of any excavation as per this specification.

The Contractor shall make sure that:

- The excavations are inspected before every shift, each occurrence of rain or change to the excavation / shoring and a record is kept hereof;
- Any excavation shall be adequately shored if people are required to work in the excavation and the depth is more than 1.5 metres or where conditions render this necessary at lesser depths. Undercutting is not allowed.
- Safe work procedures have been communicated to the workers;
- Excavated material shall be placed as far from the trench as practically possible and a close watch shall be maintained at all times for signs of slipping (e.g. cracks developing at the edges of the excavation);
- Safe work procedures are enforced and maintained by the Contractor’s Responsible Persons at all times;
- The requirements as per section 11 of the Construction Regulations are adhered to.

PAM2.4.3 Edge Protection and Penetrations

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The Principal Contractor’s risk assessment must include (where applicable) protection of decking edges, finished floor slab edges, stairways, floor penetrations, lift shafts, and all other openings and areas where a person may fall.

PAM2.4.4 Explosives and Blasting

The Principal Contractor shall ensure that a competent Contractor undertakes the use of explosives and blasting (where required). A Safe Work Procedure (SWP) must be submitted to the Client for approval before commencement of blasting work. All blasting work shall comply with Explosives Act and Regulations.

PAM2.4.5 Piling

The Contractor shall ensure that piling is undertaken by a competent Contractor. A SWP shall be submitted to the Client for approval before commencement of this work.

PAM2.4.6 Stacking of Materials

The Principal Contractor and other relevant Sub Contractors shall ensure that there is an appointed staking supervisor and all materials, formwork and all equipment is stacked and stored safely.

PAM2.4.7 Speed Restrictions and Protection

The Principal Contractor shall ensure that all persons in its employ, all Sub Contractors, and all those that are visiting the site are aware and comply with the site speed restriction(s). Separate vehicle and pedestrian access routes shall be provided, maintained, controlled, and enforced.

PAM2.4.8 Hazardous Chemical Substances (HCS)

The Principal Contractor and other relevant Sub Contractors shall provide the necessary training and information regarding the use, transport, and storage of HCS. The Principal Contractor shall ensure that the use, transport, and storage of HCS are carried out as prescribed by the HCS Regulations. The Contractor shall ensure that all hazardous chemicals on site have a Material Safety Data Sheet (MSDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals. The First Aiders must be made aware of the MSDS and how to treat HCS incidents appropriately.

PAM2.4.9 Asbestos

The Principal Contractor is responsible for ensuring that all work involving asbestos complies with the Asbestos Regulations. Any Contractor involved in asbestos work must obtain temporary registration as an asbestos contractor from the Dept of Labour. Written safe work procedures and relevant risk assessments must govern all asbestos work. An asbestos contractor must provide exposed employees with the necessary training and information regarding asbestos, as well as the necessary personal protective equipment. Wetting down and low speed cutting techniques must be employed wherever possible to prevent airborne asbestos.

Any work involving friable asbestos (e.g. lagging or insulation), which falls under the definition of Demolition work as defined under the Asbestos Regulations, shall utilise an Approved Inspection Authority to carry out air monitoring, and a decontamination unit must also be provided.

PAM2.4.1 Construction Equipment

“Construction Equipment” includes all types of equipment including but not limited to, cranes, piling rigs, excavators, road vehicles, and all lifting equipment.

The Principal Contractor shall ensure that all such construction equipment complies with the requirements of the OHS Act 85/1993 and Construction Regulations (July 2003). The Principal Contractor and all relevant Sub Contractors shall inspect and keep records of inspections of the construction equipment used on site. Only authorised/competent persons are to use machinery and only under proper supervision. Appropriate PPE and clothing must be provided and maintained in good condition at all times. Proof of medical tests as required by the Construction regulations shall be made available for inspection by the Client.

Vehicles shall not enter the site with:

- Defective exhaust systems
- Serious oil or fuel leaks
- Unsafe bodywork or loads
- Non standard equipment fitted.
- Improperly seated passengers
- Any obvious mechanical defects.

All earth moving equipment shall be operated in accordance with good safety practice so as to protect the safety of the operator and other workers or persons in the area. All earth moving equipment shall be equipped with a reverse siren.

PAM2.4.11 Vessels under Pressure (VuP) and Gas Bottles

The Principal Contractor and all relevant Sub Contractors shall comply with the Vessels under Pressure Regulations, including:

- Providing competency and awareness training to the operators;
- Providing PPE or clothing;
- Inspect equipment regularly and keep records of inspections;
- Providing appropriate fire fighting equipment (Fire Extinguishers) on hand.

PAM2.4.12 Fire Extinguishers and Fire Fighting Equipment

The Principal Contractor and relevant Sub Contractors shall provide adequate and regularly serviced fire fighting equipment, located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required. A competent person must conduct a Fire risk survey and proof of this survey must be kept in the Site Safety File.

PAM2.4.13 Hired Construction Equipment and Machinery

The Principal Contractor shall ensure that any hired construction equipment and machinery used on site is safe for use. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (July 2003) shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health and safety file. All relevant Sub Contractors must ensure the same.

PAM2.4.14 Scaffolding / Working at Heights

Working at heights includes any work that takes place in an elevated position. The Principal Contractor must submit a risk-specific fall prevention plan in accordance with the Construction Regulations (July 2003) before this work is undertaken. The Client must approve the fall prevention plan before work may commence.

PAM2.4.15 Formwork and Support Work for Structures

The Principal Contractor shall ensure that the provisions of section 10 of the Construction Regulations (July 2003) are adhered to. These provisions must include but not be limited to ensuring that all equipment used is examined for suitability before use; that all formwork and support is inspected by a competent person immediately before, during and after placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work has been removed. Records of all inspections must be kept in a register on site.

PAM2.4.16 Lifting Machines and Tackle

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (section 20). There must be competent lifting machinery and a tackle inspector must inspect the equipment daily or before use, taking into account that:

- All lifting machinery and tackle has a safe working load clearly indicated;
- Regular inspection and servicing is carried out;
- Records are kept of inspections and of service certificates;
- There is proper supervision in terms of guiding the loads that includes a trained banks man to direct lifting operations and check lifting tackle;
- The tower crane bases have been approved by an engineer;
- The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

PAM2.4.17 Ladders and Ladder Work

The Principal Contractor shall ensure that all ladders are inspected monthly, are in good safe working order, are the correct height for the task, extend at least 1m above the landing, are fastened and secured, and at a safe angle. Records of inspections must be kept in a register on site. Sub Contractors using their own ladders must ensure the same. Ladders shall not be used as horizontal walkways or as scaffolding. Tools or equipment must be carried in suitable slung containers or hoisted up to the working position.

PAM2.4.18 General Machinery

The Principal Contractor and relevant Sub Contractors shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE of clothing, and training those who use machinery.

PAM2.4.19 Portable Electric Tools and Explosive Powered Tools

The Principal Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation. The Principal Contractor shall ensure that all-electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. personal protection equipment, guards, etc.

The Principal Contractor shall ensure the following:

- A competent person undertakes routine inspections and records are kept;
- Only authorised trained persons use the tools;
- The safe working procedures apply;
- Awareness training is carried out and compliance is enforced at all times;
- PPE and clothing is provided and maintained;
- A register indicating the issue and return of all explosive rounds is kept;
- Ensure that the cartridges and explosive tool is lock up separately; and
- Signs are posted up in the areas where explosive powered tools are being used. (WARNING - EXPLOSIVE POWERED TOOL IN USE - KEEP CLEAR).

PAM2.4.20 High Voltage Electrical Equipment

There are overhead and underground high voltage electrical cables present on the site. These cables are shown on the drawing and due care shall be taken when working or travelling in their vicinity.

PAM2.4.21 Public and Site Visitor Health and Safety

The Principal Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimise those dangers. Appropriate health and safety notices and signs shall be posted up, but shall not be the only measure taken.

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities.

Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. A record of these “inductions” must be kept on site in accordance with the Construction Regulations.

PAM2.4.22 Night Work

The Principal Contractor must ensure that adequate lighting is provided to allow for work to be carried out safely.

PAM2.4.23 Transport of Workers

The Principal Contractor and other Sub Contractors shall not:

- Transport persons together with goods or tools unless there is an appropriate area or section to store them;
- Transport persons in a non-enclosed vehicle, e.g. truck; there must be a proper canopy (properly covering the back and top) with suitable sitting area. Workers shall not be permitted to stand or sit at the edge of the transporting vehicle.

PAM2.4.24 Work in Confined Spaces

The Principal Contractor is to ensure that all persons, who are required to enter the jacked sleeve, are provided with sufficient ventilation, illumination, personal protective equipment and transport (e.g. a trolley and guide rope if necessary) to perform the required work.

PAM2.4.25 Tunnelling

The Contractor shall comply with Regulation 13 wherever tunnelling of any kind is involved. All requirements as set out in the Mines Health and Safety Act and Regulations (Act 29 of 1996) must be complied with.

PAM2.5 OCCUPATIONAL HEALTH

PAM2.5.1 Occupation Hygiene

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Principal Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, and absorption of any hazardous substance and high noise level exposure. Site-specific health risks are tabled in Annexure C (e.g. cement dust, wet cement, wood-dust, noise, etc.).

PAM2.5.2 Welfare Facilities

The Principal Contractor must supply sufficient toilets (1 toilet per 30 workers), showers (1 for every 15 workers), changing facilities, hand washing facilities, soap, toilet paper, and hand drying material. Waste bins must be strategically placed and emptied regularly. Safe, clean storage areas must be provided for workers to store personal belongings and personal protective equipment. Workers should not be exposed to hazardous materials/substances while eating and must be provided with sheltered eating areas.

PAM2.5.3 Alcohol and other Drugs

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report, this to the Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to

report back the next day for a preliminary inquiry. A full disciplinary procedure must be followed by the Principal Contractor or Sub Contractor concerned and a copy of the disciplinary action must be forwarded to the Principal Contractor for his records.

PAM2.5.4 Sanitisers

The Principal Contractor shall keep and make available to the workers hand sanitiser and shall sanitize all offices at least once a week.

PAM2.5.5 Body Temperature Monitoring

For the purpose of daily checking body temperature of workers, the Principal Contractor shall have a body temperature thermometer on site. All records shall be kept in accordance with the requirements of this specifications.

PAM3 MEASUREMENT AND PAYMENT

PAM3.1 Principles

Tenderers (including those sub-contractors and/or suppliers who are preparing prices/quotations for submission to the main Tenderer) must ensure that they make adequate financial provision in their tenders for full compliance with the OHS Act, the Regulations thereto and this H&S specification. Financial provision shall therefore be made by each Tenderer for, inter alia, the following:

- Carrying out and documenting risk assessments of all work to be carried out under the contract.
- Preparation of safe work procedures.
- Preparation of an H&S plan, discussing it with the Client, and then amending it as agreed.
- Preparation of a Project H&S File.
- Regular updating of all of the foregoing.
- Provision of PPE and protective clothing (face masks included) for employees.
- Complying with all H&S requirements for the duration of the contract.
- Provision of forced ventilation (as required when working in confined spaces).
- The completion and checking of the safety file upon completion of the works and handing it over to the Client.

To enable the Client to appraise the allowances that Tenderers have made for H&S in their tenders, so that he/she can fulfil his/her obligations in terms of Clause 4 (h) of the Construction Regulations, separate items have been included in the Bill of Quantities for Health and Safety.

Failure by a Tenderer to submit realistic prices for the scheduled H&S items may prejudice his tender.

PAM3.2 PAYMENT

| <u>Item</u> | <u>Unit</u> |
|-------------|--|
| PAM3.2.1 | Preparation of risk assessment, safe work procedures, the project H & S file, plan, the provision of PPE and protection clothing (inclusive of face masks), sanitisers, body temperature thermometer, and any other H & S matters that the contractor deems necessary.....Lump Sum |

The full amount will be paid in one instalment only once:-

- (a) The Contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- (b) The Contractor has made the required initial Appointments of Employees and Sub-Contractors
- (c) The Client has approved the Contractors Health and Safety plan
- (d) The Contractor has set up his/her Health and Safety file

| <u>Item</u> | <u>Unit</u> |
|-------------|--|
| PAM3.2.2 | Full compliance with all H & S matters during the construction of the works under the contractLump Sum |

Payment shall be effected as follows only after payment for Item PAM3.2.1 has been made.

Payment of incremental amounts (calculated by the division of the remainder of the tendered sum by the number of months remaining for completion of the works) will be authorised in each of the subsequent progress certificates until the tendered sum has been paid.

ANNEXURE A (to H&S specification)

PAM 4 TASK COMPLETION FORM

The Principal Contractor and Sub Contractors must submit proof of compliance with Annexure A with the construction phase H&S plan where applicable.

| PAM Item No. | Requirement | OHS Act Requirement | Submission Date |
|---------------------|--|--|--|
| 2.3.1 | Notification of Intention to Commence Construction / Building Work | Complete Schedule 1 (Construction Regulations) | Before commencement on site |
| 2.3.2 | Assignment of responsible Person to Supervise Construction Work | All relevant appointments, as per OHS Act and Construction Regulations | Before commencement on site |
| 2.3.3 | Competence of Responsible Persons | Client Requirement & OHS Act | Together with H&S plan |
| 2.3.4 | Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993 | COIDA Requirement | Together with H&S plan |
| 2.3.5 | Occupational Health and Safety Policy | OHS Act | Together with H&S plan |
| 2.3.6 | Health and Safety Organogram | Client Requirement | Together with H&S plan |
| 2.3.7 | Initial Hazard Identification and Risk Assessment based on the Client's assessment | Construction Regulations | Together with H&S plan |
| 2.3.8 | Health and Safety Representative | OHS Act | Submit as soon as there are more than 20 employees on site |
| | Other | | |

ANNEXURE B (to H&S specification)

PAM 5 ASSIGNMENT OF PRINCIPAL CONTRACTOR'S RESPONSIBLE PERSONS

The Principal Contractor shall make the following appointments according to the initial risk assessment: (further appointments could become necessary as project progresses)

| Appointment | OHSA Reference | Requirement |
|---|-----------------------|--|
| CEO Assignee | Section 16(2) | A competent person to assist with the on-site H&S overall responsibility - Contractor's Responsible Person |
| Construction Supervisor | CR6.1 | A competent person to supervise and be responsible of Health and Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties. |
| Subordinate Construction Work Supervisors | CR6.2 | A competent person to assist with daily supervision of construction / building work. The person assists the Construction Work Supervisor. |
| Health and Safety Representative(s) | Section 17 | A competent person(s) to inspect H&S in reference to plant, machinery and Health and Safety of persons in the workplace. |
| Health and Safety Committee Member(s) | Section 19 | A competent person(s) representing the employer to assist with the on site Health and Safety matters. |
| Incident Investigator | GAR 8 | A competent person to investigate incidents / accidents on site and could be: <ul style="list-style-type: none"> • The employer • H&S Representative • Designated person • Member of the H&S Committee |
| Risk assessment coordinator | CR 7 | A competent person to co-ordinate all risk assessments on behalf of the Principal Contractor. The same applies to Contractors. |
| Fall protection plan coordinator | CR 8 | A competent person to prepare and amend the fall protection plan. |
| First Aiders | CSR 3 | A qualified person to address all on site first aid cases. |
| Machinery Inspector | GSR 2.1 | A competent person to supervise machinery. |
| Lifting machine and equipment inspector | DMR 18 | A competent person to inspect lifting machines equipment and tackle. |
| Scaffolding Inspector | SABS 085 | A competent person to inspect scaffolding before use and every time after bad weather, etc. |
| Scaffolding erector | GSR 13D | A competent person to erect scaffolding. |
| Scaffolding supervisor | SABS 085 | A competent person to supervise scaffolding. |
| Formwork and support work inspector | CR 10 | A competent person to inspect formwork and support work. |
| Excavation Inspector | CR 11 | A competent person to inspect excavation work and ensure that approved safe working procedures are followed at all times. |
| Appointment | OHSA Reference | Requirement |

| | | |
|---|---------|--|
| Ladder Inspector | GSR 13A | A competent person to inspect ladders daily and ensures they are safe for use, keeping monthly record. |
| Stacking Supervisor | CR 26 | A competent person to supervise all stacking and storage operations. |
| Explosive powered tools inspector/supervisor | CR 19 | A competent person to inspect & clean the tool daily and controlling all operations thereof. |
| Temporary electrical installations supervisor | CR 22 | A competent person to control all temporary electrical installations. |
| Fire-fighting equipment inspector | CR 27 | A competent person to inspect fire-fighting equipment. |

ANNEXURE C (to H&S specification)

PAM 6 OTHER REQUIREMENTS

The Principal Contractor shall comply but not be limited to the following requirements and shall report on these to the Client at progress meetings or at least monthly which ever is sooner.

| What | When | Output | Accepted by Client and date |
|--|--|--|------------------------------------|
| Induction training | Every worker before he/she starts work. | Attendance registers | |
| Awareness Training (Tool Box Talks) | At least weekly | Attendance registers | |
| Health and Safety Reports | Monthly | Report covering: <ul style="list-style-type: none"> • Incidents/accident and investigations • Non conformances by employees and contractors • Internal and External H&S audit reports | |
| Emergency procedures | Ongoing evaluation of procedure | Table procedure in writing as well as tel. numbers | |
| Risk assessment | Updated and signed off at least monthly | Documented risk assessment | |
| Safe work procedures | Drawn up before workers are exposed to new risks | Documented set of safe work procedures (method statements) updated and signed off. | |
| General Inspections | Weekly and daily | Report OHS Act compliance: <ul style="list-style-type: none"> • Scaffolding • Excavations • Formwork and support work • Explosive tools | |
| General Inspections | Monthly | <ul style="list-style-type: none"> • Fire fighting equipment • Portable electrical equipment • Ladders • Lifting equipment/slides | |
| List of contractors | List to be updated weekly | Table list, number of workers and Company tel. numbers | |
| Workman's Compensation | Ongoing | Table a list of Contractor's workman's compensation proof of good standing. | |
| Construction site rules and Section 37.2 Mandatory Agreement | Ongoing | Table a report of all signed up Mandatories. | |

C3.10 CONTRACT ADMINISTRATION FORMS

DAILY PLANT RETURNS**MACHINE TYPE/DESCRIPTION:****MACHINE AVERAGE PRODUCTION RATE:****WEEK ENDING:**

| | HOURS | | | | |
|---------------|--------------|----------|----------|----------|----------|
| | M | T | W | H | F |
| Use | | | | | |
| Idle | | | | | |
| Broken | | | | | |
| TOTAL | | | | | |

MACHINE TYPE/DESCRIPTION:**MACHINE AVERAGE PRODUCTION RATE:****WEEK ENDING:**

| | HOURS | | | | |
|---------------|--------------|----------|----------|----------|----------|
| | M | T | W | H | F |
| Use | | | | | |
| Idle | | | | | |
| Broken | | | | | |
| TOTAL | | | | | |

MACHINE TYPE/DESCRIPTION:**MACHINE AVERAGE PRODUCTION RATE:****WEEK ENDING:**

| | HOURS | | | | |
|---------------|--------------|----------|----------|----------|----------|
| | M | T | W | H | F |
| Use | | | | | |
| Idle | | | | | |
| Broken | | | | | |
| TOTAL | | | | | |

WEEKLY PLANT RETURNS**MACHINE TYPE/DESCRIPTION:****MACHINE AVERAGE PRODUCTION RATE:****MONTH ENDING:**

| | HOURS | | | |
|---------------|--------------------|--|--|--|
| | WEEK ENDING | | | |
| | | | | |
| Use | | | | |
| Idle | | | | |
| Broken | | | | |
| TOTAL | | | | |

MACHINE TYPE/DESCRIPTION:**MACHINE AVERAGE PRODUCTION RATE:****MONTH ENDING:**

| | HOURS | | | |
|---------------|--------------------|--|--|--|
| | WEEK ENDING | | | |
| | | | | |
| Use | | | | |
| Idle | | | | |
| Broken | | | | |
| TOTAL | | | | |

MACHINE TYPE/DESCRIPTION:**MACHINE AVERAGE PRODUCTION RATE:****MONTH ENDING:**

| | HOURS | | | |
|---------------|--------------------|--|--|--|
| | WEEK ENDING | | | |
| | | | | |
| Use | | | | |
| Idle | | | | |
| Broken | | | | |
| TOTAL | | | | |

MONTHLY PLANT RETURNS

MACHINE TYPE/DESCRIPTION:

MACHINE AVERAGE PRODUCTION RATE:

[illegible]

MACHINE TYPE/DESCRIPTION:

MACHINE AVERAGE PRODUCTION RATE:

[illegible]

MACHINE TYPE/DESCRIPTION:

MACHINE AVERAGE PRODUCTION RATE:

[illegible]

CONTRACTOR MONTHLY REPORT**CONTRACT NO.:** _____**Project No :** _____**Project Name :** _____**Contractor:** _____**Claim No :** _____ **For Period Ending :** _____**Date of Report :** _____

The Contractors Monthly Report comprises an integral part of the Contractors Payment Claim and processing of the payment claim is not permitted without this report also being submitted i.e. “NO REPORT - NO PAYMENT”.

Attachments :

- | | |
|----------------|--|
| Form 3 | Overall Project Worker Schedule: Schedule of all local labourers employed since the start of the project. |
| Form 3A | Monthly Worker Schedule: Schedule of local labourers who worked on the project this month. |
| Form 4 | Weekly Task Wage Register |
| Form 5 | Local Labour Schedule |

[illegible]

OVERALL PROJECT WORKER SCHEDULE {local labourers only} Contract No:
FORM : 3

Project No. Project Name :

Month of Report : Sheet : Of



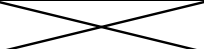
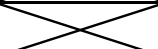
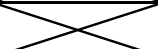
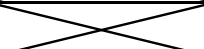
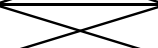
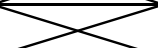
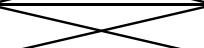
Names of all Local Labourers employed at any time on the project are to be entered in the table below irrespective of how long they worked on the project.

| No | Name of local labourer | Identity Number | Month Worker Started Work | Age | Female Head of Household with Dependents | Disabled | Skilled/ Semi-skilled | Place a tick in the box which corresponds to the Gender and Age of the Worker | | | | |
|----------------------------|------------------------|-----------------|---------------------------|-----|--|----------|-----------------------|---|-----------------|---------------|-----------------|---|
| | | | | | | | | Women | | Men | | |
| | | | | | | | | {Tick if Yes} | {Tick if Yes} | {Tick if Yes} | {Tick if Yes} | |
| | | | | | | | | Over 35 yrs | Over 35 & under | Over 35 yrs | Over 35 & under | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| Totals for this sheet | | | | | | | | | | | | Total No Of Workers Employed On the Project |
| Totals from previous sheet | | | | | | | | | | | | |
| Totals carried forward | | | | | | | | | | | | |
| | | | | | {A} | {B} | {C} | {D} | {E} | {F} | {G} | {H}={D+E+F+G} |

WEEKLY TASK WAGE REGISTER (Local laborers only)
FORM 4

Project No.: _____ Contract No.: _____ Week Ending: _____ Contractor: _____

Project Name: _____ Employer: _____

| Entries in this portion to be completed by Foreman | | | | | | | | | Entries in this portion to be completed by Contractor | | | | |
|--|----------------------|------------------|-----|-----|-----|-----|-----|-----|---|---|-----------------------------|---|---|
| | | Day Tasks Worked | | | | | | | Payment | | | | |
| No. | Name of Local Worker | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Total DAY TASKS Worked this week | Rate per DAY TASK | Total Payment Due to Worker | Worker's signature on receipt of payment | Date payment received by worker |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| Total for this sheet | | | | | | | | | |  | |  |  |
| Totals Brought Forward from previous | | | | | | | | | |  | |  |  |
| Totals carried forward | | | | | | | | | |  | |  |  |

{A}

{B}

LOCAL LABOR SCHEDULE FORM 5

Contract No.: _____ Date of Report _____

Certificate No.: _____ Project No.: _____

Project Name: _____

Contractor: _____

Employer: _____

Summary of Amount Spent on Local Labor this Month

| Week No. | Week Ending | Total Amount Paid |
|----------|-------------|--|
| | | (Total of (B) from Form 4 for each week) |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| Total | | |

Transfer to 2 in Table Below

Summary of Amount Spent on Local Labor to Date

| | | |
|--|--|------------|
| 1. Previous Amount Spent on Local Labor (from previous claim) | R | |
| 2. Amount Spent on Local Labour this Month (From Table Above) | R | |
| 3. Total Amount Spent on Local Labour to Date (3) = (1 + 2) | R | |
| Summary of Local Labor Employed Columns refer to Columns in Form 3 | No. of Local Labor who worked on the Project to Date (From Form 3) | % of Total |
| 1. Total No. of Individual Local Labourers who have worked on the Project (Column H) | | 100% |
| 2. How many of the Total No. are skilled/semi-skilled Local Laborers (Column C) | | |
| 3. How many of the Total No. are disabled Local Laborers (Column B) | | |
| 4. How many of the Total No. are local youth (35 yrs and under) (Column E + G) | | |
| 5. How many of the Total No. are local women (Column D + E) | | |
| 6. How many of these local women are Heads of Households with Dependants (Column A) | | |

Name: _____ Signature _____

Date: _____

REQUEST FOR CLARIFICATION

Employer: _____

Contractor: _____

Project: _____

Contract No.: _____

(for Contractor use)

Date: _____

Subject: Request for clarification of _____

Description:

Contractor's authorized signature: _____

(for Engineer's use)

Date: _____

Subject: Request for clarification of _____

Description:

Contractor's authorized signature: _____

| DAILY CONSTRUCTION REPORT | | | | | | | | | |
|---|-------|-----------------|---------|---|--------|---|------------|-------|---|
| PROJECT: CONTRACT NO. EMPLOYER CONTRACTOR ENGINEER | | DATE | | | | | | | |
| | | DAY | | S | M | T | W | H | F |
| | | | | | | | | | |
| | | WEATHER | | Brite sun | Clear | Rain | Overcast | Snow | |
| | | | | To 0 | 0 - 10 | 20 - 30 | 30 -40 | 40 up | |
| | | TEMP. | | Still | Moder. | High | Report No. | | |
| | | | | WIND | Dry | Moder. | | | |
| | | HUMIDITY | | | | | | | |
| | | | | | | | | | |
| CONTRACTORS ON SITE | | | | | | | | | |
| Name of Contractor | Prime | Sub-contractor | Remarks | | | | | | |
| | | | | | | | | | |
| VISITORS | | | | | | | | | |
| Time | Name | | | Representing | | | Remarks | | |
| | | | | | | | | | |
| EQUIPMENT ON SITE | | | | | | | | | |
| CONSTRUCTION ACTIVITIES | | | | | | | | | |
| Completed by: Signature: | | | | Date: | | Page of | | | |

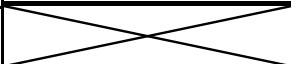
GENERAL PROJECT STATUS REPORT

PROJECT NAME: _____

EMPLOYER: _____ CONTRACT No.: _____

CONTRACTOR: _____

ENGINEER: _____ DATE: _____

| | | |
|--|--|---|
| Amount of Original Contract | | |
| Approved Variation Orders to Date | | |
| Anticipated Over-run or (Under-run) in Uncompleted Work | | |
| Actual Over-run or (Under-run) in Completed Work | | |
| Estimated Total Amount of Principal Contract | | |
| Other Contract Work not Included in Principal Contract | | |
| Total Estimated Contract Value | | |
| Value of Work Completed to Date | |  |
| LESS: Contract Advances for Materials on Site | | |
| Total Amount of Work Completed to Date | | |
| Uncompleted Contract Value | | |
| Percent Complete Based on Original Contract (%) | | |
| Percent Complete Based upon Total Estimated Contract (%) | | |
| Time Alloted by Original Contract (days) | | |
| Extension of Contract Time (days) | | |
| Total Contract Time (days) | | |
| Contract Time Elapsed (days) | | |
| Percent of Original Contract Time Elapsed (%) | | |
| Percent of Total Time Including Extensions, Elapsed (%) | | |
| Date Contract was Physically Completed - if Completed | | |
| Expected Date of Physical Completion - if not Completed | | |

MONTHLY CONSTRUCTION REPORT

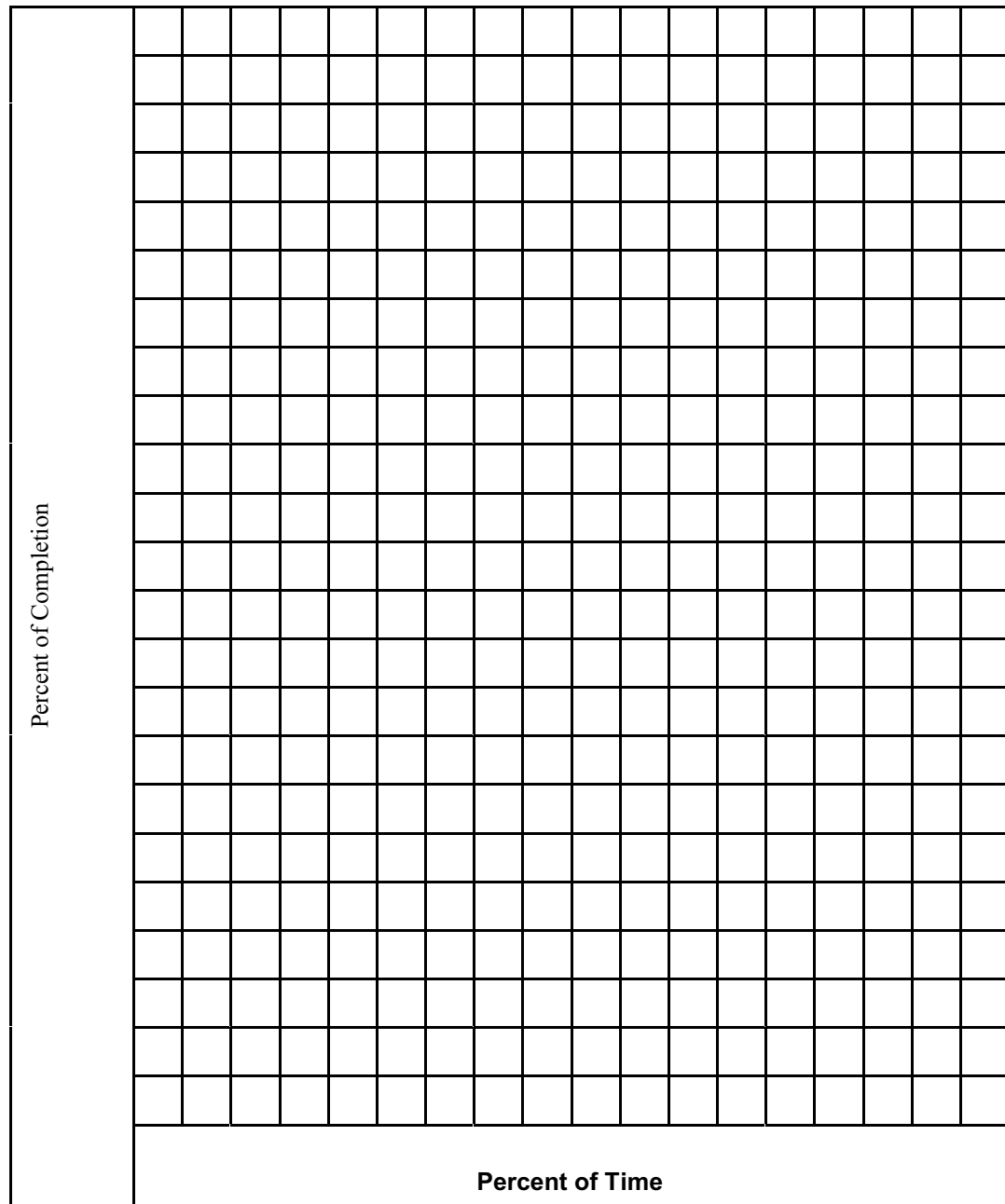
Date:_____ **Report No.:**_____ **Month Ending:**_____

Project: _____

[illegible]

(Engineer's Representative)

Engineer's Rep. _____ Contractor's Rep.: _____



TIME LOST DURING CONSTRUCTION

[illegible]

NOTE: Record all time lost during construction because of rain, strikes, etc

QUANTITIES MEASUREMENT FOR PAYMENT

Progress Pay period: From _____ to _____

Engineer's Rep.: _____ Signature _____ Date _____
(Initials & Last Name)Contractor's Rep.: _____ Signature _____ Date _____
(Initials & Last Name)

Contract No.: _____ Sheet _____ of _____

Project: _____

Contractor: _____

Description: _____

Location: _____

| ITEM NO. | DESCRIPTION AND LOCATION | UNIT | TOTAL QUANTITIES |
|----------|--------------------------|------|------------------|
| | | | |

VARIATION ORDER**PROJECT TITLE:** _____**CONTRACT NO.:** _____ **CONTRACT DATE:** _____**CONTRACTOR:** _____**The following changes are hereby made to the Contract Documents:****Justification:****CHANGE TO CONTRACT PRICE****Original Contract Price:** R_____**Current contract price, as adjusted by the previous variation orders:** R_____**The Contract Price due to this Variation Order will be (increased) (decreased) by** R_____**The new Contract Price due to this Variation Order will be:** R_____**CHANGE TO CONTRACT TIME****The Contract Time will be (increased) (decreased) by** _____ **working days.****The date for completion of all work under the contract will be** _____**Approvals Required:**

To be effective, this order must be approved by the Employer if it changes the scope or objective of the project, or as may otherwise be required under the terms of the General and Special Conditions of Contract.

Requested by: _____ **Date:** _____**Recommended by:** _____ **Date:** _____**Ordered by:** _____ **Date:** _____**Accepted by:** _____ **Date:** _____

at _____ o'clock this date

REPRESENTATION

| |
|-------------------------|
| Engineer |
| Engineer's Rep.: |
| |

[illegible]

PART C4 SITE INFORMATION

C4.1 LOCATION OF SITE

The project site is located within Harry Gwala District Municipality under the administration of Umzimkhulu Municipality in Kwazulu-Natal.

The project site can be accessed by proceeding from Port Shepstone and head north west onto N2 for about 98 km and taking the right turn in Gaybrook area onto a gravel road for about 17.2 km to arrive at the roads which are located in Lukhalweni area. The respective site coordinates are as shown in Table 1.

Table 1 Access road locality coordinates

| Road Name | Coordinates | |
|--------------------------|----------------|----------------|
| Lukhalweni access road 1 | 30°27'43.17" S | 29°45'45.34" E |
| Lukhalweni access road 2 | 30°27'50.67" S | 29°45'10.69" E |
| Lukhalweni access road 3 | 30°44'45.63" S | 29°44'45.63" E |

The site falls within a sparsely built up communal land and Plate 1 shows the aerial view of the project sites. Also, drawings C000-01 to C000-04 show the project area relative to the provincial boundaries, district municipal boundaries, ward and the locality of the project site.

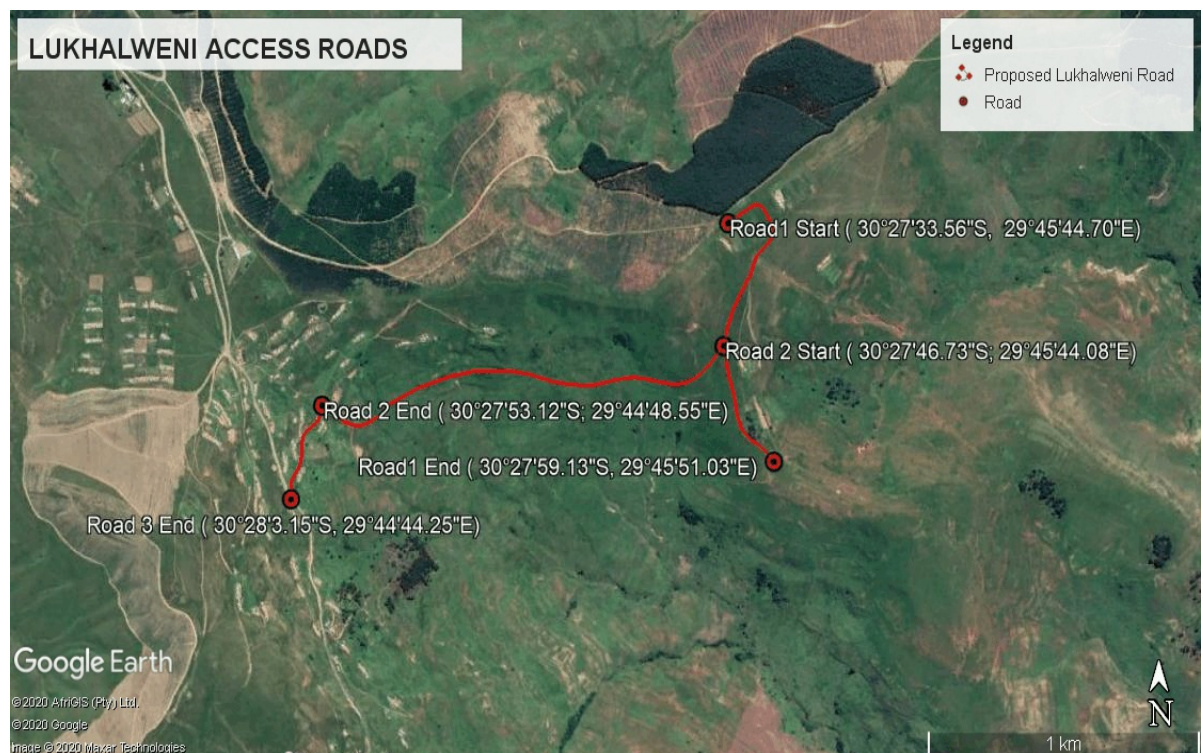


Plate 1: Google Earth image of Lukhalweni access roads

C4.2 GENERAL DESCRIPTION OF TERRAIN

The site is primarily in a virgin land and on a slope which will cause major cuts and fills. The long section of the road will also call for more culverts due to its rolling nature. There are few exposed boulders/hardrock but for the most of the length, the road runs on soil which appears not to challenge the excavation method.

C4.3 POSSIBLE ENVIRONMENTAL SENSITIVE AREAS

This site is strewn with many wetlands which have been noted, during a site reconnaissance, to be active. During our site assessment, it was found that there is no other alternative to what is chosen save that if one moves down the long section of the road, it will then land the road on a river which is not desired in a road network.

C4.4 BORROW PITS

There are no borrow pits that are close by and a further investigation and location of such will be done just before construction begins. Should a borrow pit not be located, commercial sourcing of the gravel wearing course will be an alternative.

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PART D APPENDICES

D.1 STANDARD CONDITIONS OF TENDER

Standard Conditions of Tender

As published in Annexure F of the CIDB Standard for Uniformity for construction Procurement, Board Notice 136 Government Gazette No 38960 of 10 July 2015.

F.1 General

F.1.1 Actions

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

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

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

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

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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

- a. **conflict of interest** means any situation in which:
 - i. someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii. an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii. incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b. **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c. **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d. **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;
- e. **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body;

- f. **functionality** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

F.1.4 Communication and employer's agent

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

F.1.5 Cancellation and Re-Invitation of Tenders

F1.5.1 An organ of state may, prior to the award of the tender, cancel a tender if-

- a. due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- b. funds are no longer available to cover the total envisaged expenditure; or
- c. no acceptable tenders are received.

F1.5.2 The decision to cancel a tender must be published in the cidb website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

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

F.1.6.2 Competitive negotiation procedure

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

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

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

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

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

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

F.1.6.3.2 Option 2

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

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

F.2.1 Eligibility

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

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

F.2.2 Cost of tendering

F.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the tender offer

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

F2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

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

F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

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

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

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

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

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

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

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

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

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

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

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

F.2.15 Closing time

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

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

F.2.16 Tender offer validity

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

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

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

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

F.2.17 Clarification of tender offer after submission

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

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

F.2.18 Provide other material

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

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

F.2.19 Inspections, tests and analysis

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

F.2.20 Submit securities, bonds and policies

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to requests from the tenderer

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

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

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

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

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

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

F.3.5 Two-envelope system

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

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

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

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

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

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

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

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

F.3.9.2 The employer must correct the arithmetical errors in the following manner:

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

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

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

F.3.11.2 Method 1: Price and Preference

In the case of a price and preference:

1. Score tender evaluation points for price
2. Score points for BBBEE contribution

3. Add the points scored for price and BBBEE.

F.3.11.3 Method 2: Functionality, Price and Preference

In the case of a functionality, price and preference:

1. Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
2. No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
3. Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 4 and 5 below.

F.3.11.4 The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R1 million

- a. i. The following formula must be used to calculate the points for price in respect of tenders(including price quotation) with a rand value equal to, or above R 30 000 and up to Rand value of R 1 000 000 (all applicable taxes included):

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

Where

Ps = Points scored for comparative price of tender or offer under consideration;

Pt = Comparative price of tender or offer under consideration; and

Pmin = Comparative price of lowest acceptable tender or offer.

- ii. An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R30 000, if and when appropriate.
- b. Subject to subparagraph (c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

| B-BBEE status level contributor | Number of points |
|---------------------------------|------------------|
| 1 | 20 |
| 2 | 18 |
| 3 | 16 |
| 4 | 12 |
| 5 | 8 |
| 6 | 6 |
| 7 | 4 |
| 8 | 2 |
| Non-compliant contributor | 0 |

- c. A maximum of 20 points may be allocated in accordance with subparagraph (b)
- d. The points scored by tender in respect of B-BBEE contribution contemplated in contemplated in subparagraph (b) must be added to the points scored for price as calculated in accordance with subparagraph (a).
- e. Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

F.3.11.5 The 90/10 preference points system for acquisition of services, works or goods with a Rand value above R 1 million

- (a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R1 000 000 (all applicable taxes included):

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for comparative price of tender or offer under consideration;

P_t = Comparative price of tender or offer under consideration; and

P_{\min} = Comparative price of lowest acceptable tender or offer.

(b) Subject to subparagraph (c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

| B-BBEE status level contributor | Number of points |
|---------------------------------|------------------|
| 1 | 10 |
| 2 | 9 |
| 3 | 8 |
| 4 | 5 |
| 5 | 4 |
| 6 | 3 |
| 7 | 2 |
| 8 | 1 |
| Non-compliant contributor | 0 |

c. A maximum of 10 points may be allocated in accordance with subparagraph (b).

d. The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (b) must be added to the points scored for price as calculated in accordance with subparagraph (a).

e. Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

F.3.11.6 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.11.7 Scoring Price

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

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

where: N_{FO} is the number of tender evaluation points awarded for price.

W_1 is the maximum possible number of tender evaluation points awarded for price as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

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

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

F.3.11.8 Scoring preferences

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

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

F.3.11.9 Scoring functionality

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

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

$$N_Q = W_2 \times S_o / M_s$$

where: S_o is the score for quality allocated to the submission under consideration;
 M_s is the maximum possible score for quality in respect of a submission; and
 W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the Tender Data

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of tender offer

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

- is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- has the legal capacity to enter into the contract,
- is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- complies with the legal requirements, if any, stated in the tender data, and
- is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:
addenda issued during the tender period,
inclusion of some of the returnable documents, and
other revisions agreed between the employer and the successful tenderer.

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

F.3.15 Complete adjudicator's contract

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

F.3.16 Notice to unsuccessful tenderers

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

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

F.3.17 Provide copies of the contracts

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

F.3.18 Provide written reasons for actions taken

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

F.3.19 Transparency in the procurement process

F.3.19.1 The cidb prescripts require that tenders must be advertised and be registered on the cidb i.Tender system.

F.3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F.3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

F.3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

F.3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F.3.19.6 Consultative Forum must be an independent structure from the bid committees.

F.3.19.7 The information must be published on the employer's website.

F.3.19.8 Records of such disclosed information must be retained for audit purposes.