



DEPARTMENT OF WATER AND SANITATION

DUE AT 11:00 ON

**CLOSING DATE:
19 DECEMBER 2025**

WTE-2539ES

BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD

SUBMIT BID DOCUMENTS TO:

POSTAL ADDRESS:

OR

TO BE DEPOSITED IN:
THE BID BOX AT THE ENTRANCE
GATE OF MIDMAR DAM
R103 PROSPECT ROAD
MIDMAR DAM
HOWICK, 3290

WATER AND SANITATION
PRIVATE BAG X 24
HOWICK, 3290

Compulsory Briefing Session

Date: 10 DECEMBER 2025

Time: 11:00

Venue: WAGENDRIFT DAM

BIDDER: (Company Address OR Stamp)

**COMPILED BY:
DEPARTMENT OF WATER AND SANITATION**



DEPARTMENT OF WATER AND SANITATION

DOCUMENTS THAT ARE RELATED TO TENDER/QUOTATION			
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T1	TENDERING PROCEDURES		
T1.1	INSTRUCTION TO BIDDERS		
T1.2	EVALUATION CRITERIA		
T1.3	LIST OF RETURNABLE DOCUMENTS AND SCHEDULES		
T1.4	INVITATION TO BID		
T2	RETURNABLE DOCUMENTS AND SCHEDULES		
	SBD 3.1.; SBD 4; SBD 6.1; ANNEXURE C		
C1	CONTRACT DATA		
C1.1	CONTRACT DATA		
C1.2	PERFORMANCE GUARANTEE		
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C1.4	RETENTION MONEY GUARANTEE		
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C2.1	PRICING INSTRUCTIONS		
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C3	SCOPE OF WORK		
C3.1	STANDARD SPECIFICATIONS		
C3.2	TECHNICAL SPECIFICATIONS		
C3.3	PARTICULAR SPECIFICATIONS		
C4	SITE INFORMATION		
C4.1	LOCALITY PLAN		
C4.2	STANDARD DETAILS		
C4.3	EXISTING SERVICES REPORT		
C4.4	CONDITIONS ON SITE: MATERIALS INFORMATION		
C4.5	TRAFFIC INFORMATION		

T1 TENDERING PROCEDURES

T1.1 INSTRUCTIONS TO BIDDERS

1. ISSUING OF DOCUMENTS

- (a) A complete sets of bid documents are issued to a prospective Bidder.
- (b) Bidders must satisfy themselves that the document is complete and conform to the index of this document. Should any figures or writing be indistinct or should any pages be missing from this document or should this document or the drawing(s) contain any obvious errors, the Bidders must immediately notify the Department in order to have any discrepancy rectified or clarified before submitting his bid. Such clarification will be valid only if made by the Department by means of formal amendment as described hereunder prior to the date of submission of bids. The Department may issue amendments to clarify or modify the Bid Documents. A copy of each amendment will be issued to each bidder and shall be acknowledged on the form issued with the amendments. No claim whatsoever will be entertained for faults in the bid price resulting from the above-mentioned discrepancies.
- (c) No alterations, omissions or additions shall be made to this document, but should it be deemed necessary to do so, the Bidder is at liberty to qualify his bid.
- (d) All Bidders shall be deemed to have waived, renounced and abandoned any conditions printed or written upon any stationery used by them for the purpose of or in connection with the submission of bids which are in conflict with the conditions laid down in this document.
- (e) Each page of the completed document that will be submitted should be initialled by the Bidder at the bottom of the page.

2. QUERIES WITH RESPECT TO THIS BID

Queries of a specific technical nature may be discussed personally or telephonically with **Mr Melisizwe Zuma at 033 239 1286 / ZumaM@dws.gov.za** or may be directed in writing to: The Director: Eastern Operations, Department of Water and Sanitation, Private bag X24, Howick.

3. COMPLETION OF BIDS

- (a) The bid must be signed on the Invitation to Bid form (SBD 1) annexed hereto with all blanks in the bid and the appendix filled in.
- (b) All spaces in the bid forms and other annexures shall be completed in full.
- (c) **SBD 3.1 in the bid document and the Pricing Schedule must be fully completed and priced out by the bidder. Failure to do so will deem your bid invalid.**
- (d) The bid documents shall not be separated in any way nor must any pages be detached from the original documents.

4. SUBMISSION OF BIDS

The Bid Document shall be completed, signed and submitted as follows:

- (a) The original Bid, together with a covering letter and supporting documents, shall be sealed in an envelope endorsed:

WTE-2539ES: BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD

- (b) Bids sealed and endorsed as above, will be received by: The Supply Chain Management Office or may be deposit in the bid box at the entrance of **Department of Water and Sanitation, R103 Prospect Road, Howick** and not later than **11:00** on the date stipulated on the front cover of this document.

5. SIGNATURE ON BIDS

The Bid, if by an individual, must be signed by that individual or by someone on his behalf duly authorised thereto and **proof of such authority must be produced**. If the bid is by a Company, it must be signed by a person duly authorised thereto by a Resolution of a Board of Directors a copy of which Resolution, duly certified by the Chairman of the Company is to be submitted with the bid.

The successful bidder will be required to submit a "Letter from the manufacturer" confirming the supply arrangement within 14 days after the approval of the bid.

If the bid is submitted by joint venture of more than one person and/or Companies and/or firms it shall be accompanied by the following:

- (a) The original or a notarially certified copy of the original document under which such joint venture was constituted which must define precisely inter alia the conditions under which the joint venture will function, its period of duration and the participation of the several constituent persons and/or companies and/or firms.
- (b) A certificate signed by or on behalf of each participating person and/or company and/or firm authorising the person who signed the bid to do so.

6. GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract, as attached shall be regarded as an integral part of the contract documents.

7. PERIOD OF VALIDITY OF QUOTATIONS AND WITHDRAWAL AFTER CLOSING DATE

All quotations shall remain valid for a period of **one hundred and twenty days (120)** after the closing time and date set.

8. TELEGRAPHIC BIDS

No bid forwarded by telegram, telex, facsimile, e-mail or similar apparatus will be considered.

9. THE DEPARTMENTS RIGHT TO DECLINE ANY BID

The Department does not bind itself to accept the lowest or any bid. Bids not complying with the above-mentioned requirements and specifications may be regarded as incomplete and may not be considered.

10. ACCEPTANCE OR REJECTION

Quotations may be rejected if they show any departure from the conditions or specifications contained in the quotation documents or are incomplete in any way. The employer **does not bind him** to accept the lowest or any quotation and reserves the right to accept any quotation he may deem expedient, nor will he assign any reason for the acceptance or rejection of any quotation.

11. DEPARTMENT NOT LIABLE FOR BIDDER'S EXPENSES

The Department will not be held liable for any expenses incurred in preparing and submitting bids.

12. PAYMENTS UNDER THE CONTRACT

All payments due to the Bidder in terms of the contract will be done by means of Electronic Fund Transfer. The evaluation committee will be following a phased approach during evaluation

T1.2 EVALUATION CRITERIA

DWS will evaluate all proposals according to the Preferential Procurement Regulations, 2022, using 80/20 preference points system as prescribed in the Preferential Procurement Policy Framework Act (PPPFA, Act 5 of 2000). The lowest acceptable bid will score 80 points for price and a maximum of 20 points will be awarded for the specific goals. Maximum of 100 points will be scored for functionality (quality).

Bids received will be evaluated on the five (4) phases namely:

- (1) Mandatory Requirements
- (2) Functionality Requirements
- (3) Administrative Compliance
- (4) Price & Specific Goal

PHASE 1: MANDATORY REQUIREMENTS:

Failure to submit any of the documents listed below will render your bid non-responsive and the bid will be disqualified.

No	Criteria	Yes	No
1	CIDB minimum 2CE		
2	Attendance of compulsory briefing session and service provider to sign the attendance register during the briefing session		
3	Fully completed SBD 3.1		
4	Fully completed Bill of Quantities		

PHASE 2: FUNCTIONALITY COMPLIANCE

- Full compliance to technical requirements by indicating compliant or non-compliant.
- Bidders who Fail to comply with the below requirements in full will be considered non-responsive and may be disqualified from further evaluation.

Criteria	Sub-Criteria	COMPLY YES/NO	
		Yes	No
Team capability	<p>Team capability- Demonstrated skills and experience of key personnel for this project, limited to the Project Manager or Site agent.</p> <ul style="list-style-type: none"> • An Organogram with personnel relevant to the project. • Attach 1 page resume of Project Manager or Site Agent indicating, amongst others, relevant qualifications, experience, accreditation/affiliation (where relevant), etc. Artisan/Site Agent with 2 or more years' experience. 		
Proposed construction programme	<p>Proposed construction programme-</p> <p>Provides a detailed list of tasks necessary to complete the works, tasks a specific to the project and encompass milestones</p> <p>Appropriate timeline and time estimates</p>		
Past relevant work experience	<p>Past relevant work Experience - Two (2) award letters, completion certificates and verifiable completion certificates of which the scope of work is relevant to the project scope as prescribed in the project specification.</p>		
Methodology	<p>Methodology- Items (a-g) must be clearly outlined in the detailed method statement.</p> <ul style="list-style-type: none"> a) Work Sequence b) Time c) Resources d) Associated Health, Safety and Environmental Assessments e) Control Measures f) Welfare Facilities <p>Work Method etc.</p> <p>Content, Clear, detailed presentation of the scope of work with full understanding and a logical structure.</p>		
Proposed programme	<p>A proposed detailed Gantt chart must be submitted (from project start to finish).</p>		

PHASE 3: ADMINISTRATIVE COMPLIANCE

Bidders are required to comply with the following listed below:

No	Criteria	Yes	No
1	Companies must be registered with National Treasury's Central Supplier Database must submit CSD report. Provide MAAA number on SBD1		
2	Tax compliant with SARS (to be verified through CSD and SARS). Attach Tax Compliance status PIN page		
3	Active registration with Company Intellectual Property Commission (to be verified through CSD and CIPC). Attach copy of Bidder's CIPC / CIPRO certificate.		
4	A valid copy of B-BBEE Status Level Verification Certificate or a valid original sworn affidavit (failure to submit, the Bidder will forfeit the relevant points allocated for B-BBEE under specific goals)		
5	A valid letter of Good Standing with the Compensation Commissioner in terms of the Compensation for Occupational Injuries and Diseases Act No 130 of 1993 and or third parties' insurance registered with Financial Service Board (COIDA).		
6	Initial and sign Tender data section (T1 & T2) and all required documents to be submitted with tender. Initial each page of section C1, C2 and C3 and sign where required.		
7	Letter of appointment of duly authorized person to sign bid. Proof of such authority must be submitted with the bid. If by an individual, must be signed by that individual or by someone on his behalf duly authorised thereto and proof of such authority must be produced. If the bid is by a Company, it must be signed by a person duly authorised thereto by a Resolution of a Board of Directors a copy of which Resolution, duly certified by the Chairman of the Company is to be submitted with the bid.		
8	Complete, sign, submit SBD1, SBD4, SBD6.1 and Annexures C (Local Production and Content declaration – summary schedule.)		

PHASE 4: PRICE AND SPECIFIC GOALS

The 80/20-point system will be used in evaluating all proposals.

Evaluation element	Weighting (Points)
SPECIFIC GOALS	20
PRICE	80
Total	100

Price

A maximum of 80 points are allocated for price on the following basis

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

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

Preference Point System (Specific Goals)

SPECIFIC GOALS	NUMBER OF POINTS TO BE ALLOCATED
Women	5
People with disability	5
Youth (35 and below)	5
Location of enterprise (Province)	2
B-BBEE status level contributors from level 1 to 2 which are QSE or EME	3
Total points for SPECIFIC GOALS	20

Documents requirement for verification of points allocation:

Procurement Requirement	Required Proof Documents
Women	Full CSD Report
Disability	Full CSD Report
Youth	Full CSD Report
Location	Full CSD Report
B-BBEE status level contributors from level 1 to 2 which are QSE or EME	Valid BBBEE certificate/sworn affidavit Consolidated BEE certificate in cases of Joint Venture Full CSD Report

The definition and measurement of the goals above is as follows:

Women, disability, and youth:

This will be measured by calculating the pro-rata percentage of ownership of the bidding company which meets this criterion. E.g., Company A has five shareholders each of whom own 20% of the company. Three of the five shareholders meet the criterion, i.e. they are women/disability/youth. Therefore, this bidder will obtain 60% of the points allowable for this goal.

Location of enterprise

Local equals province. Where a project cuts across more than one province, the bidder may be located in any of the relevant provinces to obtain the points.

B-BBEE status level contributors from level 1 to 2 which are QSE or EME

Measured in terms of normal BBBEE requirements.

Note: Formula for calculating points for specific goals

Preference points for entities are calculated on their percentage shareholding in a business, provided that they are actively involved in and exercise control over the enterprise. The following formula is prescribed:

$$PC = Mpa \times \frac{P\text{-own}}{100}$$

Where

PC= Points awarded for specific goal

Mpa= The maximum number of points awarded for ownership in that specific category

P-own = The percentage of equity ownership by the enterprise or business

Should you require any further information in this regard, please do not hesitate to contact:

Name:	Mr. M.M Zuma
Tel:	033 239 1286
Email:	zumam@dws.gov.za

T1.3 LIST OF RETURNABLE DOCUMENTS AND SCHEDULES

a) SBD Forms to be completed and signed

The Bidder must complete and attach the following Returnable Documents:

SBD1	Invitation to Bid	<input type="checkbox"/>
SBD3.1	Pricing Schedule – Firm Prices	<input type="checkbox"/>
SBD4	Declaration of Interest	<input type="checkbox"/>
SBD6.1	Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022	<input type="checkbox"/>

b) Returnable Schedules required for Bid Evaluation purposes

A:	Certificate of attendance of briefing session	<input type="checkbox"/>
B:	Bill of Quantities (BOQ)	<input type="checkbox"/>

c) Other Documents required for Bid Evaluation purposes

1:	Company/business registration certificate (CK) issued by the Commissioner of Companies & Intellectual Property Commission (Joint Ventures/Close Corporation/Partnership/Company/Sole Proprietor)	<input type="checkbox"/>
2:	An original valid Tax Clearance Certificate issued by the South African Revenue Services.	<input type="checkbox"/>
3:	Certified copies of Identity Documents of shareholders	<input type="checkbox"/>
4:	B-BBEE Status Level Verification Certificate or Sworn Affidavit	<input type="checkbox"/>
5:	Letter of Authority indicating the person who will be authorized to sign bidding documents and contract on behalf of bidder	<input type="checkbox"/>
6:	General condition of a contract, signed	<input type="checkbox"/>
7:	CSD Reports (comprehensive)	<input type="checkbox"/>
8:	Check list of returnable documents	<input type="checkbox"/>



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Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

SBD 1

PART A: INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)							
BID NUMBER:	WTE-2539ES		CLOSING DATE: 19 DECEMBER 2025		CLOSING TIME: 11:00am		
DESCRIPTION	BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD						
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)							
THE BID BOX AT THE ENTRANCE OF WATER AND SANITATION – MIDMAR DAM							
R103 PROSPECT STREET							
HOWICK, 3290							
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO				TECHNICAL ENQUIRIES MAY BE DIRECTED TO:			
CONTACT PERSON	Gerda Lamprecht			CONTACT PERSON	Mr. M Zuma		
TELEPHONE NUMBER	033 239 1309				033 239 1286		
E-MAIL ADDRESS	lamprechtg@dws.gov.za			E-MAIL ADDRESS	ZumaM@dws.gov.za		
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							
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA		
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		[TICK APPLICABLE BOX] <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 THE QUESTIONNAIRE BELOW]		
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS							
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?					<input type="checkbox"/> YES <input type="checkbox"/> NO		
DOES THE ENTITY HAVE A BRANCH IN THE RSA?					<input type="checkbox"/> YES <input type="checkbox"/> NO		
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?					<input type="checkbox"/> YES <input type="checkbox"/> NO		
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?					<input type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?					<input type="checkbox"/> YES <input type="checkbox"/> NO		
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 BELOW.							

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 IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.
1.3.	THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
1.4.	THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).
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 VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3	APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
2.4	BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.5	IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.6	WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
2.7	NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:
(Proof of authority must be submitted e.g. company resolution)

DATE:



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Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

SBD 3.1

**PRICING SCHEDULE – FIRM PRICES
(PURCHASES)**

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of bidder.....

Bid number: WTE-2539ES Closing date: 19 DECEMBER 2025 Closing Time **11:00**

OFFER TO BE VALID FOR 120 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO.	DESCRIPTION OF GOODS	QTY	UNIT PRICE <i>(To be filled by the bidder)</i>	BID PRICE <i>(To be filled by the bidder)</i>
1	SCHEDULE A – GENERAL ESTABLISHMENT	SUM		
2	SCHEDULE B – ROADWORKS	SUM		
			5% CONTINGENCIES	
			SUB-TOTAL	
			15% VAT	
			TOTAL BID PRICE	

-
- **Required by:** OPERATIONS EASTERN
 - **Attention:** SUPPLY CHAIN MANAGEMENT
 - **Brand and model**
 - **Country of origin**
 - **Does the offer comply with the specification(s)? *YES/NO**
 - **If not to specification, indicate deviation(s)**
 - **Period required for delivery**
***Delivery: Firm/not firm**
 - **Delivery basis**

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

**** “all applicable taxes” includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.**

***Delete if not applicable**

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the Bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

- 2.1 Is the Bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state?

YES/NO

- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.2 Do you, or any person connected with the Bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....
.....

2.3 Does the Bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract?

YES/NO

2.3.1 If so, furnish particulars:

.....
.....

3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

3.1 I have read and I understand the contents of this disclosure;

3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;

3.3 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 consortium² will not be construed as collusive bidding.

3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.

3.5 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.

² 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.

- 3.6 There have been no consultations, communications, agreements or arrangements made by the Bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the Bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.7 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.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

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

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

1. GENERAL CONDITIONS

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

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

1.2 **To be completed by the organ of state**

- a) The applicable preference point system for this tender is the **80/20** preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;

- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

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

Where

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

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
 - (a) an invitation for tender for income-generating contracts, that either the 80/20 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system, then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points Claimed (80/20 system) To be completed by the Tenderer
Women Ownership	5	
Disability Ownership	5	
Youth Ownership	5	
Location of enterprise (local equals province) - KZN	2	
B-BBEE status level contribution from level 1 to 2 which are QSE or EME	3	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

LOCAL CONTENT ANNEXURE C

Annex C

SATS 1286.2011

Local Content Declaration - Summary Schedule

(C1)	Tender No.
(C2)	Tender description:
(C3)	Designated product(s)
(C4)	Tender Authority:
(C5)	Tendering Entity name:
(C6)	Tender Exchange Rate:
(C7)	Specified local content %

Note: VAT to be excluded from all calculations

Pula EU GBP [illegible][illegible]

Signature of tenderer from Annex B

Date: _____

(C20) Total tender value

R 0

(C21) Total Exempt imported content

R 0

(C22) Total Tender value net of exempt imported content

R 0

(C23) Total Imported content

R 0

(C24) Total local content

R 0

(C25) Average local content % of tender

CONTRACT DATA

- C1: CONTRACT DATA**
- C2: PRICING DATA**
- C3: SCOPE OF WORK**
- C4: SITE INFORMATION**

CONTRACT

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C1.1.1: CONDITIONS OF CONTRACT

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C1.1.1.1 GENERAL CONDITIONS OF CONTRACT

C1.1.1 CONDITIONS OF CONTRACT

C1.1.1.1 GENERAL CONDITIONS OF CONTRACT

This Contract will be based on the "General Conditions of Contract for Construction Works, Third Edition, 2015", issued by the South African Institution of Civil Engineering (abbreviated title: "GCC 2015").

It is agreed that the only variations from the GCC 2015 are those set out hereafter under "C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT".

C1.1.2: CONTRACT DATA (Applicable to this contract)

PART A: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
1.	GENERAL
Clause 1.1.1.13:	The Defects Liability Period is 12 months.
Clause 1.1.1.14:	The time for achieving Practical Completion is 4 months from the Commencement Date, including non-working days and special non-working days.
Clause 1.1.1.26:	Pricing Strategy: The Contract is to be a Re-measurement Contract.
Clause 1.1.1.15:	Name of Employer: Department of Water and Sanitation
Clause 1.2.1.2:	Address of Employer: <div> <div><u>Physical:</u></div> <div>R103 Propsect Road Howick 3290</div> </div> <div> <div><u>Postal:</u></div> <div>Private Bag X 23 Howick 3290</div> </div> <div>E-Mail: Lamprecht Gerda (MMD) <LamprechtG@dws.gov.za></div> <div>Telephone No: (033) 239 1200</div>
Clause 1.1.1.16:	Name of Employer's Agent: Melisizwe Zuma
Clause 1.2.1.2:	Address of Employer's Agent: <div> <div><u>Physical:</u></div> <div>R103 Pospect Road Howick 3290</div> </div> <div> <div><u>Postal:</u></div> <div>Private bag X 23 Howick 3290</div> </div> <div>E-Mail: ZumaM@dws.gov.za</div> <div>Telephone No: (033) 239 1286</div>
3.	EMPLOYER'S AGENT

Clause 3.2.3:	The Employer's Agent is required to obtain the specific approval of the Employer for any expenditure in excess of the Contract Price.
---------------	---

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REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
<p>Clause 5.8.1:</p>	<ul style="list-style-type: none"> • Temporary works designer's appointment duties in terms of Regulation 6(2) as have been agreed upon plus proof of registration with ECSA [CR 3(5)(b)(iii) read with CR 5(1)(e) and CR 6(2)]; • Evidence that the contractor has made adequate provision for the cost of Health and Safety, i.e., Bill of quantities [CR 3(5)(b)(iii) read with CR 5(1)(g)]; • Evidence that the Principal contractor has the necessary competencies to carry out construction work safely, viz., schedule of activities, relevant appointments and proofs of competency [CR 5(1)(h)]; • Valid Letter(s) of Good Standing for the appointed Principal Contractor(s) [CR 3(5)(b)(ii) read with CR 5(1)(j)]. <p>The non-working days are Sundays.</p> <p>The special non-working days are the construction industry year end break, all foreseeable statutory election days as declared by National Government, and the following statutory public holidays as declared by National Government:</p> <p style="padding-left: 40px;">New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers' Day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill.</p> <p>The construction industry year end break commences on the first working day after 15 December and ends on the first working day after 5 January of the following year.</p>
<p>Clause 5.13.1:</p>	<p>The penalty for failing to complete the Works is 0,05% of the Contract Sum per day, up to a maximum limit of twenty-five thousand rand per day (R25000,00 per day).</p>
<p>Clause 5.14.1:</p>	<p>The requirements for achieving Practical Completion are as stated in clause 1210 of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 Edition, as amended in clause B1210 in Part B of C3.2: Project Specifications where applicable.</p>
<p>Clause 5.16.3:</p>	<p>The latent defects period is 10 years.</p>

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
6.	PAYMENT AND RELATED MATTERS
Clauses 6.2.1 and SCC 6.2.1:	The security to be provided by the Contractor shall be: Fixed Performance Guarantee of 8% of the first One Million Rand plus 3.5% of the balance of the accepted Contract Sum.
Clause 6.5.1.2.3:	The percentage allowance to cover overhead charges is 15%.
Clauses 6.8.2 and SCC 6.8.2:	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: The values of the coefficients for calculating the Contract Price Adjustment Factor are: a = 0.20 b = 0.35 c = 0.35 d = 0.10 The "Consumer Price Index" will be as for the Province of <u>KwaZulu-Natal</u> . The base month is the month prior to the month in which the closing date for the tender falls.
Clause 6.8.3:	Price adjustments for variations in the costs of special materials are allowed.
Clause 6.10.1.5:	The percentage advance on materials not yet built into the Permanent Works is 80%.
Clause 6.10.3:	The percentage retention on the amounts due to the Contractor is 10%. The limit of retention money is 5% of the first One Million Rand plus 1.6% of the remaining amount of the tender offer excluding Contract Price Adjustment, contingencies and VAT. A retention guarantee in lieu of a cash retention is permitted.
8.	RISKS AND RELATED MATTERS
Clause 8.6.1.1.2:	The value of Plant and materials supplied by the Employer to be included in the insurance sum is NIL.
Clause 8.6.1.1.3:	The amount to cover professional fees for repairing or reinstatement of damage to the Works to be included in the insurance sum is NIL.
Clause 8.6.1.2:	Special Risks Insurance issued by SASRIA is required.
Clause 8.6.1.3:	The limit of indemnity for liability insurance is <u>R10 000 000.00 (ten million Rand only)</u> for any single liability claim. Liability insurance shall include spread of fire risk.
10.	CLAIMS AND DISPUTES
Clause 10.5.3:	The number of Adjudication Board Members to be appointed is one.
Clause 10.7.1:	Unresolved disputes shall be referred to arbitration.

C1.2.2: CONTRACT DATA (Applicable to this contract)

PART B: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR						
1.	GENERAL						
Clause 1.1.1.9:	Name of the Contractor:						
						
Clause 1.2.1.2:	Address of the Contractor:						
	<u>Physical:</u>						
	<u>Postal:</u>						
						
						
						
						
6.	PAYMENT AND RELATED MATTERS						
Clause 6.8.3:	<p>The Tenderer shall complete Table 1 below with respect to each of the special materials listed. This information shall be used to calculate the variation in cost of the special materials.</p> <p>The rates and prices for the special materials shall be furnished by the Tenderer, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies. The tendered price to be provided by the Tenderer is the ruling price on the first of the month prior to the month in which the closing date for the Tender falls.</p> <p>Table 1</p> <table border="1"> <thead> <tr> <th>SPECIAL MATERIALS</th><th>UNIT*</th><th>RATE OR PRICE FOR THE BASE MONTH</th></tr> </thead> <tbody> <tr> <td></td><td>Tonne</td><td>.....</td></tr> </tbody> </table> <p>* Indicate whether the material shall be delivered in bulk or in containers. When called upon to do so, the Contractor shall substantiate the above rates or prices with acceptable documentary evidence.</p> <p>Signed on behalf of Tenderer:</p>	SPECIAL MATERIALS	UNIT*	RATE OR PRICE FOR THE BASE MONTH		Tonne
SPECIAL MATERIALS	UNIT*	RATE OR PRICE FOR THE BASE MONTH					
	Tonne					

C1.3: PERFORMANCE GUARANTEE

PRO FORMA

PERFORMANCE GUARANTEE

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

1. GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical address:

“Employer” means:

“Contractor” means:

“Employer’s Agent” means:

“Works” means:

“Site” means:

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

“Contract Sum” means: The accepted amount inclusive of tax of R

Amount in words:

“Guaranteed Sum” means: The maximum aggregate amount of R

Amount in words:

“Expiry Date” means: 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.

2. 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.

3. GUARANTOR’S LIABILITY

3.1 The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.

3.2 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.

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

4. CONDITIONS APPLICABLE TO THIS PERFORMANCE GUARANTEE

4.1 The Guarantor hereby acknowledges that:

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

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

4.2 Subject to the Guarantor's maximum liability referred to in 3.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.2.1 to 4.2.3:

4.2.1 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 4.2.2;

4.2.2 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 4.2.1 and the sum certified has still not been paid;

4.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.2.

4.3 Subject to the Guarantor's maximum liability referred to in 3.1, 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:

4.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 4.3; or

4.3.2 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 4.3; and

4.3.3 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.

4.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4.2 and 4.3 shall not exceed the Guarantor's maximum liability in terms of 3.1.

4.5 Where the Guarantor has made payment in terms of 4.3, 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.

4.6 Payment by the Guarantor in terms of 4.2 or 4.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

4.7 Payment by the Guarantor in terms of 4.3 will only be made against the return of the original Performance Guarantee by the Employer.

4.8 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.

- 4.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 4.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 3.2, 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.
- 4.11 This Performance Guarantee, with the required demand notices in terms of 4.2 or 4.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 4.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents 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: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY
ACT No 85 OF 1993**

THIS AGREEMENT is made between The Republic of South Africa represented by Director General:
Department of Water and Sanitation
(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 Mandatary of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of:

BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD.

for the construction, completion and maintenance of the works;

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act Amendment Act No 181/1993 (hereinafter referred to as the ACT);

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 AGENT 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 undertakings 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 or premises occupied by the CONTRACTOR, or to take such steps the EMPLOYER 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 charge 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..... for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at..... for and on behalf of the **EMPLOYER** on this

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C1.5: RETENTION MONEY GUARANTEE

PRO FORMA

RETENTION MONEY GUARANTEE

DEPARTMENT OF WATER AND
SANITATION
PRIVATE BAG X25
HOWICK
3290

BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD.

ISSUED TO: the **REPUBLIC OF SOUTH AFRICA**, represented by **DIRECTOR GENERAL: DEPARTMENT OF WATER AND SANITATION** (Hereinafter referred to as "the Employer")

ON BEHALF OF:(Hereinafter referred to as "the Contractor")

In connection with

CONTRACT NO......(Hereinafter referred to as "the Contract")

WHEREAS the Employer and the Contractor have agreed that the Contractor may provide a guarantee in lieu of the whole or portion of the retention monies provided for under the Contract;

NOW THEREFORE we, the undersigned, undertake, in accordance with the following provisions, to pay the Employer such amounts as the Employer may, from time to time, demand from us.

1. Each demand by the Employer shall be in writing signed by the Employer and delivered to us at

.....
or such other address as we shall in writing notify to the Employer and shall be accompanied by a certificate complying with Clause 2, signed by the Employer's Agent as such in terms of the Contract.

2. The Employer's Agent's certificate referred to in Clause 1 shall certify

- (a) that he is the Employer's Agent in terms of the Contract,
- (b) that the Contractor is in breach of his obligations under the Contract, and
- (c) that the amount demanded, which amount the certificate shall specify,

- (i) does not exceed the amount of retention monies which, but for this guarantee, would have been retained by the Employer in terms of the Contract at the date of the certificate, less the aggregate of the amounts of retention money actually retained by the Employer and the amounts previously paid by us to the Employer in terms hereof, and
- (ii) does not exceed a genuine estimate of the cost to the Employer of having the breach referred to in paragraph (b) remedied less the aggregate of any amounts withheld by the Employer from payments due the Contractor in terms of the Contract by reason of the breach referred to, and any amount in retention money actually held by the Employer save to the extent that the same had been deducted from any previous demand in terms hereof.

3. We shall within 28 days after our receipt of a demand complying with the provisions of Clauses 1 and 2 make payment to the Employer of the amount demanded at R103 Prospect Road, Howick, 3290 or at such other address as the Employer shall in writing notify us.
4. Subject to compliance with the provisions thereof, our liability to make the payments herein referred to shall be unconditional and shall not be affected nor diminished by any disputes, claims or counterclaims between the Employer and the Contractor.

5. Our aggregate liability under this guarantee is limited to R
6. This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by the Employer, becomes payable to the Contractor.
7. This guarantee is not transferable and must be produced for endorsement if any part payment is made and must be returned to us against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 6, whichever is the earlier.

Signed in the presence of the witnesses named hereunder:

At for and on behalf of

on this day of

Signature:

Capacity:

Address:

As Witnesses:

1. Name in Block Letters ...

2. Name in Block Letters

C1.6: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY

(To be completed during construction by successful Tenderer only)

Claim for materials on site, Payment Certificate No. Date:

BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD

I, the undersigned (name of signatory) in my capacity as

..... of (name of Contractor)

duly authorised hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favour of (name of Employer)

Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table.

DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF MATERIALS AND GOODS					

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.

C2: PRICING DATA

C2.1 INSTRUCTIONS

1. GENERAL

The Schedule of Quantities forms part of the Contract Documents and must be read in conjunction with all the other documents comprising the Contract Documents, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specifications) and the Drawings.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Schedule of Quantities has been drawn up generally in accordance with the relevant provisions of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition) as published by the South African Committee of Land Transport Officials (COLTO).

The short descriptions of the items in the Schedule of Quantities are for identification purposes only and the measurement and payment clause of the COLTO Standard Specifications (1998 edition) and the Particular Specifications, read together with the relevant clauses of the amendments and additions contained in the Project Specifications and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

The item numbers appearing in the Schedule of Quantities refer to the corresponding item numbers in the COLTO Standard Specifications (1998 edition). Item numbers prefixed by the letter B refer to items of payment described in Part B Amendments to the Standard Specifications.

For the purposes of this Schedule of Quantities, the following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work as defined in the specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of measurement at which the Tenderer quotes to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Lump Sum: An amount tendered for an item, the extent of which is described in the Schedule of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

3. QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Schedule of Quantities are estimates only, and are subject to re-measure during the execution of the work. The quantities finally accepted and certified for payment, and not the quantities given in the Schedule of Quantities, shall be used to determine payments to the Contractor. The Contractor shall obtain the Employer's Agent's detailed instructions for all work before ordering any materials or executing work or making arrangements for it. The quantities of material or work stated in the Schedule of Quantities shall not be regarded as authorisation for the Contractor to order material or to execute work.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Schedule of Quantities and in accordance with the General and Special Conditions of Contract, the COLTO Standard Specifications subclause 1209(a), the Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste. The validity of the contract will in no way be affected by differences between the quantities in the Schedule of Quantities and the quantities finally certified for payment.

4. PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums are provided for items in the Schedule of Quantities, payment for the work done under such items will be made in accordance with Clause 6.6 of the General Conditions of Contract 2015. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted by the Employer in the "Amount" column of the Schedule of Quantities and in the Summary of the Schedule of Quantities unless so ordered or authorised in writing by the Employer before closure of tenders. Any unauthorised changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Schedule of Quantities, at the Employer's discretion, may invalidate the Tenderer's offer or may be treated as arithmetical errors and the provisional items and percentages corrected without change to the Contract Sum.

5. SCHEDULE OF QUANTITIES

The Schedule of Quantities in the tender document are listed as a project scope by the Employer for the work described under the several items, Actual quantities will be issued later and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based. The rates and lump sums shall be comprehensive in accordance with subclause 1209(b) of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition).

Each item shall be priced on a later stage and extended to the "Amount" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Tenderer omits to price any items in the Schedule of Quantities, then these items will be considered to have a nil rate or price.

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

Should the Tenderer group a number of items together and tender one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Amount" column. The provisions of subclause 1209(f) of the COLTO Standard Specifications shall apply in rate only items. "Rate Only" items have been included where:

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

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

Reasonable compensation will be received where no payment item appears in respect of work required in terms of the Contract which is not covered in any other pay item.

All rates and amounts tendered in the Schedule of Quantities shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Schedule of Quantities. Note that fractions of a cent in all rates shall be omitted.

6. CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

7. INTERIM PAYMENTS

Unless otherwise specified, progress payments in Interim Certificates, referred to in Clause 6.10 of the General Conditions of Contract 2015, in respect of "sum" items in the Schedule of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

Notwithstanding any custom to the contrary, the work as executed will be measured for payment in accordance with the methods described in the contract documents under the various items of payment.

Attention is directed to the provisions of Clause 1220 of the Standard Specifications regarding the measurement of quantities for payment. Except where specified otherwise than in Clause 1220, the nett measurements or mass of the finished work in place shall be taken for payment, but any quantity of work in excess of that prescribed shall be excluded.

8. ITEMS SCHEDULED FOR CONSTRUCTION USING LABOUR-INTENSIVE METHODS

Those parts of the Works to be constructed using labour-intensive methods are marked in the Schedule of Quantities with the letters LI, either in a separate column or as a prefix or suffix against every item so designated. The Works or parts of the Works so designated are to be constructed using labour-intensive methods only, unless otherwise specified in the Scope of Work.

The items marked with the letters LI include:

- (a) Items in the COLTO Standard Specifications that would normally be carried out using labour-intensive construction methods.
- (b) Items in the COLTO Standard Specifications that would normally be carried out using plant but which have been modified specifically so as to require the use of labour-intensive construction methods instead of plant for some or all of the work components of the item.
- (c) New items that have been written for this contract specifically requiring the use of labour-intensive construction methods rather than plant for some or all of the work components of the item.

The items marked with the letters LI are not necessarily an exhaustive list of all the activities which could be carried out using labour-intensive methods. Where a minimum percentage for local labour content is specified, additional activities may need to be identified to be carried out using labour-intensive methods rather than plant in order to meet such target.

9. UNITS OF MEASUREMENT

The units of measurement described in the Schedule of Quantities are metric units. The following abbreviations are used in the Schedule of Quantities:

mm	= millimetre	m ³ -km	= cubic metre-kilometre	Prov sum	= provisional sum
m	= metre	l	= litre	kPa	= kilopascal
km	= kilometre	kl	= kilolitre	MPa	= megapascal
km-pass	= kilometre-pass	kg	= kilogram	MN	= meganewton
m ²	= square metre	t	= ton (1 000 kg)	t-km	= ton-kilometre
m ² -pass	= square metre-pass	No	= number	h	= hour
ha	= hectare	%	= percent	dia	= diameter
m ³	= cubic metre	PC sum	= prime cost sum	Sum	= lump sum
kW	= kilowatt	MN-m	= meganewton-metre		

10. CONSISTENCY OF RATES

In order to ensure that payments certified by the Employer's Agent are reasonably consistent with the market value of the work done, and that variations in quantities do not distort the contract valuation, the rates, prices and amounts tendered in the Schedule of Quantities are required to be in balance.

A tender will be considered out of balance if:

- (i) the combined, extended total tendered for the item:

B13.01 The contractor's general obligations:

- (a) Fixed obligations
- (b) Value-related obligations
- (c) Time-related obligations

exceeds a maximum of 15% of the Contract Sum (excluding contingencies, escalation and VAT).

- (ii) the rate, price or amount tendered for any other item differs by more than 20 (twenty) percent from the average of the rates, prices or amounts for the same item as tendered by those Tenderers who submitted the lowest five responsive tender offers (or as tendered by all the responsive Tenderers if there are less than five responsive Tenderers).

Any such unbalanced tender may be rejected if, after fourteen (14) days of having been given written notice by the Employer to adjust those rates or lump sums which are unreasonable or out of balance, the Tenderer fails to make the necessary satisfactory adjustments. These adjustments in rectification will be such that increases are balanced by decreases, leaving the tender offer unchanged.

11. FILLING OUT OF SCHEDULE

The schedule must be filled out by hand in **black ink only**.

Typed out schedules and computer generated schedules including automated calculations will **NOT** be accepted. Tenders will be considered non-responsive. If this is found to be the case.

12. HANDLING COSTS

Handling costs and profits in respect of specialist work carried out by approved 3rd party Tenderers and Provisional sum items, shall not exceed 10% of the work amount or provisional sum costs.

13. PAYMENT FOR THE LABOUR-INTENSIVE COMPONENT OF THE WORKS:

Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a deviation from the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

Where minimum labour intensity is specified in the design, the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets.

Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

NOTE REGARDING THE “LI” COLUMN IN THE SCHEDULE OF QUANTITIES:

The schedule of quantities contains a column designated “LI”. The letters “LI” are written in the “LI” column against certain items which must be executed using labour intensive construction methods.

Such items include:

- (a) Items in the COLTO standard specifications that would normally be executed using plant but which have been modified specifically so as to require the use of labour intensive construction methods instead of plant for some or all of the work components of the item.
- (b) New items that have been written for this contract specifically requiring the use of labour intensive construction methods rather than plant for some or all of the work components of the item.

The letters “LI” are not written in the “LI” column against items in the COLTO standard specifications that would normally be constructed using labour intensive construction methods anyway, for example items for the construction of brickwork, gabions, fencing or guardrails.

C2.2. SCHEDULE OF QUANTITIES

TABLE OF CONTENTS

SCHEDULE OF QUANTITIES


water & sanitation

 Department:
 Water and Sanitation
 REPUBLIC OF SOUTH AFRICA

CONTRACT NO: WTE-2539ES
PRICING DATA: BILL OF QUANTITIES
BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD
SCHEDULE A – GENERAL
SECTION 1300 – ESTABLISHMENT

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
1	13.00	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
1.1	13.01	Contractor's general obligations The tender rate includes full compensation for the Contractor's charges in setting up and maintaining his organization.				
1.1.1		(a) Fixed obligations	Sum	1	.....	.....
1.1.2		(c) Time-related obligations	Month	4	.....	.....
1.2	B13.02	OHS 1993 Safety specification				
1.2.1		(a) Health and safety officer for the duration of the project.	Sum	1	.....	.....
1.2.2		(b) Required documentation from OHS officer(H&S plan, risk assessment, etc) and PPE.	Sum	1	.....	.....
1.3	B12.01	Protection, relocation, realignment, removal or replacement of services.	Sum	1	.....	.....
SUB TOTAL CARRIED TO THE NEXT PAGE						

SCHEDULE B – GENERAL

SECTION 1600 - ACCOMMODATION OF TRAFFIC

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
2	15.00	ACCOMMODATION OF TRAFFIC				
2.1	15.03	(a) Flagmen	Man- day	20	.....	.....
		(h) Delineators (DTG50J)(Size):				
2.2		(ii) Mounted back to back	No.	30	.....	.....
SUB TOTAL CARIED TO THE SUMMARY PAGE						

SCHEDULE B – ROADWORKS**SECTION 1600 – OVERHAUL**

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
3	16.00	OVERHAUL				
3.1	16.02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul)	m ³ - km	3 000	.....	.....
SUB TOTAL CARRIED TO THE SUMMARY PAGE						

SCHEDULE B – ROADWORKS**SECTION 3300 – MASS EARTHWORKS**

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
4	33.00	MASS EARTHWORKS				
4.1	B33.10	Roadbed preparation and the compaction incl formation and drains of material: (b) Roadbed preparation and compaction of material: Compacted to 93% of modified AASHTO density and including shaping and formation of the road sub-grade, side drains and meadow drains	m ³	708	.....	.....
SUB TOTAL CARIED TO THE SUMMARY PAGE						

SCHEDULE B - ROADWORKS
Sanitation

SECTION 3400 - PAVEMENT LAYERS
OF GRAVEL MATERIAL

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
5	34.00	PAVEMENT LAYERS OF GRAVEL MATERIAL				
5.1	34.01	Pavement layers constructed from gravel taken from commercial sources	m ³	600	.....	.....
SUB TOTAL CARRIED TO THE SUMMARY PAGE						

SCHEDULE B - ROADWORKS
Sanitation

**SECTION 5100 - PITCHING, STONEWORK
AND PROTECTION AGAINST EROSION**

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
6	51.00	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
6.1	51.01	Stone pitching: (b) Grouted stone pitching	m ²	64
SUB TOTAL CARIED TO THE SUMMARY PAGE						

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SCHEDULE 5 – ROADWORKS**SECTION 5200 – GABIONS**

Item. No.	Pay Ref.	Description	Unit	QTY	Rate	Amount
7	52.00	GABIONS				
7.1	52.03	Gabions:				
		(b) PVC- coated gabion boxes	m ³	10	.....	.....
7.2	52.04	Filter fabric	m ²	25	.....	.....
SUB TOTAL CARRIED TO THE SUMMARY PAGE						



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

CONTRACT NO: WTE-2539ES

PRICING DATA: BILL OF QUANTITIES

BUSHMAN RIVER GWS: WAGENDRIFT DAM: REGRAVELLING OF ACCESS ROAD

SUMMARY OF BILL OF QUANTITIES

SECTION	DESCRIPTION	SECTION AMMOUNT
	SCHEDULE A	
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	R
1500	ACCOMMODATION OF TRAFFIC	R
	SCHEDULE B	
1600	OVERHAUL	R
3300	MASS EARTHWORKS	R
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL	R
5100	PITCHING, STONEMWORK AND PROTECTION AGAINST EROSION	R
5200	GABIONS	R
	Sub Total 1	R
	ADD: 5% of Sub Total 1 Contingencies	R
	Sub Total 2	R
	ADD: 15% of Sub Total 2 Value Added (VAT)	R
	TOTAL CARRIED TO FORM OF OFFER	R

SIGNATURE OF BIDDER:

DATE:

C3: SCOPE OF WORK**TABLE OF CONTENTS****C3.1 STANDARD SPECIFICATIONS****C3.2 PROJECT SPECIFICATIONS****PART A: GENERAL**

- 1. DESCRIPTION OF THE WORKS
- 2. DRAWINGS
- 3. PROCUREMENT
- 4. CONSTRUCTION
- 5. MANAGEMENT

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS**PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

- Section 1100 Definitions and terms
- Section 1200 General Requirements and Provisions
- Section 1300 Contractor's establishment on site and general obligations
- Section 1500 Accommodation of traffic
- Section 1600 Overhaul
- Section 2200 Prefabricated culverts
- Section 3300 Mass earthworks
- Section 3400 Pavement layers of gravel material
- Section 5100 Pitching, stonework and protection against erosion
- Section 5200 Gabions
- Section 6200 Falsework, formwork and concrete finish
- Section 6300 Steel reinforcement for structures
- Section 6400 Concrete for structures
- Section 8300 Quality Control (SCHEME 2)

C3.3 PARTICULAR SPECIFICATIONS**PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION****PART D: DAYWORKS****PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION**

C3.1 STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

C3.2: PROJECT SPECIFICATIONS

The Project Specifications, consisting of two parts, form an integral part of the Contract and supplement the Standard Specifications.

Part A contains a general description of the Works, the Site and the requirements to be met.

Part B contains variations, amendments and additions to the Standard Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specifications, the Project Specifications shall take precedence. In the event of a discrepancy between the Specifications (including the Project Specifications) and the drawings and / or the Schedule of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The Standard Specifications, which form part of this contract, have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

PART A: GENERAL

1. DESCRIPTION OF THE WORKS

1.1 Employer's Objectives

The Employer's objectives of this project is to enhance the operational reliability of the Department of Water and Sanitation's bulk water supply and storage infrastructure. The works aim to improve safe access for maintenance teams, ensure efficient stormwater management. By implementing these interventions, the project supports sustainable operations, reduces long-term maintenance costs, and safeguards the integrity and functionality of the national water storage and conveyance system.

1.2 Location of the Works

The work includes access road to the Wagendrift dam operation room and main entrance to the Wagendrift dam office.

1.3 Overview of the Works

This contract involves:-

- Establishment;
- Accommodation of traffic;
- Overhaul;
- Installation of pipe culverts and construction of inlet and outlet structures;
- Installation of gabion baskets and mattresses;
- Mass earthworks in the treatment of the subgrade;
- Installation of pipe culverts and construction of inlet and outlet structures,
- Re-gravelling,
- Steel reinforcement for structures,
- Concrete for structures,
- Installation of Road Signs and Kilometre posts and;
- Such other works as Drainage may be deemed necessary by the Engineer for the completion of the project.

1.4 Extent of the Works

The routine maintenance work to be performed as part of this Contract mainly consists of the activities listed below. This list is not necessarily complete nor will it limit the extent of work to be carried out under this Contract.

GENERAL

- Establishment
- Accommodation of traffic

PREFABRICATED CULVERTS

- Laying of concrete pipe culverts
- Cast-in-situ concrete and formwork

GABIONS

- Gabion construction

PAVEMENT LAYERS OF GRAVEL MATERIAL

- Betterment of the formation and drainage
- Excavation, stockpiling, and hauling material to site
- Regravelling of access road

ROAD SIGNS

- Erection of signposts and signs
- Dismantling of signposts and signs

1.5 Detailed Description of the Works

The following description is a broad outline of the works and does not limit the work to be executed by the Contractor in terms of the contract. The quantities of some of the major items indicated in this section are indicative, not absolute, and are provided to define in general terms the overall scope of the project.

Approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Schedule of Quantities in Section C2.2.

The site shall not only comprise the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract. The site includes all the land within the proclaimed limits of the road reserve along the extent of the works, borrow pits and quarry sites, stockpile areas, locations set aside for construction and supervision accommodation and any other location required for the execution of the Works.

Incidental intrusion into private or tribal property outside the road reserve shall not be permitted without the owner's written authority. Any such agreement reached with a private or tribal landowner (occupier) shall include the proviso that any material or equipment on that site shall remain the exclusive property of the Employer in terms of the contract.

1.5.1 Access to the Site

Access to site will be granted by the Department of Water and Sanitation. The work includes access road to the Wagendrift dam operation room.

1.5.6 Material sources, spoil and stockpile areas

The G9 and G7 materials for the lower and upper selected layers respectively shall be obtained either from borrow or from stockpile, and the material for the stabilised subbase layer shall be obtained from commercial source, all as described in the materials report in section C4.4.

The material for the G2 base and all concrete materials shall be obtained from commercial sources.

Spoil areas and areas for the temporary stockpiling of construction materials shall be determined and agreed

on site in conjunction with the Employer's Agent and the local communities (where applicable). The Contractor shall be permitted to use only these agreed spoil and stockpile areas, which shall be landscaped and vegetated on completion of the work.

1.6 Maintenance of the Works during the Construction Period

The Contractor shall take note of the various requirements of the General Conditions of Contract 2015 and the standard specifications with respect to the care and protection of the Works.

1.7 Testing of Materials

The Contractor shall carry out the required process control testing as specified in terms of the COLTO Standard Specifications.

1.8 Construction in Confined Areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant. However, the Contractor shall note that, unless otherwise provided for in terms of the scheduled payment items in the COLTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

1.9 Contractor's Campsite

Possible locations for a campsite may be pointed out at the clarification meeting.

The Contractor shall, however make his own arrangements for the provision of his campsite and housing for construction personnel but the chosen site shall be subject to the approval of the Engineer and the District structures.

The standard of the Contractor's camp, offices, accommodation, ablution, and other facilities must comply with the requirements of all District Authority, environmental and industrial regulations concerned. In establishing and maintaining his campsite, due cognisance is to be taken of the requirements of clause B1233 of these Project Specifications.

The Contractor is to fully familiarise himself with all district by-laws and Government regulations for the employment, transport and accommodation of labour on site.

The Contractor shall particularly note that there is a high risk of theft, vandalism and damage to property in this area and strict security will be required for all plant, establishment, temporary works and partially completed works. The Contractor shall be responsible for providing security for all plant, establishment, temporary works and partially completed works. No separate payment shall be made for the provision of such security since full compensation for these costs shall be deemed to be included in the amount tendered for item B13.01(c) (The contractor's general obligations: Time-related obligations).

1.10 Additional Requirements for Construction Activities

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor's tendered rates shall include full compensation for all costs which may arise from the construction and maintenance of deviations and construction under traffic. No claim for additional costs which may arise from these methods of traffic accommodation and no additional payment owing to inconvenience as a result of the Contractor's method of working shall be considered.

1.11 Construction Programme

In addition to any other restrictions accommodated by the Contractor in compiling the construction programme, the following constraints shall be taken into account in the preparation thereof:

- (1) The whole of the Works, shall be completed within the respective time periods stated for each (refer to the contract data in section C1.2.2).
- (2) Working days lost due to abnormal rainfall shall be treated as set out in clause B1215.
- (3) Allowance shall be made for special non-working days (refer to the contract data in section C1.2.2).
- (4) Construction activities must comply with all the specified environmental requirements including clause B1233 and the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (5) Construction activities must comply with all the specified health and safety obligations including the requirements of Part E: OHSA 1993 Health and Safety Specification contained in section C3.3 Particular Specifications.
- (6) Throughout the contract period traffic must be accommodated through the site and must not be prevented from doing so by the contractor's activities.
- (7) Strict control of access to and from local public roads shall be required when construction vehicles, plant or equipment leave or enter the site.

2. DRAWINGS

The reduced drawings that form part of the Tender documents shall be used for Tender purposes only.

The Contractor shall be supplied with three complete sets only of A0 paper print drawings. These A0 paper prints are issued free of charge and the Contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the Contractor which the Employer's Agent requires to complete the as-built drawings shall be supplied to the Employer's Agent before a certificate of completion shall be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Employer's Agent. The Employer's Agent shall supply all figures / dimensions omitted from the drawings.

The levels given on the drawings are subject to confirmation on site, and the Contractor shall submit all levels to the Employer's Agent for confirmation before he commences any structural construction work. The Contractor shall also check all clearances given on the drawings and shall inform the Employer's Agent of any discrepancies.

The drawings for this contract comprise the following:

DESCRIPTION	DRAWING NO.
Locality Plan	
Typical Details	
Standard Details	

CONSTRUCTION BOARD:

3. PROCUREMENT

3.1 Preferential procurement procedures

Preferential points shall be allocated and tenders awarded in accordance with T1.2 "EVALUATION CRITERIA" clause F.3.11.

4. CONSTRUCTION

4.1 Applicable SANS 2001 standards for construction work

All construction work must conform with the relevant SABS or SANS specifications referred to in the 'Standard Specifications for Road and Bridge Works for State Road Authorities' 1998 Edition, or in Section C3.2: Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.2 Applicable national and international standards

All construction work must be undertaken in accordance with the 'Standard Specifications for Road and Bridge Works for State Road Authorities', 1998 Edition, as published by the South African Committee of Land Transport Officials (COLTO) and as amended in Section C3.2: Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.3 Particular / generic specifications

As well as the 'Amendments to the Standard Specifications' contained in Part B of Section C3.2: Project Specifications, of this document, the following Particular Specifications as contained in Section C3.3, are applicable to this Contract:

Part C: Environmental Management Specification

Part D: Daywork

Part E: OHS 1993 Health and Safety Specification

The 'Standard Specifications for Road and Bridge Works for State Road Authorities' is applicable to this Contract but contains references to the 'General Conditions of Contract for Road and Bridge Works for State Road Authorities' which is not applicable to this Contract. Table B1115 in Section C3.2: Project Specifications, amends these references to the 2015, 3rd edition of the General Conditions of Contract for Construction Works published by the South African Institution of Civil Engineering which is applicable to this Contract.

4.4 Certification by recognized bodies

No certification of items included in the works is required.

4.5 Plant and materials provided by the Employer

No plant and materials are to be provided by the Employer.

4.6 Services and facilities provided by the Employer

The Employer's Agent's site office and laboratory facilities will be paid for in terms of the Contract. No other services or facilities are to be provided by the Employer.

5. MANAGEMENT

5.1 Applicable SANS 1921 standards

The following parts of SANS 1921 and associated specification data are applicable:

SANS 1921-1: 2004:	Part 1: General engineering and construction works
SANS 1921-6: 2004:	Part 6: HIV/AIDS awareness

Specification data associated with SANS 1921-1	
Clause No.	Essential data
4.1.7	There are no requirements for drawings, information and calculations for which the Contractor is responsible.
4.2.1	The responsibility strategy assigned to the Contractor for the works is 'A'.
4.3.1	The programme must conform to clause 1204 'Programme of Work' of the 'Standard Specifications' and clause 5.6 'Programme' of the 'General Conditions of Contract 2015'.
4.3.3	The Contractor must give 24 hours' notice for inspection of work that is to be covered up.
4.7.3	Where applicable, the Contractor is afforded the opportunity of pricing an item to cover costs of unavoidable over-break.
4.12.2	The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the Employer/Employer's Agent are to be as described in clause 1205 'Workmanship and Quality Control' of the 'Standard Specifications' and clause 7 'Quality and Related Matters' of the 'General Conditions of Contract 2015'.
4.12.2	The fabrication drawings that the Contractor is to provide to the Employer are: none.
4.14.5	The Contractor is to provide latrine and ablution facilities as described in Part C 'Environmental Management Plan' in Section C3.3: Particular Specifications of these Project Specifications.
4.14.6	The requirements for the provision and erection of sign boards are as described in clause 1207 'Notices, Signs and Advertisements' of the 'Standard Specifications', and as detailed in the 'Example of Contract Signboard Details' in Section C4: Site Information of these Project Specifications.
4.17.1	The requirements for the termination, diversion or maintenance of existing services are described in clause B1202 of Part B of Section C3.2: Project Specifications.
4.17.3	Services that are known to exist on the site are described in clause B1202 of Part B of Section C3.2: Project Specifications.
4.17.4	The requirements for detection apparatus for locating underground services are: Electromagnetic locators.
4.18	The additional health and safety requirements are described in Part E 'OHS 1993 Health and Safety Specification' in Section C3.3: Particular Specifications of these Project Specifications.

5.1.1 Additional clauses

5.1.1.1 Site meetings and procedures

Site meetings shall be convened as described in clause 1227 'Monthly Site Meetings' of the 'Standard Specifications'. The Contractor shall keep on site a set of minutes of all site meetings, daily records of resources (people and equipment employed), a site memoranda book, a complete set of contract working drawings and a copy of the procurement document, and shall make these available at all reasonable times to all persons concerned with the contract.

5.1.1.2 Water and electricity

The Contractor is to provide water and electricity as described in clauses 1219 'Water' and 1404 'Services' of the 'Standard Specifications'.

Specification data associated with SANS 1921-6	
Clause No.	Essential data
4.2.1(a)	A qualified service provider is one that is an accredited or provisionally accredited training service provider in the HIV/AIDS field. A list of accredited service providers can be obtained from the Construction SETA (CETA) (tel. 011 265 5900), Health and Welfare SETA (HWSETA) (011 622 6852) or on the Health and Welfare SETA website: www.hwseta.org.za .
4.2.1(a)	The HIV/AIDS awareness programme is to be repeated at four monthly intervals throughout the duration of the contract.

5.1.2 Additional clauses

The duration of each workshop shall not be less than 2½ hours.

5.2 Recording of weather

The Contractor shall erect a rain gauge and record the rainfall as described in clause 1215 of the 'Standard Specifications'. This information together with other details of the prevailing weather conditions shall be recorded in the daily site diary.

5.3 Unauthorised persons

The Contractor shall keep unauthorised persons away from the Works at all times. Under no circumstances may the Contractor's personnel be accommodated on the site.

5.4 Management meetings

Management meetings are to be held weekly at a time convenient to all concerned, to discuss planning and health and safety amongst other things. Attendance by the Contractor's and the Employer's Agent's Representatives on site is mandatory, and attendance by other interested parties will be by invitation.

5.5 Forms for contract administration

The Employer's Agent's Representative will provide standard forms for 'Site Diary', 'Site Memoranda', 'Requests for Inspection' and any others deemed to be necessary during the contract.

5.6 Electronic payments

Payments of approved payment claims will be made electronically upon submission of the Contractor's banking details.

5.7 Daily records

A site diary is to be compiled jointly by the Contractor's and the Employer's Agent's Representatives on site and is to be agreed and signed by both parties. The original signed copy is to be retained by the Employer's Agent's Representative.

The Contractor is to keep daily records of people and equipment on site in a format to be agreed by the Employer's Agent's Representative, and is to provide copies to the Employer's Agent's Representative when requested.

5.8 Payment certificates

Details of measurements, proof of payment for items contained in provisional sums, proof of ownership of materials on site and documentation pertaining to contract price adjustment and special materials, are required as substantiation of claims for payment.

5.9 Permits

No security/entrance permits are required by the Contractor's personnel to enter the site.

5.10 Proof of compliance with the law

There are no requirements for the Contractor to verify compliance with any legislation.

C3.2: PROJECT SPECIFICATIONS**PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS****PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

In certain clauses in the COLTO Standard Specifications, allowance is made for a choice to be specified in the Project Specifications 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 Specifications. It also contains the necessary additional specifications required for this Contract.

The clauses and payment items dealt with in this part of the Project Specifications are numbered 'B' with a number corresponding to the relevant clause or item number in the COLTO Standard Specifications.

New clauses and payment items not covered by clauses or items in the COLTO Standard Specifications have been included here and have also been designated with the prefix 'B'. Such clauses and items have been given a new number following upon the last number used in the particular section referred to in the COLTO Standard Specifications.

SECTION 1100: DEFINITIONS AND TERMS

In all cases where “Directorate Land Transport” appears in the text or in drawings contained in this document it shall be read as “Province of KwaZulu-Natal”.

B1115 GENERAL CONDITIONS OF CONTRACT

Replace clause 1115 with the following:

“The General Conditions of Contract for Construction Works, 3rd edition 2015 (abbreviated elsewhere in C3.2 Project Specifications and C3.3 Particular Specifications as “GCC 2015” or as “General Conditions of Contract 2015”) published by the South African Institution of Civil Engineering (SAICE), together with the Special Conditions of Contract form part of the contract.

All references in the COLTO Standard Specifications for Road and Bridge Works are to the COLTO General Conditions of Contract for Road and Bridge Works for State Road Authorities. Consequently all references in the COLTO Standard Specifications have to be amended accordingly to reflect the appropriate General Conditions of Contract relevant to the Contract. The COLTO Standard Specifications have been scrutinized and the clauses, which refer to the COLTO General Conditions of Contract, identified. Each COLTO clause reference is tabulated in Table B1115 below (context of reference is also given) together with the relevant equivalent clause in the SAICE General Conditions of Contract for Construction Works 3rd edition 2015 applicable for this contract.

Whereas every effort has been made to include all of the affected clauses in the table, there may be some omissions. In every case, however, the SAICE General Conditions of Contract for Construction Works 3rd edition 2015 reference, as amended by the Special Conditions of Contract in the Contract Data, shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

The COLTO Standard Specifications make frequent use of the term “engineer”. The Project Specifications and the Schedule of Quantities in turn make reference to the COLTO Standard Specifications and may use similar terminology in order to facilitate the reading and cross-referencing thereof.

Wherever in the COLTO Standard Specifications or in the Project Specifications or in the Schedule of Quantities reference is made to the “engineer” or the “Engineer”, this is to be interpreted as the “Employer’s Agent” as defined in subclause 1.1.1.16 of GCC 2015.

Wherever in the COLTO Standard Specifications or in the Project Specifications or in the Schedule of Quantities reference is made to the “engineer’s representative” or the “Engineer’s Representative”, this is to be interpreted as the “Employer’s Agent’s Representative” as defined in subclause 1.1.1.17 of GCC 2015.”

TABLE B1115: REFERENCES IN COLTO STANDARD SPECIFICATIONS TO THE COLTO GENERAL CONDITIONS OF CONTRACT AND RELEVANT SAICE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS 3rd EDITION 2015

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works 3 rd Edition 2015	
Clause No.	Page No.	Clause No.	Description or Reference	Clause No.	Description or Reference
1202	1200-2	15	Programme	5.6	Programme
1209(e)	1200-5	52:		6.9 & 6.10:	
		52(1)(e)	Monthly payments (documentary evidence of ownership of materials)	6.9	Vesting of Plant and materials
		52(2)	Valuation of material brought onto Site	6.10.2	Valuation of material brought onto Site
1210	1200-5	54:		5.14:	
		54(1) 54(2) 54(3)	Certificate of Practical Completion	5.14.1 5.14.2 5.14.3	Certificate of Practical Completion
1212(l)	1200-7	49:		6.8:	
		49(2)	Application of Contract Price Adjustment Factor	6.8.2	Application of the Contract Price Adjustment Factor
1215	1200-9	45	Extension of time for completion	5.12	Extension of time for Practical Completion
1217	1200-10	35	Care of the Works	8.2	Care of the Works
1303	1300-1 and 1300-2	49 & 53:		6.8 & 6.11:	
		49(2) and 49(3)	Application of Contract Price Adjustment Factor and Variation in cost of special materials	6.8.2 and 6.8.3	Application of the Contract Price Adjustment Factor and Variation in cost of special materials
		53	Variations exceeding 20 per cent	6.11	Variations exceeding 15 per cent
1303	1300-2	12 & 45:		5.3 & 5.12:	
		12	Commencement of Works and Commencement Date	5.3	Commencement of the Works
		45	Extension of time for completion	5.12	Extension of time for Practical Completion
1403 (c)(ii)	1400-4	40(1)	Valuation of variations	6.4.1	Valuation of variations
1505	1500-3	40:		6.4:	
		40(1)	Valuation of variations	6.4.1	Valuation of variations
1517 Items: 15.08 15.09 15.11	1500-8	48:		6.6:	
		48.1	Provisional Sums	6.6.1	Provisional sums

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works 3 rd Edition 2015	
Clause No.	Page No.	Clause No.	Description or Reference	Clause No.	Description or Reference
3108 Note (2)	3100-4	40: 40(1)	Valuation of variations	6.4: 6.4.1	Valuation of variations
3204 (b)(iii)	3200-2	40: 40(1)	Valuation of variations	6.4: 6.4.1	Valuation of variations
3303(b)	3300-2	2	Engineer and Engineer's Representative	3.	Employer's Agent
5803(c)	5800-3	40: 40(1)	Valuation of variations	6.4: 6.4.1	Valuation of variations
5805(d)	5800-4	40: 40(1)	Valuation of variations	6.4: 6.4.1	Valuation of variations
5809 Item 58.10	5800-10	48: 48.1	Provisional Sums	6.6: 6.6.1	Provisional sums
8103(c)	8100-1	40: 40(1)	Valuation of variations	6.4: 6.4.1	Valuation of variations
8117 Item 81.03	8100-26	22	Clearance of Site on completion	5.15	Clearance of Site

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS**B1202 SERVICES**

Add the following at the end of clause 1202:

"A provisional sum is included in the Schedule of Quantities to cover the costs of relocating the known services. This provisional sum shall be used to effect payments for the services relocation work carried out by the subcontractor selected by the Contractor in consultation with the Employer for this purpose."

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following paragraph to the end of clause 1205:

"Testing for quality control shall be conducted in accordance with the requirements of Section 8200 for Quality Control (Scheme 1)."

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Delete the first paragraph of clause 1206 in its entirety and replace it with the following:

"The Contractor shall comply with all legal provisions in regard to surveying and setting out work."

Add the following paragraph to the end of clause 1206:

"It may become necessary to construct, level and coordinate new survey beacons during the course of the contract, or to protect existing survey beacons. A provisional sum is included in the Schedule of Quantities to cover the costs of such work."

B1209 PAYMENT**(a) Contract rates**

Add the following new paragraph at the end of subclause 1209(a):

"All rates tendered are to be exclusive of VAT."

B1212 ALTERNATIVE DESIGNS AND OFFERS

Add the following to the end of subclause 1212(m):

"The provision for contract price adjustment in the original Tender Summary must not under any circumstances be altered in an alternative offer."

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Extension of time resulting from abnormal rainfall shall be calculated according to the requirements of Method (ii) (Critical-path method).

Method (ii) (Critical-path method)

Delete the words "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of Method (ii).

Add the following to the end of Method (ii):

"The value of "n" working days expected delay caused by normal rainy weather as referred to in Method (ii) shall be as given in Table B1215 below for each respective calendar month of any year:

Table B1215

Month	Expected delay of "n" working days due to normal rainy weather	Month	Expected delay of "n" working days due to normal rainy weather
January***	5	July	1
February	4	August	1
March	4	September	2
April	3	October	3
May	2	November	4
June	1	December***	5

*** Includes the whole month of December / January.

Each "n"-value in Table B1215 applies only to the calendar month immediately to the left of the number, and the "n"-values as specified shall not be taken as being carried forward so as to accumulate over the contract period. If no abnormal rainfall occurs during a particular calendar month in a particular year, then no extension of time for abnormal rainfall shall be granted with respect to that calendar month for that year, and no further consideration shall be given to that "n"-value in respect of that year.

Similarly, if the "n" working days expected delay caused by normal rainy weather during a particular calendar month in a particular year (for which the Contractor shall have made provision in his programme of work in accordance with Method (ii)) are not taken up (either in whole or in part) by standing time due to normal rainy weather during that month of that year, then no further consideration shall be given to those "n" working days (or portion thereof), which effectively have been gained, when any subsequent extension of time claims which may arise later during the contract period are assessed by the Employer's Agent."

B1219 WATER

Add the following paragraph to the end of clause 1219:

"The Contractor shall arrange for chemical tests to be carried out to confirm the suitability of his proposed water sources for use as drinking water and for use in the concrete construction. The Contractor shall ensure that these tests also include testing for salinity and sugar content levels.

The Contractor shall note that the necessary permission must be obtained from the Department of Water Affairs for the abstraction of water from streams and rivers."

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following paragraph to the end of clause 1224:

"The handing-over of the road reserve for this project shall be subject to the following restrictions:

- (a) Only that portion of the road reserve of 600 m shall be handed over to the Contractor. The Contractor shall be responsible for the maintenance along this portion of the road until completion of the contract.
- (b) The Contractor shall be required to accommodate public traffic as well as the Employer's other contractors working on various projects in the area related to the construction of the Pongolapoort dam access roads.
- (c) The Contractor shall be required to accommodate service owners and other contractors working on the services relocation and maintenance in the execution of their duties."

B1229 SABS CEMENT SPECIFICATIONS

Add the following paragraphs to the end of clause 1229:

"All cement used on this contract shall comply with SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

Where reference is made in these Project Specifications or in the COLTO Standard Specifications to the former SABS cement specifications (e.g., SABS 471, SABS 626, SABS 831, SABS 1491), such reference shall be replaced with the new specification:

- SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

The blending of cements on site shall not be permitted."

Add the following new clauses at the end of Section 1200:

B1231 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Diseases Act, 1993, as amended. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act. These amounts shall not be included in the wage rates and shall be payments allowed for by the contractor in addition to the wages paid to labour. The manner in which compensation in terms of this Act shall be handled shall be resolved by the Contractor at the commencement of the contract.

B1232 COMPLIANCE WITH THE ROAD TRAFFIC ACT

When a service necessitates vehicles or plant travelling or working on a public road, the following shall apply:

- The vehicles and plant shall be licensed in terms of the National Road Traffic Act 1996 (Act No. 93 of 1996) as amended.
- Every driver and operator of a vehicle or an item of plant shall be in possession of a valid permit in respect of the class of vehicle or item of plant he / she is driving or operating.

The Contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Employer's Agent or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic. The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Employer's Agent against any claims, damages and / or costs that may arise in this regard.

B1233 ENVIRONMENTAL IMPACT CONTROL

In addition to aspects of the design which are intended to avoid or reduce environmental impact, and in addition to normal good construction practice expected of the Contractor, the following requirements shall also be observed:

- (a) The Contractor shall comply with the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (b) Clearing shall be limited to the road prism and, where applicable, to detours, which shall be sited in consultation with the Employer's Agent and the local communities.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the Employer's Agent.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the

veld for this purpose shall not be allowed under any circumstances.

- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage shall be set out and the responsible person shall be made aware of the required action. The construction of temporary and / or permanent dams shall be done with the necessary approvals from the Department of Water Affairs and Forestry and the Department of Environmental Affairs and Tourism.
- (f) Bituminous and / or other hazardous products shall not be spoiled on site and shall only be disposed of at licensed authorised disposal facilities.
- (g) Provision shall be made to prevent excessive erosion and siltation throughout the contract and in particular on adjacent land. Should excessive erosion and / or siltation take place outside the road reserve as a direct result of the Contractor's construction activities, the Contractor shall be responsible for making good the erosion / siltation to the satisfaction of the landowner and the Employer's Agent.
- (h) Invader species of plants shall be controlled.
- (i) Dust and noise pollution shall be restricted to acceptable levels.

No separate payment shall be made for observing these requirements as such payment shall be deemed to be included in the amount tendered for item B13.01(c) (The contractor's general obligations: Time-related obligations). Any avoidable non-compliance with these requirements shall be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item in order to pay for the repairs to any damages.

B1234 MEASUREMENT AND PAYMENT

Item	Unit
B12.01 Services:	
(a) Protection, relocation, realignment, removal or replacement of services	provisional sum
(b) Handling costs and profit in respect of subitem B12.01(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Employer's Agent under subitem B12.01(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the protection, relocation, realignment, removal or replacement of the relevant services.

Item	Unit
B12.02 Construction of new survey beacons and protection of existing survey beacons:	
(a) Provisional sum for new survey beacons to be constructed or for existing survey beacons to be protected during construction	provisional sum
(b) Handling costs and profit in respect of subitem B12.02(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 of the General Conditions of Contract

2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Employer's Agent under subitem B12.02(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the construction of new survey beacons or the protection of existing survey beacons.

Item	Unit
B12.03 Provision of a Community Liaison Officer:	
(a) Wages, salary, allowances, etc.	provisional sum
(b) Handling costs and profit in respect of subitem B12.03(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Employer's Agent under subitem B12.03(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the provision of a Community Liaison Officer."

SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**B1302 GENERAL REQUIREMENTS****(c) Legal and contractual requirements and responsibility to the public**

Add the following new paragraphs to the end of subclause 1302(c):

"Legislation imposes mutual obligations on the Employer and Contractor in the performance of their duties to society and to the built and natural environment. To assist the Contractor in understanding and assessing his obligations, and thus to make allowances for the cost of compliance with this legislation, Parts C, E and F included in section C3.3 Particular Specifications in the project specifications.

The Contractor's general obligations shall also include the training of temporary labour, the management of labour enhanced work, the application of the Compensation for Occupational Injuries and Diseases Act, 1993, and compliance with the requirements of Part C: Environmental Management Specification, Part E: OHSA 1993 Health and Safety Specification.

Part C: Environmental Management Specification contains the environmental management specification for this project. Its provisions regulate the Contractor's construction methods so as to ensure responsible conduct with respect to the environment and responsible treatment of the environment relevant to the project. No separate payment mechanism has been made available for the Contractor to allow for his compliance with the environmental management specification. The Contractor shall therefore include for such costs in the existing pay item B13.01 in section 1300.

Part E: OHSA 1993 Health and Safety Specification contains the specifications that regulate the Contractor's construction methods so as to ensure the health and safety of his employees and the public. A new pay item B13.02 is included in section 1300 to allow the Contractor to make separate provision for the cost of health and safety obligations during the construction process.

B1303 PAYMENT

Add the following at the start of clause 1303:

"All references in clause 1303 to the final value of the work increasing or decreasing by "twenty (20) per cent" in terms of the COLTO Standard Specification shall be read as increasing or decreasing by "fifteen (15) per cent" in terms of the General Conditions of Contract 2015.

Separate provision has been made in the Schedule of Quantities for the pricing of the Contractor's "General Item" obligations with regard to Health and Safety."

Refer to the second sentence of the fourth last paragraph of clause 1303, page 1300-2 of the COLTO Standard Specifications and delete the words "from the date on which the Contractor has received the letter of acceptance in terms of clause 12 of the general conditions of contract," and replace these words with the following:

"from the Commencement Date in terms of clause 5.2.1 of the General Conditions of Contract 2015,".

Add the following at the end of clause 1303:

"The amount payable to the Contractor for time-related general obligations arising from extensions of time granted in accordance with Clause 5.12.1 and 5.12.2 of the GCC 2015, shall be calculated as follows:

- (i) The Contractor shall apply for the extension of time in terms of the number of days' delay incurred calculated in accordance with clause 5.1 of the GCC 2015.
- (ii) The number of days' extension of time calculated in accordance with clause 5.1 of the GCC 2015, finally granted shall then be added to the Due Completion Date of the contract by the Employer's Agent, commencing on the first working day after the day of the original Due Completion Date. Non-working days and special non-working days as defined in the contract data shall not be counted as

working days in calculating the extended completion date.

- (iii) The number of calendar days extension of time granted from the original completion date to the extended completion date as calculated in (ii) above shall then be calculated, commencing on the first calendar day after the day of the original completion date.

The following formula shall then be used to calculate the number of months extension of time granted:

No. of months extension of time granted

$$= \quad [(\text{No. of } \underline{\text{calendar}} \text{ days extension of time granted} / 365)] \times 12$$

- (iv) The number of months extension of time granted calculated as in (iii) above shall be the number of additional months measured for payment for time-related general obligations under item B13.01(c) and in accordance with clause 5.12.3 as a result of the extensions of time granted.

Note: The number of months extension of time granted calculated as in (iii) above shall also be included in the measurement of any other items scheduled under Sections 1300, 1400, 1500 or elsewhere in the Schedule of Quantities that involve the unit of measurement "month" and that were provided on site for the full duration of the extended period. Where such items were provided for a portion of the extended period only, a pro rata payment shall be made, based on the number of calendar days the item was provided on site after the original completion date divided by the number of calendar days as calculated in (iii) above for the extension of time granted."

Item	Unit
B13.01	The contractor's general obligations:
<i>Add the following before the start of the first paragraph of item 13.01:</i>	
"Subitems B13.01(a), (b) and (c) are "General Items" as defined in clause 1.1.1.21 of GCC 2015."	
<i>After the end of subsubclause (iii) in the fourth paragraph of item 13.01, add the following new subsubclauses which further define the contractor's general obligations:</i>	
"(iv)	Complying with the requirements and conditions of the additional specifications in Part C: Environmental Management Specification.
(v)	Complying with the requirements and conditions of the additional specifications in Part F: Requirements of the Expanded Public Works Programme (EPWP) to the extent that any costs relating to the requirements of Part F are not covered by the pay items included in that section.

Add the following new payment items at the end of clause 1303:

"Item	Unit
B13.02	Health and Safety obligations:
(a)	Fixed obligations for the preparation of risk assessments, safe work procedures, the project Health & Safety file, the Health & Safety plan and any other Health & Safety matters that the Contractor deems necessary lump sum (Sum)
(b)	Fixed obligations for completing and checking the Project Health & Safety file and handing it over to the Employer on completion of the Works lump sum (Sum)
(c)	Time-related obligations for updating and amending the risk assessments, the safe work procedures, the project Health & Safety file and the Health & Safety plan, and for

full compliance with all Health & Safety matters during the
construction of the Works under the contract.....month

Payment of the lump sums tendered under subitems B13.02(a) and (b) and the rate per month for subitem B13.02(c) shall, for the three subitems together, include full compensation for all the Contractor's costs in respect of compliance with the OHS Act and Construction Regulations.

Payment of each of the lump sums tendered under subitems B13.02(a) and (b) shall be made in three instalments as specified in the COLTO standard specifications for the payment of the lump sum tendered under subitem 13.01(a).

The tendered rate for subitem B13.02(c) shall be paid as specified in the COLTO standard specifications for the payment of the tendered rate for subitem 13.01(c).

Item

Unit

B13.03 **Supply, transport to site and erection of the contract signboard**..... number (No)

The unit of measurement shall be the number of contract signboards erected as instructed by the Employer's Agent.

The tendered rate shall include full compensation for providing and erecting each contract signboard complete, including for timber poles and fixings, excavation and backfill, and for dismantling and removing the signboard structures and reinstating the signboard area on completion."

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

B1402 GENERAL REQUIREMENTS

(d) Labour accommodation and transport

Delete the existing text of subclause 1402(d) and replace with the following:

"The Contractor shall not be responsible for the provision of accommodation for labourers employed on the works.

Each labourer shall make his or her own arrangements for accommodation and for daily travel to and from the site. The Contractor shall, however, remain responsible for ensuring that all labourers are present, punctual and fit for work at all required times.

The Contractor shall provide only the minimum site welfare facilities required by applicable legislation, including potable water, sanitary conveniences and a sheltered rest area."

B1403 SITE ESTABLISHMENT

Add the following new paragraph at the end of subclause 1403:

"Given the short-term nature of the contract and the proximity of the works to existing amenities and commercial accommodation, site establishment shall be limited to essential offices, storage and workshops. The Contractor is encouraged to utilise nearby commercial accommodation and facilities for staff in lieu of constructing dedicated labour camps."

B1404 DEMOBILISATION

Add the following new subclause 1404:

"On completion of the works, the Contractor shall dismantle and remove all temporary structures, equipment and materials brought onto site for the execution of the works. The site shall be left in a clean and safe condition to the satisfaction of the Employer's Representative.

In recognition of the short-term nature of this contract, the Employer may approve a reduced establishment allowance where site facilities are limited."

B1406 MEASUREMENT AND PAYMENT

Item	Unit
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B14.01 The Contractor's General Obligations

Add the following before the start of the first paragraph of item 14.01:

"Subitems B14.01(a), (b) and (c) are "General Items" as defined in clause 1.1.1.21 of GCC 2015."

After the end of subsubclause (iii) in the fourth paragraph of item 14.01, add the following new subsubclauses which further define the Contractor's general obligations:

"(iv) Provision of statutory site welfare facilities for labour (including potable water, sanitary conveniences, and sheltered rest area) to the extent that such costs are not covered elsewhere in the contract.

(v) Limiting site establishment to essential facilities only, in accordance with subclause 1403, where the works are of short-term duration and in proximity to existing commercial amenities.

(vi) Full demobilisation and clearance of temporary facilities and restoration of the site on completion of the

works."

B14.02 Site Establishment

Unit: Lump Sum

Replace the existing description of this pay item with the following:

"Payment under this item shall cover only essential site establishment facilities, including a limited office, secure storage, and workshops, where applicable, in accordance with amended subclause 1403. Costs of labour accommodation shall not be measured under this item, as labourers are required to make their own accommodation and travel arrangements."

B14.03 Demobilisation and Site Clearance

Unit: Lump Sum

Add the following new item:

"Payment under this item shall cover the dismantling, removal and disposal of all temporary works, equipment, services and materials associated with site establishment, and the restoration of the site to a clean and safe condition, in accordance with subclause 1404."

SECTION 1500: ACCOMMODATION OF TRAFFIC**B1501 SCOPE**

Add the following to the end of clause 1501:

“Throughout the course of the contract the Contractor shall ensure that the works do not prevent service owners or the Employer’s other contractors from gaining access through the site.

The Contractor shall be required to accommodate traffic in the vicinity of the points at which he accesses the site from the existing road network. All movements of the Contractor’s plant to and from the existing access road at these intersections shall be strictly controlled by means of appropriate signage, delineators, stop / go facilities and flagmen.”

B1502 GENERAL REQUIREMENTS

Add the following new subclause to the end of clause 1502:

“(j) Public traffic

The Contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the existing roads. In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.”

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

Replace the first sentence of the first paragraph of clause 1503 with the following:

“The Contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control facilities) in accordance with these project specifications and as shown on the drawings and in the South African Road Traffic Signs Manual in conjunction with the latest edition of Road Signs Note No.13 - Roadworks, and shall remove them when no longer required.

The Contractor shall replace at his own cost any traffic-control facilities that have been damaged, lost or stolen. The Contractor shall also remove all bituminous or other foreign material from the traffic-control facilities in order to keep them clean and visible at all times. Traffic-control facilities that can no longer be cleaned effectively shall be replaced with new ones at the cost of the Contractor.”

Replace the first sentence of the third paragraph of clause 1503 with the following:

“The type of construction, spacing and placement of traffic-control facilities shall be in accordance with the latest edition of Road Signs Note No.13 - Roadworks, these project specifications, the drawings and the South African Road Traffic Signs Manual.

The details shown for spacing and placement of traffic-control facilities may, however, be revised at the discretion of the Employer’s Agent where deemed necessary to accommodate local site geometry and traffic conditions.”

(a) Traffic-control devices

Add the following new paragraph after the end of the second paragraph of subclause 1503(a):

“The reduction of the road width to a single lane carrying one-way traffic and controlled by “Stop / Go” boards shall be allowed only during daylight hours in clear weather conditions when work is actively taking place on the road, and such reduction of the road width shall always be accompanied by sufficient on-going watering to keep the dust down at all times on any trafficked gravel surfaces in order to maintain good visibility along the deviation. At least two lanes carrying two-way traffic shall be provided at all other times.”

(b) Road signs and barricades

Add the following to the end of subclause 1503(b):

"The Contractor shall be responsible for the protection and maintenance of all signs, and shall at his own cost replace any that have been damaged, lost or stolen.

The temporary road signs required for this contract shall generally be mounted on poles installed in the ground. Where temporary signs such as delineators are mounted on portable supports, the only permitted method of ballasting such sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent the signs from being blown over by wind. The cost of the sandbags shall be included in the tendered rates for the applicable types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the contract are those designated in Road Signs Note No.13 - Roadworks.

The covering of permanent road signs, if applicable, shall be carried out by utilising a hessian bag which shall be pulled over the sign in the form of a hood and fastened to the sign posts using wire ties. Plastic bags or other materials, and fastening by means of adhesive tape, shall not be permitted for this purpose. The cost of covering permanent road signs shall be deemed to be covered by the tendered rates for items 15.01 and 15.10 (if applicable).

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regard to signposting are met and the written approval of the Employer's Agent has been obtained. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the replacement of damaged or missing items immediately upon discovery, or within three hours of instructions to such effect having been given by the Employer's Agent. Delineators shall be of the flexible plastic / rubber reversible variety and not of the rigid metal variety."

(c) Channelization devices and barricades

Add the following paragraphs at the end of subclause 1503(c):

"Delineators shall be manufactured from plastic / rubber materials and shall be adequately ballasted with sand bags to prevent the signs from being blown over by wind or wind turbulence from moving traffic.

Traffic cones shall be manufactured from fluorescent orange or red plastic material, and shall be used only at short term lane deviations during daylight hours. All traffic cones used on deviations shall be 750mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

The use of steel drums as channelization devices shall not be allowed on this Contract. Channelization shall be effected by the use of delineators or cones as detailed in Road Signs Note No. 13 - Roadworks."

(e) Warning devices

Add the following to subclause 1503(e):

"All construction vehicles and plant used on the works shall be equipped with 200mm diameter rotating amber flashing lights and with "Construction Vehicle" warning signs. All vehicles and plant shall obtain a clearance permit from the Employer's Agent before being allowed onto the site.

Rotating lights shall have an amber lens of minimum height of 200mm and shall be mounted to ensure clear visibility from all directions. The lights on construction vehicles shall be switched on as the vehicles decelerate to enter a construction area, while construction vehicles are operating within the accommodation of traffic area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDVs and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be clearly visible and shall be operated continuously while the vehicles are manoeuvring in or out of traffic or while the vehicles are travelling alongside or parked alongside roads open to public traffic.

Rotating lights and the "Construction Vehicle" warning signs on the Contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The Contractor shall apply and maintain to the approval of the Employer's Agent such rotating amber lights and warning signs, together with any temporary mounting brackets. Vehicles and plant that do not comply with these requirements shall be removed from the site."

Add the following new subclauses to clause 1503:

"(g) Other signs and facilities

The Employer's Agent may instruct the Contractor to provide any other road sign, reflective tape, etc. not measured in the standard pay items. Such other road signs, reflective tape, etc. shall conform to the requirements of the South African Road Traffic Signs Manual and any other specification provided by the Employer's Agent.

(h) High visibility safety vests

The Contractor shall ensure that all his own personnel, excluding those who are permanently office bound, all other construction workers on the site, staff of the Employer's Agent and visitors are equipped with high visibility reflective safety vests. High visibility reflective safety vests shall be worn at all times when working on or near to the travelled way. High visibility reflective safety vests shall be kept in good condition and any such safety vests that are, in the opinion of the Employer's Agent, ineffective shall be replaced immediately by the Contractor."

B1517 MEASUREMENT AND PAYMENT

Amend item 15.01 to read as follows:

"Item	Unit
B15.14 The provision and maintenance of safety equipment for use by the Employer's Agent:	
(a) Rotating amber flashing lights magnetically attached to vehicles	number (No)
(b) High visibility reflective safety vests	number (No)

The unit of measurement for subitem B15.14(a) shall be the number of rotating amber flashing lights provided. The unit of measurement for subitem B15.14(b) shall be the number of high visibility safety vests provided.

The tendered rates shall include full compensation for the supply and maintenance of the magnetically attachable rotating amber flashing lights and high visibility safety vests for use by the Employer's Agent for the duration of the contract."

SECTION 1600: OVERHAUL**B1602 DEFINITIONS****(a) Overhaul material**

Add the following to the end of subclause 1602(a):

"Overhaul shall not be measured separately for payment for materials obtained from commercial sources, and the rates tendered for such materials shall be fully inclusive of all haul required."

(b) Overhaul

Delete the first two paragraphs of subclause 1602(b) and replace them with the following:

"Restricted overhaul shall not apply to fill material from cut and borrow and to spoil material from excavations when hauled in excess of a free-haul distance of 0,5 km in respect of haul up to and including 1,0 km, and no measurement and payment for restricted overhaul shall be made under any item in respect of material hauled between or over these distances.

Ordinary overhaul only shall apply in respect of haul in excess of 1,0 km."

Delete the final paragraph of subclause 1602(b) since restricted overhaul shall not apply to the work required under this contract.

(d) Free-haul distance

Delete the second sentence of subclause 1602(d) and replace it with the following:

"This distance shall be 1,0 km in the case of all overhaul materials."

B1603 MEASUREMENT AND PAYMENT

Delete item 16.01 since restricted overhaul shall not apply to the work required under this contract.

*Refer to the **Note** immediately below the description of the unit of measurement for item 16.02. Delete the first paragraph of this note since restricted overhaul shall not apply to the work required under this contract.*

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

2302 OPEN CONCRETE DRAINS

Add the following to subclause 2302:

"Where open concrete dish drains are required to cross the roadway, the Contractor shall construct them to the dimensions and details shown on the drawings. Dish drains shall be provided with sufficient crossfall to ensure positive drainage and finished with a smooth, durable concrete surface.

Expansion joints shall be provided at 4,5 m intervals or as indicated on the drawings. The transition between the paved surface and the drain shall be neatly finished to avoid obstruction to traffic or pedestrians."

B2303 CONCRETE V-DRAINS

Amend subclause 2303 as follows:

"Concrete V-drains shall be constructed to the specified cross-sectional dimensions and shall discharge into stone pitching or other erosion-resistant protection as indicated on the drawings.

At the junction between concrete V-drains and stone pitching, the Contractor shall ensure a smooth hydraulic transition without steps or discontinuities that could cause erosion. The interface shall be keyed in or dowelled into the adjoining structure where required by the drawings."

B2304 STONE PITCHING

Add the following to subclause 2304:

"Stone pitching shall be used at outfalls of concrete dish drains and V-drains, and shall be constructed in accordance with the typical details shown on the drawings.

Stones shall be sound, durable, and tightly packed with mortar backing or grouting where specified. The toe of the pitching shall be properly founded and keyed into the ground to prevent undermining. Where required, stone pitching shall be carried through to the drop inlet structures."

B2305 DROP INLETS

Add the following new subclause 2305:

"Drop inlets shall be constructed at the termination of stone pitching outfalls as indicated on the drawings.

Each drop inlet shall be formed of reinforced concrete to the specified dimensions, provided with a durable grating or cover, and integrated with the downstream drainage system. The Contractor shall ensure proper alignment and smooth hydraulic entry from the stone pitching to the inlet to prevent scouring and blockages."

Item	Unit
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B23.01	Open Concrete Dish Drains
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Add the following to item B23.01:

"Payment under this item shall include all works required to construct open concrete dish drains across the road, including excavation, formwork, reinforcement, concrete, finishing, curing, joints, and connection to existing or new drainage structures as indicated on the drawings.

Labour accommodation, site establishment or general overheads are not included in this item."

B23.02	Concrete V-Drains
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Add the following to item B23.02:

"Payment under this item shall include all works required to construct concrete V-drains, including excavation, formwork, reinforcement, concrete, finishing, curing, and any special measures to form smooth hydraulic transitions to stone pitching or drop inlets. Keying, dowelling or grading required at the interface with stone pitching is included."

B23.03 Stone Pitching

Add the following new item:

"Payment under this item shall include all works required to construct stone pitching at the outfalls of concrete drains, including supply and placement of durable stones, mortar or grout backing where specified, preparation of keyed foundation or toe, transition to drop inlets, and finishing, dressing and cleaning of the pitching."

B23.04 Drop Inlets

Add the following new item:

"Payment under this item shall include all works required to construct drop inlets, including excavation, formwork, reinforcement, concrete, finishing, curing, supply and installation of grating or cover, integration with upstream stone pitching, downstream drainage connections, alignment, and hydraulic works to prevent scouring or blockage."

B23.05 Transitions Between Concrete Drains and Stone Pitching

Add the following new item:

"Payment under this item shall include all excavation, preparation, keying, dowelling, shaping, grouting and finishing required to form smooth transitions between concrete dish drains or V-drains and stone pitching or drop inlets, including measures to prevent erosion or scouring."

SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL**B3402 SUBGRADE TREATMENT**

Add the following to subclause 3402:

"Where indicated on the drawings or in the project specifications, the Contractor shall treat the existing subgrade to achieve the required CBR and bearing properties prior to placing the subbase.

Treatment may include scarifying, trimming, compaction, and/or stabilisation with approved additives or cement as directed by the Engineer.

Payment for subgrade treatment shall include all labour, equipment, material, compaction, moisture control, and testing to achieve the specified level and density."

B3403 IMPORTED G7 SUBBASE

Add the following to subclause 3403:

"The Contractor shall supply, transport, and place G7 subbase material in layers not exceeding the maximum specified thickness per layer. Each layer shall be compacted to the specified density and moisture content, with quality control testing carried out in accordance with the project specifications.

Subbase material shall be sourced from approved quarries and free of deleterious substances. Payment shall include all material, transport, placing, spreading, compaction, and testing to achieve the required specifications."

B3404 GENERAL REQUIREMENTS

Add the following paragraph to subclause 3404:

"Given that the works are of short-term duration and located close to existing roads and commercial access, the Contractor shall limit stockpiling of imported material to approved areas and maintain safe traffic management. Site establishment and labour accommodation costs are excluded from these items."

B3401 MEASUREMENT AND PAYMENT

Amend item 34.01 to read as follows:

Item	Unit
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B34.01 Subgrade treatment:

- | | |
|---|----------------|
| (a) Scarifying, trimming, stabilisation and compaction of existing subgrade | m ² |
| (b) Moisture control and density testing of treated subgrade | m ² |

The unit of measurement for subitem B34.01(a) shall be the area of subgrade treated in square metres.

The unit of measurement for subitem B34.01(b) shall be the area of subgrade tested in square metres.

The tendered rates shall include full compensation for all labour, plant, equipment, material, compaction, moisture control, stabilising agents (if applicable), and testing required to bring the subgrade to the specified standard.

B34.02 Imported G7 Subbase layer:

- | | |
|--|----------------|
| (a) Supply and transport of approved G7 material | m ³ |
| (b) Placing, spreading, compacting and testing of G7 subbase | m ³ |

The unit of measurement for subitem B34.02(a) shall be the volume of imported G7 subbase material supplied

and transported in cubic metres.

The unit of measurement for subitem B34.02(b) shall be the volume of G7 subbase placed, spread, compacted, and tested in cubic metres.

The tendered rates shall include full compensation for supply, transport, spreading, compaction, quality control testing, and any other incidental works required to achieve the specified subbase layer properties.

B34.03 General site requirements for subgrade and subbase works:

Payment under this item shall include all temporary works, traffic management, and protection of existing infrastructure directly associated with subgrade and subbase works. Costs related to labour accommodation or site establishment are excluded.

SECTION 5200: GABIONS**B5202 MATERIALS****(f) Filter fabric below the gabions**

Add the following at the end of subclause 5202(f):

"In the case of the filter fabric used to line the earth faces of gabion boxes or mattresses constructed under this contract, the following properties shall apply:

Penetration load (minimum)	3500 Newton
Puncture resistance (maximum)	15 mm
Water percolation (minimum)	20 litre / m ² / sec"

SECTION 6200: FALSEWORK, FORMWORK, AND CONCRETE FINISH**B6202 GENERAL REQUIREMENTS**

Add the following to the end of subclause 6202:

"Formwork for concrete paving, concrete V-drains and concrete stone pitching shall be designed and erected to ensure correct alignment, levels, dimensions, and finish as indicated on the drawings. The formwork shall be sufficiently rigid to prevent deformation during placing and compaction of concrete.

Where steel or timber side forms are used for paving and V-drains, they shall be securely fixed, straight, and true to line and grade. For concrete stone pitching, timber formwork or edge shuttering may be used to maintain defined edges and levels as required."

B6203 FORMWORK FOR CONCRETE PAVING

Add the following new subclause 6203:

"Formwork for concrete paving shall consist of edge shuttering or approved side forms extending to the full depth of the paving slab. The forms shall be aligned accurately to maintain the specified crossfall and longitudinal grade.

Forms shall be treated with approved form release agents to prevent adhesion of concrete and to facilitate removal. Any defects caused by poor formwork shall be repaired at the Contractor's cost."

B6204 FORMWORK FOR CONCRETE V-DRAINS

Add the following new subclause 6204:

"Formwork for concrete V-drains shall be constructed to produce the specified shape, depth, and width, and shall ensure a smooth transition at junctions and outfalls.

The formwork shall be removed carefully to prevent damage to the finished surfaces. Minor honeycombing or surface defects shall be repaired immediately after stripping."

B6205 FORMWORK FOR CONCRETE STONE PITCHING

Add the following new subclause 6205:

"Where concrete stone pitching is required, formwork shall be provided along edges, steps, or at interfaces with other structures to ensure a neat, defined boundary.

The Contractor shall ensure that the formwork provides sufficient containment during placing of concrete and stone, and that finished surfaces match the levels, slopes, and alignment indicated on the drawings."

B6206 FINISHING REQUIREMENTS

Amend subclause 6206 to include:

"For concrete paving and V-drains, the exposed concrete surfaces shall be finished with a smooth steel trowel or wooden float, unless otherwise specified.

For concrete stone pitching, exposed mortar joints shall be neatly struck or finished flush with adjacent stones. All surfaces shall be free from honeycombing, laitance, or surface defects. The edges of paving, V-drains and pitching shall be straight, true, and in accordance with the lines shown on the drawings."

B6201 MEASUREMENT AND PAYMENT

Amend item 62.01 to read as follows:

Item	Unit
B62.01 Formwork for concrete paving	m ²
The unit of measurement shall be the area in square metres of formwork provided, fixed, maintained and removed for concrete paving edges.	
The tendered rate shall include full compensation for the supply of formwork materials, erection, alignment, treatment with release agent, maintenance in position, stripping, cleaning and making good all imperfections to the concrete surface after removal.	
B62.02 Formwork for concrete V-drains	m ²
The unit of measurement shall be the area in square metres of formwork provided, fixed, maintained and removed for concrete V-drains.	
The tendered rate shall include full compensation for all work necessary to produce the specified dimensions and finish, including curved or skewed sections, transitions at outfalls, stripping, and repairs to minor surface defects.	
B62.03 Formwork for concrete stone pitching	m ²
The unit of measurement shall be the area in square metres of formwork provided and removed along the edges, steps or defined boundaries of concrete stone pitching.	
The tendered rate shall include full compensation for materials, erection, alignment, containment during placement of concrete and stone, removal, and finishing of exposed edges.	
B62.04 Finishing of exposed concrete surfaces	m ²
The unit of measurement shall be the finished surface area of concrete paving and V-drains in square metres.	
The tendered rate shall include full compensation for all labour and tools required to achieve the specified finish (trowelled, floated, or brushed as shown on the drawings), as well as neat finishing of mortar joints in concrete stone pitching.	

SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES**B6302 GENERAL REQUIREMENTS**

Amend the clause to read as follows:

"Steel reinforcement shall comply with the requirements of SANS 920 and SANS 282 for reinforcement steel. Only high-yield deformed bars and hard-drawn mild steel wire fabric (mesh) shall be used, unless otherwise specified.

Reinforcement shall be clean, free from loose rust, oil, paint, mud, or other harmful materials before placing. Reinforcement shall be stored off the ground and protected from contamination.

The Contractor shall be responsible for cutting, bending, cranking, hooking, placing, supporting, and securing the reinforcement in strict accordance with the bending schedules and the details shown on the drawings or as instructed by the Employer's Agent."

B6303 FIXING AND PLACING OF REINFORCEMENT

Add the following new subclause:

"Reinforcement shall be fixed firmly in its correct position using binding wire, approved chairs, spacers, and cover blocks of adequate strength to prevent displacement during concrete placement.

Welding of reinforcement shall not be permitted unless specifically authorized in writing by the Employer's Agent.

The Contractor shall take all necessary steps to ensure that the reinforcement cover complies with the drawings and specifications."

B6304 INSPECTION

Add the following new subclause:

"No concrete shall be placed until the Employer's Agent has inspected and approved the reinforcement in position.

The Contractor shall provide not less than 24 hours' notice of readiness for inspection of reinforcement before concreting."

B6301 MEASUREMENT AND PAYMENT

Amend item 63.01 to read as follows:

Item	Unit
B63.01 High-yield steel reinforcement (cut, bent, fixed and tied in position)	kg

The unit of measurement shall be the mass in kilograms of reinforcement cut, bent, and fixed in position, calculated from the bending schedules and standard mass tables, excluding wastage.

The tendered rate shall include full compensation for procurement, transporting, offloading, storing, cutting, bending, cranking, hooking, binding with wire, placing, fixing, supporting with chairs, spacers, and cover blocks, and for all incidental work to complete the item.

B63.02 Mild steel reinforcement (wire fabric/mesh)	m ²
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The unit of measurement shall be the area in square metres of mesh reinforcement laid and fixed in position, measured net according to the dimensions shown on the drawings.

The tendered rate shall include full compensation for procurement, transporting, offloading, cutting, placing,

binding, supporting, overlapping, fixing in position, and providing cover blocks or spacers as specified.

B63.03 Additional bending and fixing for non-standard details kg

The unit of measurement shall be the mass in kilograms of reinforcement requiring additional bending, cutting, or alterations not included in the bending schedules, as instructed by the Employer's Agent.

The tendered rate shall include full compensation for alterations, adjustments, and incidental work associated with such changes.

SECTION 6400: CONCRETE FOR STRUCTURES

B6402 GENERAL REQUIREMENTS

Amend the clause to read as follows:

"Concrete for structural works shall be produced in accordance with the requirements of SANS 2001-CC1 and SANS 878 for structural concrete.

Concrete shall be of the class, strength, and workability specified on the drawings or in the project specifications. The Contractor shall design, test, and obtain approval of proposed concrete mixes prior to commencing with the works.

Unless otherwise approved, ready-mix concrete from a certified supplier shall be used for all structural elements. The Contractor shall ensure that delivery notes are submitted and cube tests taken as directed by the Employer's Agent."

B6403 HANDLING, TRANSPORTING AND PLACING

Add the following new subclause:

"Concrete shall be handled and transported from the mixer or delivery truck to the place of final deposit as rapidly as practicable, without segregation, loss of materials, or contamination.

Placement shall be continuous between construction joints and shall be compacted by mechanical vibrators to produce dense, well-compacted concrete free from honeycombing or voids.

The Contractor shall ensure that no free fall of concrete greater than 2.0 m occurs unless otherwise approved."

B6404 CURING AND PROTECTION

Add the following new subclause:

"Immediately after finishing, all exposed surfaces of the concrete shall be cured by approved methods, such as water ponding, wet hessian, plastic sheeting, or curing compound.

Concrete shall be protected against premature drying, high temperatures, frost, and damage until the required strength is achieved.

No formwork or supports shall be struck until the Employer's Agent has approved the strength results of the cubes or other testing carried out."

B6405 CONSTRUCTION JOINTS

Add the following new subclause:

"Construction joints shall be made only at approved locations. Reinforcement shall be left clean and free of laitance at the joints. Joints shall be roughened, cleaned, and treated with cement slurry or bonding agent immediately before placing fresh concrete.

Unauthorized joints shall not be permitted."

B6401 MEASUREMENT AND PAYMENT

Amend item 64.01 to read as follows:

Item	Unit
B64.01 Structural concrete (in situ, including placing, compacting, finishing and curing)	m ³

The unit of measurement shall be the volume in cubic metres of completed structural concrete, measured net according to the dimensions shown on the drawings.

The tendered rate shall include full compensation for supply of materials, batching, mixing, transporting, placing, compaction, finishing, curing, protection, provision of trial mixes and cube tests, and for all incidental works required to complete the structure.

B64.02 Ready-mix concrete (delivered, placed and finished as specified) m³

The unit of measurement shall be the volume in cubic metres of ready-mix concrete delivered, placed, and finished as specified, measured net in place.

The tendered rate shall include all costs of procurement from an approved supplier, transportation to site, offloading, placing, compacting, finishing, curing, cube testing, protection, and all incidental works.

B64.03 Construction joints (preparation and treatment) m²

The unit of measurement shall be the area in square metres of construction joint prepared and treated, measured as the joint surface area shown on the drawings or approved on site.

The tendered rate shall include cleaning, roughening, removal of laitance, application of bonding slurry or agent, protection, and all incidental work to complete the joint.

B64.04 Curing compound (when specified separately by the Employer's Agent) l

The unit of measurement shall be the volume in litres of curing compound applied, as measured on site.

The tendered rate shall include supply, transporting, handling, and spraying of the curing compound, including equipment, labour, and incidental costs."

SECTION 8100: TESTING MATERIALS AND WORKMANSHIP**B8105 TESTING THE AGGREGATES**

Add the following subclause:

“(g) Determination of Ethylene Glycol Durability Index

The Ethylene Glycol Durability Index shall be determined as follows:

(i) Apparatus

Suitable pans or basins
Ethylene Glycol Solution
Stirring rod

(ii) Method

Obtain three or more representative samples from the source to be evaluated.

If not already crushed, crush the material in order to obtain sufficient minus 19mm plus 13mm sized aggregate in order to totally cover the bottom of the basin or pan with a single layer of stone. Add sufficient ethylene glycol to each basin ensuring that every aggregate particle is completely submerged.

After soaking for 24 hours, gently stir the aggregate, allow to settle and observe and record the response of the aggregate to the ethylene glycol according to the criteria listed in (iii) below. Continue the above cycle at intervals of 24 hours for a further 4 days, in each case recording the observed response. After 5 days allow the samples to remain submerged in the solution and observe and record the disintegration response after a total period of 15, 30 and 60 days has elapsed.

(iii) Classification of response

After each cycle, classify and record the response of the aggregate as follows:

DISINTEGRATION CLASS

Class 1 : No obvious effects, or only very minor spalling of sand sized particles or very small flakes.

Class 2 : Splitting of rock, accompanied by any other disintegrative effects.

Class 3 : Fracturing (spheroidal and/or internal) without extensive spalling or distortion.

Class 4 : Fracturing (spheroidal and/or internal) with extensive spalling or distortion.

Class 5 : Complete disintegration.

The time factor in the above disintegrative process is classified according to the time taken for the most serious effect of the expansive stresses to occur i.e.

TIME CLASS

Class 4 : 0 - 5 days

Class 3 : 6 - 15 days

Class 2 : 16 - 30 days

Class 1 : 31 - 60 days

Class 0 : Over 60 days

(iv) Determination of Glycol Durability Index

The Ethylene Durability Index is determined by adding the class number as assigned for the specific disintegrative response observed to the class number as assigned for the period for this response to occur. A durability index ranging from 1 (no response) to 9 (rapid and complete disintegration) is thus determined.”

B8110 TESTS RELATING TO CHEMICAL STABILIZATION

Add the following subclause:

“(d) The Wet-Dry Durability Test for cement-treated materials using the hand brush method (National Department of Transport test method)

This method covers the procedure for determining the soil-cement losses obtained by repeated wetting, drying and hand brushing of hardened soil-cement specimens.”

SECTION 8200: QUALITY CONTROL (SCHEME 1)

B8201 SCOPE

Add the following:

“Quality Control Scheme 1 shall be applicable to this contract.”

C3.3 PARTICULAR SPECIFICATIONS

In addition to the Standard Specifications and the Project Specifications, the following Particular Specifications shall apply to this contract and are bound in hereafter:

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

PART D: DAYWORK

PART E: OSHA 1993 HEALTH AND SAFETY SPECIFICATION.....

C3.3 PARTICULAR SPECIFICATIONS

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

C.1 General

In order to ensure that the construction work is carried out in an environmentally sensitive manner, strict compliance with the Environmental Management Plan (EMP) guidelines is required. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimise disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,
 - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

C.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes subcontractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, subcontractors and suppliers.

C.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the Construction Manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter, etc.),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

C.4 Site Cleanliness and Neatness

Location of a construction camp is to be approved by the Employer's Agent and is to be restored to its previous condition after completion of construction.

The construction camp should preferably be fenced with a 1.8m Bonnox fence or similar approved.

All materials, equipment, plant and vehicles must be stored within the construction camp.

A dedicated area must be made available for construction staff to change and store their personal belongings.

C.5 Access

Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.

Access roads utilised by the Contractor must be maintained in good condition.

C.6 Borrow Pits

Mining authorisations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs and Forestry (DWAF).

Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.

Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWAF.

C.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working condition and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

C.8 Fauna

- Contractors and subcontractors staff and workers may not chase, catch or kill animals encountered during construction.

C.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The Contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owners' lands.

C.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

C.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc.,) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc.,).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The Contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills.

- The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

C.12 Noise

- Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

C.14 Rivers and Streams

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

C.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside the road during the operation phase in order to control traffic.
- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

C.16 Soil Management

- Storm water drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of storm water.
- Spoil from cuts may be used in existing erosion gullies.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used to aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and refuelling of vehicles must only be carried out at the construction camp.

C.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

C.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

C.19 Vegetation

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

C.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The Contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc.,) must be stored in leakproof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Employer's Agent.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets, etc.,) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section C.11 and C.16.

C3.3 PARTICULAR SPECIFICATIONS

PART D: DAYWORK

PART D: DAYWORK

This part of the Particular Specifications deals with the provision for daywork in the Schedule of Quantities. Rates for daywork shall be entered in the Schedule of Quantities in accordance with the following specifications.

D1. SCOPE

According to Clause 6.5 of the General Conditions of Contract 2015, certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a daywork basis is included in the Schedule of Quantities. The quantities used in the Schedule of Quantities are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.3 of the General Conditions of Contract 2015.

No work will be paid for as daywork without the written instruction or approval of the Employer's Agent.

D2. TYPE OF WORK

The Employer's Agent may order daywork in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Employer's Agent. Daywork will only be used in exceptional circumstances.

D3. MATERIALS

Materials for use in works carried out under daywork shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section D of the Schedule of Quantities for daywork materials. The Contractor shall enter a tendered percentage in the Schedule of Quantities to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in C2.1, 'Pricing Instructions'. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in daywork with his daywork claim to the Employer's Agent. Further, if specific materials are required for daywork, quotations will be called for as per Clause 6.5.2 of the General Conditions of Contract 2015.

D4. CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section D of the Schedule of Quantities shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the Schedule of Quantities for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the General Conditions of Contract 2015 will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the daywork.

D5. SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in the Schedule of Quantities. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the daywork.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the daywork rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Employer's Agent, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

D6. MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of daywork.

The unit of measurement for plant shall be the number of Vibroclock hours worked and each item of plant shall be fitted with a Vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Clauses 6.5.3 and 6.5.4 of the General Conditions of Contract 2015 with regard to the submission of daywork claims.

C3.3 PARTICULAR SPECIFICATIONS

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

E1. SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy working environment for all employees, subcontractors, the Employer, the Employer's Agent, inspectors and all other persons entering the site of works.

This specification shall be read in conjunction with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993 and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Act and Construction Regulations.

In terms of the OHSA Agreement in Section C1.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible for compliance with all provisions of OHSA 1993 and the Construction Regulations 2014.

This specification and the Contractor's own Health and Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees, representatives of trade unions and any other persons entering the site of works.

E1.1 Information based on the Employer's baseline risk assessment

The information presented in this subclause E1.1 is based on the Employer's baseline risk assessment prepared specifically for this contract.

This information describes the type of work required in terms of this contract that will be accompanied by dangers, hazards and risks which the Contractor shall be required to identify, analyse, manage, monitor and review in terms of the Health and Safety Plan and risk assessments.

This information is neither prescriptive nor exhaustive, and is provided as a guideline to Tenderers in preparing their tender submissions, and to the successful Contractor as a basis for the preparation of the site specific risk assessments to be performed by the Contractor in terms of Construction Regulation 9.

Tenderers shall make their own assessment of the dangers, hazards and risks that can be expected during the course of this contract, which may include dangers, hazards and risks not identified in the baseline risk assessment, including those that may arise from specific methods of construction employed by the Contractor, and shall make due allowance in their tendered rates and prices for all costs related to complying with the provisions of the Act and Construction Regulations.

This information is given in good faith for the guidance of Tenderers, and no additional payment shall be made as a result of any inaccuracies, discrepancies or omissions contained therein.

E2. DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **Employer** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract 2015 and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" are therefore interchangeable and shall be read in the context of the relevant document.
- (b) "**Contractor**" wherever used in the contract documents and in this specification, shall have the same meaning as "**Contractor**" as defined in the General Conditions of Contract 2015.

In this specification the terms “**principal contractor**” and “**contractor**” are replaced with “**Contractor**” and “**subcontractor**” respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatary, without derogating from his status as an employer in his own right.

- (c) “**Employer’s Agent**” where used in this specification, means the Employer’s Agent as defined in the General Conditions of Contract 2015. In terms of the Construction Regulations the Employer’s Agent may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

E3. TENDERS

This Health and Safety Specification forms an integral part of the Contract and Tenderers are required to use it during the tender phase for pricing the preparation of a project specific Health and Safety Plan prior to commencing any work and for pricing the costs of ensuring compliance thereto during construction. Tenderers must forward a copy of this Specification to all other persons or organisations that may be submitting prices to the Tenderer during the tender stage to enable them to include the cost of preparing their own Health and Safety Plan, relevant to their particular operation, and for compliance with the health and safety requirements during construction. Payment items are included in the Schedule of Quantities for compliance with the Occupational Health and Safety Act and Construction Regulations and with this Specification.

Failure to submit the foregoing with his tender and/or to provide realistic rates for relevant payment items will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely, in accordance with the Act and Construction Regulations and his tender shall be deemed non-responsive.

E4. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

Where the contract meets the requirements of Construction Regulation 4, the Contractor shall, before commencement of the work and in accordance with the requirements of Regulation 4, notify the Provincial Director of the Department of Labour of the intention to carry out the construction work, using the pro forma form included as Annexure 2 to this Health and Safety Specification.

A copy of the notification form must be kept on site, available for inspection by inspectors, the Employer, the Employer’s Agent, subcontractors, employees, representative trade unions and any other persons on the site. A copy of the notification form shall also be kept on the health and safety file, and a further copy shall be forwarded to the Employer for his records.

E5. HEALTH AND SAFETY PLAN

Before commencement of any construction work, the Contractor shall prepare a project specific Health and Safety Plan complying with the requirements of Construction Regulation 7(1)(a) and this Health and Safety Specification.

The Health and Safety Plan must include a risk assessment performed and recorded in writing by a competent person as required in terms of Construction Regulation 9. The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards identified.

The Health and Safety Plan shall be available on site for inspection by inspectors, the Employer, the Employer’s Agent, subcontractors, employees, representative trade unions, and health and safety representatives and committee members, and must be monitored and reviewed periodically by the Contractor.

E6. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

E6.1 Appointments

The Contractor shall appoint in writing all employees.

The Contractor shall appoint in writing all subcontractors, and such appointments shall be in compliance with the requirements of Construction Regulation 7.

E6.2 Health and safety induction training

No person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site.

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo health and safety induction training by a competent person before commencement of construction work in compliance with Construction Regulations 7(5) and 9(3) and (4).

The Contractor shall ensure that all visitors to the construction site undergo health and safety induction and are provided with the necessary personal protective equipment in compliance with Construction Regulation 7(6).

E6.3 Medical certificate of fitness

The Contractor shall ensure that every employee, including subcontractors and their employees, has a valid medical certificate of fitness issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable.

E7. APPOINTMENT OF SAFETY PERSONNEL**E7.1 Construction manager**

Refer to Construction Regulation 8(1), (2), (3) and (4).

The Contractor shall appoint a full-time **Construction Manager** with the duty of managing all the construction work on the site, including the duty of ensuring occupational health and safety compliance.

The Contractor may also have to appoint one or more **assistant construction managers** to assist the Construction Manager where justified by the scope and complexity of the works.

E7.2 Construction health and safety officer

Refer to Construction Regulation 8(5) and (6).

Taking into consideration the size of the project and the dangers, hazards or risks that can be expected, the Contractor shall appoint in writing a full-time or part-time **construction health and safety officer** to assist in the control of all health and safety related aspects on the site. The construction health and safety officer shall be registered as required by the Chief Inspector of the Department of Labour and shall have the necessary competence and resources to perform his/her duties diligently.

E7.3 Construction supervisor

Refer to Construction Regulation 8(7), (8), (9) and (10).

The Contractor shall appoint a **construction superintendent** responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

The Contractor may also have to appoint one or more competent employees to assist the construction superintendent where justified by the scope and complexity of the works.

E7.4 Health and safety representatives

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 50 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery, etc. on a regular basis, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

E7.5 Health and safety committee

In terms of **Section 19 of the Act (OHSA 1993)**, the Contractor (as employer) shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

E7.6 Competent persons

The Contractor shall appoint in writing designated competent employees and/or other competent persons as required by the Act and Regulations. Such appointments shall be in accordance with the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work in all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities for compliance with **all** requirements of the Construction Regulations.

E8. RECORDS AND REGISTERS

The Contractor is bound to keep records and registers related to health and safety on site as required by the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract. Such records and registers shall be available for periodic inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees and representatives of trade unions.

E9. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatary of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in

respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) in terms of C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993', to confirm his status as mandatary (employer) for the contract under consideration.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

E10. MEASUREMENT AND PAYMENT

It is a condition of this contract that contractors who submit tenders for this contract shall make provision in their various tendered rates and prices for all costs related to the health and safety measures required in terms of the Act and Regulations during the construction process.

(a) Safety appointments

No separate additional payment will be made to cover the costs related to persons appointed as required in terms of the Act and Regulations to fulfil the various health and safety functions. Such persons include the Construction Manager, any assistant construction managers, the construction health and safety officer, the construction superintendent, any assistant construction superintendents, health and safety representatives, health and safety committee members and competent persons, all as referred to in subclauses E7.1 to E7.6 above.

The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such persons.

(b) Records and registers

The keeping of records and registers related to health and safety on site as described in clause E8 above shall be regarded as a normal duty of the Contractor for which payment shall be deemed to be included in the Contractor's various tendered rates and prices, and for which no separate additional payment will be made except to the extent provided in item B13.02 of the Schedule of Quantities.

(c) Medical certificates

No separate additional payment will be made to cover the costs related to obtaining the medical certificates of fitness required for every employee, including subcontractors and their employees, issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such medical certificates.

ANNEXURE 2 (to OHSA 1993 Health and Safety Specification)

To: The Provincial Director, Department of Labour,

ANNEXURE 2**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(Regulation 4 of the Construction Regulations, 2014)****NOTIFICATION OF CONSTRUCTION WORK**

1. (a) Name and postal address of Contractor:
.....
(b) Name and telephone number of Contractor's contact person:
.....
2. Contractor's compensation registration number:
3. (a) Name and postal address of Employer:
.....
(b) Name and telephone number of Employer's contact person or agent:
.....
4. (a) Name and postal address of designer(s) for the project:
.....
(b) Name and telephone number of designer's(s') contact person(s):
.....
.....
5. Name and telephone number of Contractor's Construction Manager on site appointed in terms of regulation 8(1):
.....
6. Name(s) of Contractor's assistant construction manager(s) on site appointed in terms of regulation 8(2):

ANNEXURE 2 - Continued

-
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:

Total: Male: Female:
.....

12. Planned number of subcontractors on the construction site accountable to Contractor:

.....

13. Name(s) of subcontractors already selected:

.....
.....
.....

.....
Contractor

.....
Date

.....
Employer's Agent (where applicable)

.....
Date

.....
Employer

.....
Date

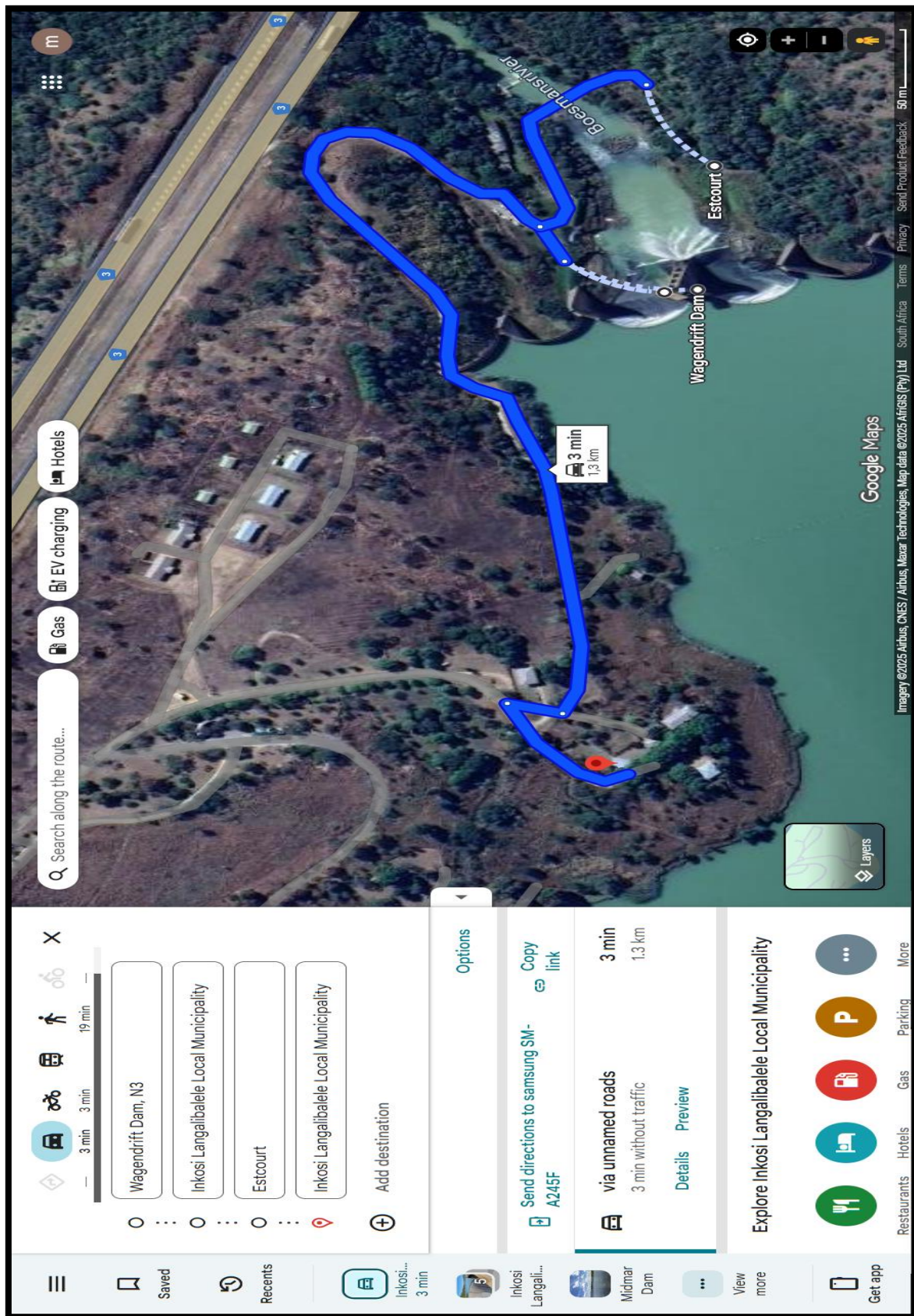
- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR
PRIOR TO COMMENCEMENT OF WORK ON SITE.

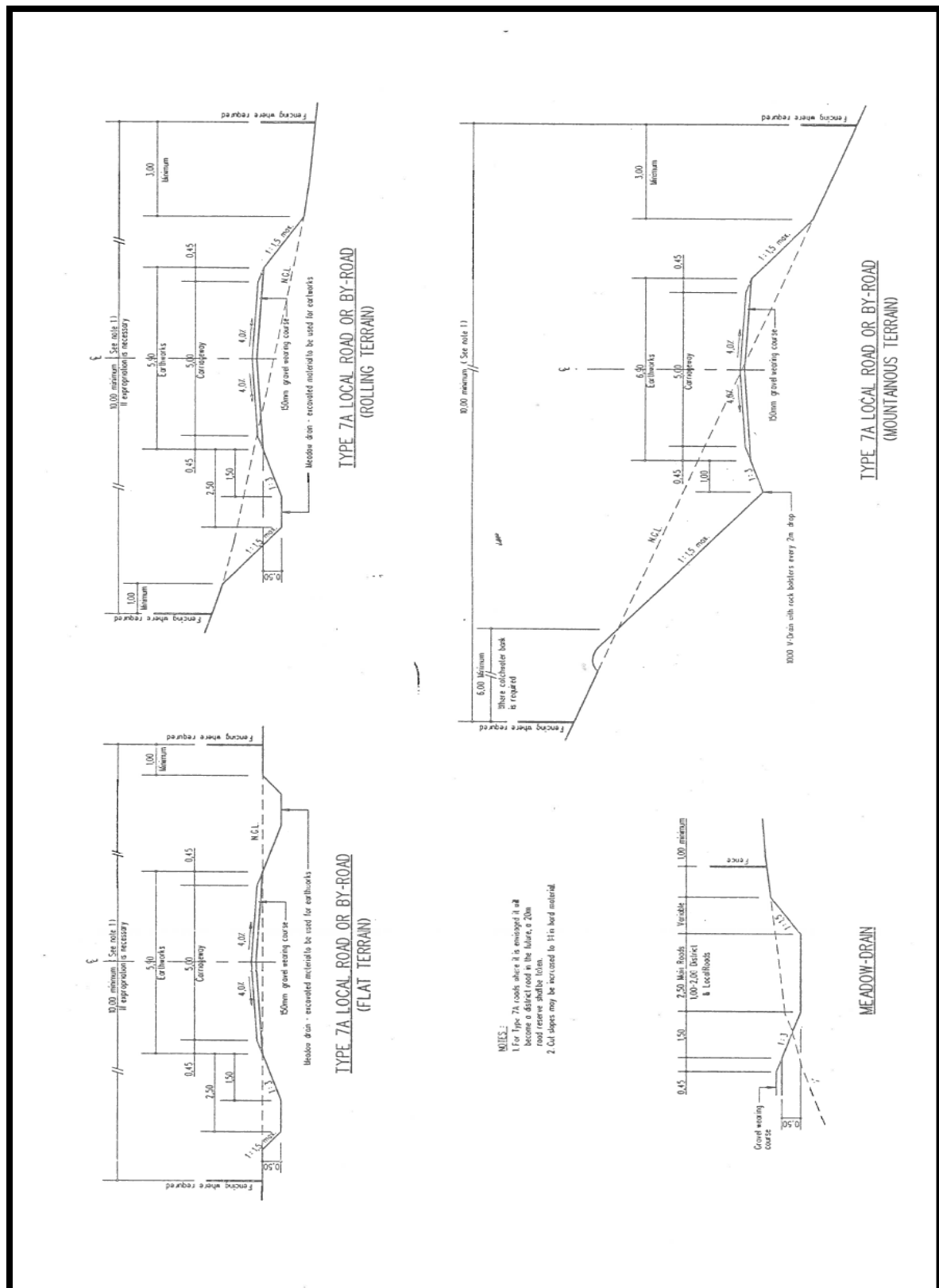
C4: SITE INFORMATION

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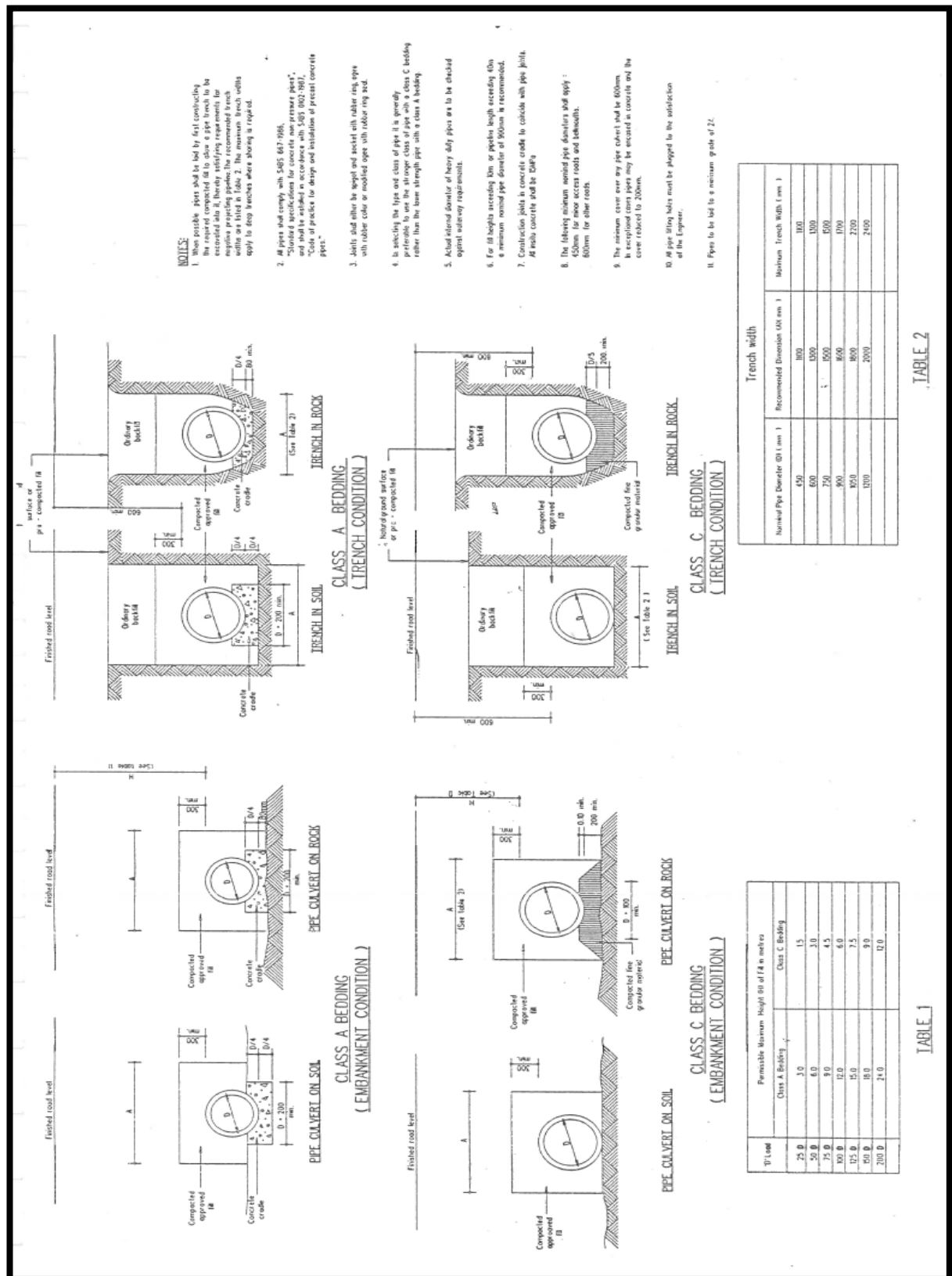
C4.1	LOCALITY PLAN
C4.2	STANDARD DETAILS.....
C4.3	EXISTING SERVICES REPORT
C4.4	CONDITIONS ON SITE: MATERIALS INFORMATION
C4.5	TRAFFIC INFORMATION

C4.1 LOCALITY PLAN

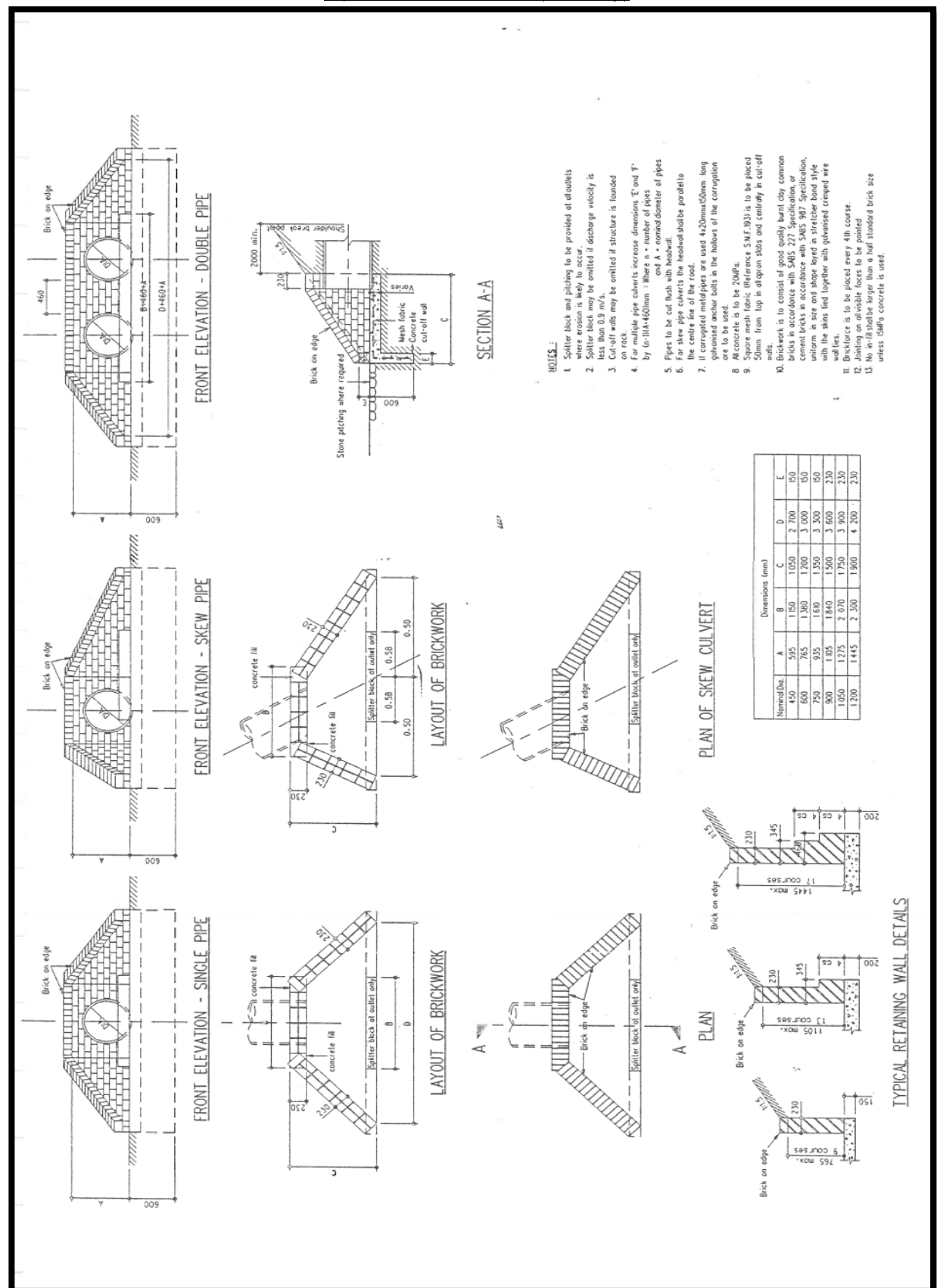


C4.2 STANDARD DETAILS**Typical Cross Section Details**

Concrete Pipe Culvert Bedding



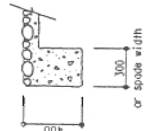
Pipe Culvert Headwalls (Masonry)



Dish Crossing (Pitching)

GRADIENT (%)	SKEW ANGLE (ω°)
0-1	0°
1-3	20°
3-5	30°
5-10	40°
> 10	50°

**TABLE 1 : DESIRABLE ANGLES
FOR VARIOUS GRADIENTS**



SECTION A-A

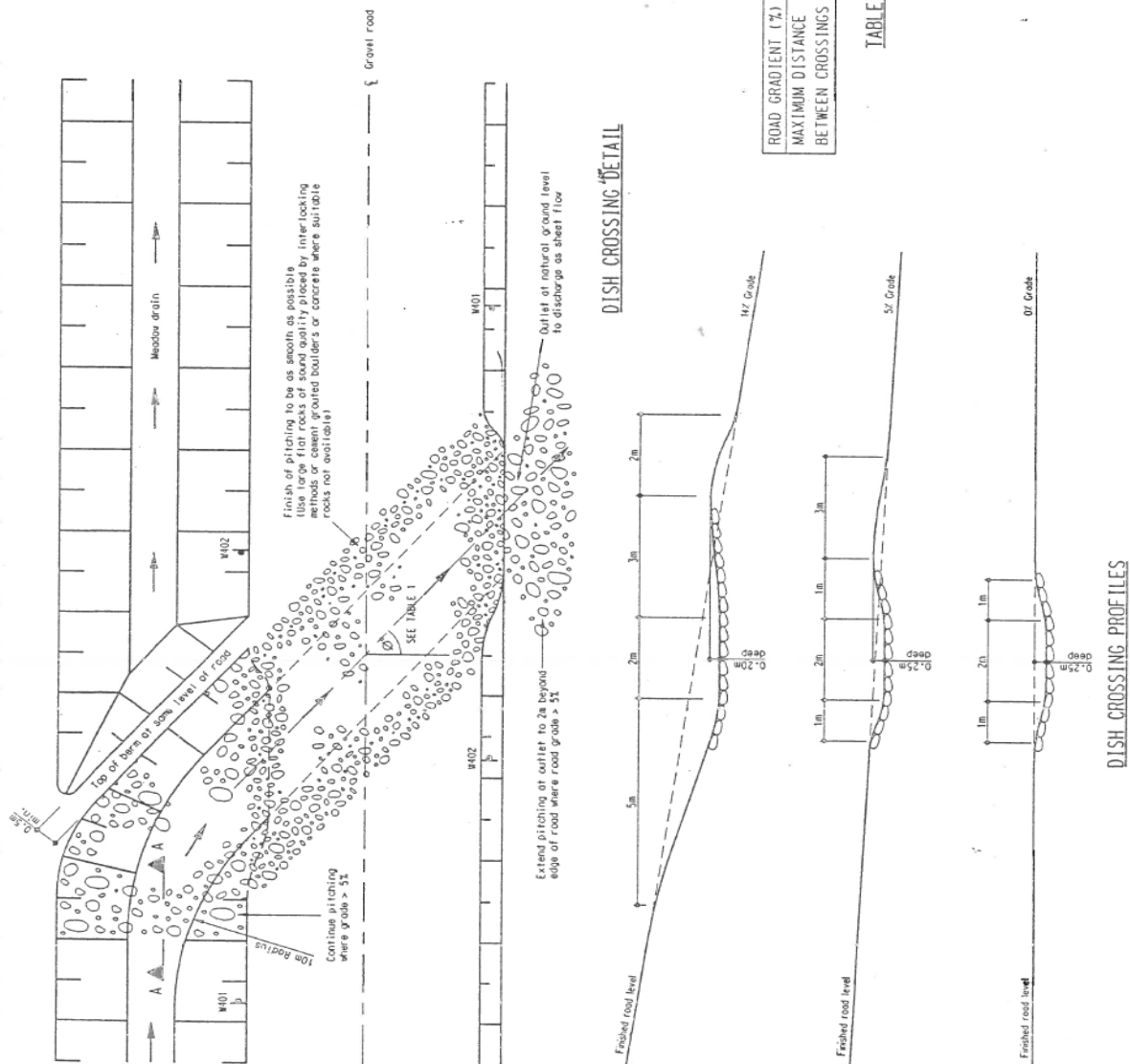
Concrete cut-off wall where grade > 5%

ROAD GRADIENT (%)	0-1	1-3	3-5	5-7	7-10	> 10
MAXIMUM DISTANCE BETWEEN CROSSINGS (m)	300	200	150	100	80	50

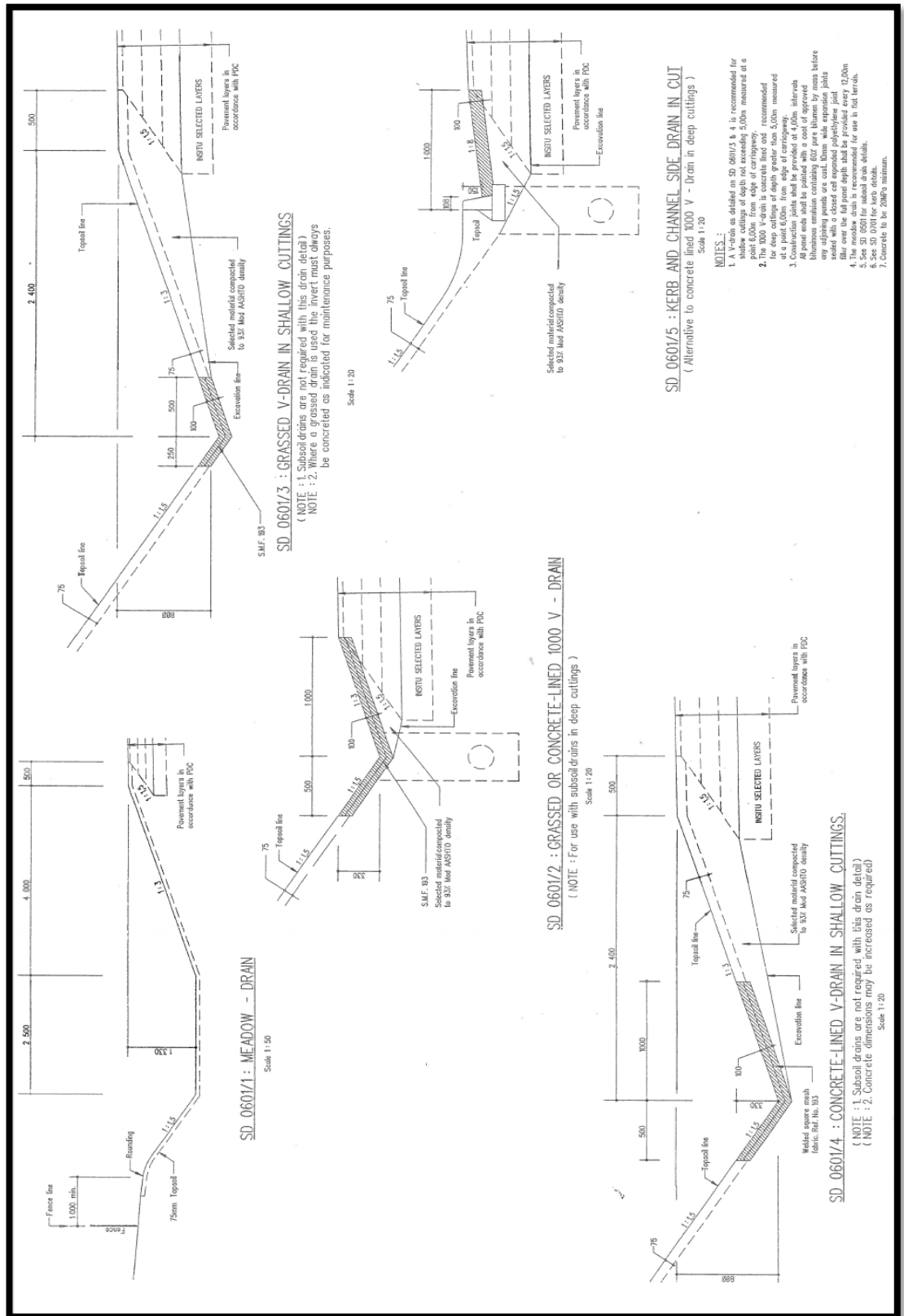
TABLE 2 : MAXIMUM DISTANCE BETWEEN CROSSINGS

NOTES:

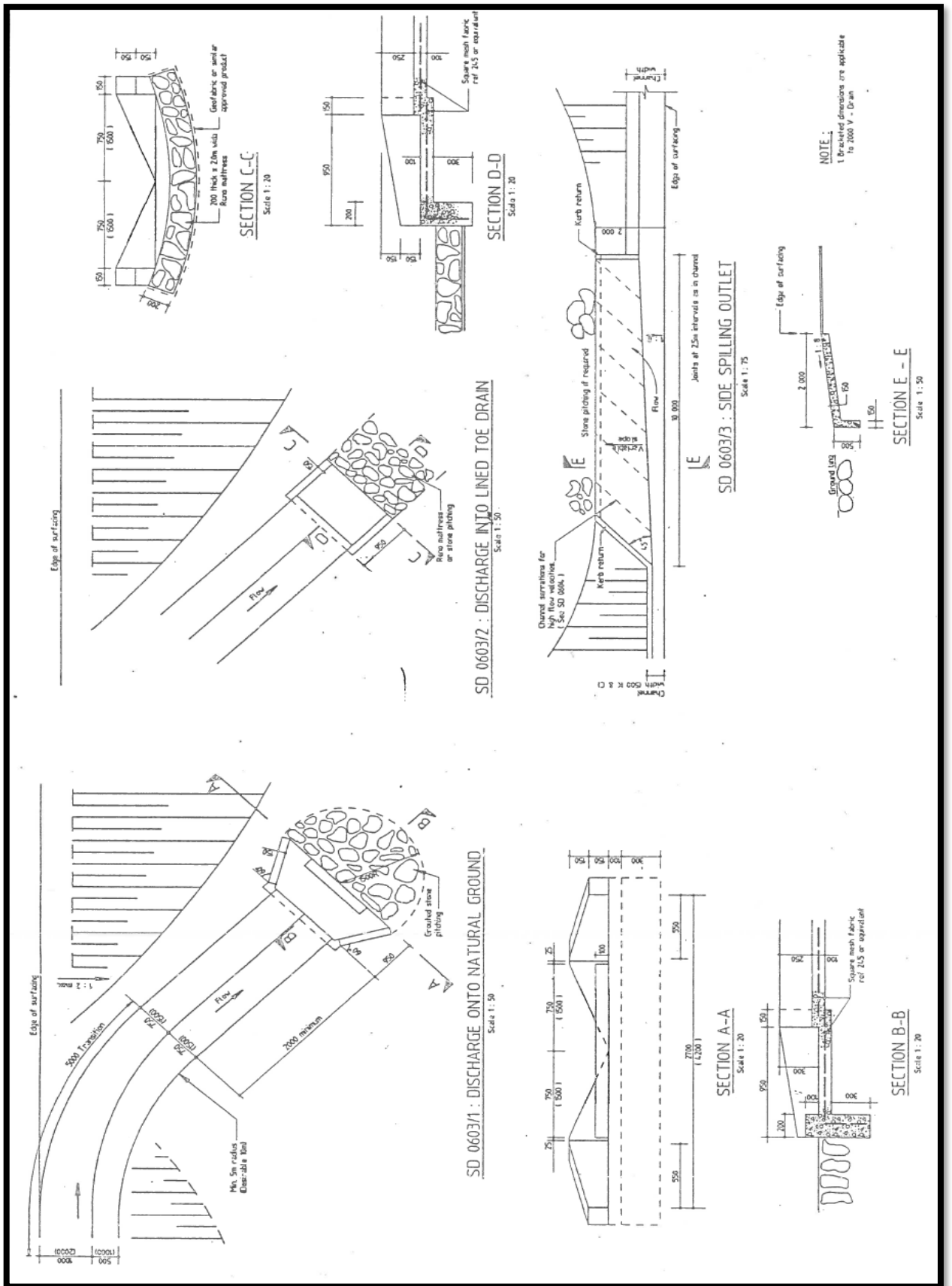
1. 0.1m crossings are to be used for gravel roads only
2. 0.1m crossings to be provided for catchment areas less than 10ha.
3. 4350 warning signs are to be placed 120m from dish drains in both directions.
4. 4401 and 4402 danger plates are to be placed on either side of dish drains in both directions.
5. Cut-off walls may be omitted where rock is encountered.



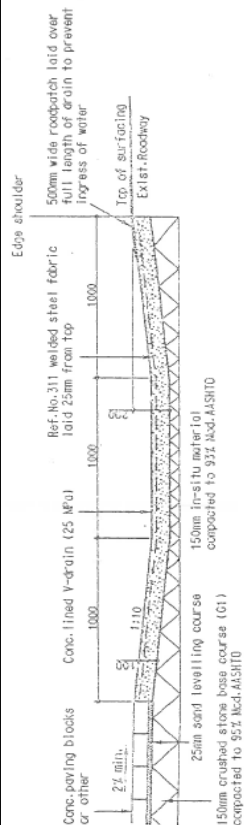
Concrete Side Drainage



Side Drain Outlets

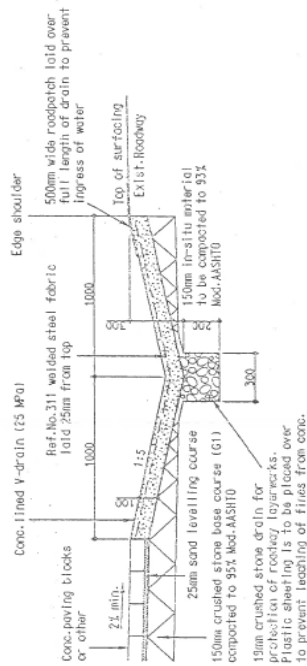


Open Drainage Structures



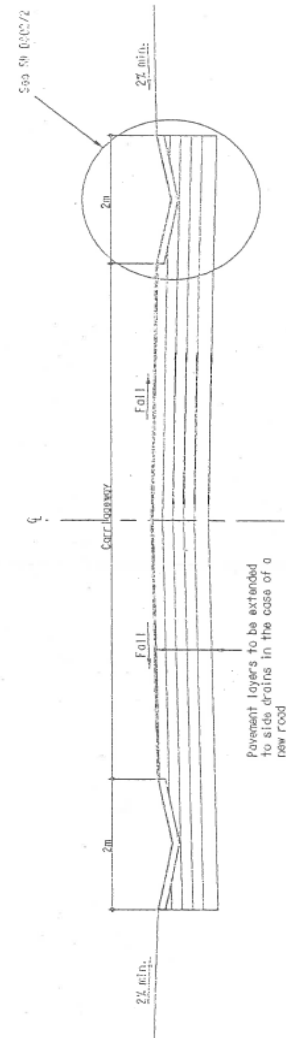
SD 0802/1 : CONCRETE-LINED TRAPEZOIDAL DRAIN

Scale 1:20



SD 0802/2 : CONCRETE LINED V-DRAIN

Scale 1:20

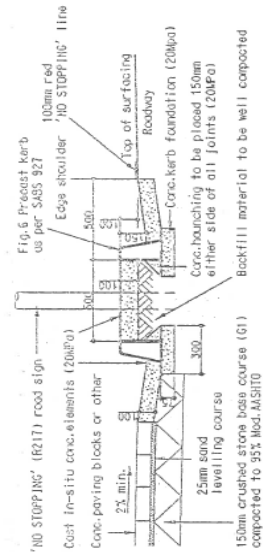


TYPICAL CROSS SECTION

Scale 1:50

Notes:

- Existing road surface edges are to be saw cut prior to casting of new open drain panels.
- Where necessary, and to the discretion of the Engineer, 0.15mm thick polyethylene sheeting with an overlap length of at least 150mm may be placed prior to the casting of concrete panels.
- Panel ends are to be sealed with appropriate 4a panels. All panel ends are to be painted with a coat of approved bituminous emulsion containing 60% pure bitumen by mass, or with an approved anti-adhesive before adjoining panels are cast. 10mm wide expansion joints sealed with an Engineering approved polysulphide joint sealant installed to manufacturers specifications over the full panel depth are to be provided every 12m.
- Joints between road surface and new drains are to be sealed with a 10mm wide Engineering approved asphaltic sealant installed to manufacturers specifications over the full length of the drain.
- Both V-drain and trapezoidal drains have a holding capacity of 450l/s (based on 3m/s flow velocity).
- Trapezoidal drain is to be used at driveway and other access entrances. Layerworks may need to be increased if to be utilised by excessive traffic volumes and/or heavy vehicles. In which case the Department's Waterlots Engineer is to be consulted.
- Waterlots Engineer is to be consulted for the design of trapezoidal drains to be to the discretion of the Engineer but at least 2m in length.
- Stone drain is only required if paving blocks or porous materials are used adjacent to open V-drain.
- Raised concrete islands may be used to formalise access. Island ends are to be rounded using cast in-situ concrete kerb and channel. Fig.6 kerbing may be substituted for mouldable kerbing at the discretion of the Engineer. In the case of a new roadway or complete over top, the cast in-situ concrete kerb and channel may be substituted for surface extended to the kerbing (asphalt only).
- New road signs are to conform to the requirements of the South African Road Traffic Signs Manual (SARTSM).



RAISED CONCRETE ISLAND

Scale 1:20

C4.3 EXISTING SERVICES REPORT

1. Location of services

The known services on the site include:

The following services are scheduled for relocation under this contract:

It is also expected that unknown buried domestic services crossings requiring relocation or protection may be encountered along the route as the work proceeds. The Contractor shall therefore make every effort to establish the location of any such unknown services in a particular area prior to excavations commencing in that area. Such efforts shall include the Contractor conducting a thorough visual surface inspection for services in the area, and also diligently enquiring of local landowners as to whether there are any known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Employer's Agent immediately. Exploratory hand excavation trenching work shall be carried out where necessary to establish the exact position of buried services.

The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

2. Liaison with service owners

Immediately after the site has been handed over to the Contractor and prior to the commencement of any construction work on the site, the Contractor shall arrange a meeting with the relevant authorities to establish the exact location of the various services affected (if any), to plan the necessary services relocations (if required) and to obtain contact details for the service owners' technical and emergency staff.

Where services relocations are required, the Contractor shall arrange regular planning meetings with the service owners until such time as the services have been relocated and commissioned and the existing services uplifted and removed.

3. Protection of existing services

Prior to the commencement of any construction work on the site, the Contractor shall establish markers at 50 m centres (or closer where necessary), clearly delineating the routes traversed by the services within the road reserve as confirmed by the service owners.

Excavation operations shall commence only after the existing services within or in the near vicinity of the excavations have been suitably protected against damage.

The Contractor shall take particular care when carrying out blasting, pneumatic or mechanical breaking, and general excavation operations in the vicinity of the services, and subcontractors, foremen and plant operators shall be fully briefed on precautionary measures to be taken before excavation commences in these areas.

4. Relocation of services

Should any services need to be relocated, the Contractor shall be required to assist the service owner with programming, organising and carrying out the relocation work, in order to minimise any delays in the construction.

5. Payment for the services relocation work

A provisional sum has been provided under section 1200 of the schedule of quantities to cover the costs of any protection, relocation, realignment, removal or replacement of services that may arise.

C4.4 CONDITIONS ON SITE: MATERIALS INFORMATION

CONTENTS

C4.4.1 DISCLAIMER	
C4.4.2 GENERAL DESCRIPTION OF ROAD.....	
C4.4.3 BORROWPIT INVESTIGATION	
C4.4.4 MATERIALS FOR CONSTRUCTION.....	

C4.4.1 DISCLAIMER

The information in this document records the results of investigations done and various tests carried out on materials encountered in the existing road. The results are given in good faith and there is no warranty that the results are entirely representative of all the materials that may be encountered, the intention being to give an indication of the materials likely to be encountered.

No responsibility for any consequence arising from variation between the actual material properties and those indicated in this document will be accepted.

The specification and contract drawings shall always overrule this part of the contract documents.

C4.4.2 GENERAL DESCRIPTION OF ROAD

The Contractor shall be required to accommodate traffic on the existing roadway on the existing detours.

C4.4.3 BORROW PIT INVESTIGATION

The material tests should be provided prior to hauling, stockpiling and dumping of material on site.

C4.4.4 MATERIAL FOR CONSTRUCTION**C4.4.4.1 Selected subgrade and subbase layers**

Results of tests on material sampled from the cuttings for use in the construction of pavement layers are not provided in this contract.

C4.4.4.2 Crushed stone base

The G2 required for the construction of the crushed stone base shall be obtained from commercial sources.

Results of tests done by laboratories on material supplied from these sources shall be provided.

Test results showed that the gradings of the G2 material from Lancaster Crushers and the G1 material from Lafarge were on the coarse side of the specified grading envelopes. Blending with fines is likely to be required to ensure the material conforms to the standard specifications.

C4.4.4.3 Concrete and surface seal aggregate, gabion stone and stone for erosion protection works

Crushed stone shall be obtained from commercial source.

Results of tests done by site laboratories on material supplied from these sources must be supplied to the Department.

C4.4.4.4 Natural sand

No specific source of sand was identified. The Contractor will have to make his own arrangements for the procurement of suitable sand for concrete, drainage and other construction purposes from commercial sources.

C4.4.4.5 Water

No specific source of water for construction purposes is identified. The Contractor will have to make his own arrangements in this regard. Water may be available from local rivers and streams but the Contractor will have to make suitable arrangements for access as required as well as for the necessary testing to prove its suitability.







C4.5 TRAFFIC INFORMATION

13.9.7 Reseal/Resurfacing Work - Just Completed

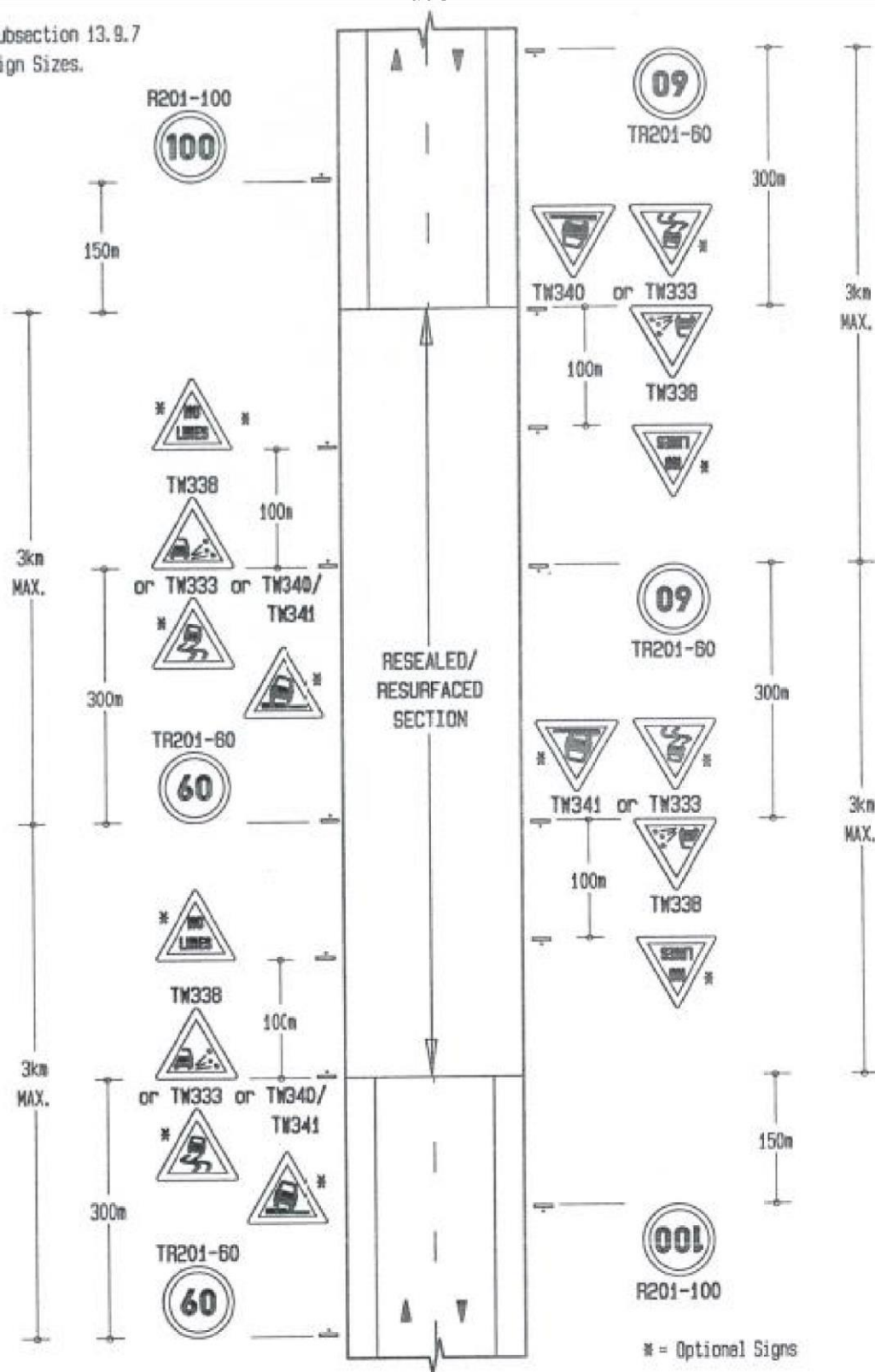
- Figure 13.48 illustrates recommended signing levels where work on resealing of a section of roadway has just been completed. This work activity may occur on sections of roadway within a larger site and may occur in more than one place at a time within such a site. When this is the case, the signing should be adjusted to suit the overall signing requirements of the site. Any temporary speed limit should relate to that operating within the rest of the site and should be as high as is practical and safe (see Section 13.4).
- Sign TW333 and sign TW338 should be considered when there is significant horizontal road curvature and/or the road crossfall or superelevation is also significant, as in hilly country, since the combination of loose stone chippings or dust on the road surface together with this type of road profile can lead to slippery conditions. Alternatively, sign TW333 may be used instead of sign TW338 if the condition of the road surface is considered to be a greater hazard than the risk of stone chippings being thrown up.
- The sign sequence shown should be repeated at approximately three kilometre intervals and, if the road is one carriageway of a dual carriageway road, the signs shall be repeated on the right, on the median island.
- A similar level of signing is appropriate if an asphalt overlay or concrete surface has just been laid and traffic is using it for the first time. With this type of surfacing the use of SURFACE STEP advance warning signs TW340 and TW341 may also be appropriate.
- If road markings are not likely to be re-marked shortly after re-opening the road to traffic, NO LINES advance warning signs should also be provided (see Volume 4, Chapter 3, Section 3.1).

Checklist

- ☐ is a 3 km spacing of sign sets adequate?
- ☐ is the road surface slippery?
- ☐ is there a temporary step in the road surface?
- ☐ will road markings be re-marked shortly after re-opening the road?

MAINTENANCE UNIT INVENTORY			
Sign	No	Size (mm)	Quantity
	TR201-60	1200	2 Plus 2 Every 3km
	TW338	1200	2 Plus 2 Every 3km
	R201-100	1200	2
	TW333	1200	2 Plus 2 Every 3km ⁽¹⁾
	TW340 TW341	1200	2 Plus 2 Every 3km ⁽²⁾
		1200	2 Plus 2 Every 3km ⁽³⁾
<p>(1) Add signs TW333 at 3km intervals if many sharp curves exist especially in mountain passes where loose gravel and crusher dust are located on the road surface.</p> <p>(2) Use signs TW340 / TW341 as appropriate in place of TW333 or TW338 when re-surfacing with asphalt overlay or concrete if a surface step is present.</p> <p>(3) Use text warning sign if repainting is not immediate.</p>			

NB See Subsection 13.9.7
for Sign Sizes.












13.8.11 STOP/RY-GO Traffic Control-Minor Works

- 1 STOP/RY-GO operation may be required to control traffic at a variety of short term roadworks sites where the remaining roadway is reduced to less than two lanes in width, for whatever reason. As such, STOP/RY-GO traffic control is effectively a temporary signing sub-system. It may be used on its own or it may be used locally, in more than one place, for short periods within a long roadworks site. The detail in Figure 13.40 may therefore be incorporated with other short term applications and is particularly appropriate for urban areas.
- 2 The signing given in this detail is a minimised treatment for a very short term application lasting only one or two hours. For longer applications the signing should be upgraded to that covered by Subsection 13.9.3 and Figure 13.44. It should be considered as a daytime operation unless the site is very well illuminated at night. NO OVERTAKING signs TR214 should be carried by the maintenance unit and added to the illustrated sign sequence if required.
- 3 If operating speeds are in excess of 80 km/h additional speed limit signs TR201 should be displayed to reduce speed by a maximum of 20 km/h, or in 20 km/h increments to 80 km/h or 60 km/h as appropriate (see Section 13.4).
- 4 Flagmen must be well trained and shall operate in accordance with Figure 13.23. Whilst short term sites are likely to be short in length, if inter-visibility between flagmen cannot be guaranteed the flagmen should be equipped with two-way radios.
- 5 TRAFFIC CONE delineation devices TD4 and DE- LINEATOR PLATE hazard marker signs TW401/TW402 shall be spaced in accordance with Table 13.4 and all tapers shall conform to the provisions of Table 13.5. When cones are to be used during adverse light conditions, they shall be fitted with retroreflective sleeves. The mounting height of all signs shall be at least that given in Table 13.1 or higher. If the work unit's support vehicle is equipped with flashing yellow warning lights, it may benefit the safety of workers for the vehicle to be parked on the shoulder, at the work end of the approach Buffer Zone, between the workers and approaching traffic.

Checklist

- ☐ are operating speeds in excess of 80 km/h?
- ☐ do advance signs for the STOP/RY-GO control clash with other roadworks signs within the site?
- ☐ are the flagmen alert and well trained for their task?
- ☐ are the flagmen fully visible to oncoming traffic?
- ☐ are the flagmen standing in a safe position?
- ☐ can the restriction be eliminated to permit two-way traffic by dusk?

MAINTENANCE UNIT INVENTORY			
Sign	No	Size (mm)	Quantity
	TW336	1200	2
	TW343	1200	2
	R1.5A/ R1.5B	750	2
	TR103 TR104	1200	1 2
	TW411	300 X 1800	2
	FLAGS	450 X 450	2
	TD4	450 Min	20 Min. plus 10 per 100m site length
	TR214	1200	2
	TR201-80 AND TR201-60	1200	2 2

