TSWELOPELE LOCAL MUNICIPALITY

PROJECT DOCUMENT

CONTRACT NO: SCM/TSW/04/2026-2027

CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG BULTFONTEIN

A tender for Category 6 CIDB Registered Contractors

Tender closing date: 14 December 2026
Closing Time: 12:00

NAME OF TENDERER: …….

TENDERED AMOUNT: ……

TIME OF COMPLETION: …… (weeks)

ISSUED BY:
Tswelopele Local Municipality
3 Bosman Street
Bultfontein
9370

PREPARED BY:
Makunjani Technical Consultants & Project Managers
114 General Dan Pienaar
Dan Pienaar
9301

Contact: Mr. T Matyesini / Mr. Lebohang Malokase

Tel: (051) 8531111 **Fax: (051)8531332 (during office hours)**

Initial here: _____

VERY IMPORTANT NOTICE ON DISQUALIFICATIONS:

BY SUBMITTING THE BID THE BIDDER UNDERTAKES TO ABIDE BY THE TERMS AND CONDITIONS OF THIS TENDER INCLUDING BUT NOT LIMITED TO THE RULES OUTLINED BELOW

- A bid not complying with the requirements stated hereunder will be regarded as not being an "Acceptable bid", and as such will be rejected.
- "Acceptable bid" means any bid which, in all respects, complies with the conditions of bid and specifications as set out in the bid documents, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation and regulations, in terms of which provision is made for this policy.
- In this document and other documents referred to but not attached, the following words are synonymous with each other.
    a. CLIENT, EMPLOYER, TSWELOPELE LOCAL MUNICIPALITY.

    b. BID, TENDER AND VARIATIONS THEREOF

    c. JOINT VENTURE / CONSORTIUM

    d. TENDERER, BIDDER, CONTRACTOR

1. FULL DESCRIPTION OF THE TENDER

Construction of 2km Paved Road and Stormwater Drainage in Phahameng Bultfontein

VERY IMPORTANT NOTICE ON DISQUALIFICATIONS:

BY SUBMITTING THE BID THE BIDDER UNDERTAKES TO ABIDE BY THE

2. RULES FOR BIDDING

2.1 The municipality is not bound to accept any of the proposals submitted and reserves the right to call for presentations from short-listed bidders before final selection,

2.2 Documents submitted by bidders will not be returned. The municipality reserves the right to return late bid submission unopened,

2.3 The municipality reserves the right to terminate this appointment or temporarily defer the work, or any part thereof, at any stage of completion should the municipality decide not to proceed with the bid,

2.4 The service provider must be a single legal entity with all other necessary expertise secured via sub-contract, or under a joint venture arrangement.

2.5 The bidding entity shall be the same entity that will execute the bid. Any bid found to be fronting for another entity or entities shall be disqualified immediately,

2.6 Bidders may ask for clarification on these bid documents or any part thereof up to close of business week before the deadline for the submission of the bids,

2.7 Bidders may not contact the municipality on any matter pertaining to their bid from the time when the bids are submitted to the time the contract is awarded. Any effort by a bidder to influence bid evaluation, bid comparisons or bid award decisions in any manner, may result in rejection of the bid concerned,

2.8 Should the contract between the municipality and the service provider be terminated by either party due to reasons not attributable to the service provider, the service provider will be remunerated for the appropriate portion of work completed up to a maximum amount of not more than the total fee bid by the service provider for the appropriate phase of the project during which the appointment was terminated,

2.9 Bidders should not scratch out without initialling next to the amended rates or information, affecting the evaluation of the bid,

2.10 The Bid document must be properly signed by a party having the authority to do so, according to the example of “Authority or Signatory”,

2.11 Evidence that the municipal rates and taxes or municipal charges owed by the preferred bidder or any of its directors to the municipality or municipal entity, or to any other municipality or municipal entity, are not in arrears for more than three months, in terms of lease agreement, proof that Municipal charges owed on the premises are not in arrears for more than 90 days must be attached (Invoice/statement from the Lessor), lease agreement alone will not be accepted,

2.12 Bidders will be disqualified if any bidders who during the last five years has failed to perform satisfactorily on a previous contract with the municipality, municipal entity or any other organ of state after a reasonable written notice was given to that bidder that performance was unsatisfactory or appears on the register / database of defaulters,

2.13 The Accounting officer must ensure that irrespective of the procurement process followed, no award may be given to a person –

2.13.1 Who is in the service of the state, or;

2.13.2 If that person is not a natural person, of which any Director, Manager, Principal Shareholder or Stakeholder, is a person in the service of the state; or;

2.13.3 Who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest?

2.14 Failure by the bidder to disclose with the bid submission any form of conflict of interest including disclosure on a person(s) who is in the service of the state or any immediate blood relative in the service of the state will lead to disqualification,

2.15 **All functionality and all other returnables will be exposed to verification process, and any returnable proven to be a fake document, the bidders document will be rejected o subjected to disqualification**.

2.26 The municipality is not liable for any documents delivered via courier companies and by post. No official is going to sign the receipt of the tender document,

2.27 Tender documents must be submitted in a sealed envelope clearly marked with the project name and number,

2.28 Fully completed and signed tender documents must be deposited into the tender box located at: 01 Bosman Street, Civic Centre, Bultfontein,9670. The sealed envelope must specify the following:

2.28.1 Bid number

2.28.2 Closing Date and time

2.28.3 The name and address of the tenderer

2.29 The service provider must ensure that all staff working under this contract are adequately trained prior to the commencement of the contract.

2.30. The Municipality has the right to enter into negotiation with a prospective contractor regarding any terms and conditions, including price(s), of a proposed contract.

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TSWELOPELE
LOCAL MUNICIPALITY
A MUNICIPALITY IN PROGRESS

T1.1 BID NOTICE AND INVITATION TO BID

SCM/TSW/04/2026-2027 : CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG BULTFONTEIN

Tswelopele Local Municipality hereby invites suitably qualified Bidder for the Construction of 2km Paved Road and Stormwater Drainage in Phahameng Bultfontein. Bids marked for the attention of the Municipal Manager must be submitted in a sealed envelope marked **"SCM/TSW/04/2026-2027: CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG BULTFONTEIN** must be deposited in the tender box located at Tswelopele Local Municipality no later than **14 December 2026 at 12H00**. Offices; No. 1 Bosman Street; Civic Centre, Bultfontein; 9670.

Tender documents will be available from Tswelopele Local Municipality Website www.tswelopele.gov.za and www.etenderportal.gov.za from the **13 November 2026**.

The tenders will be evaluated and adjudicated in line with the approved Supply
Chain Management Policy of Tswelopele Local Municipality using 80/20 preference point system in accordance with the Preferential Procurement Policy Framework Act.
The tenders will also be adjudicated and evaluated using:

1. Returnables.
2. Functionality
3. PPP Calculations = 80
4. Specified Goals = 20 (Race, Gender, Disability and Youth)

Tenderers must be registered with the **CIDB Grading – 6CE or higher** class of construction works. There is no site briefing for the tender.

Tenders which are late or submitted by facsimile or electronically will not be accepted. Prices quoted must be valid for 90 days from closing date of this tender. The municipality does not bind itself to accept the lowest or any tender and reserves the right to accept any tender either wholly or a part thereof or to disclose reasons for their decision. Tenders will remain valid for 90 (ninety) days.

Enquiries can be directed to Mr LS Malokase and Mr TJ Matyesini at (051) 853 1111 during office hours.

Mr T MASUKELA
ACTING MUNICIPAL MANAGER
TSWELOPELE MUNICIPALITY
1 BOSMAN STREET
BULTFONTEIN
9670

Initial here: _____

PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF TSWELOPELE LOCAL MUNICIPALITY					
BID NUMBER:	SCM/TSW/04/2026-2027	CLOSING DATE:	14 December 2026	CLOSING TIME:	12:00
DESCRIPTION	CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG BULTFONTEIN.				

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT *(STREET ADDRESS)*

SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		**OR**	CSD No:	
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	☐Yes ☐No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]	
TOTAL NUMBER OF ITEMS OFFERED			**TOTAL BID PRICE**	**R**	
SIGNATURE OF BIDDER	……		**DATE**		
CAPACITY UNDER WHICH THIS BID IS SIGNED					

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		**TECHNICAL INFORMATION MAY BE DIRECTED TO:**	
DEPARTMENT		CONTACT PERSON	
CONTACT PERSON		TELEPHONE NUMBER	
TELEPHONE NUMBER		FACSIMILE NUMBER	
FACSIMILE NUMBER		E-MAIL ADDRESS	
E-MAIL ADDRESS			

Initial here: _____

PART B
TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.

1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR ONLINE**

1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.

2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.

2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.

2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.

2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.

2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.

2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO

3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO

3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO

3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO

3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ 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 ABOVE.

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

SIGNATURE OF BIDDER: ……

CAPACITY UNDER WHICH THIS BID IS SIGNED: ……

DATE: ……..

Initial here: _____

T1.2 BID DATA

The **Standard Conditions of Bid** makes several references to the bid data for details that apply specifically to this bid. The bid data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of bid.

Clause number	Data
F.1.1 ACTIONS	The Employer is: The Municipal Manager Tswelopele Local Municipality 01 Bosman Street Civic Centre Bultfontein 9670
F.2.1 ELIGIBILITY	Companies that fit all the requirements of this bid as specified.
F.2.7 CLARIFICATION MEETING	*NONE*
F.2.12 ALTERNATIVE TENDER OFFERS	*No alternative bid is to be accepted!*
F.2.13.2 SUBMITTING A TENDER OFFER	The **whole original** bid document, **as issued by the Municipality**, shall be submitted**.** Bids may only be submitted on the Bid documentation issued by the municipality
F.2.14 CLOSING TIME	The closing time for submission of bid offers is: Date: **14 December 2026** Time: **12H00** Telephonic, telegraphic, facsimile or e-mailed bid offers will **not** be accepted.
F.2.15 TENDER OFFER VALIDITY	1. The employer will have up to 90 days (working days) from the closing date within which to consider submitted bids. 2. The successful bidder will have up to 10 days to respond to the service offer.

Clause number	Data
F.1.9 INSPECTIONS, TESTS AND ANALYSIS	Access should be provided to the municipality for the inspection of the tenderer's offices if required.
F.1.10 CERTIFICATES AND ATTACHMENTS	The bidder is required to attach the following **Valid documents** to the tender document: **Please Note: All Parties in a Joint Venture are Required to Submit the Required Documents, Certified copies of previously certified documents will be regarded as invalid.** a. A valid Tax status Pin issued by the South African Revenue Services. All parties in the Joint Ventures (JV's) must also attach a valid Tax Status Pin issued by the South African Revenue Services. b. CIDB Grading- 6CE or Higher c. Certified copies of Company founding statement (CK); d. Joint venture agreement signed by both parties clearly indicating the lead partner of the joint venture; (if tenderer is a joint venture) e. A compliant status with the Central Supplier Database drawn from the National Department of National Treasury website; f. Active proof of Contractor Registration drawn from the Construction Industry Development Board website should be attached to Returnable Schedule Form B2, g. Evidence (municipal account statement) that the municipal rates and taxes or municipal charges owed by the bidder or any of its directors to the municipality or municipal entity, or to any other municipality or municipal entity, are not in arrears for more than three months, in terms of lease agreement, proof that Municipal charges owed on the premises are not in arrears for more than 90 days must be attached, lease agreement alone will not be accepted. h. Return all fully completed and duly signed bidding documents (MBD), returnable schedules and Contract Data forms, i. Attach latest complete set of Audited Financial Statements (AFS), independently prepared and signed off by a registered Auditor or Accounting officer in good standing with a recognised professional regulatory body (e.g. IRBA, SAICA, or CIPA / relevant statutory professional board) **Note:** Failure to attach the above documents will lead to automatic disqualification from further evaluation

F.1.11 OPENING OF BID SUBMISSIONS	There will be public opening of bids. The Municipality will publicise the tender opening register on the website: www.tswelopele.gov.za after the closing date.
F.1.12 TWO-ENVELOPE SYSTEM	A two-envelope procedure will **not** be followed.
F.1.12 ARITHMETICAL ERRORS	a) Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern. b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the rate shall govern and the line-item total shall be corrected. c) Where there is an error in the total of the prices either as a result of corrections required by this checking process or in the tenderer's addition of
Clause number	**Data**
	prices, the total of the prices shall be adjusted to reflect the arithmetically correct summation of corrected line-item totals. Consider the rejection of a tender offer if the tenderer does not accept the correction of the arithmetical errors in the manner described above.
F.1.13 EVALUATION OF BID OFFERS	The preference procedure for evaluation of responsive bid offers shall be the **80/20**-point preference system. - where 80 points will be allocated in respect of financial offer - 20 points will be allocated towards specific goals - Note: All bids will be evaluated firstly on returnable compliance and functionality before the evaluation on 80/20-point system. - Administrative compliance will not result in automatic disqualification and will be verified in terms of applicable laws, guidance and common practice. Add to F.1.13 The Municipality will perform a risk analysis on the tenderer having the highest ranking / number of points to ascertain if any of the following, as relevant, present an unacceptable commercial risk to the employer: *a) Unduly high or unduly low tendered rates or amounts in the tender offer;* *b) Contract data provided by the employer; or* *c) The contents of the tender returnable which are to be included in the contract.* Risk Analysis In Table below, the percentage deviation of the tendered amount is indicated. The risk to the Municipality increases where rates of tenderer's deviate by more than 10% and less than 10% below average.

<table>
<tr><td></td><td>Too low rates result in cash flow problems to the contractor, slower progress of the works, increased safety risks and reduction in quality of work; but Alternatively, where rates are more than 10% higher than the average tendered rates, the risk to the Municipality increases with regard to a possible increase in project costs when the quantities increase substantially.

The risk involved will be calculated using the below formula, where the numerator is the bidder's price over the denominator of bidder's average price (only those that made it through the functionality stage to the final stage of the evaluation) or the Engineer's estimates.

Risk factor= $\left(\frac{Bid\ price\ per\ tenderer}{Bidders\ Average\ price\ or\ Engineer's\ estimates} - 1\right)$ x 100

<table><tr><td>Critical Sections</td><td></td></tr><tr><td>High Risk, Low Rate</td><td>Deviation < - 10%</td></tr><tr><td>Low Risk, High Rate</td><td>Deviation < -+10%</td></tr></table>
Stage 1: Returnable schedule
Stage 2: Functionality
Stage 3: Calculation of specified Goals (Race, gender, Youth and Disability).</td></tr>
<tr><td>F.1.14
ACCEPTANCE OF BID OFFER</td><td>Bids containing any one or more of the errors or omissions, or bids not having complied with any one of the required bid conditions shall not be considered and shall automatically be rejected. Administrative and arithmetic errors will be dealt with as documented in F.2.11 and F.3.9</td></tr>
<tr><td>F.1.15
PROVIDE COPIES OF THE CONTRACTS</td><td>The number of paper copies of the signed contract to be provided by Tswelopele Municipality is one.</td></tr>
<tr><td>ADDITIONAL CONDITIONS
APPLICABLE TO THIS BID</td><td>The additional conditions of bid are:
1 The Employer may also request that the bidder provide written evidence on the adequacy of financial, labour and other resources for carrying out the contract.
2 The Municipal shall confirm validity of all functionality documents attached with relevant person indicated, we may require Previous Purchase Orders or previous payments from the reference contact person indicated in the returnable claiming functionality points. It will take 3 attempts for the Municipality to do so if the committee fails to confirm the validity of the returnable from the reference contact person such returnable will not be awarded a point.
3 The Employer reserves the right to appoint a firm of chartered accountants and auditors and/or execute any other financial investigations on the financial resources of any bidder. The bidder shall provide all reasonable assistance in such investigations.
4 The bidder shall be required to complete the Form of Offer and Acceptance (C1.1) and Bills of Quantity for all the regions as specified in the tender document.
5 The bid document shall be submitted as a whole and not in parts.</td></tr>
</table>

	6	**List of returnable documents (PART T2) must be completed in full.** (i.e.: A bidder's company profile **will not** be used by the TLM to complete PART T2 on behalf of the bidder) **NB: If PART T2 is not completed in full by the bidder, the offer will be rejected.**

	CLAUSE	(GCC 2025, 4th Edition)	
Special Conditions*		See *Volume 1, Tender Data,*	
Name of the Contractor	1.1.1.9		
Name of Employer	1.1.1.15	**Error! Reference source not found.**	
Name of Employers Agent	1.1.1.16	Makunjani technical Consultants and Project Managers (Pty) Ltd	
The Pricing Strategy is	1.1.1.26	Re-measurement Contract	
Address of the Client	1.2.1.2	**Error! Reference source not found.** ERROR! REFERENCE SOURCE NOT F OUND. **Error! Reference source not found.**	
		Tel. No.	**Error! Reference source not found.**1
Address of the Engineer	1.2.1.2	114 General Dan Pienaar Dan Pienaar Bloemfontein 9301	
		Tel. No.	(051) 430 0525
Address of the Contractor	1.2.1.2		

		Contact	
		Tel. No.	
Commencement of the Contract	5.2.1	14 (Fourteen) days from the appointment date	
The documentation required before commencement of Works execution is:	5.3.1 5.6.1	Health and Safety Plan (Refer to Clause 4.3) Initial programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6) Cash flow projection. Quality assurance plan Concrete mix design	
The time to submit the documentation required before commencement of Works execution is:	5.3.2	7 days for Acceptance Letter 14 days for security and insurance documents 21 days for Signing of the Tender document	
Time for completion**	5.14	_____	
Special non-working days	5.8.1	Sundays and all public holiday as well as yearend breaks	
The Penalty for delay	5.13.1	R 2500 PER CALENDER DAY	
The latent defects period is:	5.16.3	10 years for Civil Works 5 years for Building Works 3 years for Electrical and Mechanical Works	
Amount of Security	6.2.1	**Error! Reference source not found.** of the C ontract Value	
Time within which Security to be Provided	6.2.2	14 (Fourteen) days from the contract appointment date	
Duration of Security*	6.2.3	Until issue of Practical Completion Certificate/Final Certificate	
Interim payments	6.10.1	As may be agreed between parties/ as employer's agent request	
The Percentage advanced on materials not yet build into the Permanent Works is	6.10.1.5	80 (Eighty) %	
Limit of retention money	6.10.3	**Error! Reference source not found.** of c ontract value	
Defects Liability Period	6.10.5	**Error! Reference source not found.**	

Rendering of Contractor's final Payment Certificate	6.10.9	Within 14 (fourteen) days after the date of final approval
Minimum amount of Third Party Insurance	8.6	Contract value
Special Risk Insurance (Political riot insurance) *	8.6.1	Required/~~Not required~~
If required, to be arranged by*	8.6.1	Contractor/~~Client~~
Amount of Special Risk Insurance	8.6.1	Contract Value
Minimum amount of Liability Insurance	8.6.1	R 1,000,000.00 (One Million Rand)
The amount to cover professional fees for repairing damages and loss to be included in the insurance sum	8.6.1.1.3	R 250 000 (Two Hundred and Fifty Thousand Rands)
The limit of indemnity Liability for Insurance	8.6.1.3	R 5,000,000.00 per claim, claims unlimited during construction and defects liability period
The number of Adjudication Board Members to be appointed is	10.5.3	3 (three)
Settlement of disputes to be referred to*	10.7.1	Arbitration Law 1965 (Law No 42/1965) as amended
Period of validity of Tender		**Error! Reference source not found.**

F.1 General

F.1.1 Actions

The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly with openness and transparency.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1. the tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2. these conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions for the calling of expressions of interest, the following definitions apply:

a) Comparative offer means the tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration

b) Corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and

c) Fraudulent practice means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels.

F.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be read, copied and recorded. Writing shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

F.1.5 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.2 Tenderer's obligations

F.2.1 Eligibility

Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his/ her principals, is not under any restriction to do business with the employer.

F.2.2 Cost of tendering

Accept that the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer to satisfy requirements.

It is a term of this bid that the employer is indemnified from any liability arising or accruing from expenses or damages or losses incurred by the bidder including in the event the employer opts to cancel or discontinue the bidding process of this tender.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary, apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing date stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is required to seek adequate cover for covering liability that may ensue during the contract term.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes, Value Added Tax (VAT), and other levies payable to the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.

F.2.10.2 Provide rates and prices that are fixed for the duration of the contract inclusive of applicable projected escalation as provided for in the conditions of contract identified in the contract data and not subject to any further adjustment; payable on a monthly basis.

F.2.10.3 State the rates and prices in South African Rand only.

F.2.10.4 The **municipality has limited resources and bids must be competitive, with market related pricing, as this will be one of the deciding factors in the final award of the contract**

F.2.11 Alterations to documents

Not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements of the tenderer proposes.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

F.2.13 Submitting a tender offer

F.2.13.1 Submit a tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
F.2.13.2 Return all returnable documents to the employer after completing them in their entirety.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English.

F.2.13.4 Sign the original copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state; which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original package marking the package as “ORIGINAL”

F.2.13.6 Seal the original tender offer package in an outer package that states on the outside only the employer‘s address and identification details as stated in the tender data.

F.2.13.7 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and, in the form, required, will be regarded by the employer as non-responsive.

F.2.15 Closing Time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept tender offers submitted by telegraph, facsimile or e-mail.

F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender Offer Validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period.

F.2.16.3 The tender offer validity will be valid for 90 days.

It would be expected of the successful Service Provider to assume duty upon appointment on the date to be determined by the municipality.

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (Or both).

No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), referencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so, instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer's undertakings

F.3.1 Respond to clarification

Respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until seven (7) days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advice tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

a. Complies with the requirements of these Conditions of Tender,

b. Has been properly and fully completed and signed, and

c. Is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

a. Detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,

b. Change the Employer's or the tenderer's risks and responsibilities under the contract,

c. Affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

F.3.9 Arithmetical errors

F.3.9.1 Check responsive tender offers for arithmetical errors, correcting them in the following manner:

a. Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern.

b. If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the rate shall govern and the total shall be corrected.

c. Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the rate shall govern and the tenderer will be asked to revise selected item prices to achieve the tendered total of the prices.

F.3.9.2 Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his/ her arithmetical errors in the manner described in F.3.9.1.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 EVALUATION METHODOLOGY

a. In addition to all items highlighted under Page 2 titled **"Very Important Notice on Disqualifications",** the tenders will be evaluated in terms of the Municipality Supply Chain Management policy, Preferential Procurement Framework Act (Act 5 of 2000) and its regulations as enacted in 2001.
b. Tenders will be evaluated using the 80/20 points allocation system. The total points out of a possible maximum of 100 will be calculated using various formulae to calculate price as well as for preferential procurement.

F.3.13 Acceptance of tender offer

F.3.13.1 Accept tender offer only if the tenderer complies with the legal requirements stated in the Tender Data.

F.3.13.2 Notify the successful tenderer of the employer's acceptance of his/her tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful tenderer as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful tenderers

After the successful tenderer has acknowledged the employer's notice of acceptance, the employer will publicise a list of successful bidders on the municipal website

F.3.14 **Municipality's right to accept or reject any or all Bids**

The municipality reserves the right to:

- Accept or reject any bid;
- Annul the tender process and reject all bids at any time prior to contract award;
- Award the contract to one or more bidders; without thereby incurring any liability to the affected Bidder or bidders.
- Accept one or more bids submissions.
- Reject all bids submitted.
- Request further information from any bidder after the closing date.
- Cancel this bid or any part thereof any time, or
- Award this bid or any part thereof to any one or more bidders.
- Vary the site or number of sites and/or guards due to operational or budgetary requirements.

F.3.15. Prepare contract documents

Revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- **addenda issued during the tender period,**
- **inclusion of the returnable documents,**

- **other revisions agreed between the employer and the successful tenderer, and**
- **the schedule of deviations attached to the form of offer and acceptance, if any.**

F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful tenderer for acceptance within fourteen (14) days after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the tenderer to submit, after acceptance by the employer, shall be included.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

3. List of attachments required for Evaluation Purposes

Please Note: All Parties in a Joint Venture are Required to Submit the Required Documents, Certified copies of previously certified documents will be regarded as invalid.

a. A valid Tax status Pin issued by the South African Revenue Services. All parties in the Joint Ventures (JV's) must also attach a valid Tax Status Pin issued by the South African Revenue Services.
b. CIDB grading- 6CE or Higher
c. Certified copies of Company founding statement (CK);
d. Joint venture agreement signed by both parties clearly indicating the lead partner of the joint venture; (if tenderer is a joint venture)
e. A compliant status with the Central Supplier Database drawn from the National Department of National Treasury website;
f. Active proof of Contractor Registration drawn from the Construction Industry Development Board website should be attached to Returnable Schedule Form B2,
g. Evidence (municipal account statement) that the municipal rates and taxes or municipal charges owed by the bidder or any of its directors to the municipality or municipal entity, or to any other municipality or municipal entity, are not in arrears for more than three months, in terms of lease agreement, proof that Municipal charges owed on the premises are not in arrears for more than 90 days must be attached, lease agreement alone will not be accepted.
h. Return all fully completed and duly signed bidding documents (MBD), returnable schedules and Contract Data forms,
i. Attach latest complete set of Audited Financial Statements (AFS), independently prepared and signed off by a registered Auditor or Accounting officer in good standing with a recognised professional regulatory body (e.g. IRBA, SAICA, or CIPA / relevant statutory professional board)

CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG BULTFONTEIN.

3. EVALUATION METHODOLOGY

Stages of Evaluation

- Guidelines for Evaluation using the Points method

a. Score sheets will be prepared and provided to evaluation committee members to evaluate the bids.
b. The score sheet should contain all the criteria for points as well as the values to be applied for evaluation as indicated in the bid documents.
c. Each evaluation Committee member should after thorough evaluation independently award his / her own value to each individual points.
d. Score sheets should be signed by evaluation committee members and if necessary, written motivation may be requested from evaluation committee members where vast discrepancies in the values awarded for each point exist.
e. If the minimum qualifying score for functionality is indicated as points in the bid documents, the points scored for functionality may be calculated as follows:
i. The scores for each point should be added to obtain the total score; and
ii. The following formula should be used for the total score for functionality:

Ps = Points

Stage 1: Evaluation on functionality

Under functionality, Bidders must achieve a minimum of 60 Points of the total points (rounded to the nearest decimal point) for functionality (quality of service) in order to be considered for further evaluation in stage 2 (Evaluation on Price and Specified Goals).

Evaluation criteria	Max Points	Points Distribution	Typical PoE
Bidders Work Experience **(Form A2** must be clearly and fully completed)	40	Projects above R 10 million, full points as stated below (depending on number of projects completed). 40 points – company with 5 or more projects of similar nature with the value of more than R10 million , including Mass Earthworks, layerworks, Concrete paving, Concrete drift drains and stormeater channels and road markings 20 points – company with 4<5 projects of similar nature to the value of more than R10 million, including Mass Earthworks, layerworks, Concrete paving, Concrete drift drains and stormeater channels and road markings 10 points – company with 1<3 relevant projects completed of similar nature with a value of R10 million including Mass Earthworks, layerworks, Concrete paving, Concrete drift drains and stormeater channels and road markings	1. Appointment Letter or Purchase Order and Reference Letters or signed completion certificate. - The relevant municipal officials will verify the projects to top two bidders by site visits and/or getting confirmation emails from your Clients. If you were sub-contracting, a letter from the main contractor and the client (funding the project) must be submitted
Project Personnel **(Form A3** must be clearly and fully completed)	30	Allocated personnel to this project **Contract's Manager** [B-degree (min). To spend minimum of 30% on site] 15 points: CE project experience of 5 years or more 10 points: CEproject experience of 3 – 4.9 years 5 points: CE project experience of less than 3 years AND **Site Agent** [N. Dip (min). To spend minimum of 100% on site] 15 points: CE project experience of 5 years or more 10 points: CE project experience of 3 – 4.9 years 5 points: CE project experience of less than 3 years	Provide for each: 1. CV 2. Certified qualifications 3. **Form A3** must be clearly and fully completed
Available Equipment **(Form A4** must be clearly and fully completed)	30	Grader: 10 points if owned by bidder, 5 points if leased TLB (Tractor Loader Backhoe) or Excavator: 10 points if owned by bidder, 5 points if leased Tipper truck: 5 points if owned by bidder, 2.5 points if leased Water bowser (8kl or larger): 5 points if owned by bidder, 2.5 points if leased	Proof of ownership by the bidder **OR** A letter of commitment to lease (indicating project details) and Lessor's proof of equipment ownership.
Total Points	**100**	**Minimum points to attain**	**(60%)**

Failure to submit all valid/credible documents will result in the bidder not being further evaluated.

Initial here: _____

Following functionality criteria will be applied:

Stage 2: Evaluation on Price and specified Goals 80/20

2.1 Financial offer and evaluation on price points

- Score Bid evaluation points for financial offer.
- Confirm that Bidders are eligible for the Specific Goals claimed, and if so, score Bid evaluation points for specific Goals.
- Calculate total Bid evaluation points (Price points plus specified goals points)
- Rank Bid offers from the highest number of Bid evaluation points to the lowest.
- The bidder obtaining the highest number of total points will be awarded the contract.
- Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;
- Points scored must be rounded off to the nearest 2 decimal places.
- In the event that two or more bids have scored equal total points, the successful bids must be the one scoring the highest number of preference points for Specific goals Points
- However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for specific Goals, the successful bid must be the one scoring the highest score for functionality.
- Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

2.2 Price formula

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Where:

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

2.3 Scoring for Specific Goals

Bids will be evaluated in accordance with the prescripts of the Preferential Procurement Policy Framework Act (PPPFA) and the associated Preferential Procurement Regulations of 2022, which stipulate a 80/20 preference point system for acquisition of goods or services for Rand value equal to or above R30 000 and up to R50 million.

Points for the specific goals for contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race:

Black-owned	Number of points on 80/20 points system	Number of points on 90/10 points system	Required Proof
51-100%Black-owned enterprise	8	3	CSD Report and ID Copy
41-50% Black-owned enterprise	6	2	CSD Report and ID Copy
31-40%Black-owned enterprise	4	1	CSD Report and ID Copy
21-30% Black-owned enterprise	2	0	CSD Report and ID Copy
0-20% Black-owned enterprise	1	0	CSD Report and ID Copy

Points for the specific goals for contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of gender:

Women-owned	Number of points on 80/20 points system	Number of points on 90/10 points system	Required Proof
51-100% Women-owned enterprise	4	3	CSD Report and ID Copy
31-50% Women-owned enterprise	3	1	CSD Report and ID Copy
11-30% Women-owned enterprise	2	1	CSD Report and ID Copy
1-10% Women-owned enterprise	1	1	CSD Report and ID Copy

Initial here: _____

Points for the specific goals for contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of disability:

Disability-owned	Number of points on 80/20 points system	Number of points on 90/10 points system	Required Proof
51-100% Disabled-owned enterprise	4	2	ID Copy, CSD Report and medical certificate
31-50% Disabled-owned enterprise	3	1	ID Copy, CSD Report and medical certificate
11-30% Disabled-owned enterprise	2	1	ID Copy, CSD Report and medical certificate
1-10% Disabled-owned enterprise	1	0	ID Copy, CSD Report and medical certificate

Points for the specific goals for contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of youth:

Youth-owned	Number of points on 80/20 points system	Number of points on 90/10 points system	Required Proof
51-100% Youth-owned enterprise	4	2	CSD Report and ID Copy
31-50% Youth-owned enterprise	3	1	CSD Report and ID Copy
11-30% Youth-owned enterprise	2	1	CSD Report and ID Copy
1-10% Youth-owned enterprise	0	0	CSD Report and ID Copy

PART T2 LIST OF RETURNABLE DOCUMENTS

The bidder must complete the following returnable documents.

T2.1 RETURNABLE SCHEDULES REQUIRED FOR BID EVALUATION PURPOSES .....

T2.2 OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES .....

T2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT.....

T2.4 OTHER DOCUMENTS THAT WILL BE INCLUDED IN THE CONTRACT .....

T2.5 OFFER AND ACCEPTANCE (INCLUDED IN PART C1: AGREEMENT AND CONTRACT DATA) ……..

T2.6 CONTRACT DATA (PART 2) DATA PROVIDED BY THE CONTRACTOR (INCLUDED IN PART C1: AGREEMENT AND CONTRACT DATA)

T2.7 BILL OF QUANTITIES (INCLUDED IN PART C2: PRICING DATA)

NOTE:

Although the documents under Part T2 is headed “Returnable Documents” in line with the CIDB model, these are not the only documents to be returned together with the bid. **All** the documents indicated on Part T1 must be completed and signed where applicable and submitted as a **complete set of documents**.

T2.1 RETURNABLE SCHEDULES REQUIRED FOR BID EVALUATION PURPOSES

CONTENTS

FORM A1: AUTHORITY FOR SIGNATORY

FORM A2: SCHEDULE OF PREVIOUS WORK CARRIED OUT BY BIDDER

FORM A3: PROPOSED KEY PERSONNEL

FORM A4: SCHEDULE OF CONSTRUCTIONAL PLANT

FORM A5: SCHEDULE OF PROPOSED SUB-CONTRACTORS

FORM A6: FINANCIAL REFERENCES

FORM A7: SCHEDULE OF CURRENT COMMITMENTS

FORM A8 ESTIMATED MONTHLY EXPENDITURE

FORM A9 PROPOSED DEVIATIONS AND QUALIFICATIONS BY BIDDER

FORM A10 CERTIFICATE OF INSURANCE COVER

FORM A11 PRELIMINARY CONSTRUCTION PROGRAMME

FORM A12 RETURNABLE DOCUMENT CHECKLIST

FORM A1 AUTHORITY FOR SIGNATORY

Status of concern submitting tender (delete whichever is not applicable.)

COMPANY /PARTNERSHIP /ONE-PERSON BUSINESS / CLOSE CORPORATION/ JOINT VENTURE

A. COMPANIES

If the bidder is a company, a certified copy of the resolution of the Board of Directors, personally signed by the chairperson of the board, authorizing the person to signs this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid or contract on behalf of the company must be submitted with this Bid.

An example is shown below:

By resolution of the board of Directors on ……20…., Mr. / Ms …….has been duly authorized to sign all documents in connection with BID NO. ……

SIGNED ON BEHALF OF THE COMPANY: …….

IN HIS CAPACITY AS: …….

DATE: ……

SIGNATURE OF SIGNATORY…….

WITNESSES: 1. ……

2. …….
…..…..…..…

B. PARTNERSHIP

The following particulars in respect of every partner must be furnished and signed by every partner:

Full name of partner	Residential address	Signature
……..	…….. ……..	
……..	…….. ……..	
……..	…….. ……..	

We, the undersigned partners in the business trading as…….

Hereby authorize …… to sign this bid as well s any contract resulting from the bid and any other documents and correspondence in connection with this bid / or contract on our behalf.

……	……. ……..	
Signature	Signature	Signature
……	……. ……..	
Date	Date	Date

C. ONE-PERSON BUSINESS

I, the undersign …….hereby confirm that I am the sole owner of the business

trading as …….

…….. ……

Signature date

D. CLOSE CORPORATION

If the case of a close corporation submitting a bid, a certified copy of the founding Statement of such corporation shall be included with the Bid, together with a resolution by its members authorizing a member or other official of the corporation to sign the documents and correspondence in connection with this bid or contract on behalf of the company must be submitted with this Bid.

An example is shown below:

By resolution of the members at the meeting on the ……..20…….at ……Mr. / Ms ……whose signature appear below, has been duly authorized to sign all documents in connection with BID NO. ……

SIGNED ON BEHALF OF THE CLOSE CORPORATION:
……..

IN HIS / HER CAPACITY AS……

DATE: ……

SIGNATURE OF SIGNATORY…….

WITNESSES: 1. ……...

2.…….

E. JOINT VENTURE

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr./Ms.

……..., authorised signatory of the company…… …..., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead Partner: …… CIDB Registration ……		Signature…….…… Name……..... Designation……
Firm 1: …… CIDB Registration ……		Signature…….…… Name……..... Designation……
Firm 2: …… CIDB Registration		Signature…….…… Name……..... Designation……

……		Designation……
Firm 3: …… CIDB Registration ……		Signature…… Name……..... Designation……
Firm 3: …… CIDB Registration ……		Signature…… Name……..... Designation……

FORM A2 SCHEDULE OF WORK CARRIED OUT BY TENDERER

The Tenderer shall list below the last three or more civil engineering contracts of a similar nature awarded to him. This information is material to the award of the Contract.

EMPLOYER (Name, tel no)	**CONSULTING ENGINEER** (Name, tel no)	**NATURE OF WORK**	**VALUE OF WORK**	**YEAR OF COMPLETION**

SIGNED ON BEHALF OF TENDERER: .....

FORM A3 PROPOSED KEY PERSONNEL

The Tenderer shall list below the key personnel (including first nominee and the second-choice alternate), whom he proposes to employ on the Contract should his tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their certified qualifications, experience (CV), positions held and their nationalities.

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
HEADQUARTERS Partner/Director Project manager		

Other key staff (give designation)		

SIGNED ON BEHALF OF TENDERER: .....

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
<u>SITE OFFICE</u> Contracts Manager Site Engineer/Agent Site Supervisor		

Construction Foreman (give designation) Other key staff (give designation)		

SIGNED ON BEHALF OF TENDERER: .....

FORM A4 SCHEDULE OF CONSTRUCTIONAL PLANT

The Tenderer shall state below what Constructional Plant will be available for the work should he be awarded the Contract. The Contractor should attach to his offer proof of ownership of plant or lease agreement of such plant to be allocated to this Contract. The Lessor of the plant must provide proof of ownership of the plant to be allocated to this Contract.

DESCRIPTION, SIZE, CAPACITY	NUMBER	OWNED / HIRED

SIGNED ON BEHALF OF TENDERER: .....

DESCRIPTION, SIZE, CAPACITY	NUMBER	OWNED / HIRED

SIGNED ON BEHALF OF TENDERER: .....

FORM A5 SCHEDULE OF PROPOSED SUBCONTRACTORS

The Tenderer shall, in accordance with the provisions of Conditions of Tender, list below the subcontractors he proposes to employ for part(s) of the work.

I/We hereby confirm that the works outlined in the schedule below together with the values assigned have been designated as Sub-Contracting for work in the contract. The works below will be executed by Sub-Contractors procured in line with conditions set out below:

i. An EME or QSE.

ii. An EME or QSE which is at least 51% black owned by black people;

iii. An EME of QSE which is at least 51% owned by black people who are youth;
iv. An EME of QSE which is at least 51% owned by black people who are women;

v. An EME of QSE which is at least 51% owned by black people with disabilities;

vi. An EME of QSE which is at least 51% owned by black people living in rural or

2. Underdeveloped areas or townships;

i. A co-operative which is at least 51% owned by black people;

ii. An EME of QSE which is at least 51% owned by black people who are military veterans;

iii. More than one of the categories referred to above.

NB: Tenderers not agreeing or accepting the conditions contained herein will be deemed an unacceptable tender and accordingly eliminated.

Subcontractors must be chosen from the local community through the Tswelopele Local Municipality Database. All subcontractors must be registered on National Treasury's Central Supplier Database which can be accessed on National Treasury's website.

The successful contractor must submit periodic reports to the Project Engineer as follows:

- Name of sub-contractor and BBBEE status
- Area and location of project
- Scope of work issued to the sub-contractor
- Value of the work issued (auditable)
- Assistance provided to the sub-contractor e.g. acquisition of materials, machinery and tools
- Performance of the sub-contractor

Upon completion of the project, the contractor is required to provide a final report to JW on skills acquired, description and value of work performed as well as their overall performance.

(The above information will assist the sub-contractor to improve their CIDB grading)

Skills transfer

It is an absolute requirement that the successful tenderer empowers the appointed sub-contractor through the transfer of skills. In this regard a skills-transfer plan must be submitted prior to commencement of the project.

This tender is subjected to the following Conditions in addition to any other conditions stipulated and made part of this tender as described hereunder. By signing this document, the tenderer agrees to comply with all conditions hereunder in the event of being successful.

TYPE OF WORK TO BE SUBCONTRACTED	TYPE OF DISCIPLINE	VALUE OF SUBCONTRACTOR WORK (EXCLUDING VAT)

TOTAL VALUE (EXCLUDING VAT)		

FORM A6 FINANCIAL REFERENCES

Financial Statements

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report/confirmation for consideration by the Employer.

Details of Company's Bank Rating (To be completed by bank):

DESCRIPTION OF BANK DETAIL	**BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE**
Name of bank	
Branch name	
Branch code	
Street address	
Postal address	
Telephone number	
Fax number	
Account number	
Bank Rating Level	

ATTACH BANK RATING LETTER AND BANK CONFIRMATION LETTER ON THE BANK'S LETTERHEAD WITH STAMP

SIGNED ON BEHALF OF TENDERER: .....

FORM A7 SCHEDULE OF CURRENT COMMITMENTS

Notes to Tenderer:

1. **The Tenderer shall list below all Contracts currently under construction or awarded and about to commence and tenders for which offers have been submitted but awards not yet made.**
2. **In the event of a joint venture enterprise, details of all the members of the joint venture shall similarly be attached to this form.**
3. **The lists must be restricted to not more than 20 Contracts and 20 Tenders. If a tenderer's actual commitments or potential commitments are greater than 20 each, those listed should be in descending order of expected final contract value or sum tendered.**

Table 1 Contracts awarded				
Employer	Project	Expected total value of contract (incl. VAT)	Duration (Months)	Expected completion date

Table 2 TENDERS NOT YET AWARDED				
Employer	Project	Sum Tendered (incl. VAT)	Tendered Duration (Months)	Expected commencement

Initial here: _____

SIGNED ON BEHALF OF TENDERER: .....

FORM A8 ESTIMATED MONTHLY EXPENDITURE

The Tenderer shall state below the estimated value of work to be completed every month, based on his preliminary programme and his tendered unit rates.

The amounts for contingencies must not be included.

MONTH	VALUE
1	R .....
2	R .....
3	R .....
4	R .....
5	R .....
6	R .....
7	R .....
8	R .....
9	R .....
10	R .....
11	R .....
12	R .....
13	R .....
14	R .....
15	R .....
16	R .....
17	R .....
18	R .....

	COMPLETION OF CONTRACT
TOTAL	R .....

SIGNED ON BEHALF OF TENDERER: .....

FORM A9 PROPOSED DEVIATIONS AND QUALIFICATIONS BY TENDERER

The Tenderer should record any **proposed** deviations or qualifications he may wish to make to the Tender Documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause C.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications.

If no deviations or modifications are desired, the schedule hereunder is to be marked **NIL** and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	DESCRIPTION

SIGNED ON BEHALF OF TENDERER: .....

FORM A10 CERTIFICATE OF INSURANCE COVER

Note to Tenderer:

In the event of the Tenderer being a joint venture/consortium, the details of the individual members must also be provided.

The Tenderer shall provide the following details of this insurance cover:

(i) Name of Tenderer: .....

(ii) Period of Validity: .....

(iii) Value of Insurance:

- Insurance for Works and Contractor's equipment

  Company: .....

  Value: .....

- Insurance for Contractor's personnel

  Company: .....

  Value: .....

- General public liability

  Company: .....

  Value: .....

Initial here: _____

- SASRIA

  Company: .....

  Value: .....

SIGNED ON BEHALF OF TENDERER: .....

FORM A11 PRELIMINARY CONSTRUCTION PROGRAMME

Note to Tenderer:

If a tenderer wishes to submit an alternative tender then this form, appropriately completed, shall be attached to the Pricing Schedule for the alternative proposal.

The Tenderer shall attach a preliminary programme, to this Form.

This programme shall:

- be in the form of a bar chart (Gantt chart) or similar acceptable time/activity form reflecting the proposed sequence and tempo of execution of the various activities and the quantities that will be carried out every week under each of the elements, comprising the work for this contract;
- also indicate the point where the Tenderer intends to commence work operations and the direction in which the work will proceed;
- be in accordance with the information provided in Form A4: Schedule of Constructional Plant, Form A8: Estimated monthly expenditure, and with all other aspects of the Tender; and
- indicate planned working hours.

Details of the preliminary programme shall be appended to this Form.

Number of sheets, appended by the Tenderer to this Form ..... *[If NIL, enter NIL]*

SIGNED ON BEHALF OF TENDERER: .....

FORM A12 RETURNABLE DOCUMENT CHECKLIST

This form has been created as an aid to ensure a tenderer's compliance with the completion of the returnable schedules.

Reference No	Document Description	Tick if completed
Form A1	Authority for signatory	
Form A2	Schedule of work carried out by Tenderer	
Form A3	Proposed key personnel	
Form A4	Schedule of constructional plant	
Form A5	Schedule of proposed subcontractors	
Form A6	Financial references	
Form A7	Schedule of current commitments	
Form A8	Estimated monthly expenditure	
Form A9	Proposed deviations and qualifications by Tenderer	
Form A10	Certificate of insurance cover	
Form A11	Preliminary construction programme (for information purposes only)	
Form A12	Returnable document checklist	
Form B1	Certificate of Tenderer's attendance at the Site/Clarification meeting	
Form B2	Proof of registration with Construction Industry Development Board	
Form B3	Form concerning fulfilment of the Construction Regulations, 2014	
Form B4	Record of Addenda of Tender Documents	
Form B5	Letter of Intent to provide a Performance Guarantee	
Form C1	Declaration That Information on Central Supplier Database Is Correct and up to date	
Form C2	Compulsory Enterprise Questionnaire	

Initial here: _____

Form C3	Tax clearance certificate requirements and application form (MBD 2)	
	Declaration of Interest (MBD 4)	
Form C5	Preferencing Schedules: Preference points claim form in terms of Preferential Procurement Regulations, 2022 (MBD 6.1)	
Form C6	Local Content in terms of PPR 2017 (MBD 6.2)	
Form C7	Contract form - purchase of goods/works (MBD 7.1)	
Form C8	Declaration of Bidder's Past Supply Chain Management Practices (MBD 8)	
Form C9	Certificate of Independent Bid Determination (MBD 9)	
Form C10	Protection of Personal Information	
Form C1.1	Form of Offer	
Form C2.2	Bills of Quantities	

T2.2 OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES

CONTENTS

FORM B1: PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

FORM B2: FORM CONCERNING FULFILMENT OF THE CONSTRUCTION REGULATIONS, 2014

FORM B3: RECORD OF ADDENDA TO TENDER DOCUMENTS

FORM B4: LETTER OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE

FORM B1 PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

The Tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.CIDB.org.za). In the case of a joint venture, a printed copy of the Active Contractor's listing must be provided for each member of the joint venture.

Name of Contractor: .....

Contractor Grading Designation: .....

CIDB Contractor Registration Number: .....

SIGNED ON BEHALF OF THE TENDERER: .....

FORM B2 FORM CONCERNING FULFILMENT OF THE CONSTRUCTION REGULATIONS, 2014

In terms of Regulation 5(1)(h) of the Construction Regulations, 2014 (hereinafter referred to as the Regulations), promulgated on 7 February 2014 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), the Employer shall not appoint a Contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her Tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

1 I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations. (Tick)

YES	
NO	

2 Proposed approach to achieve compliance with the Regulations (Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) - specify:	

3 Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the Contract team as specified in the Regulations (CVs to be attached):

.....

.....

.....

.....

.....

.....

4 Provide details of proposed training (if any) that will be undergone:

.....

.....

.....

.....

.....

.....

.....

5 Potential key risks identified and measures for addressing risks:

.....

.....

.....

.....

.....

.....

.....

6 I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period.(Tick)

YES	
NO	

7 The Tenderer shall attach to this Form evidence that he is registered and in good standing with a compensation insurer who is approved by Department of Labour in terms of section 80 of the Compensation for Injury and Disease Act, 1993 (Act No 130 of 1993)(COID).

The Tenderer is required to disclose, by also attaching documentary evidence to this form, all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the Tenderer at any time during the 36 months preceding the date of this Tender.

SIGNATURE OF PERSON(S) AUTHORISED TO SIGN THIS TENDER:

1 ..... ID NO: .....

2 ..... ID NO: .....

3 ..... ID NO: .....

FORM B3 RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications issued by the Employer before the submission of this Tender offer, amending the Tender Documents, have been taken into account in this Tender offer:

	Date	Title or details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attach additional pages if more space is required.

Signed: ..... Date: .....

Name: ..... Position: .....

SIGNED ON BEHALF OF TENDERER: .....

Initial here: _____

FORM B4 LETTER OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE

It is hereby agreed that a Performance Guarantee drafted exactly as set out in the attached examples (See Section C1.3: Form of Guarantee) will be provided by the Surety named below:

Name of Surety (Bank or Insurer) _____

Address: _____

_____

_____

Signed: _____

Name: _____

Capacity: _____

On behalf of Tenderer (name of tenderer) _____

Date: _____

CONFIRMED BY Surety's Authorised representative

Signature(s): _____

Name (print): _____

Capacity _____

On behalf of Surety (Bank or Insurer) _____

Date: _____

T2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT

FORM C1: DECLARATION THAT INFORMATION ON CENTRAL SUPPLIER DATABASE IS CORRECT AND UP TO DATE

FORM C2: COMPULSORY ENTERPRISE QUESTIONNAIRE

FORM C3: TAX CLEARANCE CERTIFICATE REQUIREMENTS AND APPLICATION FORM (MBD 2)
FORM C4: DECLARATION OF INTEREST (MBD 4)

FORM C5: PREFERENCING SCHEDULES: PREFERENCE POINTS CLAIM FORM IN TERMS OF PREFERENTIAL PROCUREMENT REGULATIONS, 2022 (MBD 6.1))

FORM C6: LOCAL CONTENT IN TERMS OF PPR 2017 (MBD 6.2)

FORM C7: CONTRACT FORM - PURCHASE OF GOODS/WORKS (MBD 7.1)

FORM C8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (MBD 8)

FORM C9: CERTIFICATE OF INDEPENDENT BID DETERMINATION (MBD 9)

FORM C10: PROTECTION OF PERSONAL INFORMATION

FORM C1 DECLARATION THAT INFORMATION ON CENTRAL SUPPLIER DATABASE IS CORRECT AND UP TO DATE

THIS IS TO CERTIFY THAT I (name of bidder / authorized representative)……

……....., WHO REPRESENTS (state name of bidder)……...

…….....

AM AWARE OF THE CONTENTS OF THE CENTRAL SUPPLIER'S DATABASE WITH RESPECT TO THE BIDDER'S DETAILS AND REGISTRATION INFORMATION, AND THAT THE SAID INFORMATION IS CORRECT AND UP TO DATE AS ON THE DATE OF SUBMITTING THIS QUOTATION/BID.

AND I AM AWARE THAT INCORRECT OR OUTDATED INFORMATION MAY BE A CAUSE FOR DISQUALIFICATION OF THIS QUOTATION/BID FROM THE BIDDING PROCESS, AND/OR POSSIBLE CANCELLATION OF THE CONTRACT THAT MAY BE AWARDED ON THE BASIS OF THIS BID.

……..
NAME OF BIDDER

.....
SIGNATURE OF BIDDER OR AUTHORISED REPRESENTATIVE

DATE:.....

FORM C2 COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise: .....

Section 2: VAT registration number, if any: .....

Section 3: CIDB registration number, if any: .....

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number: .....

Close corporation number: .....

Tax reference number: .....

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□ a member of any municipal council □ a member of any provincial legislature □ a member of the National Assembly or the National Council of Province □ a member of the board of directors of any municipal entity □ an official of any municipality or municipal entity	□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) □ a member of an accounting authority of any national or provincial public entity □ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

*

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent or a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□ a member of any municipal council □ a member of any provincial legislature □ a member of the National Assembly or the National Council of Province □ a member of the board of directors of any municipal entity □ an official of any municipality or municipal entity		□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) □ a member of an accounting authority of any national or provincial public entity □ an employee of Parliament or a provincial legislature

*

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

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

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

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

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

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

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

Signed: ..... Date: .....

Name: ..... Position: .....

Enterprise name: .....

FORM C3 TAX CLEARANCE CERTIFICATE REQUIREMENTS AND APPLICATION FORM

MBD 2

TAX CLEARANCE CERTIFICATE REQUIREMENTS AND APPLICATION FORM

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Services (SARS) to meet the bidder's tax obligations.

1. In order to meet this requirement, bidders are required to complete in full the TCC 0001 form, "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally or on the website www.sars.gov.za. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.

2. Applications for the Tax Clearance Certificates may also be made via e-Filing. In order to use this provision, taxpayers will need to register with SARS as e-Filers through the website www.sars.gov.za

3. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.

4. In bids where Consortia / Joint Ventures / Sub-Contractors are involved, each party must submit a separate Tax Clearance Certificate.

5. Tax Compliance Status (TCS) Pin as of 18 April 2016

a. In terms of the new Tax Compliance Status System implemented by SARS on 18 April 2016, taxpayers are now able to issue the municipality with a TCS Pin which can be used to verify a bidder's tax status online via SARS E-filing.
b. The taxpayer must issue the municipality with the following:

Bidders who are not in possession of an original Tax Clearance Certificate must provide at least 2 ofthe 3 numbers listed below in order to verify the Tax Clearance Certificate via SARS e-filing.

1. Tax Reference Number	
2. Tax Compliance Status Pin	
3. Tax Clearance Certificate Number:	

c. If a bidder is registered on the Tswelopele Local Municipality Supplier's Database and the Municipality is already in possession of an original tax clearance certificate which is valid on closing date of bid, it MUST be indicated as such on this page, whereby the attaching of a new tax clearance certificate to this page will not be needed.

6. Should a Tax Clearance Certificate not be verifiable on the SARS e-filing system, the bidder will be afforded an opportunity to submit a valid, verifiable Tax Clearance Certificate. It will result in the invalidation of the bid, should the bidder fail to provide a valid, verifiable Tax Clearance Certificate.

FORM C4 DECLARATION OF INTEREST

MBD 4

DECLARATION OF INTEREST

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

3.9 3.9.1	Have you been in the service of the state for the past twelve months? If so, furnish particulars. …….. ……..	**YES / NO**
3.10 3.10.1	Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? If yes, furnish the following particulars: Name of person: …….. Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …….. Any other particulars: …… ……..	**YES / NO**
3.11 3.11.1	Are you aware of any relationship (family, friend, other) between the bidder and any person in the service of the state who may be involved with the evaluation and or adjudication of this bid? If yes, furnish the following particulars: Name of person: …….. Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: …… …….....	**YES / NO**
3.12 3.12.1	Are any of the company's directors, managers, principal shareholders or stakeholders in the service of the state? If yes, furnish the following particulars: Name of person / director / trustee / shareholder / member: ……	**YES / NO**

	Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: ……. ……..……	
3.13 3.13.1	Is any spouse, child or parent of the company's directors, trustees, managers, principal shareholders or stakeholders in the service of the state? If yes, furnish the following particulars: Name of person / director / trustee / shareholder / member: …… Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: ……. ……..	**YES / NO**
3.14 3.14.1	Do you or any of the directors, trustees, managers, principal shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? If yes, furnish particulars: …….. ……..	**YES / NO**

4. Full details of directors / trustees / members / shareholders:

THE FOLLOWING INFORMATION IS <u>COMPULSORY</u> TO COMPLETE:

Full Name	Identity Number	Individual Tax Number for each Director	State Employee Number (where applicable)

5.	**The contract will be automatically cancelled if there is a conflict of interest which is not disclosed by the bidder.**

Initial here: _____

……..	……..……..
Signature	Date
……	…….
Capacity	Name of Bidder

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

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

FORM C5 PREFERENCING SCHEDULES: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

MBD 6.1

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

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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
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

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

a) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

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	POINTS
PRICE	80	90
SPECIFIC GOALS	20	10
TOTAL POINTS	**100**	**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, 2022

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Were

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

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

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

80/20 **or** **90/10**

$$Ps = 80\left(1 + \frac{Pt - P\,max}{P\,max}\right) \quad \text{or} \quad Ps = 90\left(1 + \frac{Pt - P\,max}{P\,max}\right)$$

Were

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

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Tswelopele Local Municipality Preferential Procurement Policy, 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 or 90/10 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 or 90/10 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 in the tender document. (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.)

4.3 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)

DATE ……..

ADDRESS:
……

WITNESSES

1. …….

2. ……..

FORM C7: CONTRACT FORM - PURCHASE OF GOODS/WORKS

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution) …….. in accordance with the requirements and specifications stipulated in bid number…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Technical Specification(s);
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
   - Declaration of interest;
   - Declaration of bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) ……

CAPACITY ……

SIGNATURE ……

NAME OF FIRM ……

DATE ……

WITNESSES

1 ……

Initial here: _____

CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as……..…. accept your bid under reference number ……dated……for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming.

3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

ITEM NO.	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	B-BBEE STATUS LEVEL OF CONTRIBUTION	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT ……ON……

NAME (PRINT) …….

SIGNATURE …….

OFFICIAL STAMP

WITNESSES

1. ……

2.

FORM C8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 This Municipal Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any bidder may be rejected if that bidder, or any of its directors have:

a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
b. been convicted for fraud or corruption during the past five years;
c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2015).

4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	**Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?** **(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the *audi alteram partem* rule was applied).** The Database of Restricted Suppliers now resides on the National Treasury's website(**www.treasury.gov.za**) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2015)? **The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

Item	Question	Yes	No
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) .....
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

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

..... **.....**
Signature **Date**

..... **.....**
Position **Name of Bidder**

FORM C9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Municipal Bidding Document (MBD) must form part of all bids[1] invited.

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a pe se prohibition meaning that it cannot be justified under any grounds.

3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

a. takes all reasonable steps to prevent such abuse;

b. rejects the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and

c. cancels a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

__SCM/TSW/23/2025-2026__ CONSTRUCTION OF 2KM OF PAVED ROAD STORMWTER DRAINAGE IN PHAHAMENG (BULTFONTEIN)

(Bid Number and Description)

in response to the invitation for the bid made by:

Tswelopele Local Municipality

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:

    (a) has been requested to submit a bid in response to this bid invitation;
    (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
    (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium[3] will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation);
    (c) methods, factors or formulas used to calculate prices;
    (d) the intention or decision to submit or not to submit, a bid;
    (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
    (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

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

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2015 or any other applicable legislation.

.....	.....
Signature	Date
.....	.....
Position	Name of Bidder

FORM C10: PROTECTION OF PERSONAL INFORMATION

PROTECTION OF PERSONAL INFORMATION

1. The following terms shall bear the same meaning as contemplated in Section 1 of the Protection of Personal information act, No.4 of 2013. ("POPIA"):
   Consent; data subject; electronic communication; information officer; operator; person; personal information; processing; record; Regulator; responsible party; special information; as well as any terms derived from these terms.

2. Tswelopele Local Municipality or its representative will process all information by the Respondent in terms of the requirements contemplated in Section4(1) of the POPIA:
   Accountability; Processing limitation; Purpose specification; Further processing limitation; Information quality;Openness; Security safeguards and Data subject participation.

3. The Parties acknowledge and agree that, in relation to personal information that will be processed pursuant tothis BID, the Responsible party is "Tswelopele Local Municipality" and the Data subject is the "Respondent". Tswelopele Local Municipality will process personal information only with the knowledge and authorisation of the Respondent and will treat personal information which comes to its knowledge as confidential and will not disclose it, unless so required by law or subject to the exceptions contained in the POPIA.

4. Tswelopele Local Municipality reserves all the rights afforded to it by the POPIA in the processing of any of its information as contained in this BID and the Respondent is required to comply with all prescripts as detailed in the POPIArelating to all information concerning Tswelopele Local Municipality.

5. In responding to this bid, Tswelopele Local Municipality acknowledges that it will obtain and have access to personal information of the Respondent. Tswelopele Local Municipality agrees that it shall only process the information disclosed by Respondent in their response to this bid for the purpose of evaluating and subsequent award of business and in accordance with anyapplicable law.

6. Tswelopele Local Municipality further agrees that in submitting any information or documentation requested in this BID, the Respondent is consenting to the further processing of their personal information for the purpose of, but not limited to, risk assessment, assurances, contract award, contract management, auditing, legal opinions/litigations, investigations (if applicable), document storage for the legislatively required period, destruction, de-identification and publishing of personal information by Tswelopele Local Municipality and/or its authorised appointed third parties.

7. Furthermore, Tswelopele Local Municipality will not otherwise modify, amend or alter any personal data submitted by the Respondent or disclose or permit the disclosure of any personal data to any third party without the prior writtenconsent from the Respondent. Similarly, Tswelopele Local Municipality requires the Respondent to process any personal informationdisclosed by Tswelopele Local Municipality in the bidding process in the same manner.

8. Tswelopele Local Municipality shall, at all times, ensure compliance with any applicable laws put in place and maintain sufficient measures, policies and systems to manage and secure against all forms of risks to any information that may beshared or accessed pursuant to this BID (physically, through a computer or any other form of electronic communication).

9. Tswelopele Local Municipality shall notify the Respondent in writing of any unauthorised access to information, cybercrimes or suspected cybercrimes, in its knowledge and report such crimes or suspected crimes to the relevant authorities in accordance with applicable laws, after becoming aware of such crimes or suspected crime. The Respondent must take all necessary remedial steps to mitigate the extent of the loss or compromise of personal information and to restore the integrity of the affected personal information as quickly as is possible.

10. The Respondent may, in writing, request Tswelopele Local Municipality to confirm and/or make available any personal information in its possession in relation to the Respondent and if such personal information has been accessed by third parties and the identity thereof in terms of the POPIA. The Respondent may further request that Tswelopele Local Municipality correct (excluding critical/mandatory or evaluation information), delete, destroy, withdraw consent or object to the processing of any personal information relating to the Respondent in Tswelopele Local Municipality's possession in terms of the provision of the POPIA and utilizing Form 2 of the POPIA Regulations.

11. In submitting any information or documentation requested in this BID, the Respondent is hereby consenting to the processing of their personal information for the purpose of this BID and further confirming that they are aware of their rights in terms of Section 5 of POPIA

Respondents are required to provide consent below:

YES			**NO**	

12. Further, the Respondent declares that they have obtained all consents pertaining to other data subject's personal information included in its submission and thereby indemnifying Tswelopele Local Municipality against any civil or criminal action, administrative fines or other penalty or loss that may arise as a result of the processing of any personal information that the Respondent submitted.

13. The Respondent declares that the personal information submitted for the purpose of this BID is complete, accurate, not misleading, is up to date and may be updated where applicable.

Signature of Respondent's authorised representative: _____

Should a Respondent have any complaints or objections to processing of its personal information, by Tswelopele Local Municipality, the Respondent can submit a complaint to the Information Regulator on https://www.justice.gov.za/inforeg/, click on contact us, click on complaints.IR@justice.gov.za

TSWELOPELE
LOCAL MUNICIPALITY
A MUNICIPALITY IN PROGRESS

PART C1 PRICING DATA

C1.1 PRICING INSTRUCTIONS

C1.2 SCOPE OF WORKS AND PROJECT LOCATION

C1.3 BILL OF QUANTITIES

C1.1 PRICING INSTRUCTIONS

1 The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.

2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out.

Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.

3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Company submitted on such a basis. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail.

4 Unless stated to the contrary, items are measured net in accordance with the sites without any allowance having been made for waste.

5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the provision of Security services in identified sites, and shall cover the costs of all

general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Bid is based.

6 The quantities set out in the schedule of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the schedule of quantities, will be used to determine payments to the contractor.

7 An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

The Bidder shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the stated rates shall apply should work under these items actually be required.

Should the Bidder group a number of items together and bid one sum for such group of items, the single stated sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

The stated rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

Rates quoted are fixed and quoted in ZAR currency; and shall not in any way be affected by rand/dollar exchange rate or any currency.

8 The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.

9 For the purposes of this Bill 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 Standardized, Project or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Bidder bids to do the work. Should be quoted in ZAR currency only
Amount	:	The quantity of an item multiplied by the bidder’s rate of the (same) item. Should be quoted in ZAR currency only

Sum : An amount bidded for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units. Should be quoted in ZAR currency only

10 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

No = No
% = Percentage
Prov Sum = Provisional Sum

C1.2 SCOPE OF WORKS

C1.2.1 DESCRIPTION OF WORKS
C1.2.1.1 Employer's objectives
C1.2.1.2 Overview of the Works
C1.2.1.4 Extent of Works
C1.2.1.5 Location of the Works
C1.2.1.6 Access to Working Site
C1.2.1.7 Services to be in the vicinity of the site
C1.2.1.8 Changes to Scope Work

C1.2.2 ENGINEERING
C1.2.2.1 Design
C1.2.2.2 Employer's Design
C1.2.2.3 Contractor's Design
C1.2.2.4 Drawings

C1.2.3 PROCUREMENT AND SOCIAL ISSUES
C1.2.3.1 Preferential Procurement
C1.2.3.2 Employer’s targets
C1.2.3.3 Contractor’s staff

C1.2.4 MANAGEMENT
C1.2.4.1 Management of the works
C1.2.4.2 Site Establishment
C1.2.4.3 Existing services
C1.2.4.4 Health and safety

C1.2.5 HEALTH AND SAFETY
C1.2.5.1 Health and Safety procedures

C1.2.6 CONSTRUCTION
C1.2.6.1 Existing services

STATUS

In the event of any discrepancy between the Scope of Works and a part or parts of SANS 1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Project Specifications shall take precedence and prevail in the Contract

The Project Specifications form an integral part of the Contract Documents and supplement the Standard Specifications.

In the event of any discrepancy with a part or parts of the Standard Specifications, the Schedule of Quantities or the drawings, the Particular or Project Specifications shall take precedence.

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.

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's objectives

The Employer's objective is to upgrade the existing gravel road infrastructure from gravel to a surfaced road and refurbish the stormwater management system.
The appointment might be in part or as a whole and shall be a function of the funding made available by the Employer.
The employer's objectives are to deliver public infrastructure and services using labour-intensive methods in accordance with EPWP Guidelines.
Labour-intensive works comprise the activities such as those described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work.

C3.1.2 Overview of the Works

The work to be carried out includes construction of 2km paved road and stormwater drainage in Phahameng (Bultfontein). This project consists of the upgrading of the existing gravel roads to paved roads (Road 1, Road 2, Road 3 and Road 4). The project will further consist of the construction of stormwater management systems.

C3.1.3 Extent of the Works

The contractor should make themselves familiar with the extent of work already completed. This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

a) Establishment on site;
b) Clear and Grubbing of the site;
c) Mass Earthworks.
d) Exposing services and relocation of existing services
e) Construction of pavement layers works
f) Construction of 2000m, 80mm concrete block paved road
g) Construction of concrete drift drains
h) Installation of prefabricated kerbing and concrete Edge beams

i) Construction of stormwater channel
j) Construction of stone pitching channel
k) Installation of traffic signs and road markings

Details of the Street are listed below:.

STREET NAME	LENGTH (m)	WIDTH(m)	CURRENT SURFACING TYPE
Road 1	963.00	6	80mm Interlocking paving blocks *(Including new layer works)*
Road 2	580.00	6	80mm Interlocking paving blocks (Including new layer works)
Road 3	436.00	6	80mm Interlocking paving blocks *(Including new layer works)*
Road 4	270.00	6	80mm Interlocking paving blocks *(Including new layer works)*
Total	**2249.00**		

This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

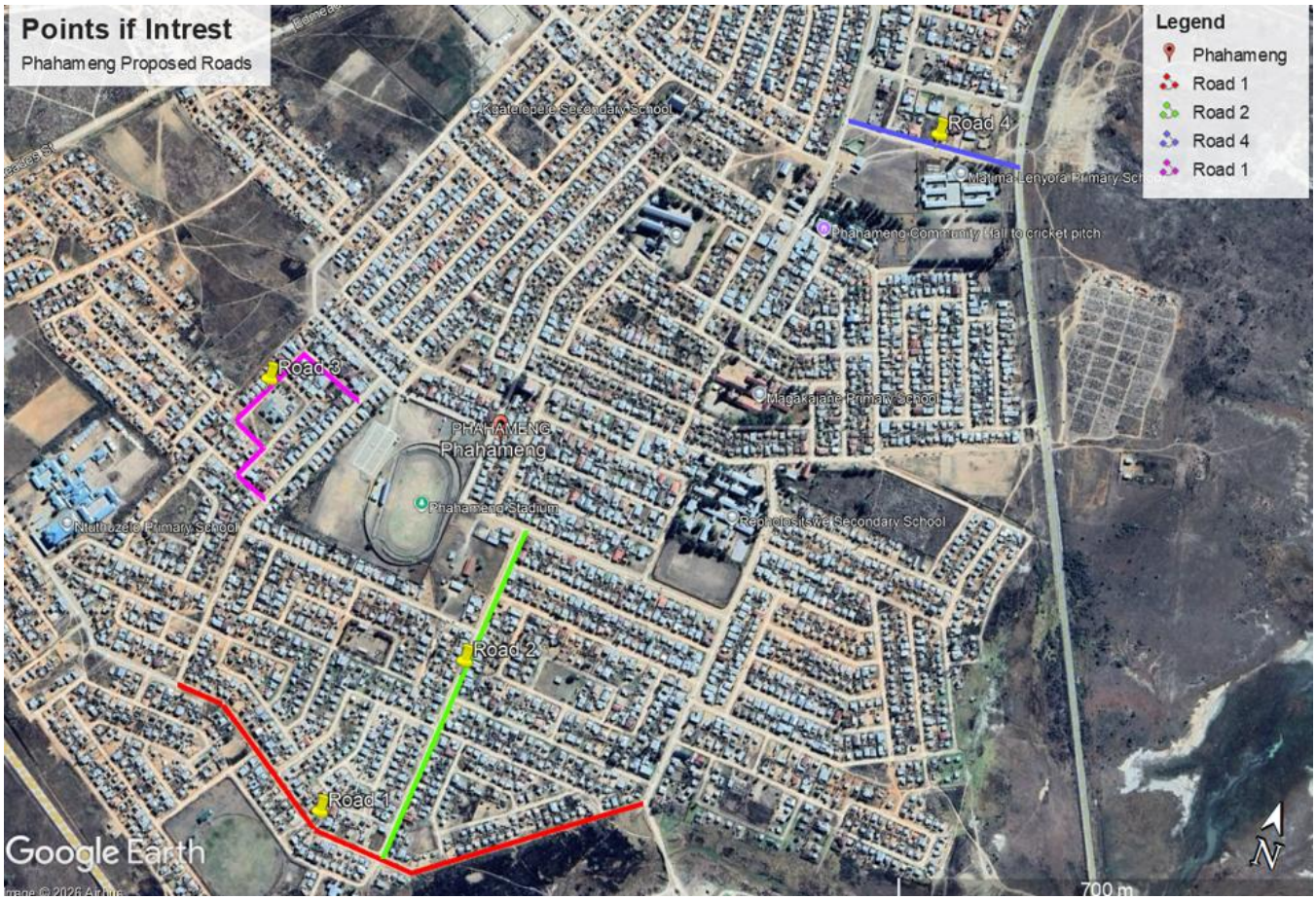
Approximate qualities of each type of work are given in the Bill of Quantities.

C3.1.4 Location of the Works site

The location of the site is in Tswelopele/ Bultfontein Phahameng. The coordinates of the site are as follows:

AREA	STREET NAME	LENGTH (m)	POSITIONS	LATITUDE	LONGITUDE
Tswelopele Local Municipality (Bultfontein) Phahameng	Road 1	963	Start	28°18'36.47"S	26°8'56.70"E
			End	28°18'31.78"S	26°8'46.10"E
	Road 2	580	Start	28°18'43.63"S	26°8'42.65"E
			End	28°18'24.66"S	26°8'44.61"E
	Road 3	436	Start	28°18'20.70"S	26°8'32.50"E
			End	28°18'27.39"S	26°8'28.94"E
	Road 4	270	Start	28°17'58.34"S	26°8'55.40"E
			End	28°17'57.89"S	26°9'4.46"E
TOTAL LENGTH		**2249m**			
Lined Stormwater channel along Road 1, Road 2 and Road 3		1979			
Existing Stormwater channel		270	Start	28°17'58.34"S	26°8'55.40"E
			End	28°17'57.89"S	26°9'4.46"E
TOTAL LENGTH		**270m**			

The route to be upgraded is shown on the Locality Plan. See Fig.1 below



C3.1.5 Access to Works site

No restriction on access to the Site of Works will be placed on persons or vehicles involved with the execution of the Works but personnel must comply with the security and safety requirements of the Tswelopele Local Municipality. The Contractor must keep the Employer informed of staff changes. The making good of any damage caused by non-observance of such restrictions will be for the Contractor's account.
Any vehicle used to transport and/or equipment on Site, shall not exceed the maximum permissible axles loading as allowed under the Provincial regulations.

C3.1.6 Services known to be in the vicinity of the site

Existing services on site include overhead electrical cables, water pipelines.

C3.1.7 Changes to scope of work

It is a condition of this contract that the employer reserves the right to limit the total expenditure on the Works due to possible budget constraints. Should the tender sum exceed the budgeted amount, the scope of the works may be reduced at any time before or during the contract period to ensure that the final contract amount does not exceed the budgeted amount.

C3.1.8 General

It is a condition of this contract that the employer reserves the right to limit the total expenditure on the Works due to possible budget constraints. Should the tender sum exceed the budgeted amount, the scope of the works may be reduced at any time before or during the contract period to ensure that the final contract amount does not exceed the budgeted amount.

C3.1.8.1 Payment for the Labour-Intensive Component of the Works:

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.1.8.2 Applicable Labour Law

The Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment act of 1997 by the Minister of Labour in Government Notice NR347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. An EPWP contract shall be signed between the contractor and the EPWP participant using the template appended. The contracts shall expire on earlier of (i) 31 March, (ii) at the end of the project; or (iii) completion of the works allocated.

C3.1.8.3 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

In this document –
(a) “department” means any department of the State, implementing agent or contractor.
(b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on an EPWP.
(c) “worker” means any person working in an elementary occupation on a EPWP.
(d) “elementary occupation” means any occupation involving unskilled or semi- skilled work.
(e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP.
(f) “task” means a fixed quantity of work.
(g) “task-based work” means work in which a worker is paid a fixed rate for performing a task.
(h) “task-rated worker” means a worker paid based on the number of tasks completed.
(i) “time-rated worker” means a worker paid based on the length of time worked.

C3.1.8.4 Terms of Work

(a) Workers on an EPWP are employed on a temporary basis or contract basis.

C3.1.8.5 Normal Hours of Work

(a) An employer may not set tasks or hours of work that require a worker to work–
a. more than forty hours in any week
b. on more than five days in any week; and
c. for more than eight hours on any day.
(b) An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
(c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

C3.1.8.6 Meal Breaks

(a) A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
(b) An employer and worker may agree on longer meal breaks.
(c) A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
(d) A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.1.8.7 Special Conditions for Security Guards

(a) A security guard may work up to 55 hours per week and up to eleven hours per day.
(b) A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

C3.1.8.8 Daily Rest Period

(a) Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

C3.1.8.9 Weekly Rest Period

(a) Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work (“emergency work”).

C3.1.8.10 Sick Leave

(b) Only workers who work for more than 24 hours have the right to claim sick pay in terms of this clause
(c) A worker who is unable to work on account of illness or injury is entitled to claim one day’s paid sick leave for every full month that the worker has worked in terms of a contract.
(d) A worker may accumulate a maximum of twelve days’ sick leave in a year

(e) Accumulated sick leave may not be transferred from one contract to another contract.
(f) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
(g) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
(h) An employer must pay a worker sick pay on the worker's usual payday.
(i) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
(j) absent from work for more than two consecutive days: or
(k) absent from work on more than two occasions in any eight-week period.
(l) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
(m) A worker is not entitled to paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

C3.1.8.11 Maternity Leave

(a) A worker may take up to four consecutive months' unpaid maternity leave.
(b) A worker is not entitled to any payment or employment-related benefits during maternity leave.
(c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
(d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
(e) A worker may begin maternity leave –
(f) four weeks before the expected date of birth; or
(g) on an earlier date –
a. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
b. if agreed to between employer and worker; or
c. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
(h) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

C3.1.8.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -
(a) when the employee's child is born.
(b) when the employee's child is sick.
(c) in the event of a death of –
(d) the employee's spouse or life partner.

(e) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.8.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –
(a) the employer's name and address and the name of the EPWP.
(b) the tasks or job that the worker is to perform; and
(c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract.
(d) the worker's rate of pay and how this is to be calculated.
(e) the training that the worker will receive during the EPWP.
(f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
(g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.8.14 Keeping Records

Every employer must keep a written record of at least the following –
(a) the worker's name and position;
(b) Certified ID copies of all locally employed labour
(c) Signed Contracts between the employer and the EPWP Participants
(d) Attendance Registers for the EPWP Participants
(e) Monthly Reporting Template as per EPWP requirements
(f) in the case of a task-rated worker, the number of tasks completed by the worker.
(g) in the case of a time-rated worker, the time worked by the worker.
(h) Proof of payments made to each worker.
(i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

C3.1.8.15 Payment

(a) An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
(b) A worker may not be paid less than the minimum EPWP wage rate of R200.00 per day or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by Stats SA six (6) weeks before implementation).
(c) A task-rated worker will only be paid for tasks that have been completed.
(d) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
(e) A time-rated worker will be paid at the end of each month.
(f) Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
(g) Payment in cash or by cheque must take place –
I. at the workplace or at a place agreed to by the worker.
II. during the worker's working hours or within fifteen minutes of the start or finish of work.
III. in a sealed envelope which becomes the property of the worker.

(h) An employer must give a worker the following information in writing –

I. the period for which payment is made.
II. the numbers of tasks completed, or hours worked.
III. the worker's earnings.
IV. any money deducted from the payment.
V. the actual amount paid to the worker.

(i) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

(j) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.1.8.16 Deductions

(a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

(b) An employer must deduct and pay SA Revenue Services any income tax that the worker is required to pay.

(c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

(d) An employer may not require or allow a worker to –

I. repay any payment except an overpayment previously made by the employer by mistake.
II. state that the worker received a greater amount of money than the employer actually paid to the worker; or
III. pay the employer or any other person for having been employed.

C3.1.8.17 Health and Safety

(a) Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

(b) A worker must –

I. work in a way that does not endanger his/her health and safety or that of any other person.
II. obey any health and safety instruction.
III. obey all health and safety rules of the EPWP.
IV. use any personal protective equipment or clothing issued by the employer.
V. report any accident, near-miss incident or dangerous behavior by another person to their employer or manager.

C3.1.8.18 Compensation for Injuries and Diseases

(a) It is the responsibility of the employers (other than a contractor) to arrange for all people employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

(b) A worker must report any work-related injury or occupational disease to their employer or manager.

(c) The employer must report the accident or disease to the Compensation Commissioner.

(d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will

be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.1.8.19 Termination

(a) The employer may terminate the employment of a worker for good cause after following a fair procedure.

(b) A worker will not receive severance pay on termination.

(c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

(d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

(e) A worker who does not attend the required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

C3.1.7.20 Certificate of Service

On termination of employment, a worker is entitled to a certificate stating –

(a) the worker's full name.

(b) the name and address of the employer.

(c) the EPWP on which the worker worked.

(d) the work performed by the worker.

(e) any training received by the worker as part of the EPWP.

(f) the period for which the worker worked on the EPWP.

(g) any other information agreed on by the employer and worker.

C3.1.8.21 Contractor's default in payment to Laborers and Employees

(a) Any dispute between the Contractor and laborers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

(b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honored in time, out of any moneys due or which may become due to the Contractor under the Contract.

C3.1.8.22 Provision of Hand tools

(a) The Contractor shall provide his labor force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

C3.1.7.23 Reporting

The Contractor shall submit monthly returns/reports as specified below:

(a) Signed Master rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.

(b) Certified ID copies of all locally employed labour

(c) Signed Contracts between the employer and the EPWP Participants

(d) Attendance Registers for the EPWP Participants

(e) Monthly Reporting Template as per EPWP requirements

(f) Plant utilization returns

Progress report detailing production output compared to the Programme of works

C3.2 ENGINEERING

C3.2.1 Design services and activity matrix

The following responsibilities for design and related documentation are applicable to this Contract:

Design Stage	**Works designed by**
Concept, feasibility and overall process	Engineer
Basic engineering and detail layouts at tender stage	Engineer
Final design for construction stage	Engineer
Temporary works	Contractor
Preparation of as-built drawings	Contractor

C3.2.2 Employer's design

The Employer's design required to be priced can comprise a combination of communications referred to as addendums issued prior to tenders closing, drawings for tender purposes, and the tender document containing the general and specifications, relevant to the Works. Once the Contract is awarded the Employer's design may be amended and such amendments shall be managed via the Specific Contract Provisions.

C3.2.3 Contractor's design

Where the Contractor is to supply the design of designated parts of the permanent Works or temporary Works, he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 Drawings

The drawings form part of the tender document and are issued for tender purposes only.

The appointed Contractor will be supplied with one A1 paper print and a pdf soft copy on CD or emailed of each of the drawings. This print and pdf copy are issued free of charge and the Contractor will need to make or obtain any additional prints he may require at his own cost.

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the Contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed and bound in a separate volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

C3.3 PROCUREMENT

C3.3.1 Preferential procurement procedures

C3.3.1.1 Requirements

The Employer intends through this Contract to provide work opportunities for the local residents.

This Contractor shall therefore employ local labour where possible.

C3.3.1.1.1 Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, thus bringing about the effective substitution of labour for plant and equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour-intensive construction methods.

Except where the use of plant is essential in order, in the opinion of the Engineer, to meet the specified requirements by the Due Completion Date, or where the use of plant is essential as a result of occupational health and safety considerations, the Contractor shall use only hand tools and equipment in the construction of those portions of the Works that are required in terms of these Project Specifications to be constructed using labour-intensive construction methods.

These portions of the Works shall be constructed utilizing only locally employed labour and/or the labour of local subcontractors, supplemented by the Contractor's key personnel to the extent necessary and unavoidable, unless otherwise instructed by the Engineer and in accordance with the further provisions of the relevant sections of Portion B of the Project Specifications.

Subject to considerations of occupational health and safety, the portions of the Works to be executed using labour-intensive construction methods are:

- Clearing and grubbing of the Site;
- Excavation for structures up to 1,5 m deep;
- Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- Dismantling and re-erection of fences;
- Mixing and placing of concrete;
- Placement of 80mm concrete block paving
- Construction of all brickwork required for structures; and
- Cleaning and tidying up of the Site.

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C3.3.1.2. Material

Where possible, the contractor shall source material from within ## km of the site utilizing local labour. The material which may be sourced from site includes:

- stone pitching and kerbing channel

C3.3.1.3. Task Based Activities

Labour Intensive activities are to be planned as Task Based works where required. Task based refers to a specific amount of work to be performed which is clearly defined by a quantity and quality. Typically, a particular task can be completed within a working day.

C3.3.2 Employment targets

C3.3.2.1 Employment of local community labour

The maximum possible number of workers must be employed from the ranks of the currently unemployed persons in the local community.

To this end the Contractor is required to give preference to the use of local community labour and limit the use of non-local labour to key personnel only.

Local community labour is defined as people who reside in Bultfontein and whose name appears on the local unemployed labour list.

Key personnel are defined as supervisors, team leaders and skilled labourers without whom a specific task cannot be completed.

The target for local labour is 80% of non-key personnel.

C3.3.2.2 Employment of women

The target for employment of women is 30% of the total workforce.

C3.3.2.3 Employment of youth

The target for employment of youth (18-35 years of age) is 30% of the total workforce.

C3.3.2.4 Employment of disabled people

A minimum of one (1) disabled person must be employed on this contract.

C3.3.2.5 REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME

EPWP Project Specification

As much as is economically feasible, all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)" shall be undertaken using Labour Intensive Construction methods.

C3.3.2.6 EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

Requirements for the sourcing and engagement of labour.

C3.3.2.6.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

C3.3.2.6.2 The rate of pay set for the EPWP is R ……. per task or per day.

C3.3.2.6.3 Tasks established by the contractor must be such that:
a) the average worker completes 5 tasks per week in 40 hours or less; and b) the weakest worker completes 5 tasks per week in 55 hours or less.

C3.3.2.6.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

C3.3.2.6.5. The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
a) where the head of the household has less than a primary school education;
b) that have less than one full time person earning an income;
c) where subsistence agriculture is the source of income.
d) those who are not in receipt of any social security pension income

C3.3.2.6 Remuneration of local labourers

The minimum wages shall be those prescribed by SAFCEC for the area in which the works fall.

C3.3.3.7 Contractor's Staff

It is required that the Site Agent for this project to have a NQF level 5 qualification. If the contractor fails to produce such person a suitable Site Agent will be appointed by the Client and paid in full by the Contractor.

C3.3.2.8 Remuneration of local labourers

The minimum wages shall be those prescribed by SAFCEC for the area in which the works fall.

C3.3.9 Contractor's Staff

It is required that the Site Agent for this project to have a NQF level 5 qualification. If the contractor fails to produce such person a suitable Site Agent will be appointed by the Client and paid in full by the Contractor.

C3.4 MANAGEMENT

C3.4.1 Management of the Works

Though not bound in or issued with this tender document, the following SANS 1921 Construction and Management Requirements for Works Contracts as approved by the Council of the South African Bureau of Standards shall apply to this Contract. The Contractor shall be in possession of these Standards and shall keep a copy of the said document on site for reference by him and the Employer's Agent for the duration of the Contract.

SANS 1921 Part 1 General Engineering and Construction Works
SANS 1921 Part 3 Structural Steelwork
SANS 1921 Part 5 Earthworks Activities which are to be performed by hand
SANS 1921 Part 6 HIV/AIDS Awareness

These Specifications are not issued with this volume but are available at the Contractor's expense from: Standards South Africa. Details are given in Section C3.5.1 above.

C3.4.1.1 Planning and programming

In addition to Clause 5.6 of the GCC 2015, the work must be programmed such that the work be completed no later than the month of June 2018. The total duration of the Contract must be indicated by the Contractor. The Contractor will supply the Employer's Agent with the programme with his/her tender called the tender programme. Within 3 weeks of being awarded the WORKS, the Contractor shall provide the Employer's Agent with a revised tender programme to be called the Contract Programme to be approved by the Employer's Agent and used for progress monitoring of the Contractor's construction activities.

Interim progress payment shall not be certified by the Employer's Agent based on the Contract Programme Progress. Payment shall be certified based on actual work done.

The Contractor shall submit within the period stated in the Contract Data the said Contract Programme

C3.4.1.1.1 Submitted programme

The Contractor's programme, required in terms of Clause 5.6.1 of GCC 2015, shall be in a bar chart form. In addition to the requirements of Clause 5.6.1 of GCC 2015, the Contractor's programme shall show:

a) The various activities, related to a time scale, for each element of the Works, including those of Nominated and/or Subcontractors, in sufficient detail to be able to assess construction progress,
b) Critical path activities and their dependencies,

c) Key dates in respect of work to be carried out by others,
d) Key dates in respect of information to be provided by the Engineer and/or others,

If any change to the critical path occurs, the Contractor shall as soon as practicable notify the Engineer in writing.

The Contractor's programme and method statement will not be accepted as the basis for claims for additional compensation without due reference to all relevant associated factors.

C3.4.1.1.2 General Allowances

When drawing up his programme, the Contractor shall, take into consideration and make allowance for, inter alia:
a) Expected weather conditions and their effects,
b) Known physical conditions or artificial obstructions,
c) Searching for, dealing with and carrying out alterations to the existing services,
d) The accommodation of public access and traffic,
e) The provision and implementation of the health and safety plan in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act, and
f) The design, testing and approval of the concrete mixes.

C3.4.1.2 Review of progress

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme, by more than 2 weeks, he shall submit a revised programme and method statement of how he proposes to make up the lost time. If, in the opinion of the Engineer, such revised programme will not make up the lost time, the Engineer shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for additional payment to meet any costs incurred due to such reorganisation will not be accepted.

C3.4.1.3 Methods and procedures

C3.4.1.3.1 Method statements

When requested by the Engineer, the Contractor shall submit, within 2 weeks (14 days) of date of such written request, a method statement detailing the Contractor's proposed construction procedure of certain elements of the Works.

No work shall commence before the method statement has been submitted and approved. The approval shall not relieve the Contractor from his responsibilities in terms of the General Conditions of Contract.

C3.4.1.3.1 Neatness of the site

The general neatness and tidiness of the vicinity of Phahameng/Bultfontein are of particular concern. The Works will be visible to the public. The Contractor shall, therefore, on a day-to-day basis, keep the area of the Works in a condition acceptable to the Engineer.

C3.4.1.4 Weather conditions

C3.4.1.4.1 Extension of time for completion resulting from abnormal rainfall

Extension of time for completion will not be considered for normal rainfall but only for abnormal rainfall or saturated conditions and will be calculated in accordance with the following method:

a) The Contractor shall, in his programme, allow for the anticipated number of working days on which work could be delayed - as given in the Schedule below.

b) Extension of time will be calculated for each calendar month or part thereof over the full period for the completion of the Work, plus any approved extension thereof, as follows:

i) A delay caused by abnormal rainfall will only be accepted for extension of time if, in the opinion of the Engineer, it delays an item or items which lie on the critical path determined by the Contractor's programme. Only delays on working days will be considered.

ii) Abnormal rainfall will be considered to be days, as approved, on which rain delayed operations, less the anticipated number of days given in` the Schedule below.

iii) The net extension of time determined for each month, which may be negative, shall accumulate algebraically to determine the net number days for extension of time due to abnormal rainfall, but a negative total at the end of the construction period will not be taken into account.

iv) Where a portion of a month is involved, a pro rata number of days shall be calculated.

SCHEDULE

Anticipated number of working days on which work could be delayed as a result of rainfall and saturated conditions.

Month	**Nn (days)**	**Rn (mm)**
January	11.9	43
February	8.6	29
March	8.3	24
April	6.1	27
May	1.3	3
June	1.8	4
July	1	1
August	0.9	2
September	2	5
October	3.6	14
November	6.4	30
December	10.5	34
Total	**62,4**	**216**

https://www.weatheratlas.com/

X = 20 and Y = 10

The additional clauses to the General Conditions of Contract are:

Extensions of time in respect of clause 42 in respect of abnormal rainfall shall be calculated using the following formula for each calendar month or part thereof:

$$V = (Nw - Nn) + (Rw - Rn) \times X$$

Where:

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

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

Nn = Average number of days in the relevant calendar month, (as derived from existing rainfall records provided in the table above), on which a rainfall of Y mm or more per day has been recorded for the calendar month.

Rw = Actual average rainfall in mm recorded for the calendar month under consideration.

Rn = Average rainfall in mm for the calendar month as derived from existing rainfall records as provided in the table above.

For purposes of the Contract Nn, Rn, X and Y shall have those values assigned to them in the South African Weather Service's rainfall records of the nearest station to the site.

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

The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month shall be calculated using pro rata values of Nn and Rn.

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

The factor (Nw – Nn) shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall exceeds 10 mm. The factor (Rw-Rn) shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed 10 mm but wet conditions prevented or disrupted work.

For the purpose of applying the formula, accurate rain gauging shall be taken at a suitable point on the Site and the Contractor shall at his own expense, take all necessary precautions to ensure that rain gauges cannot be interfered with by unauthorized persons.

C3.4.1.4.2 Recording of weather

The Contractor shall provide a rain gauge as directed by the Engineer and precautions shall be taken to restrict access to the rain gauge by unauthorised persons.

C3.4.1.5 Quality plans and control

The Contractor shall prepare a quality management plan to be followed during the course of the Contract.

The quality management plan shall

i. clearly indicates the methods, programmes, procedures and other methods that the Contractor intends using as process control to ensure compliance of materials and workmanship with the requirements of the Contract (process control testing)

ii. Include the proof of status of calibration of all measuring devices that are to be used during the course of the Contract.

C3.4.1.6 Environment

C3.4.1.6.1 Protection of the environment

C3.4.1.6.1.1 Environment management plan

The Contractor shall comply with the provisions of the environmental management specification.

C3.4.1.6.1.2 Fires and burning of vegetation

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

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

C3.4.1.6.1.3 Preservation of flora and fauna and soil conservation

The Contractor shall:

a) take all precautions to prevent:
   i) the erosion of soils and/or
ii) loss of or injury to domestic and other animals from any lands used or occupied by the Contractor;
b) refrain from destroying, removing or clearing trees, timber and scrub to any extent greater than is necessary for the execution of the Contract,
c) take care to cause the minimum of disturbance to the fauna and flora.
d) erect temporary fences on the servitude lines during the construction period to prevent loss of fauna. The fences shall be removed as soon as construction and testing are complete.
e) take precautions to keep the risk of fire to a minimum,

f) arrange that timber for firewood be obtained only from such places as may be approved by the Engineer;
g) take such measures as to ensure that his employees are aware of all laws and restrictions governing the hunting, disturbing, capturing or destroying of animals and birds in the vicinity of the camp or the Works or the taking of fish from any water; and
h) prohibit all firearms from the site and temporary camps.

C3.4.1.7 Format of communications

Communications and instructions shall be given in writing and sent either by post, or facsimile. Site instructions shall be given in the Site Communication Book, which shall be a triplicate book provided by the Contractor.

C3.4.1.8 Management meetings

The Contractor will be required to attend the following site meetings during the term of the contract:

a) An inaugural site meeting to be held within three weeks after the Commencement Date.

b) Monthly site meetings from the order to commence the Works until the Completion of the Works.

c) Monthly Health and Safety meetings.

C3.4.1.9 Daily records

Daily records of all site activities and progress of work shall be kept by the Contractor. Any possible causes for delay to the Contract or which may result in additional costs to the Employer shall be recorded as clearly as possible. The records shall also include the plant on Site and personnel employed. The records shall be kept at all times in the Engineer's Site Office.

C3.4.1.9.1 Monthly labour returns

The Contractor shall submit with each statement for payment a labour return showing the Number Person Days and Labour Days recorded for the Contract. The returns shall be similar to the format approved by the Engineer.

C3.4.1.10 Lighting

Should the Contractor wish to undertake work when natural lighting is inadequate for the type of work to be performed, he shall, at his own expense, provide and maintain in good and safe condition adequate high-powered flood lighting for all the work areas where he is operating.

C3.4.1.11 Payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 of the General Conditions of Contract shall be prepared in accordance with the standard payment

certificate prescribed by the Engineer and shall be provided electronically in Microsoft Excel format.

All costs incurred by the Contractor resulting from the preparation and submission of the statements shall be borne by the Contractor.

C3.4.2 Site establishment

C3.4.2.1 Services and facilities existing and/or provided by the Employer

C3.4.2.1.1 Water and power supply and other services

The Contractor shall make his own arrangements and pay all installation and consumption charges for the supply of water, electrical power and other services required.

C3.4.2.1.2 Camps and depot

The Contractor may erect his site offices and storage depot within the boundaries of the area indicated by the Engineer.

No housing is available and the Contractor shall make his own arrangements to house his employees and transport them to and from the Site. All arrangements for housing workmen shall be made in accordance with and subject to applicable regulations and requirements.

C3.4.2.2 Facilities provided by the Contractor

C3.4.2.2.1 Facilities for the Engineer

The Contractor shall provide for the use of the Engineer, maintain and service, as applicable, the following facilities as specified in SANS 1200 AB and SDAB:

a) two nameboards,
b) one furnished office,
c) conference room (furnished),
d) latrine and ablution facilities,
e) carport for 2 vehicles,
f) 1 x Smart Phone
g) photo-copying machine,
h) I7, 16GB Ram notebook computer and A3 printer / scanner,
j) survey equipment,
k) two survey assistants,
m) a site instruction book,
n) protective clothing,
o) safety equipment,
p) medical facilities,
q) nine 150 mm concrete cube moulds and a temperature-controlled cube-curing water bath,

Unless specified otherwise, on completion of the Works some of these facilities shall revert to the Contractor who shall remove them from the site excluding items f and h.

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

C3.4.3 Existing services

C3.4.3.1 Treatment of existing services

C3.4.3.1.1 Continuance of operation of existing services

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

C3.4.3.1.2 Continuous operation of existing works

The construction works take place around existing services. Existing works must remain in operation at all times. The Contractor shall ensure that, wherever possible, the Employer's personnel have unhindered access to, and use of, all parts of the existing works at all times, as necessary.

The Contractor's operations shall also be carried out in such a way as to minimize the formation of dust and the fouling of water in the existing works.

The Contractor shall provide sufficient notice to the Engineer when he intends to interrupt the operations of the existing works in order to effect connections with the new works. Approval for such work will be given only when the timing of the work is suitable to the Employer.

C3.4.3.1.3 Connection to existing services

All connections to the existing systems shall be undertaken in a manner and at times to be approved by the Engineer. It is anticipated that this work may have to be done at night in order to minimise inconvenience to users. No claims for additional payment will be considered in this regard.

C3.4.4 Health and safety

C3.4.4.1 Health and safety requirements and procedures

C3.4.4.1.1 General

In addition to Subclause 5.7 of SANS 1200 A (5.4 of SANS 1200 AA; 5.8 of SANS 1200 AD; 5.3 of SANS 1200 AH) and the Occupational Health and Safety Specification provide, the Contractor shall comply with the Occupational Health and Safety Act (Act No. 85 of 1993) (OHS Act) and in particular its Construction Regulations, 2014.

C3.4.4.1.2 Health and Safety Plan

Without limiting his obligations and liabilities in terms of the Construction Regulations, 2014 of the OHS Act, the Contractor, in his Health and Safety Plan to be submitted in terms of Clause 5.3.1 of the Project Data, shall inter alia deal with the safety provisions he will set up in respect of the aspects specified in the Specification Data and the Standard Specification.

The Health and Safety Plan shall be neatly set out in a lever-arch type file, with labelled dividers for each section

A copy of the approved Health and Safety Plan shall be kept on Site and made available upon request.

C3.4.4.1.3 Safety of general public

Open excavations and other hazardous conditions on site shall be barricaded and precautions shall be taken to protect the public from the same in terms of the OHS Act (Clause 4.3.10.2).

As the Works are on an operating water treatment works site, the Contractor shall take special precautions to prevent access to any danger areas on the Works, e.g. by temporary barricades, notices and/or fencing.

The Contractor shall direct, control, facilitate and safeguard all pedestrian traffic during construction of the Works, provide all notices, and arrange for watching and lighting in accordance with the requirements of the relevant authorities

C3.4.4.1.4 Sanitary conditions

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

C3.4.4.1.5 Protection of the public

Open excavations and other hazardous conditions on site shall be barricaded and precautions shall be taken to protect the public from the same in terms of the OHS Act.

As the Works are on an operating reservoir site, the Contractor shall take special precautions to prevent access to any danger areas on the Works, e.g. by temporary barricades, notices and/or fencing.

The Contractor shall direct, control, facilitate and safeguard all pedestrian traffic during construction of the Works, provide all notices, and arrange for watching and lighting in accordance with the requirements of the relevant authorities.

C3.4.4.1.6 Excavations

Without limiting his responsibility for the safety of his workers in any excavation, the Contractor shall ensure the safety of his workers in trenches and excavations deeper than

1,0 m. in terms of the provisions of the OHS Act. The Contractor may choose to batter excavations to a safe slope if sufficient space is available, or adequately shore the excavations.

C3.4.4.1.7 Health and safety specialist

The Contractor shall employ a health and safety specialist, with suitable and proven qualifications, either on full-time or part-time basis, for the duration of the Contract.

This specialist shall assist with the preparation of the health and safety plan required in terms of the Specification Data, shall provide on-going training for all construction staff (at least 1 hour per week whilst work on site is in progress, in the form of weekly tool-box talks), and shall assist with the upkeep of the Health and Safety Plan and associated regular inspections etc.

C3.4.6.1.8 Monthly health and safety reports

The health and safety specialist required in terms of the Specification Data, shall submit a report to the Engineer at the monthly site meetings, detailing the state of health and safety on the sites over the last month, new risk assessments added, potential new risks, new precautions taken, and summarising the results of various inspections required in terms of the health and safety plan, etc.

If this report is not submitted at each monthly site meeting, the Engineer shall impose a fine of R 1 000.00 on the Contractor, in each instance.

C3.5 HEALTH AND SAFETY

C3.5.1 HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES

(a) Construction Regulations, 2014

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2014. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is included in the Bill of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

C3.5.2 PROTECTION OF THE PUBLIC

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.3 BARRICADES AND LIGHTING

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.4 TRAFFIC CONTROL ON ROADS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.5 MEASURES AGAINST DISEASE AND EPIDEMICS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.6 AIDS AWARENESS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.6 CONSTRUCTION

C3.6.1 Existing services

C3.6.1.1 Damage to services

The Contractor is required to carry out all of his construction activities with due caution in order to prevent damage to existing services and infrastructure. The Contractor shall repair or arrange to repair any damage to known existing services at his own cost.

The Contractor shall repair or arrange to repair any damage to known existing services at his own cost.

C3.6.1.2 Reinstatement of services and structures damaged during construction

The Contractor shall immediately inform the Engineer of any damage to existing services or structures. The Contractor shall take immediate steps to reinstate any damaged services.

C3.6.2 Disposal sites

The Contractor shall locate suitable sites, off site for the disposal of cleared vegetation, rubble, unsuitable material, excavation or surplus material. The Contractor shall obtain the Engineer's approval for the site he proposes to use.

Surplus excavation, other than described above, will be spread on site at locations indicated by the Engineer.

C3.6.3 Alterations, additions, extensions and modifications to existing works

The Contractor shall satisfy himself that the dimensional accuracy, alignment, levels and setting out of existing structures or components thereof are compatible with the proposed works (including modifications). If the Contractor finds any discrepancy, he shall immediately notify the Engineer in writing of the discrepancy before proceeding with any construction which may be affected by the discrepancy.

Should the Contractor detect any defect(s) in existing structures or works which are likely to affect the integrity or quality of work executed by himself, he shall immediately notify the Engineer in writing. The Engineer will inspect the defect(s) and, if necessary, issue an instruction regarding how the defect(s) are to be repaired. The Contractor shall then execute those repairs to existing structures or works which are prescribed by the Engineer.

C3.6.4 FEATURES REQUIRING SPECIAL ATTENTION

C3.6.4.1 Aids awareness

The Contractor is to have sufficient signage regarding HIV/AIDS, notifying the workers of the dangers, and where to obtain the counselling etc.

C3.6.4.2 Site maintenance

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

C3.6.4.3 Testing and quality control

C3.6.4.3.1 Contractor to engage services of an independent laboratory

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised and workmanship achieved by the Contractor comply with the requirements of the Specifications. The foregoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean a laboratory certified by the South African National Accreditation Systems (SANAS) or approved by the engineer in writing which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

C3.6.4.3.2 Additional testing required by the Engineer

In addition to the provisions of subclause C3.6.4.3.1: Contractor to engage services of an independent laboratory, the Engineer shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory to carry out any such tests, additional to those described in subclause C3.6.4.3.1, at such times and at such locations in the Works as the Engineer shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Engineer, and copies of the test results shall be promptly submitted to the Engineer.

C3.6.4.3.3 Costs of testing

(a) Tests in terms of subclause C3.6.4.3.1
The costs of all testing carried out by the independent laboratory in accordance with the requirements of subclause C3.6.3.1 above shall be borne by the Contractor and shall be deemed to be included in the tendered rates and prices for the respective items of work as listed in the Bill of Quantities and which require testing in terms of the Specifications. No separate payments will be made by the Employer to the Contractor in respect of any testing carried out in terms of subclause C3.6.4.3.1

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g. re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor’s account.

(b) Additional tests required by the Engineer
The costs of any additional tests required by the Engineer in terms of subclause C3.6.4.3.1: Additional testing required by the Engineer, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Bill of Quantities; provided always that the costs of any such additional tests ordered by the Engineer, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

C3.6.4.4 Contractor supplied equipment

The Contractor shall when required to supply any testing, measuring and/or survey equipment for the Engineer's use provide calibration certificates or verification certificates (as appropriate) for all equipment. This shall apply for both shared equipment as well as for equipment specified to be provided for the Engineer's use on site.

Calibration or verification, by certified authorities shall be subject to the Engineer's approval:
• prior to the delivery of any equipment to the Engineer and
• thereafter at intervals as prescribed for the relevant equipment but not less than every twelve (12) months

The calibration/verification certificate for each item of equipment shall be submitted to the Engineer for approval prior to its use or within seven (7) days of subsequent re-calibration/verification.

Unless otherwise provided for in the bill of quantities the cost of providing the above specified equipment.

Failure to submit certificates shall result in payment for the equipment being withheld.

C3.6.4.5 Subcontractors

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

C3.6.4.6 Opening up and closing down of designated borrow pits

Measurement and payment for opening up and closing down designated borrow pits, including removing and stockpiling overburden and restoring the Site, shall be made under item 8.3.4 of SANS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of subclause 5.2.2.2 of SANS 1200 D regarding the opening up, maintenance and closing down of borrow pits shall be adhered to.

C3.6.4.7 Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Clause 6.10.4 of the Conditions of Contract to submit the signed payment certificate to the

Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

C3.6.4.8 Workmanship and quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

ADDITIONAL SECTION – SECTION F

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F4.1 Type of project data required per project
Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. The data that is required to be kept and maintained for each project includes:

F4.1.1 Beneficiary data
beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:
(a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
(b) Beneficiary profiles – nationality, gender, age, education level and disability status.
(c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F4.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

(a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.

(b) Summary of monthly attendance.

F4.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

(a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

(b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

(a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).

(b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.

(c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.

(d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).

(e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

C3.6.5 VARIATIONS AND ADDITIONS TO SANS 1200 STANDARDIZED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS

The Specification Data gives amendments and additions to the specifications that are listed in the List of Applicable Specifications. Clause headings are prefixed by the letters "SD" followed by alphabetic and numeric characters which identify the specification and main clause of the applicable specification. Sub-clauses are numbered sequentially. The clause reference to which a sub-clause refers, either to amend or to add to, is given after the sub-clause heading. Where the Specification Data sub-clause is an addition and there is no appropriate clause in the applicable specification to which to link it, no clause reference is given in the heading.

Should any requirement of the Specification Data conflict with any requirement of the specifications listed, the requirement of the Specification Data shall prevail.

1. Management

1.1 Although not bound in or issued with this document, the following Standardised Specifications for Civil Engineering Construction, as amended in the Project Specifications, form part of this document. (Notwithstanding Subclause 2.2 of SANS 1200A*, the edition specified below shall apply).

SANS 1200 A - Preliminary and general
SANS 1200 AB - Engineer's Office

1.2 The following Standard and Particular Specifications, as bound in this document, and as amended in the Project Specifications, shall apply:

Project Specific Health and Safety Specification
Environmental Best Practice Specifications: Construction

2. Construction

2.1 Although not bound in nor issued with this document, the following Standardised Specifications for civil Engineering Construction, as amended in the Project Specifications, form part of this document and, notwithstanding Subclause 2.2 of SANS 1200 A*, the editions specified below shall apply:

SANS 1200 A - : PRELIMINARY AND GENERAL
SANS 1200 AB - : ENGINEER'S OFFICE
SANS 1200 C - : SITE CLEARANCE
SANS 1200 D - : EARTHWORKS
SANS 1200 ME - : SUBBASE
SANS 1200 MK - : KERBING AND CHANNELLING
SANS 1200 M - : ROADS (GENERAL)
SANS 1200 MF - : BASE
SANS 1200 MJ - : SEGMENTED PAVING
SANS 1200 MM - : ANCILLIARY ROADWORKS
SANS 1200 DB : EARTHWORKS (PIPE TRENCHES) (1989)
SANS 1200 G : CONCRETE (STRUCTURAL) (1982)
SANS 1200 L : MEDIUM-PRESSURE PIPELINES (1983)
SANS 1200 LB : BEDDING (PIPES) (1983)
SANS 1200 LD : SEWERS (1982)

SANS 1200 LF : ERF CONNECTIONS (WATER) (1983)

Note 1 The Standard Specifications are not bound into the tender and contract documents, but are available at the Tenderer's/Contractor's expense from the South African Bureau of Standards in Pretoria, Private Bag X191, PRETORIA, 0001.

Note 2 Each of the Standard Specifications contains an appendix, which in turn lists further specifications, which are not bound into the tender and contract documents.

Note 3 Both of the Standard Specifications, as well as those specifications that are listed in the appendix to the Standard Specifications, shall apply to the Contract to the same extent as if each of these specifications had been bound into the tender/contract documents.

SDA GENERAL

SDA 1 SCOPE

REPLACE THE CONTENTS OF SUBCLAUSE 1.1, INCLUDING THE NOTES, WITH THE FOLLOWING:

"1.1 This specification covers requirements, principles and responsibilities of a general nature which are generally applicable to civil engineering construction and building works contracts, as well as the requirements for the Contractor's establishment on the Site."

SDA 2 INTERPRETATIONS

SDA 2.3 DEFINITIONS

IN THE OPENING PHRASE BETWEEN THE WORDS "specification" AND "the following", INSERT THE WORDS "the definitions given in the Conditions of Contract and".

(a) General

ADD THE FOLLOWING DEFINITIONS:

" 'General Conditions' and 'Conditions of Contract': The General Conditions of Contract specified for use with this Contract, together with the Contract Data (GCC 2015) as applicable.

'Specified': As specified in the Standardized Specifications, the Drawings or the Project Specifications. 'Specifications' shall have the corresponding meaning."

The terms “ESCOM”, “ESC” and “Electricity Supply Commission” shall mean “

“Eskom”.

The terms “GPO”, “P&T”, “Department of Posts and Telecommunications” and “Telkom” shall mean “Telkom SA Limited”.

Except for references to the Bureau itself, and to the (official) SANS mark, the term “SANS” shall mean “SANS”.

The term “Schedule of Quantities” and “Bill of Quantities” shall mean the same.

The term “Project Specification” shall mean that portion of the Scope of the Works that completes and/or amends the standardised and standard specifications.

(c) Measurement and payment

REPLACE THE DEFINITIONS FOR "Fixed charge", "Time-related charge" AND "Value-related charge" WITH THE FOLLOWING:

" 'Fixed charge': A charge that is not subject to adjustment on account of variations in the value of the Contract Price or the time allowed in the Contract for the completion of the work.

'Time-related charge': A charge, the amount of which varies in accordance with the Time for Completion of the Works, adjusted in accordance with the provisions of the Contract.

'Value-related charge': A charge, the amount of which varies pro rata with the final value of the measured work executed and valued in accordance with the provisions of the Contract.' "

SDA 2.4 ABBREVIATIONS

(a) Abbreviations relating to standard documents

ADD THE FOLLOWING ABBREVIATION:

"CKS: SABS Co-ordinating Specification."

SDA2-8 Items in Bill of Quantities - Principle (Subclause 2.8.1)

In the fourth line of Subclause 2.8.1, after the word "specification", add: "or in the measurement and payment clause of the standard specification, particular specification or Specification Data".

Add the following paragraphs:

"The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender as to

(a) the form and nature of the Site and its surroundings, including subsurface conditions,

(b) the hydrological and climatic conditions,

(c) the extent and nature of work and materials necessary for the execution and completion of the Works,

(d) the means of access to the Site and the accommodation he may require

and, in general, shall be deemed to have obtained all information as to risks, contingencies and all other circumstances which may influence or affect his tender.

The Contractor shall be deemed to have based his tender on the technical data given in the Documents and, if in the performance of the Contract any circumstances shall differ from the said technical data, which difference causes delay or additional Cost, the Contractor shall be entitled to make a claim in accordance with Clause 10.1.1.

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the Works and of the rates and prices stated in the priced Bill of Quantities and the Schedule of Rates and Prices (if any) or in the specification, which rates and prices shall (except in so far as otherwise provided in the Contract) collectively cover full payment for the discharge of all his obligations under the Contract and all matters and things necessary for the proper completion of the Works."

SDA 3 MATERIALS

SDA 3.1 QUALITY

ADD THE FOLLOWING AT THE END OF SUBCLAUSE 3.1:

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified to be in accordance with SABS Specifications shall bear the SABS mark, where such a mark is available for the type of product."

SDA 4 PLANT

SDA 4.1 SILENCING OF PLANT

REPLACE THE CONTENTS OF SUBCLAUSE 4.1 WITH THE FOLLOWING:

"The Contractor's attention is drawn to the applicable regulations pertaining to noise and hearing conservation, framed under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) as amended.

The Contractor shall at all times and at his own cost, be responsible for implementing all necessary steps to ensure full compliance with such regulations, including but not

restricted to the provision and use of suitable and effective silencing devices for pneumatic tools and other plant which would otherwise cause a noise level in excess of that specified in the said regulations.

Where appropriate, the Contractor shall further, by means of temporary barriers, effectively isolate the source of such noise in order to comply with the said regulations."

SDA4-2 CONTRACTOR'S OFFICES STORES AND SERVICES

ADD THE FOLLOWING ATE THE END OF SUBCLAUSE 4.2:

The latrine services required by the General Conditions of Contract and Clause 28 of the Construction Regulations, shall be of the chemical type and shall be readily accessible to workers at all areas of the site.

The Contractor shall make all the necessary arrangements with the relevant local authority for the disposal of the contents of the toilets on a regular basis.

The suitable first aid services required in terms of Subclause 4.2 of SANS 1200 A shall include, inter alia, a First Aid cabinet fully equipped and maintained with at least the minimum contents as listed in the Annexure (Regulation 3) to the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), to deal with accidents and ailments which are likely to occur during the construction period.

The Contractor shall provide personal safety equipment and facilities as required by Regulation 2 of the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

SDA 5 CONSTRUCTION

SDA5-1 Survey

SDA5-1.1 Setting out of the Works. (Subclause 5.1.1)

Before commencing any construction, the Contractor shall check the relative positions and levels of all reference pegs and bench marks and inform the Engineer of any discrepancy.

Add to Subclause 5.1.1

"The Contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provisions of all necessary instruments, appliances and labour in connection therewith.

The Contractor shall carefully protect and preserve all benchmarks, sight-rails, pegs and other things used in setting out the Works.

The checking of any setting-out or of any line or level by the Engineer shall not relieve the Contractor of his responsibility for the correctness thereof.

If at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer, but if such error is based on incorrect data supplied in writing by the Engineer or if there is any delay in providing the particulars required, the Contractor shall, in respect of that delay and the Cost of such rectification, be entitled to make a claim in accordance with Clause 10.1.1."

The Contractor shall advise the Engineer of any conflict between the position of any part of the Works and an existing feature.

SDA 5.2 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS.

ADD THE FOLLOWING AFTER THE SECOND SENTENCE OF SUBCLAUSE 5.2:

“ The Contractor shall, in connection with the Works, provide and maintain all signs, signboards, lights, barriers, barricades, fencing and watching when and where:

a) specified in or reasonably to be inferred from the Contract, or

b) required by any competent statutory or other authority, or

c) required by the Engineer for the protection of the Works or for the safety or convenience of the public or others;

provided that, if the Engineer shall instruct the Contractor to provide any sign, signboard, light, barrier, barricade, fencing or watching not included in paragraphs (a), (b) or (c), such requirement shall constitute a variation by the Engineer in terms of Clause 6.4 of the General Conditions of Contract".

All temporary signs shall be of the type and size required for rural roads, as applicable, as specified in the "Southern African Development Community Road Traffic Signs Manual" and Chapter 13, [Roadworks Signing] of the South African Road Traffic Signs Manual".

Unless the closing of streets, accesses and thoroughfares has been properly arranged, the Contractor shall accommodate and provide for through traffic, traffic at crossings and vehicular access to houses and buildings at all times. If necessary, safe ramps to mount road kerbs shall be provided where traffic is to be diverted.

SDA 5.3 PROTECTION OF EXISTING STRUCTURES

REPLACE" Machinery and Occupational Safety Act, 1983 (Act No 6 of 1983)" WITH "Occupational Health and Safety Act, 1993 (Act No 85 of 1993), as amended," AND INSERT THE FOLLOWING AFTER "(Act No. 27 of 1956)": "as amended".

SDA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES

REPLACE THE HEADING AND THE CONTENTS OF SUBCLAUSE 5.4 WITH THE FOLLOWING:

"SDA 5.4 LOCATION AND PROTECTION OF EXISTING SERVICES

SDA 5.4.1 Location of existing services

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent contractor to be present on, under, over or within the Site.

Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and interference with services, the Contractor shall, in collaboration with the Engineer, obtain the most up-to-date plans as are available, showing the positions of services existing in the area where he intends to work. Neither the Employer nor the Engineer offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter, the Contractor shall, by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Engineer, for the purposes of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of subclauses 4.4 and 5.1.2.2 of SABS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as 'known services' and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Engineer without delay.

As soon as any service which has not been identified and located as described above is encountered on, under, over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Engineer immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of or damage as may occur to

(a) known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and

(b) any other service which ought reasonably to have been a known service in accordance with the provisions of this clause.

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of his costs of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Engineer the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and prices included in the Contract.

Payment to the Contractor in respect of exposing services at the positions agreed by the Engineer and as described above will be made under the payment items (if any) as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

SDA 5.4.2 Protection during construction

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known services during the period which the Contractor has occupation and/or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising therefrom to the public and/or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Engineer, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In roadways, the requirements of subclause 5.9 of SABS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

SDA 5.4.3 Alterations and repairs to existing services

Unless the contrary is clearly specified in the Contract or ordered by the Engineer, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Engineer, who will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services, the Contractor shall immediately inform the Engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take appropriate steps to minimise damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted by the Contractor.

Before the commencement of any excavation the Contractor shall confirm the name and telephone number of the relevant officials directly concerned with the known or suspected services, shall acquaint himself with the position of the control points of the services and shall have readily available the equipment necessary to shut-off and isolate any such service. The Contractor shall liaise with the relevant authorities or controlling bodies for the necessary temporary closure of any services during construction.

PSA5.5 DEALING WITH WATER ON THE WORKS

The Contractor's attention is drawn to the fact that, apart from normal dealing with stormwater and seepage water which may influence the construction of the permanent Works, special arrangements and de-WATER INg measures will have to be made to control and/or remove water for the protection of excavations.

PSA5.8 GROUND AND ACCESS TO THE WORKS

Refer also Clause C3.1.4

The Contractor shall provide temporary access to the Works and to the dumping areas/ spoil site, as may be required by him and to the approval of the Employer’s Agent.

PSA5.9 WORKMAN’S COMPENSATION ACT

All labour employed on the Site shall be covered by the Workmen's Compensation Act. The Contractor shall pay in full, such amounts, as are due in terms of the Act, including the payment of the necessary levies.

The manner in which Workman’s Compensation will be handled, shall be resolved by the Contractor with all the relevant parties at the commencement of the Contract.

SDA 5.7 SAFETY

REPLACE THE CONTENTS OF SUBCLAUSE 5.7 WITH THE FOLLOWING:

"Pursuant to the provisions of the Conditions of Contract, and without in any way limiting the Contractor's obligations thereunder, the Contractor shall at his own expense (except only where specific provision (if any) is made in the Contract for the reimbursement to the Contractor in respect of particular items), provide the following:

(a) Provide to its Employees on the site of the works, all safety materials, clothing and equipment necessary to ensure full compliance with the provisions of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) as amended (hereinafter referred to as the Act) at all times, and shall institute appropriate and effective measures to ensure the proper usage of such safety materials, clothing and equipment at all times;

(b) Provide, install and maintain all barricades, safety signage and other measures to ensure the safety of workmen and all persons in, on and around the site, as well as the general public;

(c) Implement on the site of the works, such procedures and systems and keep all records as may be required to ensure compliance with the requirements of the Act at all times;

(d) Implement all necessary measures so as to ensure compliance with the Act by all subcontractors engaged by the Contractor and their employees engaged on the works;

(e) Full compliance with all other requirements pertaining to safety as may be specified in the Contract.

The Employer and the Engineer shall be entitled, although not obliged, to make such inspections on the site as they shall deem appropriate, for the purpose of verifying the Contractor's compliance with the requirements of the Act. For this purpose, the Contractor shall grant full access to the site of all parts of the site and shall co-operate fully in such inspections and shall make available for inspection all such documents and records as the Employer's and/or Engineer's representative may reasonably require.

Where any such investigations reveal, or where it comes to the Engineer's attention that the Contractor is in any way in breach of the requirements of the Act or is failing to comply with the provisions of this clause, the Engineer shall, in accordance with the provisions of Clause 5.11.2 (GCC 2015) of the Conditions of Contract, be entitled to suspend progress

on the works or any part thereof until such time as the Contractor has demonstrated to the satisfaction of the Engineer, that such breach has been rectified.

The Contractor shall have no grounds for a claim against the Employer for extension of time and/or additional costs if the progress on the works or any part thereof is suspended by the Engineer in terms of this clause, and the Contractor shall remain fully liable in respect of the payment of penalties for late completion in accordance with the provisions of Clause 5.13.1 (GCC 2015) of the Conditions of Contract should the Contractor fail to complete the Works on or before the specified due completion date in consequence of the suspension.

Persistent and repeated breach by the Contractor of the requirements of the Act and/or this clause shall constitute grounds for the Engineer to act in terms of Clause 9.2.1.1 (GCC 2015) of the Conditions of Contract and for the Employer to cancel the Contract in accordance with the further provisions of the said Clause 9.2.1 (GCC 2015)."

ADD THE FOLLOWING SUBCLAUSES TO CLAUSE 5:

SDA 5.9 SITE MEETINGS

The Contractor or his authorised agent will be required to attend regular site meetings, which shall normally be held once a month on dates and at times determined by the Engineer, but in any case, whenever reasonably required by the Engineer. Unless otherwise indicated in the Contract or instructed by the Engineer, such meetings shall be held at the Contractor's offices on the site. At such monthly meetings, matters such as general progress on the works, quality of work, problems, claims, payments, and safety shall be discussed, but not matters concerning the day-to-day running of the Contract.

SDA 6 TOLERANCES

ADD THE FOLLOWING SUBCLAUSE TO CLAUSE 6:

"SDA 6.4 USE OF TOLERANCES

No guarantee is given that the full specified tolerances will be available independently of each other, and the Contractor is cautioned that the liberal or full use of any one or more of the tolerances may deprive him of the full or any use of tolerances relating to other aspects of the work.

Except where the contrary is specified, or when clearly not applicable, all quantities for measurement and payment shall be determined from the 'authorised' dimensions. These are specified dimensions or those shown on the Drawings or, if changed, as finally prescribed by the Engineer, without any allowance for the specified tolerances. Except if otherwise specified, all measurements for determining quantities for payment will be based on the 'authorised' dimensions.

If the work is constructed in accordance with the 'authorised' dimensions plus or minus the tolerances allowed, the calculation of quantities will be based on the 'authorised' dimensions, regardless of the actual dimensions to which the work has been constructed.

When the work is not constructed in accordance with the 'authorised' dimensions plus or minus the tolerances allowed, the Engineer may nevertheless, at his sole discretion, accept the work for payment. In such cases no payment shall be made for quantities of work or material in excess of those calculated for the 'authorised' dimensions, and where the actual dimensions are less than the 'authorised' dimensions minus the tolerance allowed, quantities for payment shall be calculated based on the actual dimensions as constructed."

SDA 7 TESTING

SDA 7.1 PRINCIPLES

SDA 7.2 APPROVED LABORATORIES

REPLACE THE CONTENTS OF SUBCLAUSE 7.2 WITH THE FOLLOWING:

"Unless otherwise specified in the relevant specification or elsewhere in the Project Specification, the following shall be deemed to be approved laboratories in which design work, or testing required in terms of a specification for the purposes of acceptance by the Engineer of the quality of materials used and/or workmanship achieved, may be carried out:

(a) Any testing laboratory certified by the South African National Accreditation Systems (SANAS) in respect of the nature and type of testing to be undertaken for the purposes of the Contract;

(b) Any testing laboratory owned, managed or operated by the Employer or the Engineer;

(a) Any testing laboratory established and operated on the Site by or on behalf of the Employer or the Engineer.

(d) Any other laboratory that the Engineer approves in his absolute discretion."

SDA 8 MEASUREMENT AND PAYMENT

SDA 8.1 MEASUREMENT

SDA 8.1.1 Method of measurement, all sections of the Schedule

IN THE SECOND LINE OF SUBCLAUSE 8.1.1, AFTER THE WORDS" standardized specification or in" ADD "BETWEEN THE WORDS "specification" AND "the following", INSERT THE WORDS" the measurement and payment clause of the standard specification, particular specification or".

DELETE THE WORDS "and South West Africa".

SDA 8.1.2 Preliminary and General item or section

SDA 8.1.2.1 Contents

REPLACE THE LAST SENTENCE OF SUBCLAUSE 8.1.2.1(b) WITH THE FOLLOWING:

"Separate items will be scheduled to cover the fixed, value-related and time-related components of the Contractor's preliminary and general costs."

SDA 8.1.2.2 Tendered sums

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Except only where specific provision is made in the Specifications and/or the Schedule of Quantities for separate compensation for any of these items, the Contractor's tendered sums under items SDA 8.3 and SDA 8.4 shall collectively cover all charges for:

- Risks, costs and obligations in terms of the Conditions of Contract and of this standardized specification;
- Head-office and site overheads and supervision;
- Profit and financing costs;
- Expenses of a general nature not specifically related to any item or items of the permanent or temporary work;
- providing such facilities on site as may be required by the Contractor for the proper performance of the Contract and for its personnel, including, but without limitation, providing offices, storage facilities, workshops, ablutions, services such as water, electricity, sewage and rubbish disposal, access roads and all other facilities required, as well as for the maintenance and removal on completion of the works of these facilities and cleaning-up of the site of the Contractor's establishment and reinstatement to not less than its original condition;
- Providing the facilities for the Engineer and his staff as specified in the Contract and their removal from the site on completion of the Contract;
- Erection, maintenance and removal of temporary fencing and barricades;
- Dealing with water (Subclause 5.5);
- Access to works (Subclause 5.8); and
- Providing and maintaining the fire-fighting equipment, as well as training the work teams in their use."

SDA 8.2 PAYMENT

SDA 8.2.1 Fixed-charge and value-related items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.1 WITH THE FOLLOWING:

SDA 8.2.1.1 Fixed-charge items

"Payment of fixed charges in respect of item 8.3.1 will be made as follows:

(a) EIGHTY PER CENT (80%) of the sum tendered will be paid when the facilities have been provided and approved;

(b) The remaining TWENTY PER CENT (20%) will be paid when the works have been completed, the facilities have been removed and the site of the Contractor's establishment has been cleared and cleaned to the satisfaction of the Engineer.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in the tender.

SDA 8.2.1.2 Value-related items

Payment for the sum tendered under item 8.3.2 will be made in three separate instalments as follows:

(a) The first instalment, which is 40% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Contract Data (GCC 2015), and when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 5% of the total value of the work listed in the Schedule of Quantities.

(b) The second instalment, which is 40% of the sum, will be made when the amount certified for payment, including retention moneys but excluding this second instalment, exceeds 50% of the tender sum.

(c) The final payment, which is 20% of the sum, will be made when the works have been certified as completed and the Contractor has fulfilled all his obligations to date under this Specification, the General Conditions of Contract and the Contract Data (GCC 2015).

Should the value of the measured work finally completed be more or less than the tender sum, the sum tendered under item 8.3.2 will be adjusted up or down in accordance with the provisions of Clause 6.11.1 (GCC 2015) of the Conditions of Contract amended to clause 6.11 of the variation of the conditions of contract, and this adjustment will be applied to the third instalment."

SDA 8.2.2 Time-related items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.2 WITH THE FOLLOWING:

"Subject to the provisions of subclauses 8.2.4, payment under item 8.4.1 (time-related item) will be made monthly in equal amounts, calculated by dividing the sum tendered for the item by the tendered Contract period in months, provided always that the total of the

monthly amounts so paid for the item is not out of proportion to the value of the progress of the Works as a whole."

Notwithstanding the stipulation of Subclause 8.2.2, an approved extension of time will only entitle the Contractor to payment in terms of clause 5.12.3 of GCC 2015.

SDA 8.3 SCHEDULED FIXED-CHARGE AND VALUE-RELATED ITEMS

REPLACE THE CONTENTS OF SUBCLAUSE 8.3.1 WITH THE FOLLOWING:

"SDA 8.3.1 Fixed preliminary and general charges Unit: sum

The sums tendered shall include full compensation for all fixed-charge preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.1.1.

Payment for “operation and maintenance of facilities for the Engineer”, in accordance with Subclause 8.4.2.1 will not be authorized by the Engineer until the name board has been erected and approved.

SDA 8.3.2 Value-related preliminary and general charges Unit: sum

The sums tendered shall include full compensation for all value-related preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.1.2."

SDA 8.4 SCHEDULED TIME-RELATED ITEMS

REPLACE THE CONTENTS OF SUBCLAUSE 8.4 WITH THE FOLLOWING:

"SDA 8.4.1 Time-related preliminary and general charges Unit: sum

The sum tendered shall include full compensation for all time-related preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.2."

SDA 8.5 SUMS STATED PROVISIONALLY BY THE ENGINEER

REPLACE THE CONTENTS OF SUBCLAUSE 8.5 WITH THE FOLLOWING:

"SDA 8.5.1 Works executed by the subcontractor

(a) Work to be executed by a Nominated Subcontractor Unit: Prov Sum

(b) Overheads, charges and profit on item (a) above Unit: %

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different Subcontract included in the Contract.

The Contractor shall be reimbursed under subitem (a), in substitution of the respective Provisional Sums (if any) allowed in the Schedule of Quantities, the amounts actually paid or payable by the Contractor to the respective Nominated Subcontractors, in accordance with the provisions of Clause 6.6 of the Conditions of Contract.

The Contractor shall be paid under subitem (b), either:

(a) where the unit of measurement for subitem (b) was specified as being a percentage, the respective percentage, as stated by the Contractor in is tender, of the amount certified by the Engineer for payment under the related subitem (a), all in accordance with the provisions of Clause 6.6.1.2.1 of the Conditions of Contract, or

(b) where the unit of measurement for subitem (b) was specified as being a lump sum, an amount which is in the same proportion to the amount certified for payment under subitem (a) and the tendered lump sum is to the amount of the Provisional Sum stated under subitem (a) in accordance with the provisions of Clause 6.6.1.2.2.

The percentage or sum (as applicable) paid under subitem (b) as aforesaid, shall be deemed to include for full and final compensation to the Contractor for all costs as may be incurred and all charges and profits associated with the engagement, supervision, administration and management of the Nominated Subcontractor required of him in fulfilling its obligations under the Contract as the Principal Contractor."

SDA 8.5.2 Works executed by Nominated Subcontractors

(a) Work to be executed by a Nominated Subcontractor Unit: Prov Sum

(b) Overheads, charges and profit on item (a) above Unit: % or sum

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different Nominated Subcontract included in the Contract.

The Contractor shall be reimbursed under subitem (a), in substitution of the respective Provisional Sums (if any) allowed in the Schedule of Quantities, the amounts actually paid or payable by the Contractor to the respective Nominated Subcontractors, in accordance with the provisions of Clause 45 of the Conditions of Contract.

The Contractor shall be paid under subitem (b), either:

(a) where the unit of measurement for subitem (b) was specified as being a percentage, the respective percentage, as stated by the Contractor in is tender, of the amount certified by the Engineer for payment under the related subitem (a), all in accordance with the provisions of Clause 45.1.2.1.1 of the Conditions of Contract, or

(b) where the unit of measurement for subitem (b) was specified as being a lump sum, an amount which is in the same proportion to the amount certified for payment under subitem (a) and the tendered lump sum is to the amount of the Provisional Sum stated under subitem (a) in accordance with the provisions of Clause 45.1.2.1.2.

The percentage or sum (as applicable) paid under subitem (b) as aforesaid, shall be deemed to include for full and final compensation to the Contractor for all costs as may be incurred and all charges and profits associated with the engagement, supervision, administration and management of the Nominated Subcontractor required of him in fulfilling its obligations under the Contract as the Principal Contractor."

SDA 8.6 PRIME COST ITEMS

REPLACE SUBCLAUSE 8.6 WITH THE FOLLOWING:

"SDA 8.6 PRIME COST SUMS

(a) Description of item to which Prime Cost Sum applies Unit: PC Sum

(b) Charge required by Contractor on subitem (a) above
Unit: %

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different item to which a Prime Cost Sum applies.

The Contractor shall be reimbursed under subitem(s) (a) in substitution of the respective Prime Cost Sums included in the Contract, the actual price(s) paid or payable by him in respect of the goods, materials or services supplied, but excluding any charges for the Contractor's labour, profit, carriage, establishment or other charges related to such goods, services or materials.

The Contractor shall be paid under subitem (b), the respective percentage, as stated by the Contractor in his tender, of the amount certified by the Engineer for payment under the related subitem (a). The percentages tendered by the Contractor for each respective subitem (b) included in the Schedule of Quantities shall be deemed to be in full and final compensation to the Contractor in respect of any charge by the Contractor for labour, carriage profit, establishment and for any other charges related to the goods, services or materials supplied under the related subitem (a).

If the Contractor shall have omitted within his tender to insert a tendered percentage under subitem (b), or tendered a zero percentage, the Contractor's tendered rate for subitem (b) shall be deemed to be zero and the Contractor shall not be entitled to any payment under subitem (b).

Note in connection with additional tests required by the Engineer:

When a PC sum is included in the Schedule of Quantities for additional tests required by the Engineer, the Contractor shall be responsible for both the cost of normal testing as described in subclause SDA 8.1.2.2 of the Project Specifications and for the cost of any additional test that indicates that the specifications have not been complied with."

SDA 8.7 DAYWORK

REPLACE THE CONTENTS OF SUBCLAUSE 8.7 WITH THE FOLLOWING:

"Measurement and payment shall be in accordance with the provisions of Clause 6.5.1.1 (GCC 2015) of the Conditions of Contract."

ADD THE FOLLOWING ITEMS:

"SDA 8.9 COMPLIANCE WITH OHS ACT AND REGULATIONS

(INCLUDING THE CONSTRUCTION REGULATIONS 2014)

Unit: sum

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2014) at all times for the full duration of the Contract, as described in C3.6.1 (for CIDB document format). The successful tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance."

"SDA 8.10 COMMUNITY LIASON AND COMMUNITY RELATIONS Unit: month

a) A total amount of R 7500.00 is to be paid to the community liaison officer for the duration of the construction of this project.

Add this new clause:

“4.23 Community participation”

Community participation consists of engagement of Project Steering Committees (PSC).

A PSC will be established for the project, by the Ward Councillor.

The functions of the PSC will be to:

- Assist in monitoring the project.
- Ensure that the community provide assistance to the contractor to ensure that he can execute the contract in accordance with the specifications and within time.
- Encourage the community to participate in the Labour-Intensive construction.
- Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

- Give any instructions to the contractor, except through the engineer.
- Become involved in the daily operations of the contractor or interfere with the contract works.

b) A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on

progress, deviations from the programme, financial matters community related aspects, general problems and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport."

c) Payment will be R250.00 per member.

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance."

"SDA 8.11 Training of Targeted Labour

a) The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

b) The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

c) The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.

d) The contractors shall do nothing to dissuade targeted labour from participating in the above-mentioned training programmes.

e) An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of d) above.

f) Proof of compliance with the requirements of a) to f) above must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

(i) Technical Training Prov. Sum

(ii) HIV/AIDS Prov. Sum

(iii) Handling cost and profit in respect subitem B12.04(i) and (ii)

B1230 PROVISION OF STRUCTURED TRAINING

CONTENTS

1 SCOPE

2 GENERIC TRAINING

3 ENTREPRENEURIAL SKILLS TRAINING

4 INSERVICE TRAINING

4 MEASUREMENT AND PAYMENT

1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

2 GENERIC TRAINING

2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

2.2 The generic training will inter alia comprise, but not be limited to the following subjects:

Course Description	**Estimated No. Of Trainees**	**Estimated Duration (Days)**
1. Road safety for construction workers		……
2. Flagmen		……..
3. Concrete handling, placing and finishing		……
4. Guardrails		……
5. Bituminous road surfacing		……

2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

(a) The name of the training institution and programme

(b) The manner in which the training is to be delivered.

(c) The numbers and details of the trainers

Such details shall be entered on or attached to Form #### included herein.

2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

(a) A suitable venue with sufficient furniture, lighting and power.

(b) All necessary stationery consumables and study material

(c) Transport of the students (as necessary)

(d) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.

(e) relevant PPE required for the project works

(f) Additional supervision of learners during the practical learning stages of the works. Wage for the leaners during this stage of the training will be paid through the outputs.

2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

.2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so, instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form is illustrated in Part C## of this document (form ####)

3 ENTREPRENEURIAL SKILLS TRAINING

3.1 Small contractors and subcontractors will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor.

3.6 The structured training will comprise out of the following as decided by the Employer:

Course Description	**Estimated Duration (Days)**
1. Basic Business Principles	……
2. Basic Supervision	……..
3. Running A Business	……
4. Legal Principles	……
5. Achieving Standards	……

3.7 The contractor shall provide with his tender, full details of the structured training programme, which he intends to implement, which details shall include the following:

(a) The name of the training institution and programme

(b) The various aspects of each type of training comprised in the programme

(c) The manner in which the training is to be delivered

(d) The numbers and details of the trainers to be utilised.

Such details of the proposed entrepreneurial training programme shall be entered on or attached to form #### of the forms to be completed by the tenderer.

3.8 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

(a) A suitably furnished venue (if required) with lighting and power.

(b) All necessary consumables, stationery and study material

(c) Transport of the subcontractors (as necessary)

3.9 All entrepreneurial training shall take place within normal working hours.

3.10 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so, instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

3.11 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form to be used is illustrated in Part C## of this document, (form ###)

4. IN SERVICE TRAINING

4.1 The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

4.1.1 Details of in-service training

(i) The contractor shall attach to applicable returnable form the basic details of his proposed in- service training programme, which details shall inter alia include the following:

- the details of training to be provided
- the manner in which the training is to be delivered
- the number and details of trainers to be utilised.

(ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

(iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

(iv) All labourers shall be remunerated in respect of all time spent undergoing training.

(v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:

- the name of the contractor
- the name of the employee
- the name of the project/contract
- the nature of the work satisfactorily executed by the worker and the time spent thereon
- the nature and extent of training provided to the worker
- the dates of service.

(vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

4.1.2 Lead time for training

The training of labour as specified shall, as far as possible, take place before commencement of each activity and the contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract".

All formal training is to be documented in terms of the National/Provincial submission forms, and accompanied by an attendance register for the applicable days.

5 MEASUREMENT AND PAYMENT		
	ITEM	**UNIT**
	E12.05 Provision for training	
(a)	Generic skills Provisional (list training courses)	sum
(b)	Entrepreneurial skills Provisional	sum
(c)	Handling cost and profit in respect of sub-item E12.05(a) and (b) above	percentage (%)
(d)	Training venue (only if required)	lump sum
(e)	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (Provisional sum)	sum
(f)	Additional supervision during practical training	lump sum

The prime cost sums are provided to cover the actual costs (including wages, tools and PPE) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item 4.1(c) is a percentage of the amount actually spent under sub-items 4.1(a) and (b) which shall include full

compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for 4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the provision of all the accredit training as specified in the document.

The lump sum tendered for 4.1 (e) shall include full compensation for the provision of additional supervisory staff to manage the output generated from the learners during practical training.

2.1. B1231 COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

(i) To be available on site daily between the hours of (insert time) and (insert time) and at other time as the need arises. His normal working day will extend from morning until (insert time) in the afternoon.

(ii) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.

(iii) To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.

(iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a “labour desk”.

(v) To attend all meetings in which the community and/or labour are present or are required to be represented.

(vi) To assist in the identification, and screening of labourers from the community in accordance with the contractor’s requirements.

(vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.

(viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.

(ix) To keep a daily written record of his interviews and community liaison.

(x) To attend monthly site meetings to report on labour and RDP matters.

(xi) All such other duties as agreed upon between all parties concerned.

(xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance.

(b) Payment for the community liaison officer

A special pay item is incorporated in section 1200 of the bill of quantities relating to payment of the liaison officer on a prime cost sum basis. This payment shall only be made for the period for which the duties of the liaison officer are required and not necessarily for the full duration of the contract. The remuneration of the CLO shall be determined jointly by the contractor, engineer and employer.

(c) Period of employment of the community liaison officer

The period of employment of the community liaison officer shall be as decided upon jointly by the contractor, engineer and employer.

2.2 COMMUNITY PARTICIPATION.

2.1 Purpose

In order to give effect to the need for participation and transparency in the process of appointing labour, the community should participate in the decision-making process throughout the life of a project. This shall be achieved through structured engagement between those responsible for the delivery of the project and the community.

2.2 Structure and Composition

A Project Liaison Committee (PLC) may be formed from representatives of the Employer, the Engineer, the Contractor and the Community if the project is such that a specific community can be identified.

2.3 Procedures

2.3.1 The PLC deals with labour and SMME involvement on the project and shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

2.3.2 The PLC shall make recommendations by consensus. If consensus cannot be reached, the decision of the Employer will be final in cases that have no financial implications for the Contractor or where payment is to be made from PC items. Where the financial responsibility for the successful completion of the works rests with the Contractor, the Contractor's decision shall be final. In fulfilling its tasks, the PLC shall be guided by the relevant sections of this specification and the supplementary documents.

2.4 Tasks of the PLC

2.4.1 To assist with community liaison and resolution of disputes.

2.4.2 To devise fair and transparent procedures that will assist the Contractor in the engagement of labour and the award of sub-contracts to SMME's.

2.4.3 To advise on and monitor labour issues.

2.4.4 To assist in resolving labour disputes.

2.5 Assistance to the PLC

2.5.1 The Employer may appoint a competent local person as a Community Liaison Officer to assist the Engineer and the Contractor in the day-to-day liaison with the communities directly affected by the project.

SDAB3.1 NAMEBOARDS

Notwithstanding the provision of Sub-clause 3.1, one name board shall be erected and the board shall comply with the format and size to be provided by the Employer's Agent.

This name board shall be erected and maintained at the main service road and entrance to the Site at the main road.

The Contractor shall not erect any signs, notices or advertisements on or adjacent to the Site of Works other than the project nameboard specified herein without the written approval of the Employer's Agent. The Contractor may, when applicable, permit each of his/her Sub-contractors to display one signboard of less than 2 m2 in size at the Contractor's camp or Site office.

All nameboards and signboards shall be removed by the end of the Defects Liability Period.

SDAB3.2 OFFICE BUILDING

One office completes with furnishings as specified, must be provided by the Contractor for the Employer's Agent.

Although ski-cabins or similar structures will be acceptable as offices even if they might not comply with the requirements specified for floor area and ceiling height, the use of such structures will be subject to the approval of the Employer's Agent.

The Contractor shall be required to consult with the Employer's Agent prior to the supply and erection of the office.

SDAB3.3 CARPORTS

A carport to provide for two motor vehicles shall be erected adjacent to the Employer's Agent's office for exclusive use. The carport shall have side cladding and shall be constructed in such a way as to shelter the parked vehicles from the prevailing winds, sun and driven rain.

SDAB3.4 ABLUTION AND LATRINE FACILITIES

The Contractor shall, in addition to catering for his/her own staff, provide ablution and latrine facilities adjacent to the Employer's Agent's office for the exclusive use of the Employer's Agent and his/her staff. The facilities shall consist of a shower, hand washbasin and a water born latrine.

The facility shall be clean and maintained in a hygienic condition for the duration of the Contract.

SDAB3.5 HEATING AND COOLING FACILITIES (Sub-clause 3.2(j))

The Contractor shall supply and install in the offices specified under SDAB3.2 an air-conditioning unit with cooling and heating capacity of at least 2 500 k/cal.

SDAB3.6 REFRESHMENTS FOR THE EMPLOYER'S AGENT AND HIS/HER STAFF

Tea and/or coffee shall be provided by the Contractor for Employer's Agent, and the Employer's Agent's staff, at reasonable intervals throughout any working day for the duration of the Construction period.

SDAB4 PLANT

SDAB4.1 TELEPHONE AND FAX (Sub-clauses 4.1 and 5.4)

In terms of Sub-clause 4.1, the Employer's Agent allowed a PC sum of R 1,900 per month for the duration of the Contract to defray costs associated with cellular telephone expenses.

The Contractor shall arrange the provision of the Employer's Agent's on-site communication system. All costs and accounts shall be payable by the Contractor for the duration of the construction period.

A WIFI facility with 10 GB per month data shall be provided in the Employer's Agent's Office and the cost of this shall be payable by the Contractor. The Contractor shall be required to bear the cost of transmissions and consumables such as paper, maintenance etc.

Upon completion of the Works the ownership of the WIFI facility shall revert to the Employer.

SDAB4.2 SURVEY EQUIPMENT

The Contractor shall provide the following survey equipment on the Site from the commencement to the completion of the Works:

(a) 1 No. Tachometer capable of reading to 20 seconds of arc with tripod; 1 No. Employer's Agent's automatic level with tripod and staff;

(b) 2 x Tachometer staffs with staff bubble;

(c) 2 x levelling staffs graduated in 5 mm intervals with staff bubble;

(d) 6 No. Ranging rods;

(e) 1 No. 3 m pocket tape

(f) 1 No. 30 m Fibreglass measuring tape;

(g) 1 No. 100 mm steel measuring tape; and

(h) All steel pegs, shovels, picks, etc. which the Employer's Agent's Representative may require for the duration of the Contract.

The instruments may, by arrangement, be shared between the Contractor and the Employer's Agent's Representative.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period. The Contractor shall keep the equipment continuously insured against any loss, damage, or breakage and the Contractor shall indemnify the Employer's Agent and the Employer against any claims in this regard. Upon completion of the Works, the ownership of the equipment shall revert to the Contractor.

SDAB4.3 FIRST-AID KIT AND PROTECTIVE CLOTHING

The Contractor shall provide and maintain, in compliance with the OHS Act and regulations (including the construction regulations 2003), on the Site of Works two first-aid kits to deal with unforeseen accidents and snakebite which may occur during the normal on-Site operations.

The Contractor shall provide two sets of safety helmets, safety footwear and rubber boots for the exclusive use of the Employer's Agent and his/her staff.

SDAB8.4.3.1 Personal & Other Protective Equipment

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any ### projects:

- Protective overalls
- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM UNIT

SDAB8.4.3.1 Extra over sub-item for branding of EPWP PPE …….. Lump Sum

Measurement shall be as specified for pay item SDAB8.4.3.1. of the standard specifications.

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

SDAB5 CONSTRUCTION

SDAB5.1 NAME BOARDS

Delete the words "on completion of the contract," and substitute it with:

"....by the end of the defects liability period, or at such other earlier time as the Employer's Agent may instruct or approve."

EPWP signboard

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

SDAB5.2 SERVICES FOR OFFICE AND ABLUTIONS

The Contractor shall provide, at his/her own cost, a constant supply of potable water and electric power to the Employer's Agent's office and ablutions facility.

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Two survey assistants shall be allocated to the Employer's Agent by the Contractor. The assistants shall be able to read and write either Afrikaans or English and shall be available to the Employer's Agents as assistants at all reasonable times during the construction period.

SDAB8 MEASUREMENT AND PAYMENT

SDAB8.2.2 Employer's Agent's Office Unit: Sum

(Fixed Charge and Time Related Item)

The tendered sum for an office shall include all costs for the installation and maintenance and removal of carports (SDAB3.3), ablutions and latrine (SDAB3.4), heating and cooling facilities (SDAB3.5), refreshments (SDAB3.6), the installation and maintenance of computer facilities (SDAB 4.4), the provision of a first-aid kit and protective clothing (SDAB4.3), and services (SDAB5.2).

SDAB8.2.3 Employer's Agent's WIFI……. Unit : Sum

(Fixed Charge and Time Related Item)

The tendered sum for Employer's Agent's wifi shall include all costs for the installation and maintenance (SDAB 4.1) for the duration of the Contract. The Contractor will be required to bear all costs relating to telephone calls, data use and printing.

SDAB8.2.4 Survey Equipment and Assistants Unit: Sum

(Fixed Charge and Time related item)

The tendered sum shall include all costs for the supply and maintenance of the survey equipment (SDAB4.2) and the employment of assistants for the Employer's Agent (SDAB5.5).

SDAB8.2.5 Digital Camera Unit: Sum

(Prime Cost Item)

The tender sum shall include all costs for the supply, service and maintenance of the camera as specified in SDAB4.5.

SDAB8.2.6 Name Board Unit: ProvSum

(Fixed Charge and Time related item)

The actual cost to the Tenderer shall include all costs for the supply, maintenance and removal of two nameboards (SDAB3.1) from the provisional sum allowed by the Employer's Agent.

SDC SITE CLEARANCE

SDC 3 MATERIALS

SDC 3.1 DISPOSAL OF MATERIAL

ADD THE FOLLOWING:

"The Contractor shall obtain his own dumping sites for the disposal of material and all transport costs shall be included in the rates tendered for site clearance."

No overhaul will be paid for any spoil material and the Contractor shall allow for all haulage costs in his tendered rates.

SDC 5 CONSTRUCTION

SDC 5.1 AREAS TO BE CLEARED AND GRUBBED

ADD THE FOLLOWING:

"Pipeline routes shall be cleared to a distance of 1,5 m on both sides of the pipeline centre line. Route pegs or markers shall not be destroyed or damaged during clearing operations."

SDC 5.2 CUTTING OF TREES

SDC 5.2.3 Preservation of trees

SDC 5.2.3.2 Individual trees

REPLACE THE LAST SENTENCE WITH THE FOLLOWING:

"An amount of R1 500, 00 will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily."

SDC 5.5 RECLEARING OF VEGETATION

ADD THE FOLLOWING:

"When areas have to be re-cleared on the written instructions of the Engineer, such re-clearing shall be carried out at the Contractor's own cost and the Contractor is therefore advised not to clear the areas too soon.

SDC 5.6 DEMOLITION OF CONCRETE

The Contractor is to ensure that forces caused by the demolition process do not induce stress on the remaining parts of the structures or on other existing structures that may cause cracking. Use is to be made of suitable energy absorbing materials during the demolition process. The structures/sections of structures to be demolished are indicated on the drawings. The strength of the existing reinforced concrete is to be expected to be in excess of 30 MPa.

The Contractor may only proceed to cut reinforcing upon written instruction of the Employer's Agent.

The Contractor is to submit a proposed work method and planning schedule for each type of demolition to the Employer's Agent for approval before work commences.

The following types of structures are to be demolished:

- Mass concrete
- Rectangular openings of various sizes in reinforced concrete walls with varying depths – typically the existing sand filter floors.
- Bulk reinforced concrete demolition such as a plinth, sections of structures or complete structures
- The breaking of concrete shall be to lines as indicated on the drawings.

The following methods of demolition will not be permitted:

- The use of thermal lancing
- The use of any explosion method
- The use of poisonous chemicals

The following methods of demolition shall be considered as acceptable:

- Diamond impregnated wire or blade sawing
- Jack hammers
- Wood peckers or nibblers
- Hydro cutting
- Air cutting
- Any other method as indicated by the Employer's Agent

SDC 5.7 DEMOLITION OF BUILDING WORK

The Contractor is to ensure that the demolition process does not induce stresses on the existing structure that may cause cracking of the concrete. Use is to be made of energy absorbing materials under the demolition area to protect existing concrete surfaces. The

building work to be demolished is indicated on the drawings. All material to be stored in a designated store and no materials shall be taken off site without consent from the Employer's Agent or Employer.

SDC 8 MEASUREMENT AND PAYMENT

SDC 8.2 PAYMENT

SDC 8.2.1 Clear and grub

The area designated by the Engineer to be cleared and grubbed will be measured in square metre to the nearest square metre. The rate tendered for clearing and grubbing shall cover the cost of disposal and the total haulage cost of the material off the site as directed in SDC 3.1 and the protection of erf pegs

SDC 8.2.11 Take down and re-erect existing fences Unit: m

The rate shall cover the cost of taking down the fences, coiling wire, sorting, stacking and guarding all materials, the cost of loading, transporting and off-loading such materials, the cost of re-erecting the fence in its original position using the dismantled material, the cost of temporary bracing of the fencing sections not taken down and the cost of appurtenant materials that may be required to restore the fence to its original condition before dismantling.

Amendments made to COTO are included in the following Chapters:

CHAPTER 1	:	GENERAL
CHAPTER 2	:	SERVICES
CHAPTER 3	:	DRAINAGE
CHAPTER 4	:	EARTHWORK AND PAVEMENT LAYERS: MATERIALS
CHAPTER 5	:	EARTHWORK AND PAVEMENT LAYERS: MATERIALS
CHAPTER 6	:	CONCRETE LAYERS
CHAPTER 7	:	MAINTAINANCE AND REPAIR OF CONCREETE LAYERS
CHAPTER 8	:	PRETREATMENT AND REPAIR OF EXISTING LAYERS
CHAPTER 11	:	ANCILLARY ROAD WORKS
CHAPTER 12	:	GEOTECHNICAL APPLICATIONS
CHAPTER 13	:	STRUCTURES
CHAPTER 14	:	REPAIR AND REHABILITATION OF STRUCTURES
CHAPTER 15	:	Reserved for future use
CHAPTER 16	:	Reserved for future use
CHAPTER 17	:	Reserved for future use
CHAPTER 18	:	Reserved for future use
CHAPTER 19	:	Reserved for future use
CHAPTER 20	:	QUALITY ASSURANCE

COTO CHAPTER 1: GENERAL

SECTION B1100 : DEFINITIONS AND TERMS

B1115 GENERAL CONDITIONS OF CONTRACT

Replace clause 1115 with the following:

"The General Works Conditions applicable to this Contract shall be the Conditions of Contract for Construction Works, Third edition, 2015.

All references to the COTO General Conditions of Contract 2020 in the COTO Standard Specifications for Road and Bridge Works for State Road Authorities, 2020 are to be deleted and replaced where applicable by references to the Conditions of Contract stated in this clause as detailed in the table hereunder. The context of the reference to the GCC is also noted.

The Contractor shall note that 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 Conditions of Contract specified in this clause and amended in the Contract Document shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

COTO Standard specifications		COTO General Conditions of Contract, 2020 (GCC)		General Conditions of Contract for Construction Works, Third edition, 2015	
Clause number	Page number	Clause number	Description or reference	Clause number	Description or reference amended to
1115	1100-2		Definition of GCC		Definition GCC 2015
1202	1200-2	15	Construction programme	5.6	Programme
1204	1200-2		General reference to GCC		Applicable to GCC 2015
1206	1200-3	14	Setting out of works		Clause amended in 1206 of specifications
1209(a)	1200-4		General references to GCC		Applicable to GCC 2015
1209(e)	1200-5	52	Valuation of material brought onto site	6.10	Valuation of material brought onto site
1210	1200-5	54	Certificate of practical completion	5.14	Certificate of practical completion

COTO Standard specifications		COTO General Conditions of Contract, 2020 (GCC)		General Conditions of Contract for Construction Works, Third edition, 2015	
Clause number	Page number	Clause number	Description or reference	Clause number	Description or reference amended to
1212(1)	1200-7	49	CPA on alternative designs	6.8	CPA on alternative designs
1215	1200-9	45	Extension of time for completion due to abnormal rainfall.	5.12	Extension of time for completion due to abnormal rainfall.
1217	1200-10	35	Care of the works	8.2	Care of the works
1303(ii)	1300-1		General reference to GCC		Applicable to GCC 2015
1303(iii)	1300-1	49	Price adjustment item 13.01(a)	6.8	Price adjustment item 13.01(a)
1303(iii)	1300-2	49	Price adjustment item 13.01(b)	6.8	Price adjustment item 13.01(b)
1303(iii)	1300-1	53	Variations exceeding 15%	6.11	Variations exceeding 15%
1303(iii)	1300-2	53	Variations exceeding 15%	6.11	Variations exceeding 15%
1303	1300-2	12	Payment item 13.01(c)	5.3	Payment item 13.01(c)
1303	1300-2	45	Payment item 13.01(c)	5.12	Payment item 13.01(c)
1403(c)(ii)	1400-4	40(1)	Variation for rented accommodation	6.4	Variation for rented accommodation
1505	1500-3	40	Variation for temporary drainage	6.4	Variation for temporary drainage
Item 15.08	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Item 15.09	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Item 15.11	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Note (2)	3100-4	40	Payment for prospecting for materials	6.4	Payment for prospecting for materials
3204(b)(iii)	3200-2	40	Payment for oversize material	6.4	Payment for oversize material

COTO Standard specifications		COTO General Conditions of Contract, 2020 (GCC)		General Conditions of Contract for Construction Works, Third edition, 2015	
Clause number	Page number	Clause number	Description or reference	Clause number	Description or reference amended to
3303(b)	3300-2	2	Engineer's decisions, with reference to materials classification	3	Engineer's decisions, with reference to materials classification
Item 44.06	4400-3		General reference to GCC, PC sums		General reference to GCC, PC sums
Item 45.06	4500-3		General reference to GCC, PC sums		General reference to GCC, PC sums
5803(c)	5800-3	40	Variation, for landscaping	6.4	Variation, for landscaping
5805(d)	5800-4	40	Variation, for grassing	6.4	Variation, for grassing
Item 58.10	5800-10	48	Payment for extra work	6.6	Payment for extra work
8103(c)	8100-1	40	Variation, for testing material	6.4	Variation, for testing material
Item 81.02	8100-26		General reference to GCC, provisional sums		General reference to GCC, provisional sums
Item 81.03	8100-26	22	Clearance of site on completion, with reference to core drilling	5.15	Clearance of site on completion, with reference to core drilling

"B1156 OTHER DEFINITIONS

The COTO Standard Specification for Roads and Bridge works has been written for all Contractors, Employers and Employers Agents. Similarly, the works and the site are not defined and the general nature of the entities and elements that collectively constitute construction under a contract are characterized by the use of lower-case letters throughout.

These project specifications continue to use lowercase spellings in order to avoid the appearance of the capitalised and non-capitalised words to describe or prescribe the same elements of work required on this project. However, for the purposes of this contract, the following definitions shall apply:

Contractor

The Contractor and the contractor are the same persona defined under clause 1.1.1.9 of the General Conditions of Contract, but who will only be formally identified by the completed Form of Acceptance C1.1.2 in this document and which will be bound into the final contract document.

Employer

The Employer and employer is the same persona and is defined in C1.2.2 Contract Data, and clause 1.1.1.15 of the General Conditions of Contract.

Employers Agent

The Employers Agent and employer's agent is the same persona and is defined in C1.2 Contract Data, and clause 1.1.1.16 of the General Conditions of Contract.

Site

The site is defined in clause 1.1.1.29 of the General Conditions of Contract. It is bound by the limits of construction as shown in the drawings (if any) or the title of the project and extends to also include the following:

Areas outside the construction zone areas where accommodation of traffic is placed.

All haul roads constructed by the Contractor for purposes of access.

Any non-adjacent sites specified in the contract documentation.

The Contractors and his Sub-Contractors camp sites

Site used for storage of material and equipment for use in the permanent works.

Areas required for temporary access roads only when approved by the Employers Agent.

Works

The works is described in Part C3 of this document and is as defined in clause 1.1.1.33 of the General Conditions of Contract.

Prime cost

Is a specific type of Provisional Sum for which payment is made on the production of invoices showing the cost price of the implementation or installation of the service required. Services rendered in this manner carry a mark-up for which a rate is offered at tender stage to cover all the tenderer's handling, supervision and liability costs and profit in providing the item or services as per sub-clause 6.6.

Provisional Sum

Is a sum which is specified in the contract as a provisional sum, for the execution of any part of the works or the supply of plant, materials or services under sub-clause 6.6

B1157 SABS/SANS SPECIFICATIONS

Where reference is made in this specification or the standard specifications to SABS/SANS specifications, the latest published national standard shall be applicable. Use:

https://www.sabs.co.za/content/uploads/files/SABS%20Catalogue%20February%202012%20(abridged).pdf

for the most up-to-date versions of the various standards.

B1158 AGGREGATE SIZE

Where reference is made in this specification or the standard specifications to aggregate size, nominal aggregate size or maximum aggregate size, the aggregate size as listed shall be replaced with the new corresponding aggregate size as indicated in the following table:

Aggregate size	New aggregate size
26,5	28
19	20
13,2	14
9,5	10
6,7	7
4,75	5
2,36	2
1,18	1

B1159 COMMERCIAL SOURCE

A source of supply of materials which is chosen by the Contractor. The Contractor shall take full responsibility for the quality of all materials and services supplied from commercial sources.

B1160 LABOUR-OPTIMISING CONSTRUCTION

The cost-effective employment of as great a portion of labour as is practically and technically feasible to produce the standard of construction required by the specifications. Therefore, the economic substitution of plant and mechanical equipment with available labour using hand tools, on condition that this method is not more expensive than the conventional construction practices.

B1161 STRESS-ABSORBENT MEMBRANE INTERLAYER (SAMI)

A layer of stone chippings and bitumen rubber constructed between successive pavement layers for the purpose of absorbing stress.

B1162 PROCESS CONTROL

Process control means all testing required to be carried out in order to ensure that the completed permanent works comply with the specifications and drawings. All such testing will be subject to inspection and approval by the Employers Agent. The contractor is responsible for process control testing. The cost of testing process control is deemed included in the rates tendered for each item. The minimum frequency of testing for process control should comply with Section 8300 of the standard specifications: Quality Control.

B1163 ACCEPTANCE CONTROL

Acceptance control means whatever testing the Employers Agent carries out over and above the process control testing already carried out in order to decide on the acceptability of any work submitted by the contractor. Such testing will be carried out at the cost of the employer.

Both the process control testing carried out by the Contractor and acceptance control testing by the Employers Agent shall be carried out by an accredited laboratory.

B1164 FREE HAUL DISTANCE

The free-haul distance in regard to any material which is moved shall be 1,0 km.

B1165 CLASSES OF EXCAVATION

No distinction will be made between soft and intermediate excavation."

CHAPTER 1: 1.1GENERAL PREAMABLE

B1202 SERVICES

In the second paragraph, delete the word “utility” at the end of the second line.

In the final paragraph, replace “clause 15” in the second line with “clause 5.6”

In the final paragraph delete the second and third sentences starting with ‘Should’ and replace with the following:

Drawings provided indicate all known services on the site. However, before any work can commence the Contractor shall verify the actual position of each station and bring to the attention of the Employers Agent any service that is not recorded. As the Contractor is not authorized to remove or replace these facilities he shall:

i) Give preliminary notice, in writing to the relevant service provider, that the services on the site will require removal or protection prior to works being carried out in the vicinity of each station. The Contractor shall advise the service provider of

a) The number of services, their locations and station ID numbers and

b) The proposed dates when work will commence in the vicinity of each service.

ii) In addition to the above preliminary notice, give the service provider 14 days written notice of the intention to commence work in the vicinity of each facility.

iii) Upon completion of the work in the vicinity of each facility, the Contractor shall notify the service provider, in writing, that work is complete and the service may be reinstated.

Any delay resulting from the removal/replacement of a service shall not be the subject of a claim, it being deemed that the Contractor shall employ the services of the service provider as a subcontractor.

No payment will be made for inconvenience to the Contractor due to services crossing the site or any authority working on such services, not will delays caused by such works be accepted as a basis for claiming an extension of time for completing the works.

"BC1.2.4.1 COMMUNITY LIASON AND COMMUNITY RELATIONS Unit: month

A total amount of R 5000.00 is to be paid to the community liaison officer for the duration of the construction of this project.

Add this new clause:

“4.23 Community participation”

Community participation consists of engagement of Project Steering Committees (PSC).

A PSC will be established for the project, by the Ward Councillor.

The functions of the PSC will be to:

Assist in monitoring the project.

Ensure that the community provide assistance to the contractor to ensure that he can execute the contract in accordance with the specifications and within time.

Encourage the community to participate in the Labour-Intensive construction.

Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

Give any instructions to the contractor, except through the engineer.

Become involved in the daily operations of the contractor or interfere with the contract works.

A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on progress, deviations from the programme, financial matters community related aspects, general problems and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport.”

Payment will be R250.00 per sitting.

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance."

"BC 1.2.4.2 Training of Targeted Labour

The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.

The contractors shall do nothing to dissuade targeted labour from participating in the above-mentioned training programmes.

An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of d) above.

Proof of compliance with the requirements of a) to f) above must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

Technical Training	Prov. Sum
HIV/AIDS	Prov. Sum

Handling cost and profit in respect subitem B12.04(i) and (ii)

BA1.2.7.1 PROGRAMME OF WORK

General requirements

CHANGE THE WORDING OF THE FIRST SENTENCE TO READ AS FOLLOW: “The contractor shall base his initial programme of work on the scope of work when the contractor receives an appointment and defined scope of work, and….”

AMEND THE WORD “network” IN THE FOURTH LINE OF THE FIRST PARAGRAPH TO READ “bar (Gantt) chart”.

ADD THE FOLLOWING AS A CONTINUATION OF THE FIRST PARAGRAPH:

“In drawing up the programme the Contractor shall make allowance for the following:

All special non-working days defined in the Contract Data.

The expected delays defined in B1215: Extension of time resulting from inclement weather as a terminal float.

The following restricted working conditions:

During the Contractor’s annual shutdown period between December and January, the Contractor shall maintain two-way traffic within the contract limits.

No Sunday work

Meeting the requirements of the Environmental Management Plan (EMPl).

The time needed for preparation and approval of the various mix designs specified in the relevant construction sections of the Scope of Works.

This initial programme shall realistically account for the forecast cashflow within the defined contract period.”

ADD THE FOLLOWING AFTER THE THIRD PARAGRAPH:

“The bar-chart programme to be provided by the contractor shall show the various activities in such detail as may be required by the Employers Agent. Progress in terms of the programme shall be updated monthly by the contractor in accordance with the progress made by the contractor.

In compiling the programme of work, the contractor shall indicate and make due allowance for the following, as specified elsewhere in the contract documents:

The requirements regarding the accommodation of traffic and areas that may be occupied at any time for construction purposes (as indicated on the drawings and specified in Section 1500 of the specifications)

Requirements regarding the training of labourers and Emerging Contractors (ECs).

The requirements for work to be undertaken by labourers and work to be undertaken by ECs as tendered in T2.2.5(6)."

INSERT THE FOLLOWING PARAGRAPHS:

"c) Additional programme requirements

In addition to the requirements of clauses B1204(a) and B1204(b), and of clause 5.6 of the General Conditions of Contract, the programme of work shall include the following details:

A work breakdown structure that identifies all major activities.

Scheduled start and end dates for each activity.

Linkages between activities that clearly identify sequence, floats and critical path.

Intended working hours and resource allocations (plant and labour).

Production rates.

Monthly cashflow projections.

Key dates in respect of information required or due delivery."

The Contractor's payment weekends

A risk assessment schedule with mitigating plans of issues that could prevent the due completion date being met.

A Gantt chart programme shall be provided, showing the various activities in such detail as the Employers Agent may require. Should the Employers Agent require an electronic version of the programme for review purposes, the Contractor shall supply the programme in a format compatible with the Employers Agents software.

d) Programme revisions

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the original approved programme. Failure to comply with these requirements entitles the Employers Agent to use a programme based on his own assumptions to evaluate claims for extension of time for completion of the works, or for additional compensation. The Contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that may have fallen behind. The Employers Agent may demand from the Contractor a major revision of the programme. Such a revision shall be submitted for approval within fourteen days of the demand."

BA1.2.8 WORKMANSHIP AND QUALITY CONTROL

INSERT THE FOLLOWING HEADING AFTER THE TITLE:

"a) General

INSERT THE FOLLOWING AS SUB-CLAUSES AFTER THE FIRST PARAGRAPH:

b) Quality Systems

"The Contractor shall implement a quality assurance system that replicates an ISO 9002 and appoint a quality manager who shall ensure that members of the Contractor's staff comply with the requirements of the quality system. The quality system and the methods used to implement it shall be described in a quality plan produced by the Contractor. The quality manager shall be resident on site full time.

The Contractor shall submit the quality assurance system he proposes using to the Employers Agent, for his approval, within two weeks of the site handover. The system shall record the lines and levels of responsibility and indicate the method by which testing procedures will be conducted. Once accepted by the Employers Agent the Contractor shall not deviate from it unless written notification of proposed changes have similarly been submitted and approved.

The system shall provide for a method statement for each construction activity for which a pay item is provided in the Pricing Schedule. Each method statement shall be submitted to the Employers Agent for his approval two weeks prior to commencement of the activity. Where appropriate the Contractor shall make use of the employer's manuals in preparing his method

statements. No construction activity shall commence before the Employers Agent has approved the Contractor's quality assurance system."

ADD THE FOLLOWING AT THE END OF THE THIRD PARAGRAPH:

"The Employers Agent shall, however, undertake acceptance control tests for the judgement of workmanship and quality, without accepting any obligations vested with the contractor in terms of the contract with specific reference to quality of materials and workmanship. Such acceptance control test done by the Employers Agent shall not relieve the contractor of his obligations to maintaining his own quality control system."

ADD THE FOLLOWING AT THE END OF THIS CLAUSE:

"The Employers Agent shall for the purpose of acceptance control and products and workmanship, assess test results and measurements in accordance with provisions of Section 8300 of the standard specifications (quality control scheme 2). Where small quantities of work are involved, a lot shall mean a full day's production for a specific item of work subject to acceptance control testing."

BA1.2.7.2 THE SETTING OUT OF WORK AND PROTECTION OF BEACONS

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

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

The particulars of the basic reference pegs and benchmarks are recorded on the drawings. Additional reference pegs and benchmarks may be established from time to time by the Employers Agent, as deemed necessary. The Contractor shall be responsible for the true and proper setting-out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith.

The Contractor shall carefully protect and preserve all benchmarks, site-rails, pegs and other things used in setting out the works. The checking of any setting-out or of any line or level by the Employers Agent shall not relieve the Contractor of his responsibility for the correctness thereof."

DELETE "and of clause 14 of the general conditions of contract" in the sixth paragraph.

ADD THE FOLLOWING PARAGRAPH:

"The Contractor shall take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the Employers Agent. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the contract without the consent of the Employers Agent shall be the Contractor's responsibility and included in the tender rates".

ADD THE FOLLOWING AS THE PENULTIMATE PARAGRAPHS:

"The road, bridge position and other access/service roads have not been set out. The horizontal alignments shown on the drawings reflect the centre line of the new roads. The contractor shall appoint an experienced and reputable land surveyor to stake the road at 20 m intervals using these alignments and shall take cross-sections of the road formation and adjacent area at 10 m

intervals in mountainous areas and 20 m intervals in other areas to a distance of at least 10 m wider than the new road toe-lines. The cross-sections shall clearly define shoulder break lines, drains and batter slopes of existing cuts and fills. The cross-sections of a particular section of the road to be constructed shall be submitted to the Employers Agent for his approval at least 7 days before the time envisaged by the contractor when such a section of road will be constructed. These cross-sections shall then be used for the calculation of quantities.

The reference beacons shown on the drawings shall be used for the purpose of staking and taking cross-sections. The appointed land surveyor shall in addition also construct sufficient reference markers corresponding to the staked line to ensure that accurate measurements can be made.

No additional or extra over payment will be made for staking the road centre line or for taking cross-sections and full compensation therefore shall be deemed to be included in the rates tendered and paid for the various items of work included in this contract."

BA1.2.3.10 NOTICES, SIGNS AND ADVERTISEMENTS

Delete the fourth paragraph and replace with the following:

"All signboards erected in accordance with the drawings shall be removed at the same time as the de-establishment of the Contractor's camp. Payment under subitem B13.01 for the final instalment of 15% of the tendered lump sum shall not be made unless all the advertisements, notices and temporary signs have been removed. A typical signboard layout is included as part of the tender drawings".

BA1.12 TAKING-OVER CERTIFICATE

ADD THE FOLLOWING PARAGRAPHS AFTER ITEM (H):

"In addition to the above itemized sections of the works and regardless of the degree of beneficial occupation by the Employer, the outstanding works contained in the lists produced by the Contractor and the Employers Agent shall be considered for practical completion only if the following criteria have been met:

(i) The estimated cost to complete the listed outstanding work is less than 2% of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.

(ii) The written lists of outstanding items of work can be completed within 28 days of the lists having been issued.

(iii) Any information in the Contractor's possession, which is required by the Employers Agent and has been requested in writing, has been supplied.

If any of the listed criteria (i) through (iii are not met at the date of the Contractor's notice of application, the Employers Agent is to reject the application without providing any corresponding list of outstanding work. If an application is rejected, the Contractor shall rectify what has been identified as deficient before submitting a new notice of application."

BA1.2.3.2 CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED

ADD THE FOLLOWING AS LAST PARAGRAPH TO SUB-CLAUSE (d):

"These written statements shall be handed to the Employers Agent before the final certificate will be issued. Failing to obtain these written statements from all landowners and authorities concerned, the Defects Notification Period will be extended including all conditions related to such an extension, until such time that all these statements are obtained.

The obtaining of any such written statements will not relieve the Contractor of the execution of any of his obligations to the satisfaction of the landowner or authority concerned, and to the approval of the Employers Agent."

UNDER SUB CLAUSE (e) REPLACE THE OPENING PARAGRAPH WITH:

"Should the Contractor use land not provided by the Employer for the purpose of his own establishment, Employers Agent's offices and laboratory, or storing of equipment or materials required for construction or disposal, it shall be subject to the following:"

AND ADD THE FOLLOWING SUBSUBCLAUSE:

"(vi) That lease agreements are concluded with the owner or owners of such land for the full period that such areas are required. The leases shall provide for possible extensions to match the duration of the contract. The lease agreements shall also provide for the contract being terminated by Contractor's default or liquidation and the resulting possibility for them to be taken over by a succeeding Contractor.

(vii) That copies of lease agreements shall be submitted to the Employers Agent prior to signature by the signing parties, and copies lodged with the Employers Agent after signing. Not

withstanding the Employers Agent's approval of the conditions of a lease the Contractor shall be solely responsible for adhesion to the terms of the agreements."

(viii) Adherence to the principles of the environmental management plan and legal obligations".

ADD THE FOLLOWING SUB-CLAUSE:

"f) Cleaning of public roads

Where material is spilled on public roads during the haul of material, the road shall be cleaned immediately."

BA1.2.3.4 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFAILL

CHANGE THE EXISTING HEADING OF CLAUSE 1215 TO READ AS FOLLOWS: "EXTENSION OF TIME RESULTING FROM INCLEMENT WEATHER" AND REPLACE THIS CLAUSE WITH THE FOLLOWING:

"Delays caused by inclement weather events may be considered as extension to the time for completion only if the Employers Agent agrees that the event (and not the consequence of the event) occurred during the working hours of a working day (based on a twenty three (23) day working month) within the contract period and caused all progress on an item or items of work on the critical path of the Contractor's approved programme (including revisions thereof) brought to a halt. Each day, or portion of a day so agreed will accrue as 'n' days of delay over the duration of the contract. The summary of accrued agreed 'n' delays shall be recorded at each site meeting.

In the case of the inclement weather event being rainfall, no limitation is placed on the quantity, severity or duration of the event as being the cause of delay except, if it is an exceptional climatic condition then it shall not be measured as a delay event under this clause, but shall be considered for delay under the general conditions of contract clause 5.12. Expressly excluded from the measurement of 'n' days are consequential delays, which are taken to mean delays to critical path activities attributable to the weather event but occurring after (i.e. outside of and distinctly separate from) the duration of the weather event itself.

The Contractor shall make provision in his approved programme (including revisions thereof) of work for expected N working days caused by inclement weather. This provision shall be shown as a terminal float on the approved programmes. Any extension to the time for completion caused by inclement weather delays will only apply once the agreed cumulative 'n' delays exceed N = ∑n days. On this contract N = 24

"For the purpose of calculation and extension of time due to climatic conditions in terms of clause 5.12.2.2 of the General Conditions of Contract the number of days in excess of the number of working days anticipated to be lost due to climatic conditions shown in Table B1215/1 shall be taken into account:

Table B1215/1: ANTICIPATED DAYS LOST DUE TO CLIMATIC CONDITIONS

MONTH	WORKING DAYS
January	3
February	4
March	4
April	2
May	1
June	1
July	1
August	1
September	1
October	2
November	3
December	1

The Employers Agent will certify a day lost due to climatic conditions only if:

No work on the critical path according to the latest approved programme for completion of the works could be carried out during that specific working day or if;

Only 30% or less of the work force and plant planned for that specific day, could work.

The extension of time as a result of climatic conditions will be calculated monthly as being equal to the absolute value of the number of days certified by the Employers Agent as lost due to climatic conditions, less the number of days in Table B1215/1. The total extension of time for the contract will be the sum of the monthly extensions.

Extensions of time for a six-day working week and portions of a month shall be calculated pro rate.

If approved extensions of time extend the completion date beyond the start of the Christmas shut-down as defined in the Appendix to Tender, the holiday period shall not be considered as working days. Any remaining extension of time shall be calculated from the first working day in January the following year."

BA1.2.3.22 WAYLEAVES/AGREEMENTS AND PERMITS

Add the following after paragraph 3:

"Although the information provided here will assist the Contractor in selecting the necessary machinery and construction water requirements, it is still the responsibility of the Contractor to ensure that he familiarize himself with the condition on site. No claims relating to the improper use of equipment or the compaction of sand will be entertained."

BA1.2.3.21 Water

ADD THE FOLLOWING:

"Water for use on site other than municipal, shall be subject to the required permit from Department of Water Affairs (DWA). This shall include such extraction points as rivers, dams, streams, and boreholes.

Use Table B1219 below to determine the suitability of water for construction purposes.

Table B1219: Water classification for Construction: Testing

		Water Quality Classification Code						
		H0	H1	H2	H3	H4	H5	
Property	Unit	Pure water (AR)	Clean water (Rain)	Treated water (Municipal)	Silty (muddy) water with low salt content	Highly mineralised chloride sulphate water (brackish)	Waste brack, sewage, marsh, sea, etc. water	Method

PH*	-	7.0	5.7 – 7.9	4.5 – 6.5	4.5 – 8.5	9.0	-	SABS M113 SM 11 - 1990
Dissolved solids*	ppm	0	1000	1500	3000	-	-	SABS 213 SM213 - 1990
Total hardness*	-	None	None	Temporary	Temporary	Permanent	-	SABS 215 SM 215 – 1971
Suspended matter	ppm	0	2000	2000	5000	-	-	SABS 1049 SM 1049 – 1990
Electrical conductivity	mS/m	0	200	200	500	-	-	SABS 1057 SM 1057 – 1982
Sulphates (SO4)	ppm	0	200	300	500	1000	-	SABS 212 SM 212 – 1971
Chlorides (Cl)	ppm	0	500	1000	3000	5000	-	SABS 202 SM 202 – 1983
Alkali Carbonates (CO3) & Bicarbonates (HCO3)	ppm	0	500	1000	1000	2000	-	SABS 241 – 1999
Sugar	-	Negative	Negative	Negative	Negative	Negative	-	SABS 833
Quality of water required		Untreated layer works	✔	✔	✔	✔	Investigate the effect on the quality of the material	
		Chemically treated layer works	✔	✔	✔	Investigate the effect on the quality of		

					the material	
	Concrete mass	✔	✔	✔	Investigate the effect on the quality of the material	
	Concrete prestressed	✔	✔	References: 1. Concrete Technology – Dr S Fulton (1989) 2. Materials Manual (PAWC)		
	Slurry & emulsion	✔	✔			
	Soil/gravel tests	✔	✔			
	Chemical or control tests	✔	✔			

A primary property. The quality of the water is that quality where all three of the primary properties are within the limits.

The tabulated single values are maximum value except in the case of the pH value for pure water, which must be 7.0

BA1.2.7.5 USE OF EXPLOSIVES

REPLACE PARAGRAPH (g) WITH THE FOLLOWING:

"The contractor shall, seven (7) days before each blasting operation is carried out, advise the Employers Agent thereof in writing. Any such blasting operation shall be confirmed with the Employers Agent twenty-four (24) hours prior to execution. The contractor shall make all the necessary arrangements to keep the public and the provincial traffic authorities fully informed with regard to the closures of the road for blasting purposes."

ADD THE FOLLOWING PARAGRAPH:

"Where blasting needs to be carried out within the road reserve of the existing road, it shall only be allowed between 11:00 and 14:00. The road may not be closed for a period longer than thirty (60) minutes during which time all blasting shall be carried out, debris removed from the road surface and the road made safe and passable for traffic. Where blasting operations are undertaken in close proximity of temporary deviations, the contractor shall implement all such safeguarding measures as may be required and instructed by the Employers Agent."

B1223 WORK ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES

ADD THE FOLLOWING:

"The official specifications referred to shall be the latest edition of Specification E7, Part 2, of Transnet Limited.

The contractor shall prepare detailed drawings to indicate exactly which methods (including any phased work required) will be used to dismantle the existing road-over-rail bridge and to construct the new road-over-rail bridge.

Site work in connection with structures over railway lines shall not commence before the said drawings have been approved by Transnet Limited. No additional payment will be made nor will any claims be considered due to delays or inconvenience that may arise if the provisions of the E7 Specification of Transnet Limited have not been complied with.

The contractor shall make provision in his tendered rates and sums for arrangements to accommodate the rail traffic and occupy the railway reserve, and to prepare and submit the drawings as specified."

BA1.2.3.5 HANDING OVER OF ROAD RESERVE

ADD THE FOLLOWING PARAGRAPH:

"The total length of the road reserve between the specified limits of construction will be handed over to the contractor on the commencement date. Reference shall, however, be made to the requirements of Section 1500 of these specifications where limitations in respect of work-areas are specified. In the event of the non-adherence by the contractor in terms of the mentioned specifications, the Employers Agent shall withdraw such sections of the road reserve as may be justified to ensure suitable progress of the works or safe passage of traffic.

In addition to the specified repairs, the Contractor shall also carry out any maintenance work within the road reserve that the Employers Agent may require. Such maintenance shall typically comprise the clearing and repair of drainage, any structural damage caused by traffic during the contract period and the maintenance of existing road signs.

Any such work shall be as ordered by the Employers Agent and shall be carried out as daywork."

BA1.2.3.7 LEGAL AND CONTRACTUAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC AND THE EMPLOYER

ADD THE FOLLOWING NEW PARAGRAPH:

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 (the regulations) as promulgated in Government Gazette No 37305 and Regulation Gazette No 10113 of 7 February 2014. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this contract are detailed in the project specifications, bill/schedule of quantities/pricing schedule and drawings, as well as in the employers' health and safety specifications (regulation 4(1) of the Construction Regulations 2014, which are bound in the contract document/will be issued separately by the employer.

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the above-mentioned plan or regulations.

A payment item is / Payment items are included in the bill/schedule of quantities/pricing schedule to cover the Contractor's cost for compliance with the OHS Act and the above-mentioned regulations".

B1229 SABS CEMENT SPECIFICATIONS

DELETE THIS CLAUSE.

ADD THE FOLLOWING TO THIS SUBCLAUSE:

"Where reference is made in this Specification or the Standard Specifications to the cement specifications, eg SANS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SANS ENV 197-1 Cement composition, specifications and conformity criteria Part 1: Common cements.

On this contract CEM II/B-L 32.5N cement shall be used.

ADD THE FOLLOWING NEW CLAUSES:

“BA1.2.5 MATERIALS

General

The Contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the Employers Agent with certificates showing that the materials do so comply.

Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the Employers Agent's office on the site free of charge.

Where materials are specified under trade names tenders must be based on these materials. Alternative materials may be submitted as alternative tenders and the Employers Agent may, after receipt of tenders, approve the use of equivalent materials. The tender must be clearly marked as an alternative tender, failing which the tender may be rejected.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's current published instructions.

Unless anything to the contrary is specified, all manufactured articles or materials supplied by the Contractor for the permanent works shall be unused.

Earth, stone, gravel, sand, and all other materials excavated or present on the site or within the road reserve, or in borrow areas shall not become the property of the Contractor, but will be at his disposal only in so far as they are approved for use on the contract.

Existing structures on the site shall remain the property of the employer and except as and to the extent required elsewhere in the contract, shall not be interfered with by the Contractor in any way.

Materials to be included in the works shall not be damaged in any way and, should they be damaged on delivery or by the Contractor during handling, transportation, storage, installation or testing they shall be replaced by the Contractor at his own expense.

All places where materials are being manufactured or obtained for use in the works, and all the processes in their entirety connected therewith shall be open to inspection by the Employers Agent (or other persons authorized by the Employers Agent) at all reasonable times, and the Employers Agent shall be at liberty to suspend any portion of work which is not being executed in conformity with these specifications.

The Contractor shall satisfy himself that any quarry selected for use provides the necessary mined material in accordance with the specification.

Banned materials

No tar fluid products shall be used in the construction works.

B1231 REPORTING OF ACCIDENTS/INCIDANTS

The Contractor shall report every accident/incident which occurs on the road, within the extent of the works, to the Employers Agent, within twenty-four (24) hours of such accident occurring, irrespective of whether such accident has a bearing on damage to the works or to persons, property or thins. The report must be in writing and must contain full particulars of the accident. Photographs of each accident shall also be included in the report. The Employers Agent has the right to conduct any or all enquiries, either on the site or elsewhere, as to the causes and consequences of any such accident. The Contractor shall also keep a comprehensive record of all accidents which occur on the road and shall make such record available to the Employers Agent on demand.

BA1.2.5.2 MIX DESIGNS

Before commencing with certain construction activities, the Contractor shall, except where specified otherwise in the relevant construction sections in the Scope of Works, apply the following procedures with regards to mix designs:

Taking and submitting samples of the relevant materials.

Undertake the required mix design(s) or allow the Employers Agent to undertake them.

Produce, where required, laboratory, production/plant and/or trial mix(es).

Undertake the required adjustments to the mix design(s) and reproduce required laboratory, production/plant and/or trial mix(es).

Complete trial section(s) where required.

Await the Employers Agent's approval of the mix design(s) and trial section(s).

1.1.2 LABOURENHANCEMENT

(a) General

The following provisions shall apply in respect of those portions of the works that are specified in C3.1.3 to be executed using labour-optimising construction methods.

(b) Restrictions on the use of electrical and mechanical plant and equipment

Except to the extent specified in Part C1.2 Annexure D, Part C3.1.3 and Part 3.3, and notwithstanding anything to the contrary which may be stated in, or be reasonably inferred from any provisions elsewhere contained in the contract, the contractor shall use only labour and non-mechanically or non-electrically powered hand tools, equipment or plant in the execution and completion of all such portions of the works listed in Part C3.1.3 and Part 3.3 that are to be constructed by labour-optimising construction methods; provided always that the Employers Agent may at his sole discretion and at any time, or upon receipt of a fully motivated written application from the contractor, instructor authorize the contractor to use such electrical or mechanical plant and equipment as he may deem appropriate or necessary under the circumstances, in the execution of such portions of the works otherwise required, in terms of Part C3.1.3 and Part 3.3, to be constructed using labour-optimising construction methods only.

(c) Classification of excavations

Notwithstanding anything to the contrary which may be contained elsewhere in the Specifications, excavations shall be classified according to the specified method of excavation as follows:

(i) Excavations which are:

not specified in Part C3.1.3 and Part 3.3 as required to be executed using labour-optimising construction methods; and

specified in Part C3.1.3 and Part 3.3 as required to be executed using labour-optimising construction methods but which, notwithstanding, are executed by the contractor using mechanical plant and equipment prohibited in terms of the project specifications, either with the prior authorisation of the Employers Agent or in breach of the provisions of the specifications, shall be classified in accordance with the provisions of the standard specifications.

(ii) Excavations which are specified in Part C3.1.3 and Part 3.3 as being required to be executed using labour-optimising construction methods and which are so executed, shall be classified in accordance with table B1233/1.

TABLE B1233/1: CLASSIFICATION OF EXCAVATION

Classification	Number of blows required for a DCP penetration of 100 mm	
	Granular soil	Cohesive soil
Soft	≤30	≤ 10
Hard	> 30	> 10

(iii) Where only excavation in soft material is required in terms of Part C3.1.3 to be executed using labour-optimising methods, the classification for the purposes of determining the cut-off point for labour-optimising excavation shall be made in terms of subsubclause (ii) above, and the excavation beyond the cut-off point shall be in terms of subsubclause (i) above.

(iv) Classification of material specified to be excavated using labour-optimising construction methods, but not in fact excavated by such methods, whether in compliance with an instruction from the Employers Agent, or in accordance with a concession granted by the Employers Agent or through default of the contractor, shall be made in terms of subsubclause (i) above.

B1234 TRAINING

Structured training shall be provided to temporary personnel involved in the contract in accordance with the provisions set out in elsewhere in this document. The contractor's selection of the candidates shall be approved by the project liaison committee and the Employers Agent, subject to the required entrance levels. All training courses must be offered through approved accredited training organizations.

The contractor shall provide the following for the training:

(a) A venue with sufficient lighting, electric power points and furniture

(b) All necessary stationery, consumables and study material

(c) Transport to and from the training venue if the training is not delivered on site

(d) Wages for candidates attending Engineering (technical) skills training during working hours

(e) Payment to approved training organizations for the provision of training.

NB: Only technical skills may take place during normal working hours. All training courses shall commence within one month of handing over the site and be complete before the end of the contract period.

BC2.1.30 PROJECT LIAISON OFFICER (PLO)

The contractor or his appointed agent will appoint a project liaison officer (PLO) after consultation with the local communities, the Employers Agent and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the project liaison officer

The project liaison officer's duties will be:

(i) To be available on site daily between the hours of 08:00 and 12:00 and at other times as the need arises. His normal working day will extend from 08:00 in the morning until 17:00 in the afternoon.

(ii) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.

(iii) To communicate daily with the contractor and the Employers Agent to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.

(iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a “labour desk”.

(v) To attend all meetings in which the community and/or labour are present or are required to be represented.

(vi) To assist in the identification, and screening of labourers from the community in accordance with the contractor’s requirements.

(vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.

(viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.

(ix) To keep a daily written record of his interviews and community liaison.

(x) To attend monthly site meetings to report on labour and RDP matters.

(xi) All such other duties as agreed upon between all parties concerned.

(xii) To submit monthly returns regarding community liaison as illustrated in this document (forms to be provided by TLM).

(b) Payment for the project liaison officer

A special pay item is incorporated in Section 1200 of the bill of quantities relating to payment of the liaison officer on a provisional sum basis. This payment shall only be made for the period for which the duties of the liaison officer are required. The remuneration of the PLO shall be determined by the employer in terms of the Sectorial Determination 2: Civil Engineering Sector (Task Grade 3).

(c) Period of employment of the project liaison officer

The period of employment of the project liaison officer shall be as decided upon jointly by the contractor, Employers Agent and employer at a maximum period of a six months basis, but with the option of renewal.

B1235 SUBCONTRACTORS

Over and above the stipulations of the Conditions of Contract, regarding subletting of part of the works, it is a condition of the contract that an approved subcontractor shall not sublet part of his work, covered in his appointment by the main contractor, to another subcontractor without the consent and approval of the Employers Agent. Subletting shall in all cases be critically considered by the Employers Agent.

In addition to the provisions of the Conditions of Contract regarding subcontracting of the works, it is a requirement of this contract that an approved subcontractor shall not further subcontract work subcontracted to him by the main contractor, to another subcontractor without the consent and approval of the Employers Agent. Subcontracting shall in all cases be critically considered by the Employers Agent. The Employers Agent reserves the right to limit the extent or the volume of work subcontracted by the contractor, should he deem it necessary in terms of progress or quality of workmanship.

B1236 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Deceases Act (COIDA). The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen’s Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be covered by the contractor to be deemed as included in his General Obligations rates in Section 1300 of the bill of quantities.

All labour employed on the site shall be covered by the Workmen's Compensation Act. The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen’s Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be an extra payment allowed for by the contractor.

B1237 OWNERSHIP OF REDUNDANT ROAD SIDE FURNITURE AND OTHER MATERIALS

Ownership of all redundant road side furniture and other materials will remain the property of the Employer unless otherwise specified by the Employers Agent and shall be taken to the Municipality

B1238 UNEMPLOYMENT INSURANCE FUND

The contractor will be responsible for payment or contribution of UIF for all labour employed under the project. Proof of payment of UIF shall be available upon request.

B1239 MEASURMENT AND PAYMENT

Item Unit

BC2.1.29 Training

Engineering (technical) skills …….. provisional (Prov) sum

Training venue …….…… Lump Sum

Remuneration of workers undergoing technical

skills training……...provisional (Prov) sum

Construction handling costs, profit and all other

charges in respect of subitems B12.01 (a) & (c)

Engineering (technical) skills…….…….. percentage (%)

Remuneration of workers undergoing technical

skills training…….…… percentage (%)

Payment under subitems B12.01(a), shall be the amounts actually paid to the training institutions and shall be made in accordance with the provisions of the Conditions of Contract.

The lump sum tendered for subitem B12.01(b) shall include full compensation for the provision of a suitable training venue, for all necessary lighting, furniture, stationery, consumables and study material, and for transportation of the workers to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of all the training programmes specified in the document.

Payment under subitem B12.01(c) shall be the actual sum paid to workers undergoing technical skills training. The contractor will not be reimbursed directly for his administrative costs which will be deemed to be included in the rates tendered for item B13.01.

The percentages tendered for subitem B12.01(d) shall be the percentages of the amounts actually reimbursed to the contractor under subitems B12.01(a), and (c) and shall be in full and final compensation in respect of the contractor's handling costs, profit, mentoring, record-keeping, reporting and all other charges in connection with providing the services.

BC2.1.30 Remuneration of the Project Liaison Officer and members of the Project Liaison Committee:

(a) Project Liaison Officer provisional (Prov) sum

Project Liaison Committee provisional (Prov) sum

The provisional sum provided shall cover the salary of the duly elected and approved CLO.

The tendered percentage is a percentage of the amounts actually spent under the items, which shall include full compensation for the handling costs of the Contractor, and the profit in connection with the remuneration of the Project Liaison Officer and Committee.

BC2.1.31 Penalties

a) Targeted Labour percentage point

The penalty for item (a) for not attaining at least the tendered number of person-days (refer to Part T2: Returnable Documents) will be calculated as follows:

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal was due to quantitative under runs, the elimination of items, or any other reason beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay to the Employer a financial penalty calculated in the following manner:

The penalty for failure to achieve the Contract Participation Goal shall be applied at a rate of 100% of the value by which the accumulative value of the measurable elements fails to meet the tendered CPG in the table below and shall be applied on a pro-rata basis according to a monthly evaluation of achievements against the targets tendered by the contractor in T2.3.5 item 6 broken down to monthly expenditure.

A further penalty for failure to achieve the Contract Participation Goal in terms of training shall be applied at a rate of 100% of the value by which the accumulative value of the measurable elements fails to meet the planned training targets, based on the Provisional Sum amount, as submitted by the Contractor within 22 working days as specified in clause 5.3.1 of the contract data. The training penalty shall be applied on a pro-rata basis according to a monthly evaluation, starting the second month of the contract, of achievements against the targets planned by the contractor.

BC2.1.32 Excavation for existing services:

Excavation and carting away of excavated material in search of existing services in soft material situated in the following depth ranges:

(i) 0m to 2m……. cubic metre (m3)

(ii) 2m to 3m……. cubic metre (m3)

Extra over B12.04(a) for excavation in hard material in close vicinity

of services using picks, jackhammers, powertools etc. were no

blasting or machine excavation is permitted……. cubic metre (m3)

The unit of measurement shall be the cubic metre of material excavated between the various depth ranges to locate existing services.

The tendered rate shall include full compensation for plant, equipment to carry out the work, loading, transporting (including all haul), unloading and disposing of the material at approved dumping sites provided by the contractor.

BC2.1.33 Protection, removal, realignment and replacement of services

Utility Services/Telkom, Fibre Optic Cables:

The protection, removal, realignment and replacement

of Services……. prime cost (PC) sum

Utility Services

The protection, removal, realignment and replacement of

Services……. prime cost (PC) sum

Utility Services/ Centlec

The protection, removal, realignment and replacement of
Services……. prime cost (PC) sum

(d) Handling costs and profit with respect to item B12.04(a), (b) & (c)……..…%

The prime cost items shall be paid in accordance with the provisions of the General Conditions of Contract as amended by Particular Conditions of Contract. The tendered percentages are percentages of the amount actually spent under the prime-cost items, which shall include full compensation for the profit in connection with providing the specified service.

BC2.1.34 Name Boards (x2) ……Unit

The lump sum tendered for subitem B12.06 shall include full compensation for the procurement of all material, delivery to site and installation of sign boards as per drawings at position indicated by the Employer. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the contractor has met all his obligations as specified in the contract.

BC2.1.36 Installation of new street lights complete including

cabling, excavations and backfill too Electrical

Engineer's Specification provisional sum

The unit of measurement shall be the above items is for payment to service providers and their sub-contractors for the installation and relocation of the street lights.

The tendered rate shall include full compensation for furnishing and erection of the street lights, including the cabling, excavations and backfill as detailed on the drawings.'

BC2.1.37 Handling Cost and Profit on Item B12.07…… %

The percentages tendered for subitem B12.08 shall be the percentages of the amounts actually reimbursed to the contractor under subitems B12.07 and shall be in full and final compensation in respect of the contractor's handling costs in connection with providing the service.

BC2.1.38 Signalised intersection provisional sum

The unit of measurement shall be the above items is for payment to service providers and their sub-contractors for the installation of traffic signals.

The tendered rate shall include full compensation for furnishing and erection of the traffic lights, including the sleeves, cabling, excavations and backfill as detailed on the drawings and setting of the traffic signals according to the approved drawings.'

BC2.1.39 Handling Cost and Profit on Item B12.07…… %

The percentages tendered for subitem B12.010 shall be the percentages of the amounts actually reimbursed to the contractor under subitems B12.08 and shall be in full and final compensation in respect of the contractor's handling costs in connection with providing the service.”

CHAPTER 1: 1.3 CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

GENERAL REQUIREMENTS

(i) Legal and Contractual Requirements and responsibilities to the public

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

"Before the establishment of the Contractor's camp at an approved site, the area will first be fenced off and, if required by the Employers Agent, 150 mm of topsoil and vegetation removed to temporary stockpiles as described in Section 1700

ADD THE FOLLOWING AS A SECOND PARAGRAPH

"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, the following additional specifications are included in the project specifications.

Section C3.3 of the Scope of Works contains provisions that regulate the Contractor's construction methods for compliance with Government's initiatives towards black economic empowerment. It also contains information on criteria used in the procurement process. No separate payment mechanism has been made available for the Contractor to allow for his compliance with relevant black economic empowerment legislation. The Contractor shall include such costs in the existing payment items under section B1303: Payment. However, non-compliance with the provisions of this section may lead to the imposition of penalties."

Section C4.3 of the Site Information contains the Environmental Management Plan (EMPl) for this project. Its provisions regulate the Contractor's construction methods to ensure responsible conduct and treatment of the environment relevant to the project. Payment subitem B13.01(d) makes allowance for the Contractor to price for environmental compliance duties as well as the duties of the Designated/dedicated Environmental Officer (DEO) as prescribed in this section The contractor shall comply with all statutory and contractual requirements of the Environmental Management Programme.

Section C1.2 Annexure C of the Contract Data contains the specifications that regulate the Contractor's construction methods so far as to ensure health and safety of his employees and of the public. New pay item has been made available under this section to allow the Contractor to make separate provision for the cost of health and safety measures during the construction process.

ADD THE FOLLOWING NEW SUBCLAUSES:

"(d) Safety of Contractor's and sub-Contractor's workforce

The Contractor is responsible for the safety of its workforce and for the safety of subcontract employees employed on the site.

(e) Contractor's ablution facilities

"The Contractor shall, at each area where work is being undertaken, provide on a daily basis at least one (1) portable chemical latrine unit per thirty (30) workers for use by construction workers employed on the project. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the satisfaction of the Employers Agent. No separate payment shall be made for this requirement and it shall be deemed to be included in the rates tendered for the Contractor's time-related obligations."

Monthly reporting

When submitting any information required and interim certificates for payment, the Contractor shall use the Employer's standard forms and formats. No payment can be made before the Contractor is registered as a vendor on the Employer's system.

The Contractor shall submit payment certificates for all work rendered in the Employer's financial year within that specific year.

The Contractor shall submit and update on a monthly basis all the appendices to the site meeting minutes and a cash flow forecast for the works.

The Contractor shall complete monthly reports regarding training, empowerment, capacity building, small Contractor development, labour and staff returns and any such aspects on the Employer's standard forms. This information shall also be reported on monthly for all sub-Contractors employed.

The above information shall form part of supporting documentation required for making interim payments in terms of the General Conditions of Contract.

Allowance has been made for these requirements in the Pricing Schedule under pay item B13.01(e) Monthly Reporting. Failure to comply may result in payments being withheld”

EPWP signboard

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

PART C MEASUREMENT AND PAYMENT

Item Unit

BC1.2.1 The Contractor’s establishment including general obligations

ADD THE FOLLOWING PAY SUB-ITEM:

“(2.1) Environmental obligation ..... month

(2.2) Monthly reporting cost ..... month

(2.5) Security on site ..... month

INSERT THE FOLLOWING PARAGRAPH AFTER THE FOURTH PARAGRAPH:

"Should the combined total tendered for subitems (a), (b), and (c) exceed 15% of the tender sum (excluding CPAF, contingencies and VAT), the tenderer shall state his reasons in writing for tendering in this manner."

ADD THE FOLLOWING SUB-SUB-CLAUSE DEFINING THE CONTRACTOR'S GENERAL OBLIGATIONS:

"(iv) Complying with the requirements and conditions of the additional specifications relating to the Government's Black Economic Empowerment and the Environmental Management Program.

Replace "clause 49" in the 4th, 8th and 10th paragraphs with "sub-clauses 6.8".

DELETE THE FOURTH LAST PARAGRAPH COMMENCING "The tendered rate per month for sub-item B13.01(c) …" AND REPLACE WITH:

"The tendered rate per month for sub item B13.01 (c) represents full compensation for that part of the Contractor's general obligations that are mainly a function of construction time. The tendered sum will be paid monthly, pro rata for parts of a month, from the Commencement Date until the end of the period for completion of the works, plus any extension thereof as provided in Clause 5.12 of the General Conditions of Contract.

Payment for time related costs arising from extensions of time granted by the employer, where the Contractor is fairly entitled to such compensation in terms of Clause 5.12 of the General Conditions of Contract, will be calculated by taking account only of pay items for which the unit of measurement is "month". All pay items for which the unit of measurement is "month" are deemed to be based on 23 working days per month."

The Contractors' annual holiday period in December / January as provided for in the Contractor's program shall be non-working days and shall not form part of the period of Time for Completion, and measurement and payment for time related items and costs shall not apply to this period."

ADD THE FOLLOWING AT THE END OF THE LAST SECTION ON PAYMENT:

"Payment of the rate per month for subitems B13.01(d), (e), and (f) shall include full compensation for all the Contractor's obligations relevant to environmental compliance, monthly reporting and security on site (as per clause 4 of the GCC 2015).

The tendered rates for subitems 13.01(d), (e), and (f) shall apply in the same manner as pay subitem B13.01(c).

A Contractor who tenders zero for this pay item shall not be relieved of his statutory obligations. A nil rate offered shall be deemed not to be an omission, but to be a deliberate notice that costs have been included in the tendered rates for individual items of work, or in other preliminary and general pay items.

chapter 1: 1.4 facilities for the engineer

A1.4.3 General

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"Burglar-proofing shall comply with the requirements of CKS 338.

The facilities to be provided for the engineer in terms of these specifications shall be fenced off by a two-metre-high veranda type security fence with diamond mesh on the vertical portion and barbed wire on the overhang. A security gate shall be provided in the fence which shall be guarded at all times by an acceptable watchman provided by the contractor.

The engineer's establishment may be incorporated within the contractor's establishment provided that the preceding requirements are met to the satisfaction of the engineer.

Separate payment shall be made for the provision and erecting of the security fence and gate as indicated on the drawings, but the cost in respect of the provision of a watchman at all times by the contractor shall be deemed to be included in the contractor's tendered rate for item B13.01(c)."

(b) Offices

ADD THE FOLLOWING SUBSUBCLAUSES:

"(xiv) General-purpose steel cupboards with four shelves.

(xvi) The electric refrigerator shall have a capacity of at least 200 litres.

(xvii) Bookcases with four shelves.

(xviii) Voltage stabilizer.

(xix) Steel plan cabinets shall be able to accommodate one/two hundred and fifty A0-sized drawings hanging vertically from approved holders.

(xx) Floodlights at the offices and laboratory of the supervisory staff shall be controlled by a photocell for security purposes.

(xxi) The cellphones and car kits supplied to the engineer's site staff shall be supplied for the duration of the contract. The prime cost sum shall also include for the cost of all telephone calls in connection with contract administration."

ADD THE FOLLOWING SUBCLAUSE:

"(i) Computers and printers

When instructed by the Employers Agent, the contractor shall provide approved new computer equipment, including software and printers for use by the Employers Agent 's site personnel. The type of equipment and software shall be as instructed by the Employers Agent and payment for equipment and maintenance shall be made through item B14.12.

All equipment provided shall be kept fully serviceable at all times by the contractor. The contractor shall repair/replace any defective equipment within 48 hours after notification by the Employers Agent's staff. The contractor shall also be responsible to provide all paper and ink cartridges required by the Employers Agent.

At the end of the contract, the equipment and software shall revert back to the contractor."

BC1.4.7.3 SERVICES

(b) Water, electricity and gas

ADD THE FOLLOWING:

"The power supply shall be regulated by a suitable voltage regulator in order to maintain a constant current and voltage level at all times to prevent damage to the office and laboratory equipment and related machinery during power surges. Payment for the voltage regulator shall be deemed to be included in the rates tendered for the supply of power. In the event of damage to the office and laboratory equipment and related machinery because of a faulty voltage regulator, the contractor shall be liable for payment of all repair or replacement costs of such damaged items."

(c) Maintenance

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The contractor shall supply all labour, equipment and materials required for keeping the offices, ablution units, car-ports at the offices, in a neat and clean condition, and shall immediately undertake repairs requested by the Employers Agent to the offices, ablution units, car-ports, rented houses. The contractor is not responsible for keeping rented houses in a clean and neat condition, nor for tending to or caring for the gardens."

PART C: MEASUREMENT AND PAYMENT

Item Unit

BC 1.4.3 Office and laboratory fittings, installations and equipment:

(a) Items measured by number:

CHANGE SUBITEM (i) TO READ AS FOLLOWS:

“(i) 220/250-volt power points including voltage stabilizers and regulators as specified number (No)”

ADD THE FOLLOWING SUBSUBITEMS:

"(xiv) General-purpose steel cupboards with four shelves……. number (No)

(xvi) The electric refrigerator shall have a capacity of at least 200 litres…….……..... number (No)

(xvii) Bookcases with four shelves……... number (No)

(xviii) Voltage stabilizer…….... number (No)

(xix) Steel plan cabinets shall be able to accommodate one hundred and fifty A0-sized drawings hanging vertically from approved holders…….…. number (No)

(xx) Floodlights at the offices and laboratory of the supervisory staff shall be controlled by a photocell for security purposes……...…number (No)

(xix) Steel plan cabinets ……..…….. number (No)

(xx) Floodlights complete with poles and minimum 500-watt globes …. number (No)

The tendered rate for subitem BC1.4.3(a)(xx) shall include for the operation of the lights from sunset to dawn for the full duration of the contract."

(b) Prime-cost items and items paid for in a lump sum:

REPLACE THE DESCRIPTION OF SUBSUBITEM BC1.4.3(b)(i) WITH THE FOLLOWING:

"(i) Provision of cellphones complete with car kits fitted to vehicles as directed, including all fees and the cost of phone calls in connection with the administration of the contract……..……. Prime Cost (PC) Sum

(ii) Handling costs and profit in respect of subitem 14.03(b)(ix) above percentage (%)"

Item Unit

BC1.4.1.1 Provision of Photostat facilities

AMEND THIS PAYITEM DESCRIPTION TO READ “provision of copying facilities” AND IN THE PAYMENT PRESCRIPTION, AMEND “photocopier” TO READ “combination colour printer/copier/scanner/facsimile machine”.

Item Unit

BC1.4.1.2 Supply of computer hardware and software:

(a) Supply of computer equipment and software Prime Cost (PC) sum

(b) Handling cost and profit in respect of subitem B14.12(a) percentage (%)

Expenditure under this item shall be made in accordance with the Conditions of Contract.

The tendered percentage is a percentage of the amount actually spent under subitem B14.12(a), which shall include full compensation for the handling costs of the contractor, and the profit in connection with providing the specified equipment."

CHAPTER 1: 1.5 ACCOMMODATION OF TRAFFIC

A1.5.1 SCOPE

Add the following:

“It is a requirement of this specification that traffic is accommodated taking into account the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is volume 2, chapter 13 of the June 1999 edition. Copies of this publication are available from Government Printers –Tel: (012) 334 4507/8/9 or (012) 334 4510 Fax: (012) 323 9574. elsa.herbst@gpw.gov.za.

This section also covers the provision of additional information signs for motorists and the release of any notices to the media and public.”

A1.5.3.2 GENERAL REQUIREMENTS

(a) Safety

ADD THE FOLLOWING PARAGRAPH:

“The contractor shall be responsible for maintaining the existing road surface both within the works area and the advance warning and termination areas in a safe and trafficable condition for the duration of the contract.

The Contractor shall within 7 (seven) working days after receipt of a 3rd party claim acknowledge receipt to the claimant. The Employers Agent shall be copied on all correspondence regarding 3rd party claims. The Contractor shall at the monthly site meeting report on the status and outcome of the 3rd party claims.”

(b) Providing temporary deviations

ADD THE FOLLOWING PARAGRAPH:

"The contractor shall keep the provincial traffic police, the municipal traffic department and the Employers Agent fully informed of changes in the normal traffic flow and obtain their approval for these changes."

(e) Access to properties

ADD THE FOLLOWING:

“Where the alignment of the new road coincides with the alignment of the existing road, accesses to private properties will have to be operational and maintained during the constructional period. No separate payment will be made for providing acceptable and safe access across the new road at all times during construction of the road.”

Approval of temporary deviations

ADD THE FOLLOWING:

“The Contractor’s programme for the accommodation of traffic must be approved by the Employers Agent on site. The Employers Agent shall also have the power to stop any work at any time if the road signs are not compliant with the prescribed requirement and/or if the non-compliance is deemed to place the safety of the travelling public at risk.

If, after any temporary deviation has been constructed, any changes are considered necessary or desirable, the proposal shall be submitted to the Employers Agent for his approval.

The contractor shall keep the provincial traffic police, the municipal traffic department and the Employers Agent fully informed of changes in the normal traffic flow and obtain their approval for these changes"

(i) Traffic Safety Officer

ADD THE FOLLOWING AFTER SUBCLAUSE (viii):

“(ix) be responsible for contacting all the relevant authorities in the event of an accident on the site of the works

(x) arrange for the removal of broken-down vehicles that obstruct the normal traffic flow

The contractor shall provide the traffic safety officer with all the necessary resources to carry out his duties as specified, inter alia, light delivery van (LDV), personnel, warning signs and revolving amber flashing lights. A warning sign with the words “CONTRACTOR TRAFFIC CONTROL” in clearly legible letters shall be mounted on the vehicle at least 1,5 m above ground level to be clearly visible. The vehicle shall be equipped with two revolving amber-coloured flashing lights with a minimum intensity of 55 W. The flashing lights shall be switched on and the warning sign be displayed at all times when the vehicle is used on the site.

No separate payment will be made for the traffic safety officer, his vehicle, personnel and equipment and the cost thereof shall be included in the contractor’s cost for his establishment and general obligations (section 1300).”

ADD THE FOLLOWING SUB-CLAUSES:

“(j) Site Personnel

The Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the Employers Agent, ineffective shall be immediately replaced by the Contractor.

(k) Liaison with the Municipality Traffic Department

The Contractor shall obtain permission and approval of his traffic management plan from the municipality in writing prior to any work starting on any section of the work.

(l) Other requirements

The following other requirements must be adhered to for the entire contract period:

i) 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.

ii) The Contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from the above and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.

iii) "Normal working hours" (referred to in Clause 5.8 of the General Conditions of Contract) will, because of heavy peak hour traffic volumes, be restricted to between 30 minutes after sunrise and 30 minutes before sunset.

BA1.5.5.7 TEMPORARY TRAFFIC-CONTROL FACILITIES TRAFFIC ACCOMMODATION FACILITIES AND SAFETY DEVICES

REPLACE THE FIRST SENTENCE OF THE FIRST PARAGRAPH 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 devices) in accordance with these special provisions and as shown on the drawings and in the SARTSM, Vol 2 (May 2012) and remove them when no longer required. It shall be incumbent upon the Contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly.

All temporary road signs, devices, sequences, layouts and spacings shall comply with the requirements set out in the National Road Traffic Act, 1996 (Act No 93 of 1996), the National Road Traffic Regulations, 2000 of the relevant authorities and on the drawings or as instructed by the Employers Agent.

The contractor shall indemnify the employer against all proceedings, claims, actions, damages and costs which may arise from or be related to the absence or improper functioning or placement of road traffic signs, barricades, traffic-control facilities, channelization devices and warning devices."

REPLACE THE LAST SENTENCE OF THE SECOND PARAGRAPH WITH THE FOLLOWING:

"Traffic-control facilities lost or damaged by the Contractor shall be replaced at his own cost. Where it can be proved that loss of or damage to such facilities is beyond the Contractor's control and not the result of his actions or omissions, the Employers Agent may order the facilities to be replaced and paid for at scheduled rates."

REPLACE THE THIRD PARAGRAPH WITH THE FOLLOWING:

“The type of construction, spacing and placement of traffic-control devices shall be in accordance with the SARTSM, Vol 2 (May 2012). The recommended arrangements of the traffic control devices illustrated and/or drawings issued by the Employers Agent shall not be departed from without prior approval of the Employers Agent. The arrangements expected to be most commonly used in the contract are given on the tender drawings.

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

b) Road signs and barricades

ADD THE FOLLOWING:

“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.

All temporary road signs required to remain in position for some time shall be pole mounted as shown on the drawings. All temporary road signs required to be moved more often shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included in the tendered rates for the various types of temporary road signs.

The covering of permanent road signs, if applicable, shall be by utilizing a suitable and durable covering that shall be pulled over the sign in the form of a hood and fastened to the signposts. Plastic bags or other materials and fastened by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be included in the tendered rates of items B15.01 and 15.10.”

c) Channelization devices and barricades

ADD THE FOLLOWING:

“The use of drums as channelization devices shall not be permitted. Drums may however be used to set up barriers as provided for in sub-clause 1503(d).

TW 401 and TW402 delineators shall be used at all times and comply with the following requirements:

(i) comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as indicated on the drawings;

(ii) have smooth and round edges and be mounted on a post and base. All components shall be of durable plastic material;

(iii) It shall be nominally 1 000 mm high x 250 mm wide and the bottom edge of the delineator shall not be more than 200 mm above the road surface;

(iv) be capable of withstanding the movement of passing vehicles and gusting winds up to 60km/h in typical working conditions without falling over. To achieve this, the base shall be at least 0,18m2 and ballasted by its own weight or with sandbags filled with sand;

(v) together with its mounting be designed such that it will collapse in a safe manner under traffic impact.

Traffic cones manufactured in a fluorescent red-orange or red plastic material may be used only at short term lane deviations during daylight. Cones shall not be used on their own, but shall be interspersed with delineators at a ratio not exceeding 3:1. Cones used on all deviations shall be 750mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

On section of road where the centerline has been obliterated, delineators shall be provided on both road edges at minimum 200m spacing on straight sections and at least 3 (three) visible on all curves.”

d) Barriers

ADD THE FOLLOWING:

“Barriers for preventing vehicles from leaving the permitted lanes shall be movable barriers with an approved safety shape design (e.g. New Jersey, F-shape or single slope). Temporary movable barriers shall be obtained from suppliers and placed between the existing road and the construction areas. They shall comply with the requirements of either of the following specifications:

The European Specification EN 1317 with containment level H1, or

The American Federal Highways Administration Specification NCHRP Report 350 with containment level TL4.

When applying these specifications, the Contractor must take cognizance of his liabilities relating to the installation of temporary works to provide protection to the permanent Works and safety to his personnel and select a barrier system appropriate to his chosen work methodology. Particularly pertinent is the working width rating of a barrier system; the displacement width of the system shall not exceed the available safe width to the nearest edge of the construction. All moveable barriers shall be installed in accordance with the manufacturer's instructions or generally accepted best practice and shall be submitted to the Employers Agent for review and comment.

Where instructed by the Employers Agent, the terminal sections of moveable barriers may be a proprietary type or may be Contractor designed to attenuate head-on impacts of at least NCHRP Test Level 1 (50 km/h, 2 000 kg) or EN1317 Containment Level H1 (80 km/h, 1 500 kg).”

e) Warning devices

ADD THE FOLLOWING:

“All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant before being allowed onto the site shall obtain a clearance permit from the Employers Agent.

(i) Vehicle mounted flashing lights

Rotating amber flashing lights (min 55 W) shall have an amber lens of minimum height of 200 mm and shall be mounted in such a way as to be highly visible from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within

the accommodation of traffic area, as the vehicles decelerate to enter a construction 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 LDV's and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be highly visible and operated continuously while the vehicles are maneuvering in or out of traffic or are travelling or parked alongside roads open to public traffic.

Rotating lights and the "construction vehicle" 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 lights together with temporary mounting brackets, to the approval of the Employers Agent. Vehicles and plant that do not comply with these requirements shall be removed from the site.

It shall be a requirement that the Contractor also provides the Employers Agent's site personnel with warning lights for their vehicles (a maximum of four lights are required) without any additional payment.

(ii) Sign mounted flashing lights

Two amber flashing lights shall be vertically mounted on top of the traffic signs at each end of each traffic accommodation section as shown on the drawings. The lights shall be operated during the hours of darkness.

ADD THE FOLLOWING SUB-CLAUSES:

"(g) Safety jackets

The contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the engineer, ineffective shall be replaced immediately by the contractor.

(h) Other traffic control measures ordered by the Employers Agent

The Employers Agent may instruct the Contractor to provide any other road sign, reflective tape, etc. not measured in standard pay items. Such road signs shall conform to the requirements of the SARTSM, or specification provided by the Employers Agent. Similarly, in order to ensure that the travelling public is kept fully informed and warned on matters relating to the accommodation of traffic, construction sign posting and the effect of the construction on the free flow of traffic through the site, the Employers Agent may arrange for advertising in the press and/or for other forms of publicity.

(i) Flagmen

Flagmen shall be provided where shown on the drawings or required by the specification and payment will be included in the monthly cost for accommodation of traffic. Payment for flagmen will only be done if instructed by the Employers Agent.

Flagmen shall be adequately trained in the standard flagging techniques as described in the SARTSM – Vol 2 (May 2012) (refer to figure 13.23 of detail 13.23.1) and be provided with conspicuous clothing such as safety jackets utilizing retro-reflective and / or fluorescent panels in red, yellow and / or white.

Flagmen shall have in their possession, at all times, certification that they have attended and passed an accredited course in flagging techniques before being allowed onto the construction site.

Flags shall be made from bright red or red-orange material and shall be square with a minimum side length of 600mm. The flag shall be attached to a staff at least 1,0m in length.

In terms of lateral clearance and safety, flagmen shall stand on the shoulder of the lane of traffic that is being controlled and under no circumstances shall flagmen be permitted to stand within the traffic lane. In order to obtain maximum visual impact for the travelling public, flagmen shall stand-alone."

BA1.5.7.10 WIDTH AND LENGTH OF TEMPORARY DEVIATIONS

REPLACE THE CONTENTS OF THIS CLAUSE WITH THE FOLLOWING:

"The effective carriageway width for any two-way traffic accommodated on an existing bituminous surfaced road shall not be less than 6,8 m. No single lane shall be less than 3,4 m wide.

Where the traffic is accommodated in half-widths, the effective lane width for one-way traffic shall not be less than 3,4 m."

B A1.5.7.10 TEMPORARY DRAINAGE WORKS

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

"The construction of temporary culverts shall be in accordance with section 2200. Temporary culverts no longer required shall be removed as directed by the engineer. Excavations shall be backfilled with suitable granular material and compacted to the densities specified by the engineer."

B A1.5.7.10(b) TEMPORARY DRAINAGE WORKS

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

"The construction of temporary culverts shall be in accordance with section 2200. Temporary culverts no longer required shall be removed as directed by the Employers Agent. Excavations shall be backfilled with suitable granular material and compacted to the densities specified by the Employers Agent."

B A1.5.7.10(e) GRAVELLING OF TEMPORARY DEVIATIONS OR OF EXISTING ROADS USED AS TEMPORARY DEVIATIONS

ADD THE FOLLOWING TO THE SECOND PARAGRAPH:

"The gravel material laid on existing roads used as diversions shall comply with the following:

Maximum size : 37,5 mm

Oversize index (Io) : 0 (% retained on 37,5 mm sieve)

Shrinkage products (Sp) : 100 - 240 (linear shrinkage x % passing 0,425 mm sieve)

Grading coefficient (Gc) : 16 - 34 [(% passing 26,5 mm - % passing 2,0 mm) x % passing 4,75 mm/100]

CBR : ≥ 15 at 93% of modified AASHTO density."

BA1.5.7.6 EXISTING ROADS USED AS DIVERSIONS

ADD THE FOLLOWING:

"The Contractor shall indemnify the employer against all proceedings, claims, actions, damages and costs which may arise from or be related to damage to vehicles or property or injury to persons as a result of loose stones or aggregates on the road surface or as a result of bituminous applications during the construction of the works.

The Contractor shall arrange his activities so that construction traffic and equipment do not unnecessarily obstruct public traffic or force it to a complete standstill. The flow of public traffic shall always take precedence and the Contractor shall not stop or delay public traffic to make way for construction traffic."

BA1.5.7.11 ACCOMMODATION OF TRAFFIC WHERE THE ROAD IS CONSTRUCTED IN HALF- WIDTHS

ADD TO THE FIRST PARAGRAPH:

“Sections where road marking has not been done shall be regarded as being under construction and not fully opened.”

DELETE THE FOURTH PARAGRAPH STARTING WITH: “The number of sections…”

ADD THE FOLLOWING AS A FINAL PARAGRAPH TO THIS CLAUSE:

“The Contractor shall programme the works in such a way to maintain two-way traffic within the contract limits during the Contractor’s annual shutdown period between December and January. The Contractor shall further ensure that there is no vertical step between two opposing traffic

lanes. Failure to comply with these specifications will entitle the Employers Agent to apply a lane occupation levy."

ADD THE FOLLOWING CLAUSE:

"B A1.5.7.10(g) RETRO-REFLECTIVE MATERIAL

"Retro-reflective material for temporary signs shall comply with the requirements of SABS 1519-1 for weathered material. Tests shall be carried out with a field retro-reflectometer and the testing procedure and classification are described in clause B8118. The value of the coefficient of Retro-Reflection shall be at least 60% of the values indicated in table B8118/1.

B1519 ACCOMMODATION OF PEDESTRIAN TRAFFIC

The Contractor shall pay specific attention to the accommodation of pedestrian traffic along the cross roads where the safety of pedestrians could be compromised as a result of the works.

Where pedestrians have to cross the site, the Contractor shall ensure that the pedestrians are safeguarded and shall be able to cross the site without being endangered. The pedestrians should not be able to enter areas where works are taking place.

Should a walkway be required, it shall have a clear opening of at least 1,2 m wide and 2,1 m high and shall be uniformly illuminated at all times. The surface of the walkway shall be free from obstructions and shall be clearly signposted to guide the pedestrians towards the walkway. If steps are required to reach the level of the walkway, these shall comply with the OHS act and have proper handrails. No ramps shall be steeper than 1 in 8.

Payment for compliance to this requirement shall be deemed to be included in the rates tendered for accommodation of traffic."

PART C MEASUREMENT AND PAYMENT

INSERT THE FOLLOWING PARAGRAPH AFTER THE HEADING:

"The Contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from the above and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered."

REPLACE ITEM 15.01 WITH THE FOLLOWING:

“Item Unit

BC 1.5.13 Accommodating traffic and maintaining temporary deviations….....month (Month)

The unit of measurement shall be the month measured as per item 13.01(c).

The tendered rate shall include full compensation for the general obligations and incidental cost-items necessary for the accommodation of traffic and the construction and maintenance of diversions, including roads constructed in half widths and existing roads that are being used as diversions, during the construction period and during the maintenance period where such items of cost are not specially paid for under the pay items provided under this section in the Schedule of Quantities. It shall also include full compensation for the provision of all equipment, including tools, transport, labour, supervision, guards, and temporary traffic aids, including all relocation and re erection as may be required for the execution of all the works (including moving and re-erecting temporary plastic New Jersey Barriers), required for the proper and safe accommodation of traffic as specified and as shown on the drawings. It shall also include, where necessary, communications equipment required to regulate traffic, for the provision and maintenance of temporary drainage, arranging for the moving of services, attending to traffic problems, complying with the requirements of the Road Signs Manual, and for providing temporary access to private properties.

The tendered rate shall also include full compensation for flagmen as required in accordance with the drawings.

The provision of temporary traffic control facilities including all road signs will be measured and paid for under Item B15.03. The tendered rate shall include the re use of the signs for all the closures at any locations and full maintenance including the replacement of damaged signs.

The tendered rate shall also include the provision of a full-time traffic safety officer, assistants, special vehicles for 24-hour maintenance, inspection, dealing with all accommodation of traffic related issues including and reporting of accidents.”

BC 1.5.4 Earthworks for temporary deviations

ADD THE FOLLOWING:

"Payment under this item will only be applicable to temporary deviations for the accommodation of traffic and will not be used for frontage/service roads used for the accommodation of traffic. Payment for frontage/service roads used for the accommodation of traffic will be made under section 3300."

BC 1.5.7 Temporary traffic control facilities

(a) Flagmen

Replace the 1st paragraph of the payment description to the following:

“The unit of measurement shall be a full day and night worked by flagmen only when instructed by the Employers Agent. A man-day shall be deemed to comprise of a number of shifts within a twenty-four-hour period. Shifts of 12 hours and less shall be measured as half of a man-day.”

Add the following to the measurement sub-paragraph “(a) Flagmen”:

"For this contract the cost for providing flagmen for traffic accommodation as indicated on the drawings shall be deemed to be included in the tendered rates under item B15.01. Payment under item B15.03(a) will be made only in instances where, upon an instruction by the Employers Agent, additional flagmen are to be provided.

Payment for flagmen who assist with the safe entry and exit of the Contractor’s vehicles from closures or turning points, or guiding the traffic around the Contractor’s plant will be deemed to be included in the Contractor’s Safe Work Procedure and shall not be claimed under item B15.03 (a)."

REPLACE THE DESCRIPTION OF SUBITEMS (g) AND (h) WITH THE FOLLOWING:

"(g) Rectangular Road signs, TGS-, TIN-, and TW-series
(Excluding TW-series delineators and
barricades) square metre (m²)

(h) Delineators TW401/TW402

(250 mm x 1 000 mm sides):

(i) Single (size indicated)number (No)

(ii) Double sided blade (size indicated) number (No)

ADD THE FOLLOWING NEW SUB-ITEM:

“(n) Other traffic control measures ordered by the Employers Agent

(i) Provision of other traffic control measures provisional (Prov) sum

Handling costs and profit in respect of sub-item B15.03(n)(i) percentage (%)

Expenditure under this payment item, (e.g. media releases or other signs to deliver information to the public shall be made in accordance with sub-clause 6.6 of General Conditions of Contract for the supply and installation of any additional signs or other traffic control measure ordered by the Employers Agent in accordance with clause B1503(g).

The tendered percentage is a percentage of the actual amount spent under subitem B15.03(n)(i), which shall include full compensation for the handling costs of the Contractor, and the profit in connection with providing other signs and traffic control measures ordered by the Employers Agent.”

Under heading “General”, make the following amendment:

Insert "Only items additional to those shown on the drawings are scheduled for payment" after "site" in the fourth last line of this paragraph.

At the end of the item under the heading “General” the last sentence shall be replaced by the following:

“Facilities which are stolen or become unserviceable, in particular delineators, shall be replaced promptly at no additional cost. All signs not in their correct position for whatever reason shall be noted and reported to the Employers Agent daily as part of the Traffic Safety Officer’s duties. In this event, the fixed penalty of R5 000 shall not be deducted but the time-related penalty of R500 per hour shall remain applicable as per B1502(k).”

Delete payment items 15.08 and 15.09 as maintenance of the road and/or bypasses are

paid under Section 3900

Add the following paragraph to pay item B15.03(l) payment description:

“The barriers shall be placed at the traffic control facilities to manage traffic and also alongside the work area as instructed by the Employers Agent.”

Item

BC1.5.12 Gravelling and repair of temporary deviations and existing gravel roads used as temporary deviations:

ADD THE FOLLOWING:

"Payment under this item will only be applicable to temporary deviations for the accommodation of traffic and will not be used for frontage/service roads used for the accommodation of traffic. Payment for gravelling of frontage/service roads used for the accommodation of traffic will be made under section 3400."

REPLACE ITEM 15.10 WITH THE FOLLOWING:

"Item Unit

BC1.5.13 Accommodation of traffic where the road is constructed in half-widths kilometre (km)

The unit of measurement shall be the kilometre measured along the centre line of the roads to be constructed, upgraded or rehabilitated in half-widths as directed by the engineer.

The accommodation of traffic in half-widths shall be measured once only along the centre line of the road, irrespective of the number of times necessary to accommodate traffic over any particular part of the road.

This also applies to cases where the traffic is initially accommodated on one half of the road and later on the other half. The limits for any particular part of road on which traffic has to be accommodated in half-widths shall be the distance measured between the beginning and end of

the particular work area and not between the two furthermost temporary road signs on either side of the particular section of road under construction.

The tendered rate shall include full compensation for providing all Constructional Plant, equipment, tools, transport, labour, supervision, guards and all other incidentals necessary for the proper and safe handling of traffic as specified, for all additional costs and work resulting from accommodating the traffic in half-widths, and for dismantling, storing and if necessary re-using, moving, transporting and re-erecting temporary road signs, barricades and all other traffic-control facilities necessary to accommodate traffic in half-widths, irrespective of the number of times necessary to move such traffic-control facilities.

Payment will be made in three instalments as follows:

(a) The first instalment, 25% of the length of road where the traffic is accommodated in half-widths, will be paid after the contractor has met all his obligations regarding the widening of the shoulder or any phased construction for the accommodation of traffic.

(b) The second instalment, 35% of the length of road where the traffic is accommodated in half-widths, will be paid after the contractor has met all his obligations regarding the construction of the one half of the road complete to final road levels, excluding the second application of slurry.

(c) The third and final instalment, 40% of the length of road where the traffic is accommodated in half-widths, will be paid after the contractor has met all his obligations regarding the construction of the remainder of the road complete to final road levels, including the second application of slurry to the first half.

Payment for the provision of temporary traffic-control facilities shall be made under item B15.03 and shall be paid for once only, irrespective of the type of work to be executed or the number of times that the temporary traffic-control facilities have to be moved and re-used."

ADD THE FOLLOWING NEW ITEMS:

“Item Unit

BC1.5.13. Provision of traffic safety equipment for visitors

(a) Emergency rotating mini light bar for mobile use..... number (No)

(b) 'Construction' sticker for vehicles with 100 mm high lettering..... number (No)

(c) Safety jackets ..... number (No)

The unit of measurement shall be the number of each item provided as specified, and approved by the Employers Agent.

The tendered rates for the various safety items shall include full compensation for provision thereof and maintenance in good working order."

Item Unit

BC1.5.13 Media releases and public relations:

(a) Media releases and public relations Prime Cost (PC) Sum

(b) Handling costs and profit in respect of

subitem B15.15(a) percentage (%)

The prime cost sum is provided to cover costs related to media releases and public notices as instructed by the Employers Agent."

CHAPTER 1 :1.7 LOADING AND HAULING

A1.7.2 DEFINITIONS

(a) Overhaul material

ADD THE FOLLOWING TO SUBCLAUSE (i):

"Overhaul material shall also include the following:

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

REPLACE THE LAST PARAGRAPH WITH THE FOLLOWING:

“No overhaul shall apply to materials from commercial sources. The contractor's tendered rates for all materials from commercial sources shall be deemed to include full compensation for hauling the materials to its point of use on the site."

b) Overhaul

ADD THE FOLLOWING PARAGRAPHS:

“All haul within the boundaries of the site will be regarded as free haul, and no payment will be made for overhaul on this contract unless provision is made therefore in specific items. Payment for overhaul will only be considered for material disposed of, or hauled beyond the limits of the site, in which case a free-haul distance of 1,0km measured from the site boundaries will be applicable and shall be measured as the product of the volume of material hauled and the overhauled distance.

No overhaul will be payable for materials imported from commercial sources and from designated borrow pits alongside the road.”

A1.7.3.1 MEASUREMENT AND PAYMENT

DELETE "(restricted overhaul) “FROM PAYMENT ITEM B16.01

CHAPTER 1 :1.6 CLEARING AND GRUBBING

BA1.6.1 SCOPE

ADD THE FOLLOWING AFTER "grubbing" IN THE FIRST PARAGRAPH:

" Including the demolishing and disposal of structures, shelters, dwellings and out-buildings within the new road reserve".

ADD THE FOLLOWING AS A FINAL PARAGRAPH:

“Clearing and grubbing for the construction of site offices shall not be measured separately and shall be deemed to be included in the rates tendered for item B13.01.”

BA1.6.2 DEFINITION

(c) Conservation of topsoil

ADD TO THE END OF THE 1ST PARAGRAPH:

“The depth of topsoil removed shall be reliant on the terrain, suitability of material and topsoil requirements of the work. Generally, the Contractor will not be required to remove topsoil to more than an average depth of 250mm unless approved by the Employers Agent before commencing with topsoil removal from any particular area.”

REPLACE THE SECOND PARAGRAPH OF THIS CLAUSE WITH THE FOLLOWING:

“After clearing and grubbing, all topsoil shall be removed to either windrows alongside the construction area or to stockpile. Where ordered by the Employers Agent, any topsoil that shall be required for the topsoiling of new banks and cuts, but which cannot be accommodated within the construction site, shall be loaded and hauled to the designated stockpile area where it shall be placed in temporary stockpiles for later use in the rehabilitation of the site affected by construction activities. Where new borrow pits are to be opened up the topsoil shall first be removed (independently of the overburden) and placed in temporary stockpiles at the edge of the borrow pit. The moving of topsoil from windrow or the loading of topsoil from temporary stockpiles and the placing and spreading thereof on cut or fill slopes or on borrow pit spoil sites, is covered in Section 5800.”

PART C MEASUREMENT AND PAYMENT

Item

BC1.6.1 Clearing and grubbing

REPLACE THE LAST PARAGRAPH WITH THE FOLLOWING:

"The tendered rates shall include full compensation for all work necessary for the clearing and grubbing of the surface, the demolishing and disposal of structures, shelters, dwellings and out-buildings, the removal of all vegetation, shrubs, trees and tree stumps (except large trees and stumps as defined in item 17.02), cutting of branches, backfilling of cavities, the removal, transporting (including all haul) and disposal of material at approved dumping sites provided by the contractor, and all additional costs incurred to clear and grub the surfaces to the Employers Agent's satisfaction."

ADD THE FOLLOWING PAYMENT ITEM:

"Item Unit

BC1.6.9.1 Temporary stockpiling or blading to windrow of topsoil:

Blading to windrow alongside the areas demarcated for side drain

excavation..... cubic metre (m3)

In temporary stockpiles after loading material into trucks including 2,0km

freehaul ..... cubic metre (m3)

The unit of measurement shall be the cubic metre of topsoil bladed to windrow or temporarily stockpiled. The volume of topsoil shall be measured in cut, calculated from the difference in cross-sections of the natural ground level before the commencement of clearing to cross-sections taken after the removal of the topsoil.

The Contractor shall constantly liaise and agree with the Employers Agent as to the depth of topsoil to be removed. Where, in the opinion of the Employers Agent, material that would normally be classed as insitu material has also been excavated, the excavation shall be backfilled and compacted with selected material at the Contractor' expense. Should material that is deemed by the Employers Agent not to be topsoil, be removed and stockpiled together with material classed as topsoil, the Contractor shall be responsible for the removal of this unsuitable soil from the stockpile and the replacement of the quantity of topsoil contaminated by the unsuitable material at his cost. The quantity of topsoil to be replaced shall be determined by the Employers Agent.

The rates tendered shall include for the excavation of the topsoil and blading to windrow or where required, the loading and hauling thereof to temporary stockpile as well as the maintenance of the stockpile until re-use of the material. The rates tendered shall also include for all supervision required to ensure that only topsoil is removed."

BC 1.6.10 Demolition, removal and disposal off site of miscellaneous structures

consisting of:

Unreinforced concrete cubic metre (m^3)

Reinforced concrete cubic metre (m^3)

The unit of measurement shall be the cubic metre of concrete removed from each structure in the road reserve as instructed by the Employers Agent.

The tendered cubic meter rate for each structure shall include full compensation for the complete demolition of the structure (including foundations to 0,5 m below natural ground level) and the transportation (including all haul) and disposal of all debris at approved dumping sites provided by the contractor.

SECTION B 1800: DAYWORKS

ADD THE FOLLOWING NEW SECTION

BC1.2.1 SCOPE

This section covers the listing of day work items in accordance with the Conditions of Contract, determining payment for work which cannot be quantified in specific units in the bill/schedule of quantities/pricing schedule, or for work ordered by the Employers Agent during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the bill/schedule of quantities/pricing schedule.

BC1.2.1 ORDERING OF DAYWORK

No day works shall be undertaken unless written authorization has been obtained from the Employers Agent.

BC1.2.1 MEASUREMENT AND PAYMENT

Item Unit

BC1.2.8 Personnel during normal working hours:

(a) Unskilled labour hour (h)

(b) Semi-skilled labour hour (h)

(c) Skilled labour hour (h)

(d) Ganger hour (h)

BC1.2.8.2 Personnel outside normal working hours:

(a) Outside normal working hours and on Saturdays:

(i) Unskilled labour hour (h)

(ii) Semi-skilled labour hour (h)

(iii) Skilled labour hour (h)

(iv) Ganger hour (h)

(b) Sundays and public holidays:

(i) Unskilled labour hour (h)

(ii) Semi-skilled labour hour (h)

(iii) Skilled labour hour (h)

(iv) Ganger hour (h)

BC1.2.8.2 Equipment/Plant:

(a) LTB .....hour (h)

(b) Tipper truck 6m3.....hour (h)

(c) Grader (111.9 kilowatts or equivalent) .....hour (h)

(d) Compressor and 2 jack hammers .....hour (h)

(e) Excavator (25 TON) .....hour (h)

(f) Front-end loader.....hour (h)

(g) Vibrating pedestrian roller (Bomag 60) .....hour (h)

Item Unit

BC1.2.8.4 Materials:

(a) Procurement of materials…… Provisional sum (Prov sum)

(b) Contractor's handling costs, profit and all other charges in respect of sub item B18.04(a) percentage (%)

BC 1.2.8.3 Transport:

(a) LDV kilometre (km)

(b) Flatbed truck (min 5 tonne) kilometre (km)

The unit of measurement for items B18.01 and B18.02 shall be the hour for the item of equipment/plant or personnel. Non-working hours for transport breakdown, lack of operator or any other reason shall not be measured. The time shall be taken from the time that the personnel and/or plant/equipment depart until return.

Measurement shall only be for work instructed and directed by the Employers Agent, where the Employers Agent considers no other appropriate rate is available in the bill/schedule of quantities/ pricing schedule. Prior to the commencement of any work by the personnel described under items B18.01 and B18.02, the Contractor must obtain written consent from the Employers Agent regarding the classification of all labourers in terms of ‘unskilled’, ‘semi-skilled’ and ‘skilled’ personnel.

The tendered rates for labour for items B18.01 and B18.02 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence, allowances, employer's contributions, additional payment for overtime where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non-mechanical plant and equipment and consumable stores and for all administrative, supervisory, operative and contingent costs relating to the supply of personnel.

The tendered rates for plant for item B18.03 shall be an all-inclusive hire charge for the use of the vehicle and driver or plant/equipment and operator and shall apply only to vehicles, plant and equipment nominated in writing by the Employers Agent, for all administrative, supervisory, operative and contingent cost and profit relating to the running of the Plant.

The unit of measurement for sub item B18.04(a) shall be the amounts actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the Conditions of Contract. Only the actual quantities of materials used, as verified by the Employers Agent, shall be paid for.

The percentage tendered for sub itemB18.04(b) shall be the percentage of the amounts actually paid for the procurement of materials as ordered under sub item B18.04(a) and shall be in full and final compensation in respect of the Contractor's handling costs, profit and all other charges in connection with the procurement and supply of the materials to the point of usage.

The unit of measurement for item B18.05 shall be the kilometre distance that the vehicle travelled for transporting personnel and/or plant. All travelling shall be approved by the Employers Agent.

The tendered rate for item B18.05 shall include full compensation for the cost of the vehicle including fuel, maintenance, depreciation and running costs.

The above-mentioned tendered rates shall be in full compensation for the various items as specified and no further profit shall be paid.”

COTO SERIES chapter 3: DRAINAGE

SECTION B 2100 1.3 DRAINS

BC3.1.1 SCOPE

AMEND THE FIRST PARAGRAPH TO READ:

“This section covers all work both rehabilitative and new work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the Employers Agents, and the test flushing of subsoil drains.”

AMEND THE FIRST PARAGRAPH TO READ:

"This section covers all work both rehabilitative and new work in connection with the excavation and construction of open drains, subsoil drainage, banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the Employers Agent, and the test flushing of subsoil drains."

BA3.1.5.2 SUBSOIL DRAINAGE

(a) Materials

(i) Pipes

AMEND THIS SUBCLAUSE BY ADDING THE FOLLOWING TO THE END OF THE THIRD PARAGRAPH:

"(category - heavy duty) or SABS 1601 (stiffness class 350)

The pipes to be used shall be either slotted uPVC pipes or perforated HDP pressure pipes, 100 mm ID.”

(ii) Natural permeable material

ADD THE FOLLOWING TO THE 3rd PARAGRAPH:

“The crushed stone shall be coarse (19 mm nominal) and shall be washed clean of all fines.”

REPLACE THIS SUBSUBCLAUSE WITH THE FOLLOWING:

(iii) Synthetic-fibre filter fabric

(1) Composition and manufacturing

The geotextile shall be a synthetic polymer material manufactured in a continuous permeable homogeneous sheet (in rolls) by one of the following methods:

Non-woven, mechanically bonded (continuous fibre spunbonded, needle-punched)

The synthetic material polymer shall be one or more of the following:

Polyester

Polypropylene

Polyethylene

On account of the temperature and moisture susceptibility of polyamide, this synthetic product is not considered acceptable.

(2) Classification

Geotextiles shall be classified into the following main grades according to typical usage.

Grade 1: Very good installation conditions, e.g. subsurface drains with relatively smooth trench walls, small to medium size filter stone (9,5 mm to 19 mm) dumped from the edge of a shallow drain, and where careful handling of the geotextile is expected.

Grade 2: Normal installation conditions, not as good as grade 1, eg. larger subsurface drains with rough trench walls, large size filter stone (37,5 mm) dumped from a height onto the geotextile-lined drain, and where normal handling of geotextile is expected.

Grade 3: Adverse conditions, eg. foundation drainage, gabions and gabion mattresses, light rock protection, rock fills and light separation of materials, separation and reinforcement of fill layers, light river protection works, and where rough handling of the geotextile is expected.

Grade 4: Adverse conditions where strength is more important than permeability, eg. foundation drainage, gabions and gabion mattresses, rock protection, earth encapsulation, separation and reinforcement of fill and rockfill layers, heavier river protection works, and where rough handling of the geotextile is expected.

Grade 5: As for grade 4 but where additional strength is required, eg. in heavy separation, earth and rock encapsulation, river protection works and shore revetment works.

Grade 6: As for grade 5 but where maximum strength is required and where permeability will be relatively unimportant.

The minimum requirements for each grade are listed below in table B2104/2. Under normal circumstances grades 1, 2, 3, 4 and 5 will be specified while grade 6 will be specified in special cases where maximum strength is required by special design considerations.

The various grades and the corresponding typical usage above shall be regarded as a guideline only. The actual grade of geotextile to be used on the work will be as stated in the bill/schedule of quantities/pricing schedule as required by the Employers Agent.

(3) Durability

A geotextile is required to comply with the following specifications:

Resistance to chemical attack

The geotextile shall withstand the level of aggressiveness of the soil and ground water given below without significant loss of its strength and hydraulic properties during its design life of 25 years:

Soil and ground water with a pH in the range of 4 to 12 (pH to be determined by Method A20, TMH1, 1986).

Soil (as paste) and ground water containing salts with a conductance of up to 1,0 S/m (conductivity to be determined by Method A21T, TMH1, 1986).

Resistance to ultra-violet light

The geotextile shall maintain at least 80% of its original strength after direct exposure to sunlight of 1 500 hours.

Resistance to rot

The geotextile shall be entirely rot-proof and shall not support the growth of algae, bacteria or fungi.

(4) Selection

The geotextile required shall satisfy the criteria for the grade of geotextile as specified in the bill/schedule of quantities/pricing schedule or project specifications.

The contractor shall, at least 45 days before the installation of the geotextile, submit to the Employers Agent samples of the geotextile he proposes to use, so that the Employers Agent may carry out the appropriate tests specified in subsubclause B2104(a)(iii)(6) and in clause 8114, and confirm the use thereof if he is satisfied that the geotextile meets the specified requirements. No extra payment shall be made for providing the samples for testing.

(5) Properties

The various grades of geotextile as classified above shall comply with the general requirements as listed below in table B2104/2.

TABLE B2104/2: GRADES OF GEOTEXTILES

Properties	Limiting values*					
	Grade	Grade	Grade	Grade	Grade	Grade

		1	2	3	4	5	6
Thickness		As specified by the manufacturer					
Mass per unit area	g/m²	100	140	200	240	300	350
Tensile strength	kN/m	6	10	13	18	25	30
Penetration load	kN	1,0	1,5	2,5	3,0	4,0	5,0
Penetration resistance* (max)	mm	35	30	25	18	16	10
Permeability	litre/s/m²	25	20	15	15	10	5

*Notes:

*(1) The minimum values of properties are listed, except for penetration resistance where the maximum values are given.

(2) Thickness shall be as specified by the manufacturer for the specific product offered.

(3) The values given in the table shall apply to all geotextiles, irrespective of the type of material used. Where these values differ from the values in Table 1 of the Code of Practice SANS 10221: The Testing of Geotextiles, the values of Table B2104/2 shall apply.

(6) Testing

The tests to be carried out on geotextiles relate to the material and the method of manufacture and are used mainly to ascertain that the correct grade of geotextile is supplied, and that the material is equivalent in quality to that selected and specified for use on the works. The contractor shall, on instruction of the Employers Agent, submit a certificate by an approved laboratory to prove compliance with the specified qualities without additional cost to the employer.

Thickness (mm): The thickness of the material shall be specified by the contractor (or supplier). Thickness and compressibility tests shall be carried out in accordance with SANS 10221 to check that the material supplied conforms to the thickness specified by the contractor.

Mass per unit area (g/m²): Testing shall be carried out in accordance with SANS 10221.

Tensile strength (kN/m): Testing shall be carried out in accordance with SANS 10221.

Penetration load (kN): Testing shall be carried out in accordance with SANS 10221.

Puncture resistance (mm): Testing shall be done in accordance with test procedures laid down by the CSIR, Pretoria, and repeated in Clause 8114.

Permeability (litre/s/m²): Testing shall be carried out in accordance with SANS 10221."

(vi) Galvanized woven wire mesh

REPLACE THE CONTENTS OF THIS SUBSUBCLAUSE WITH THE FOLLOWING:

"Galvanized woven wire mesh manufactured from 3,5 mm diameter wire, 250 mm x 250 mm in area with 12 mm x 12 mm maximum mesh size, and fitted with a frame made from 25 mm x 5 mm galvanized flat steel, shall be secured at the outlets of subsoil drainage systems with 4 x M6 galvanized bolts, in accordance with the details on the drawings. The mesh shall be welded to the frame before the whole unit is galvanized."

Construction of subsoil drainage system

ADD THE FOLLOWING SUBCLAUSE:

"(v) Proving of pipes in subsoil drainage systems

On completion of the pipe laying and prior to backfilling, all pipe joints shall be surveyed as proof of their installation to line and level. After backfilling the pipes shall be proved by pulling through a cylindrical cleaning brush followed by a wooden mandrill ± 400 mm long and 5 mm in dia less than the bore of the pipe. Proving of pipes shall not be paid for separately and the cost thereof shall be deemed to be included in the rate tendered for laying the pipe."

REPLACE THE HEADING OF CLAUSE 2106 WITH THE FOLLOWING:

"BA3.1.7.5 MANHOLES, OUTLET STRUCTURES, JUNCTION BOXES AND CLEANING EYES"

INSERT ", junction boxes" AFTER "manholes" IN THE FIRST LINE.

PART C MEASUREMENT AND PAYMENT

Item

BC3.1.1 Excavation for open drains:

ADD THE FOLLOWING TO THE PENULTIMATE PARAGRAPH:

"The tendered rate shall also include full compensation for trimming the open drains."

ADD "subclause B1231(c) and in" AFTER "in" IN THE LAST LINE OF THE LAST PARAGRAPH.

“Item Unit

BC3.1.2 Excavation for subsoil drainage systems:

ADD THE FOLLOWING SUBITEM:

"(c) Extra over subitem B21.03(a) for excavating through stabilized layers of existing pavement cubic metre (m3)"

ADD "Subclause B1231(c) and in" AFTER "in" IN THE SIXTH LINE OF THE SECOND PARAGRAPH.

ADD THE FOLLOWING TO THE SECOND PARAGRAPH:

"Excavation in stabilized pavement material shall be paid only in subitem (c) and shall not be paid as an extra over for hard material in subitem (b). For subitem (c), the tendered rate shall also include full compensation for backfill with soilcrete."

REPLACE ITEM 21.04 WITH THE FOLLOWING:

"Item Unit

BC3.1.5 Impermeable backfilling to subsoil drainage systems:

(a) Using the excavated material cubic metre (m^3)

(b) Using imported selected material cubic metre (m^3)

(c) Extra over subitems B21.04(a) and (b) for soil cement (soilcrete) backfilling (percentage of cement indicated) cubic metre (m^3)

The unit of measurement shall be the cubic metre of completed backfill, measured in place in the subsoil drainage systems and calculated in accordance with the authorized dimensions.

If excavations are carried out in excess of the dimensions authorized by the Employers Agent, the quantity of backfilling will nevertheless be based on authorized dimensions.

The tendered rates shall include full compensation for procuring, furnishing, transporting, placing and compacting the backfilling to 90% of modified AASHTO density. The tendered rate for subitem B21.04(b) shall, in addition, include full compensation for supplying selected material from approved sources, including a free haul of 1,0 km.

The tendered rate for subitem B21.04(c) shall be additional to the rates tendered for subitems B21.04(a) and (b) and shall include full compensation for all incidentals required for the complete backfilling with soil cement as specified by the Employers Agent."

Item

BC3.1.13 Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems

ADD THE FOLLOWING TO THE PAYMENT PARAGRAPH:

"The tendered rate shall also include full compensation for procuring and finishing the galvanized woven wire mesh, cutting, waste, installing the wire mesh at outlets and keeping the wire mesh in the pipe openings clean for the duration of the contract period."

ADD THE FOLLOWING ITEMS:

"Item Unit

CHAPTER 3: PREFABRICATED CULVERTS

BA3.2.1 SCOPE

ADD THE FOLLOWING:

“This section also covers work in connection with retaining existing culverts, the extension of existing culverts and the cleaning of the in- and outlets and barrels of existing culverts, as well as the installation of new culverts in existing roads and access roads.

This section also covers the replacing and/or lengthening of existing culverts, modification of and repairs to existing catch pits.”

BA3.2.5 MATERIALS

ADD THE FOLLOWING:

"Numbered precast culverts to be constructed in accordance with this section of the specifications are measured and paid for under Schedule B: Structures of the bill of quantities."

b) Portal and rectangular prefabricated concrete culvert units

REPLACE THIS SUB-CLAUSE WITH THE FOLLOWING:

"Precast concrete units shall comply with the requirements of the latest SANS 986:2006 specification.

Prior to the manufacture of any units the manufacturer shall submit his Quality Plan to be approved by the Employers Agent before delivery of any units to site. As part of the Quality Plan submitted for approval copies of calibration certificates of both gauges used for proof loads and cover meters used at the factory shall be supplied to the Employers Agent. The originals of these certificates shall at all stages also be available for inspection at the factory premises. The manufacturer shall check each precast unit for cover compliance, and random checking of units shall not be permitted. The Employers Agent's representative may visit the factory at any stage to ascertain adherence to the quality plan as well as to check covers before delivery to site. Any substandard cover shall result in the batch being rejected. Should the manufacturer not be

adhering to their Quality Plan the Employers Agent may exercise the right to reject the use of products from the manufacturer concerned. The Employer shall also be informed in all such cases.

For durability requirements due to the reduced cover provided for pre-cast culverts all durability testing shall be done in accordance to Clause B6404(h) shall fall within the severe category."

ADD THE FOLLOWING SUB-CLAUSE:

“(j) Unplasticised Poly-vinyl chloride pipes (PVC-U)

All PVC-U pressure pipes shall comply with the requirements of SANS 966-1 and PVC-U solid wall sewer pipes shall comply with SANS 791.Pipe ends will be spigot with integral socket and rubber ring seals.”

B2204 CONSTRUCTION METHODS

Add the following:

"In all cases where soft founding materials is classified as suitable for culvert beddings construction, the in-situ material shall be ripped, moistened and compacted to 90& to 93% modified AASHTO density. The depth of preparation and compaction of founding material shall be indicated on drawings as specified by the engineer. Allowance for measurement and payment for this work is made in the bill of quantities under this section"

The generic labour-intensive specification below is the same as sans 1921-5, construction and management requirement for works contracts- part 5: earthworks activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

SCOPE

This specification establishes general requirements for activities which are to be executed by hand involving the following:

a. Trenches having a depth of less than 1.5metres

b. Kerb-Channel trenches

PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the scope of works to this contract, the requirements of this specification shall prevail.

HAND EXCAVATEABLE MATERIAL

Hand excavate able material is material:

a. granular materials:

i. whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or

ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b. cohesive materials:

i. whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm

BA3.2.7.1 CONSTRUCTION METHODS

ADD “AND SEQUENCE “TO THE HEADING

REPLACE THE 2ND PARAGRAPH WITH THE FOLLOWING:

"Culverts shall generally be lengthened according to the "embankment method". The Contractor shall at all times ensure that the existing drainage is at all times maintained and any damage caused as a result of blocked culverts during construction shall be repaired at the Contractor's expense.

New culverts shall generally be constructed according to the “trench method” unless otherwise indicated on the drawings.

The bottom of the excavation for culverts that are to be replaced or lengthened shall be inspected by the Employers Agent prior to the placing of the bedding material. If the material is found to be suitable, it shall be ripped to a depth of 150mm below the bottom of bedding level and re-compacted to at least 93% Mod. AASHTO density.

When instructed by the Employers Agent, measures shall be taken to reduce the effect of unsuitable material at the positions of prefabricated culverts. This will entail the additional excavation of a minimum of 1 m of in-situ material to a minimum width of 4 m, the even chamfering of the sides of the excavation to a grade of 1:4 and backfilling the excavation with imported fill material with at least G10 quality compacted to 90% of modified AASHTO density. Additional excavation as described above will be paid for under item 33.07. Backfilling of the excavation will be measured and paid for under item 33.01."

DELETE THE THIRD PARAGRAPH AND SUBSTITUTE WITH THE FOLLOWING:

“For the purposes of this contract, culverts shall be installed according to the “trench method.”

ADD AT THE END:

All pipework and respective backfilling, including ducts and any water pipes laid under this contract, shall be completed and tested and approved, before the commencement of the sub-base layer.

BC3.2.7.2 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

(a) Depth of excavation

ADD THE FOLLOWING AFTER THE FIRST SENTENCE OF THE FIRST PARAGRAPH:

"The maximum overall depth of the trench shall, however, not exceed 2,0 m."

ADD THE FOLLOWING SUB-CLAUSE:

“(c) Extension of existing culverts

The requirements of this clause are also applicable to the extension of existing culverts.”

BC3.2.7.7 LAYING AND BEDDING OF PREFABRICATED CULVERTS

(a) Concrete pipe culverts

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

"When instructed by the Employers Agent or when measures are required to reduce the effect of unsuitable material below culverts, the pipe joints shall be sealed with a 500 mm wide strip of Bituthene 3000 or an approved equivalent material glued symmetrically around the joint, using an adhesive recommended by the manufacturer of Bituthene. A 150 mm wide strip of adhesive shall be applied to the edges of the Bituthene. An overlap of 150 mm shall be provided and the two layers of Bituthene at the overlap shall be glued together over the full area of 150 mm x 500 mm."

(i) Class A bedding

ADD THE FOLLOWING:

"12 mm thick Flexcell or an approved equivalent material shall be placed in the concrete bedding below all pipe joints."

(b) Portal and rectangular culverts

(i) Cast in situ floor slabs

ADD THE FOLLOWING:

“Where the bottom of the excavation consists of soft material, suitable for the founding of culverts, such material must be compacted to a minimum of 93% of Mod AASHTO density, to a depth of 150 mm, before the screed and/or cast in situ floor slab is constructed thereon.”

(iii) Placing the portal portions of culverts

ADD THE FOLLOWING:

"When instructed by the Employers Agent or when measures are required to reduce the effect of unsuitable material below culverts, the culvert joints shall be sealed with a 500 mm wide strip of Bituthene 3000 or an approved equivalent material glued symmetrically around the joint, using an adhesive recommended by the manufacturer of Bituthene. A 150 mm wide strip of adhesive shall be applied to the edges of the Bituthene."

(f) General

ADD THE FOLLOWING:

"Where the grade of the culvert is such that it would require a trench deeper than 2,0 m, the culvert shall be constructed in stages as the fill progresses. The construction shall normally begin at the outlet or downstream end of the culvert and backfilling shall be done in horizontal layers starting at the lower end.

No additional payment will be made under section 3300 or under this section for constructing the fill or culverts in stages as described above."

BC3.2.7.10 BACKFILLING OF CULVERTS

Substitute the portion of the second sentence in the ninth paragraph reading: "…approved soil or gravel mixed with 5% of Portland cement…" with the following:

"…approved gravel of G6 or better quality and CEM V S-V 32,5 cement mixed in proportion of 1:12..."

"BC3.2.7.11 INLET AND OUTLET STRUCTURES, CATCHPITS, MANHOLES AND SKEW-END PIECES FOR PORTAL AND RECTANGULAR CULVERTS

Inlet and outlet structures for prefabricated culverts, catchpits, manholes, and skew-end pieces for portal and rectangular culverts shall be constructed in accordance with the details on the drawings."

(i) Prefabricated energy dissipaters in outlet structures

REPLACE THE PARAGRAPH WITH THE FOLLOWING:

"When shown on the drawings or instructed by the Employers Agent, the contractor shall supply and install prefabricated reinforced-concrete blocks in outlet structures. The blocks shall be Class 20/19 concrete manufactured to the dimensions shown on the drawings or listed in the bill/schedule of quantities/pricing schedule. All concrete work shall comply with the requirements of Series 6000."

ADD THE FOLLOWING SUBCLAUSES:

"(j) Prefabricated concrete cover slabs for kerb inlets

Prefabricated reinforced-concrete cover slabs for kerb inlets, complete with steel supporting structures, shall be manufactured and installed in accordance with the details on the drawings. All concrete work shall comply with the requirements of Series 6000.

(k) Building in pipework

Pipework shall be built into concrete as shown on the drawings. The pipework shall be set into exact position in the shutters before the concrete is placed and the concrete thoroughly compacted and worked around the pipework. Alternatively, at the discretion of the Employers Agent and at no extra cost, unless specifically provided for in the bill/schedule of

quantities/pricing schedule, holes may be left or formed in the concrete into which the pipework shall be set, whereupon the space around the pipework shall be caulked with concrete having just sufficient water to ensure water tightness and thereafter the caulking shall be properly cured.

The joint between the old and fresh concrete shall be made in accordance with clause 6408: Construction joints.

Where pipes enter brickwork, they shall be caulked into the wall and rendered with mortar.

(l) Manholes for Telkom

Manholes required for Telkom shall be for jointing, pulling or for change of direction and shall be constructed in accordance with the details shown on the drawings. As these manholes generally finish somewhere in the layerworks of the pavement, these layerworks shall first be constructed to the level of the top of the manhole roof slab. Excavation for the manhole shall then be carried out as neatly as possible, the manhole constructed and the minimal backfill space filled with either soil cement for brick walls or combined with the concrete if the walls are concrete

The contractor shall allow in his programme for a suitable delay in the layerworks while the various Telkom manholes are being constructed."

(a) Excavation and backfilling

AMEND THE FIRST PARAGRAPH OF CLAUSE 2212(A) TO READ AS FOLLOWS:

“The width of excavation shall be the net external dimensions of structure plus 0,5 metre working space along or around the structure. The specifications given elsewhere in this section for backfilling the culverts shall apply mutatis mutandis to inlet and outlet structures, catchpits and manholes. If wet soilcrete is used with vibrators, the extra working space shall be reduced to 150 mm.”

BC3.2.7.14 SERVICE DUCTS SLEEVING OR LINING OF EXISTING CULVERTS

INSERT THE FOLLOWING AT THE END OF THE 1ST PARAGRAPH:

“(v) HDPE Sleeve Pipes

HDPE sleeve pipes shall be:

Corrugated cable ducts complying with the requirements of SANS IEC 61386-24: 2005 for sleeves to be laid in trenches.

HDPE pipes for drilling shall be manufactured from PE63 – PN4 and shall comply with the requirements of SANS 427.”

INSERT THE FOLLOWING AS A NEW 4TH PARAGRAPH

“Where drilling is required for installation of service ducts, a drilling pit shall be excavated on the one side of the road from where drilling is to be conducted. The pit shall be of adequate size to permit free standing of the operator and drilling equipment. On the other side of the road, a receiving pit is to be excavated. Both pits shall be backfilled after completion of the drilling, using the excavated material compacted in 150mm layers to a minimum density of 93% of modified AASHTO. Drilling shall be carried out from the one side of the road in positions and to levels as shown on the drawings and/or as instructed by the Employers Agent. The hole shall be of adequate size to accommodate the required service duct. The permissible deviation in level of the hole between the two sides of the road shall not exceed 500mm. The service duct shall be installed through the drilled hole and shall be extended to above ground.”

ADD THE FOLLOWING AT THE END OF THE PENULTIMATE PARAGRAPH

“Before closing, all sleeves or ducts shall be proved as specified in sub-sub-clause B2104(b)(v).”

REPLACE THE LAST PARAGRAPH WITH THE FOLLOWING:

"The end of each duct shall be marked with a 300 mm x 300 mm x 100 mm Class 20/19 concrete marker block. A 200 mm x 100 mm galvanized steel or aluminium plate with the size, number and depth of pipes stamped on the surface shall be affixed to the top of the marker block. Each duct marker shall be at least 50 mm proud of the finished surface level."

ADD THE FOLLOWING TO THE SEVENTH PARAGRAPH:

"The Telkom uPVC ducts for the optical fibre cable are required to be placed in special bedding, padding and backfilling as specified in clause B2219."

ADD THE FOLLOWING NEW CLAUSES:

(a) This clause specifies the characteristics, testing and installation of bedding, padding and backfilling material for Telkom uPVC ducts.

The following conditions apply:

Bedding: The material constituting the even floor of an excavated trench onto which a pipe or a bank of pipes are laid being either undisturbed in-situ material or an imported layer of suitable material as specified hereinafter.

Padding: The material installed around and/or between pipes up to a level of at least 150 mm above the pipe or bank of pipes: The padding material must be 150 mm below and to the sides of ducts.

Backfilling: The material installed above the padding material layer to complete the refilling of an excavated trench.

(b) Bedding, padding and backfill material shall be installed with a moisture content as near to optimum as possible to ensure that optimum compaction is achieved. The Employers Agent may, if he considers it necessary, direct the contractor to carry out tests, which the Employers Agent shall specify, to determine the optimum and actual moisture content of any material being used. Should the results of such tests require it, the Employers Agent may direct the contractor to add water to material which is too dry or to dispose of material which is too moist or import suitable material.

(c) Under no circumstances shall material, which is saturated with water, be used for bedding, padding and backfill.

(d) The contractor shall pay particular attention to the proper compaction of bedding, padding and backfilling material.

A higher standard of compaction effort will be insisted upon in all cases where fine materials are approved as bedding and padding.

(e) The bedding shall cover the full width of the trench in a uniform layer of the required thickness and shall be compacted by means of one pass by a vibratory plate compactor.

(f) Care must be taken to ensure that the ducts are completely surrounded by the padding material.

On completion of the placement of the padding material, the top surface shall be compacted by means of one pass by a vibratory plate compactor.

(g) The compaction of backfill shall be by means of a vibratory plate compactor.

(h) During the compaction of padding and backfill material, the contractor shall exercise due care to ensure that pipes and pipe joints are not disturbed or damaged in any way.

The material to be used for the bedding and padding shall be coarse-grade crushed stone as specified in clause 2104(a) of the standard specifications.

ie the crushed stone shall be graded crushed stone conforming to the following grading requirements:

Sieve size	% Passing
26,5 mm sieve	100%
13,2 mm	60 - 85%
6,7 mm	Minimum 15%
2,36 mm	Maximum 15%

Note: The following items will be supplied by Telkom and delivered to site:

(i) uPVC pipes

(ii) copper earth conductor wires

(iii) danger tape conductor

The contractor must inform Telkom at least three weeks before the pipes are required for installation.

(i) Where directed by the Employers Agent, copper earth conductors shall be installed. Joints in conductors shall be by means of approved clamps.

(ii) Where indicated on the drawings, ducts shall be protected with precast concrete slabs.

PIPE JACKING

The basis of payment for a jacked pipeline takes cognizance of the fact that, although the Employers Agent may design and specify the pipeline, he cannot provide detailed drawings and dimensions for the jacking structure and its thrust and reception pits, because these depend on equipment and methods that the contractor intends to use for carrying out the work. Therefore the Employers Agent will require, prior to the commencement of any work, a method statement which will include a schedule of the dimensions of the pits, equipment to be used and construction methodology which will be applicable to all operations from the excavation of the thrust pit to the end of the operation and the subsequent removal of temporary works, and making good.

The contractor is responsible for the complete design of the jacking structure and of the jacked pipeline and all subsequent costs must be priced and included in the priced schedule. This will include the following:

(i) The design and the preparation of all drawings.

(ii) All labour, plant, tools, equipment, materials, transport, consumable stores, services, samples, temporary excavations, and everything of a temporary or permanent nature required to carry out the work.

B2218 MEASUREMENT AND PAYMENT

Item	Unit
BC3.2.1 Excavation culvert structures:	

ADD THE FOLLOWING SUB-ITEM:

“Item Unit

BC (c) Extra-over sub-item B22.01C3.2.1 (a) for excavation by hand cubic metre (m3)

The unit of measurement shall be the cubic metre of material excavated by means of labour using hand tools only. This item shall only apply where the dimensions of the area to be excavated are such as to render excavation by machinery impractical and where the Employers Agent has specifically ordered or authorised excavation by hand. This item shall not apply where machine excavation would have been possible but the Contractor chooses to use hand excavation instead.

The tendered extra-over rate shall include full compensation for all additional costs in excavating the material using hand held tools.”

BC3.2.2 Backfilling:

REPLACE THE DESCRIPTION OF SUBITEM 22.02(c) WITH THE FOLLOWING:

"(c) Extra over subitems B22.02(a) and (b) for
soil cement (soilcrete) backfilling (percentage
of cement indicated)"

ADD THE FOLLOWING SUBITEMS:

"(d) Special backfilling for Telkom optical fibre,
uPVC ducts all as specified cubic metre (m^3)

(e) Special bedding and padding for Telkom
optical fibre uPVC pipes as specified cubic metre (m^3)

(f) Installation of earth wire in backfilling (including jointing) and danger tape as supplied by Telkom metre (m)"

ADD THE FOLLOWING PARAGRAPHS:

"The payment shall also apply to backfill adjacent to and over corrugated metal arch culverts. The quantity shall be calculated in accordance with the details of backfilling as indicated on the drawings.

The backfilling against concrete footings shall be paid for under item B61.04.

The tendered rate shall include full compensation for all additional work necessitated by working in the confined area, special equipment required to achieve the specified compaction and the material as described in clause B2211."

Item

BC3.2.3 Concrete pipe culverts

ADD THE FOLLOWING TO THE SECOND PARAGRAPH:

"The tendered rates shall also include full compensation for supplying and installing 500mm wide Flexcell or an approved equivalent material in the concrete bedding below pipe joints."

Item

BC3.2.5 Portal and rectangular culverts

ADD THE FOLLOWING TO THE SECOND PARAGRAPH:

"The tendered rates shall also include full compensation for supplying and installing 500mm Flexcell or an approved equivalent material."

Item Unit

BC3.2.7 Cast in situ concrete and formwork:

ADD THE FOLLOWING SUBITEM:

"(f) In concrete collars at the joints between new and existing prefabricated pipe culverts, including formwork, as shown on the drawings (class of concrete indicated) cubic metre (m^3)"

REPLACE ITEM 22.14 WITH THE FOLLOWING:

"Item Unit

BC Removing and stacking existing prefabricated culverts (all sizes) metre (m)

The unit of measurement shall be the metre of existing culvert removed and stacked as instructed by the Employers Agent.

The tendered rate shall include full compensation for lifting, loading, transporting to stack, off-loading and stacking the culverts. The free-haul distance is 5,0 km.

Payment for the excavation and backfilling (including all layerworks) required to remove and stack existing prefabricated culverts will be made separately under items B22.01 and B22.02."

REPLACE ITEM 22.26 WITH THE FOLLOWING:

"Item Unit

B22.26 Hand excavation:

(a) To determine the positions of existing services:

(i) In roads cubic metre (m^3)

(ii) In all other areas cubic metre (m^3)

(b) To expose existing services to 0,6 m on either side of the service cubic metre (m^3)

The unit of measurement shall be the cubic metre of material excavated within the lengths and widths authorised by the Employers Agent and the depth required to expose the service. Excavation in excess of the authorised dimensions will not be measured for payment.

The tendered rates shall include full compensation for all excavation, backfilling, compacting to 90% of modified AASHTO density, disposing of surplus excavated material, demarcating excavations with approved safety tape, keeping the excavations safe, dealing with surface or subsurface water, taking special care to ensure that services are not damaged in any way, and all other operations required to complete the work. The tendered rates shall also include for transporting surplus excavated material for a free-haul distance of 1,0 km.

No distinction will be made between hard and soft materials, nor will distinctions be made between the various types of service to be exposed or the depths to which excavations are taken.

When instructed by the Employers Agent, the reinstatement of the pavement layers, surfacing and kerbing will be measured for payment under item 22.27.

NB The contractor shall supply adequate supervision of labourers excavating to expose services. Damage to a service caused by the contractor shall be repaired at his expense, to the satisfaction of the owner of the service and the Employers Agent."

REPLACE ITEM 22.28 WITH THE FOLLOWING:

"Item Unit

B22.28 Extra over items B22.03 and B22.05 for supplying end units for culverts with a skew angle:

(a) Pipe culverts (type and diameter indicated) number (No)

(b) Portal and rectangular culverts (type and size indicated) number (No)

The unit of measurement for providing manufactured end units for skew culverts shall be the numbers of such skew-end units supplied for each type and size of prefabricated culvert, irrespective of the angle of skew.

The tendered rate shall be an extra over the prices for items B22.03 and B22.05 and shall include for all additional costs involved in manufacturing, supplying and laying the skew-end units."

ADD THE FOLLOWING ITEMS:

“Item Unit

BC3.2.23 Breaking into existing drainage structures
and building in pipes of the following diameter
(pipe diameter to be stated) number (No)

The unit of measurement shall be the number of each size of pipe built into existing drainage structures in accordance with the details on the drawings or as instructed by the Employers Agent.

The tendered rates shall include full compensation for supplying all labour, constructional plant and materials required, for all excavation, breaking into existing drainage structures, building pipes into the newly formed accesses, sealing around the pipes and making the joints watertight, breaking out existing benching and channelling where required and reconstructing them complete with granolithic rendering to suit the new pipe arrangement, backfilling and compacting to 90% of modified AASHTO density, transporting (including all haul) and disposing of all surplus excavated material and debris to approved dumping sites provided by the contractor, and dealing with the flows in the existing structures.

No distinction will be made between different types of structure.

Item Unit

BC3.2.23 Breaking into existing stormwater pipes of

the following sizes to construct new drainage

structures (pipe diameter to be stated) number (No)

The unit of measurement shall be the number of each size of pipe which is broken into to construct a new drainage structure.

The tendered rates shall include full compensation for supplying all labour, constructional plant and materials required, for breaking into the existing pipes, transporting (including all haul) and disposing of the debris at approved dumping sites provided by the contractor, dealing with the flow in the existing pipes during breaking into the pipes and during construction of the drainage structures, and for all additional costs incurred when building new drainage structures around existing pipes. The drainage structures are measured for payment under other items.

Item Unit

CHAPTER 3: 3.3 CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LINING FOR OPEN DRAINS

B A3.3.1 SCOPE

ADD THE FOLLOWING TO THIS CLAUSE:

“This section also covers the replacement of damaged concrete kerbing, channeling and lining.”

B A3.3.7 EXECUTION OF THE WORKS

b) Prefabricated concrete kerbing and channeling

ADD "plinths," AFTER "concrete" IN THE FIRST LINE OF THE FIRST PARAGRAPH.

ADD "and prefabricated concrete plinths" AFTER "kerb units" IN THE SECOND LINE OF THE SECOND PARAGRAPH.

ADD "and prefabricated concrete plinths" AFTER "concrete kerbs" IN THE FIRST LINE AND "plinths" AFTER "kerbs" IN THE SECOND LINE OF THE LAST PARAGRAPH.

REPLACE "1:4:8/25" IN THE SECOND LINE OF THE LAST PARAGRAPH WITH "1:4:8/38".

ADD THE FOLLOWING:

"A 10 mm wide joint formed in inert filler shall be provided every 10 metres through the kerbing and channelling. The colour of the filler shall match the colour of the kerbing.

Curved kerbing of radius less than one metre shall be cast in situ. Units for curved kerbing of radius greater than 1 m up to 4 m shall be of nominal length 0,3 m. Units for curved kerbing of radius greater than 4 m up to 20 m shall be of nominal length 0,5 m. Units for radius exceeding 20 m shall be of nominal length 1 m. Any associated channelling shall also comply with the above requirements."

(e) Cast in situ kerbs and channels

ADD THE FOLLOWING:

"Cast in situ kerbs, channels and edge beams shall be provided with a contraction joint every 2 m and an expansion joint every 20 m. The contact area of the contraction joint shall be painted with two coats of bitumen. Alternatively, joints may be cut and finished to a depth of 50 mm. The expansion joint shall consist of 12 mm thick Flexcell or an approved equivalent placed between adjoining concrete sections. The top part of the joint shall be sealed with a 12 mm x 12 mm silicone sealant. All joints shall be provided for the full depth of the concrete."

g) Concrete-lined open drains

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

" Alternatively, the surface could be sprayed with invert bituminous emulsion as soon as possible after the excavations have been trimmed and compacted. The sprayed surfaces shall be maintained until the concrete lining is cast. The nominal rate of application of the emulsion shall be 0.5 litre/m2 unless otherwise instructed by the Employers Agent."

(k) Cutting existing bituminous surfacing and pavement layers

REPLACE THE PARAGRAPH WITH THE FOLLOWING:

"Where the Employers Agent instructs kerbing, edge beams, channeling or concrete-lined drains to be constructed against existing bituminous surfacing and pavement layers, the full depth of the bituminous surfacing and pavement layers shall be accurately cut with a mechanical saw to the required line and level before the kerbing, edge beams, channeling or concrete-lined drain is constructed. The cut edge shall be vertical for kerbing, edge beams, concrete-lined drains and channeling. The concrete shall be placed directly against the cut edge without formwork. All material outside the cut edge shall be removed to the required depth before the concrete is placed, and the debris shall be disposed of at approved dumping sites provided by the contractor. The bituminous surfacing shall be protected and kept clean to the Employers Agent's satisfaction."

ADD THE FOLLOWING SUBCLAUSE:

“(l) Removal of existing kerb and channel

Where shown on the drawings and/or indicated by the Employers Agent, the existing kerb and channel shall be removed and transported to spoil as directed.”

PART C MEASUREMENT AND PAYMENT

REPLACE THE DESCRIPTION OF ITEM 23.02 WITH THE FOLLOWING:

"Item Unit

BC3.3.2 Concrete kerbing-channelling combination,
including joints (class of concrete indicated
for cast in situ concrete):

(a) (Description of type with reference to drawing)

(i) Radius 1 m to 4 m metre (m)

(ii) Radius 4.01 m to 20 m metre (m)

(iii) Straight and to radius not less than 20 m metre (m)

(b) (Etc for other types) metre (m)

(i) Radius 1 m to 4 m metre (m)

(ii) Radius 4.01 m to 20 m metre (m)

(iii) Straight and to radius not less than 20 m metre (m)

The unit of measurement shall be the metre of concrete kerbing or kerbing and channeling combination complete as constructed, measured along the front face of the kerb.

The tendered rate shall include full compensation for the additional costs involved in setting out, preparing and constructing as specified on curves with radii less than 20 m.”

AMEND ITEM B23.14 AS FOLLOWS:

"Item Unit

B C3.3.14 Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains”

DELETE IN LINE 3 OF THE 1ST PARAGRAPH OF THE PAYMENT ITEM DESCRIPTION:

“Irrespective of the depth cut”.

REPLACE THE DESCRIPTION OF ITEM 23.15 WITH THE FOLLOWING:

"Item Unit

B C3.3.15 Energy dissipaters in outlet structures (indicate class of concrete and size), complete

as shown on the drawings number (No)"

ADD THE FOLLOWING:

"The tendered rate shall include full compensation for procuring, furnishing and installing the precast concrete blocks as specified."

ADD THE FOLLOWING PAYMENT ITEMS:

“Item Unit

B C3.3.16 Demolition and removal of existing kerbs and/or channel (specify maximum size) cubic metre (m3)

The unit of measurement shall be the cubic metre (m3) of material measured in situ before demolition or excavation.

The tendered rate shall include full compensation for breaking up the existing concrete or reinforced concrete to a specified 300mm maximum size, removal from site to an approved spoil site, clearing the excavation of all loose debris and to backfill the excavation where new concrete is not required. Overhaul will be paid under item 23/B16.02.

Item Unit

B23.17 Pedestrian ramps at intersections……. number (No)

The unit of measurement is the number of pedestrian ramps.

The tendered rate shall include full compensation for removing existing kerbing if required, for procuring and placing the precast concrete blocks, placing with finishing and contraction joints in the concrete surround and all other incidentals to complete the construction all in accordance with the drawings.”

Item Unit

B23.18 Tactile pedestrian kerb ramp complete as per National

Technical Requirements 1: Pedestrian Crossings number (no)

This item includes all items to construct one tactile pedestrian ramp complete and in accordance with the National Technical Requirements 1: Pedestrian Crossings, 15 December 2016, Version 6.

The tendered rate shall include full compensation for all labour, constructional plant and materials required for the construction of one tactile pedestrian ramp, complete, as shown on the details in Annexure C5.4. The tendered rate shall also”

Item Unit

B23.19 Accessories

400mm wide tactile warning tiles…… Number (No)

400mm wide tactile guidance tiles…….……. ……. Number (No)

Bollards. Supply and installation of concrete bollard. 25MPa Concrete

and reinforced with 4 X Y10's. Installed at depth of 400mm below NGL.

250mm diameter, 1200mm long, Exposed aggregate

finish…….……. Number (No)

250mm diameter, 1200mm long, Smooth finish…….……. Number (No)

The tendered rate shall include full compensation for procurement, delivery and installation as per the approved drawings and as shown on the details in Annexure C5.4.

B23.20 Cutting concrete sidewalk surfacing to a depth exceeding

50 mm but less than 100 mm……. metre (m)

The unit of measurement shall be the metre of concrete cutting kerbing or kerbing and channeling combination complete as constructed, measured along the front face of the kerb.

The tendered rate shall include full compensation for the additional costs involved in setting out, preparing and constructing as specified on curves with radii less than 20 m.”

SECTION B 3200: SELECTION, STOCKPILING AND BREAKING DOWN THE MATERIALS FROM BORROW PITS, CUTTINGS AND EXISTING PAVEMENT LAYERS AND PLACING AND COMPACTING THE GRAVEL LAYERS

B3203 STOCKPILING THE MATERIAL

SECTION B 3300: MASS EARTHWORKS

B3302 MATERIALS

b) Fill

ADD THE FOLLOWING UNDER ITEM (IV):

“The maximum swell at 100% Mod AASHTO compaction shall not be more than 2%.”

B3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION

CLASSIFICATION OF CUT AND BORROW EXCAVATION SHALL BE REVISED AS FOLLOWS:

“a) Classes of excavation

(ii) Intermediate excavation

No distinction shall be made between soft and intermediate excavation, and all intermediate excavation shall be classified and measured as soft excavation.”

B3305 TREATING THE ROADBED

a) Removing unsuitable material

REPLACE “or” IN THE EIGHT LINES OF THE THIRD PARAGRAPH WITH “and” AND ADD THE FOLLOWING:

"For the purpose of this contract, excavation and removal of in situ clayey material over areas where the road is in a fill condition shall be classified as removal of unsuitable material, irrespective of the stability or moisture condition of the in-situ material".

(c) Preparing and compacting the roadbed

DELETE THE LAST SENTENCE OF THE FIRST PARAGRAPH “If necessary, roadbed …. depth of compaction.” AND REPLACE AS FOLLOWS:

“Where demarcated by the Employers Agent, prior to the roadbed being scarified, the excess in situ material forming part of the present roadway, and within the limits of the roadbed, and in close proximity of the layer works, but falling within the limits of the layerworks, shall be bladed to controlled level in order to achieve the required level and necessary depth of compaction.”

d) In situ treatment of roadbed

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

“Shales and mudstone shall be treated as directed by the Employers Agent.”

B3306 CUT AND BORROW

e) The temporary stockpiling of materials

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The Contractor shall plan his activities in such a manner so that materials excavated from borrow areas and cuttings can be directly transported to and placed at the designated points.

The temporary stockpiling of material will not be paid for separately unless instructed by the Employers Agent, and full compensation will be deemed to have been included in the rates tendered for the various payment items for work for which the stockpiled material is to be used."

g) General

ADD THE FOLLOWING AFTER THE FIRST SENTENCE OF THE SECOND PARAGRAPH:

"The final cut surface in hard excavation shall not be more than 0,5 m below the specified slope face, measured at right angles to the strike and dip directions of the slope face."

B3307 FILLS

a) General

ADD THE FOLLOWING:

"Where existing embankments are to be widened, or where new embankments are to be constructed adjacent to existing embankments, the existing side slopes shall be benched as specified in subclause 3307(d) and in accordance with the details on the drawings.

In addition, the material in the fill widening shall, unless otherwise instructed by the Employers Agent, be compacted as follows:

where the thickness exceeds 1,5 m, it shall be compacted to a minimum of 93% modified AASHTO density to a depth of at least 1,5 m below the final road level; or

(ii) where the thickness is less than 1,5 m, the in-situ roadbed and fill material shall be compacted to 93% modified AASHTO density."

c) Constructing a pioneer layer

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"Where instructed by the engineer or shown on the drawings, the pioneer layer shall be wrapped in a Grade 5 geotextile."

d) Benching

REPLACE THE FIRST SENTENCE OF THE SECOND PARAGRAPH WITH THE FOLLOWING:

"The dimensions of benches as well as the extent to which existing fills have to be cut back to form benches shall be as indicated on the drawings or indicated by the Employers Agent."

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"In order to obtain sufficient working width for road-building equipment when the existing road fill is widened, it may be necessary to form benches that extend beyond the normal road prism or to cut back into the existing road fill or both. The Contractor shall submit his proposals in this regard to the Employers Agent for approval before proceeding with such work. The Contractor will be paid in accordance with the relevant payment items for work required to obtain a working width of up to 4 m. Additional work required to provide a working width in excess of 4 m shall be at the Contractor's expense."

ADD THE FOLLOWING SUBCLAUSES:

"(k) Constructing a coarse fill layer

Coarse fill (so-called pioneer/rock fill layer as indicated on the drawings) shall consist of material which conforms with G10 specifications as per TRH 14: table 13 and shall be compacted to 90% of modified AASHTO density. The coarse fill shall be constructed to a specified thickness as indicated on the drawings.

(l) Construction of fabric-reinforced fill

The fabric used shall be Grade 3 or approved equivalent and the fill (placed and compacted over the length of the fabric, perpendicular to the face of the fill), shall be weathered sandstone. The fabric shall be folded over at 300 mm vertical intervals as shown on the drawings. The edge of the fill shall be satisfactorily shored or supported to enable compaction to be achieved."

B3308 FINISHING THE SLOPES

(d) General

ADD THE FOLLOWING:

“Where existing cut and fill slopes are excessively eroded or where slippages occurred in slopes, the slopes are to be reinstated by means of backfilling with suitable gravel material. All loose material and vegetation shall first be removed from the eroded cut and fill slopes before backfilling may commence from the bottom of the cut or fill. The backfill material shall be benched into the existing slopes and compacted to 90% of modified AASHTO density, using suitable small compaction equipment eg Bomag walk-behind rollers or hand-held compaction tools. Benching shall be executed to the dimensions shown on the drawings. Upon completion of the backfilling operation the cut and fill slopes shall be neatly finished as specified.”

B3310 CONSTRUCTION TOLERANCES

ADD THE FOLLOWING SUBCLAUSE:

"(c) Layer thicknesses

The thickness tolerances referred to in clauses 8205 and 8305 for the 150 mm natural gravel fill layer compacted to 93% of modified AASHTO density, shall be as follows:

	D90	Dmax	Daverage
Fill layer	30 mm	40 mm	10 mm"

B3312 MEASUREMENT AND PAYMENT

General directions

(3) Work in restricted areas

DELETE THE CONTENTS OF THIS SUBCLAUSE AND REPLACE IT WITH THE FOLLOWING:

"No additional or extra over payment will be made for work in restricted or confined areas."

AMEND THE DESCRIPTION OF ITEM 33.01 AS FOLLOWS:

"Item

B33.01 Cut and borrow to fill, including all haul (source borrow pit, cut, side drain, and stockpile)"

REPLACE THE FIFTH MEASUREMENT AND PAYMENT PARAGRAPH WITH THE FOLLOWING:

"The tendered rates shall include full compensation for procuring, furnishing and placing the material, including excavating as if in soft excavation, the cutting of benches, the transporting of material over the haul distance, for preparing, processing, shaping, watering, mixing, and compacting the materials to the densities or in the manner specified herein and for removing and disposing of up to 5% oversize material from the road after processing, including all haul."

AMEND THE DESCRIPTION OF ITEM 33.04 AS FOLLOWS:

"Item

B33.04 Cut to spoil, including all haul.

Material obtained from:"

REPLACE THE FOURTH MEASUREMENT AND PAYMENT PARAGRAPH WITH THE FOLLOWING:

"The tendered rates for cut to spoil shall include full compensation for excavating from the road prism and roadbed in the various classes of excavation, for loading, transporting the material over the haul distance, off-loading and disposing of the material as specified, including shaping and levelling-off any piles of spoil material."

ADD THE FOLLOWING ITEMS:

“Item Unit

B33.20 Extra over item B33.01 for fill (G7) constructed from material

obtained from commercial source, including all haul…….. cubic metre (m3)

The unit of measurement shall be as measured in item B33.01.

The tendered rate shall be paid extra over the rates applicable to item B33.01, and shall include full compensation for procuring, irrespective of hardness of excavation, furnishing, and transporting the material from an approved source irrespective of distance hauled."

B33.21 Roadbed constructed with material obtained from commercial sources or sources provided by the Contractor, including all haul

Compaction to 93% of modified AASHTO density (G7) cubic metre (m3)

The unit of measurement is the cubic metre of material measured in the compacted roadbed. The quantity measured shall be calculated by the method of average end areas from levelled cross-sections prepared from the ground line after clearing and grubbing and the removal of topsoil and the completion of any preparatory roadbed treatment which may have been ordered by the Employers Agent, but prior to the construction of the fill, and the final specified or authorised cross-section superimposed at 20 m intervals along the centre line of the road. All measurement shall be neat and no payment will be made for that part of the roadbed placed in excess of the authorised cross-section shown on the drawings or instructed by the Employers Agent, irrespective of the tolerances in workmanship allowed under the contract. Where the roadbed has subsided under the fills, the quantities shall be adjusted to make allowance for such subsidence, as set out in the note at the beginning of clause 3312. Measurement of fill shall distinguish between the alternative methods of processing and compacting.

Where measurement by cross-sections is considered by the Employers Agent to be impractical, the compacted volume of the material may be taken as equal to 70% of the loose volume of material in the hauling vehicles as an alternative method of measurement.

The tendered rates shall include full compensation for the procuring, furnishing and transporting the materials over an unlimited free-haul distance from the sources to the site, for placing, preparing, processing, shaping, watering, mixing and compacting the materials to the densities or in the manner specified, and for removing and disposing of all oversize material from the road after processing, including transport for the haul distance to approved dumping sites provided by the Contractor.

Payment shall distinguish between the various methods of processing and compacting specified, as itemised above.

SECTION B 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

B3402 MATERIALS

a) General

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"Gravel material shall be obtained from approved commercial sources or approved sources provided by the contractor."

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

"For chemically stabilised layers the material shall conform to the requirements in table B3402/5.

For bitumen stabilised layers the material shall conform to the requirements in table B3402/6.

For cold in situ recycled layers the target grading shall be as indicated in table B3402/6"

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

“Distinction shall be made between crushed and natural G4, G5 and G6 materials. Where the crushing and/or screening of these materials has been specified, the combined grading shall conform to the grading limits specified for G4 class material in Table B3402/1.

The same shall apply for all materials obtained from commercial sources.”

REPLACE THE GRADING SECTION IN TABLE 3402/1 WITH:

Grading		Percentage passing through sieve by mass	The percentage by mass

	Nominal aperture size of sieve (mm)	Crushed material Nominal max size		Uncrushed material	passing the 2,00mm sieve shall not be less than 20% not more than 70%
		37,5 mm	28 mm		
	53			100	
	50			95 - 100	
	37,5	100		85 – 100	
	28	86 - 95			
	20	73 - 86	87 - 96	61 - 91	
	14	61 - 76	73 – 86		
	5	37 - 54	43 - 61	31 - 66	
	2	23 – 40	27 – 45	20 – 50	
	0,425	11 – 24	13 – 27	10 – 30	
	0,075	4 - 12	5 - 12	5 - 15	

Note:

Refer to standard COTO table for COTO grading if required

REPLACE TABLE 3402/5 WITH:

"Table B3402/5: Requirements For Chemically Stabilised Layers

Classification	C1	C2	C3	C4
Material before treatment	At least G2 quality	At least G4 quality	At least G5 quality	At least G6 quality
PI after treatment	Non-plastic	Non-plastic	6 max. *(1)	6 max. *(1)
UCS (MPa) *(2)	6 min.	4 min.	1,5 min	0,75 min.
ITS (kPa) *(3)	-	-	250 min.	200 min.
WDD (% loss)	5 max.	10 max.	20 max.	30 max.

Note:

* (1) For materials derived from the basic crystalline rock group, the Plasticity Index after stabilization shall be non-plastic.

* (2) Unconfined Compressive Strength @ 100% Mod. AASHTO density

* (3) Indirect tensile Strength @ 100% Mod. AASHTO density (Rapid Curing)

* (4) Wet/Dry Durability according to Method B 8110"

b) Compaction requirements

AMEND THE COMPACTION REQUIREMENTS AS FOLLOWS:

“The compaction requirements for the layers to be constructed under this contract are:

New Road construction:

Selected layer 150mm (G6)	93% of mod AASHTO density
Lower Subbase layer 150mm (G6)	95% of mod AASHTO density
Lower Subbase layer 150mm (C4)	96% of mod AASHTO density
Upper Subbase layer 150mm (C3)	97% of mod AASHTO density
Shoulder & gravel wearing course 150mm (G6)	95% of mod AASHTO density

Rehabilitation of existing road

Subbase layer 150mm (C3)	96% of mod AASHTO density

CHANGE THE COMPACTION REQUIREMENTS FOR STABILIZED SUBBASES TO READ AS FOLLOWS:

"96% and 97% as required for lower subbase and upper subbase respectively, for chemically stabilized material."

ADD THE FOLLOWING SUBCLAUSE:

"(d) Material requirements

When the values listed in tables 3402/1, 3402/2, 3402/3 and 3402/4 cannot be attained with the type and quantity of stabilizing agent specified in section 3500 in the project specifications and on the borrow pit plans, the Employers Agent will authorise the contractor to vary and/or amend the quantity and possibly the type of stabilizing agent as well in order to obtain the required values."

ADD TABLE B3402/7 AFTER TABLE 3402/6:

"TABLE B3402/7: REQUIREMENTS FOR EMULSION TREATED MATERIALS

Criteria	E1	E2
Material before treatment	G1 to G3	G4 to G5
After treatment:		
- Minimum CBR @ 100% modified AASTHO density	150%	100%
- Minimum UCS @ 100% modified AASHTO density	1 200 kPa	700 kPa

"

B3403 CONSTRUCTION

ADD THE FOLLOWING SUBCLAUSES:

"(f) Treatment of in situ material or existing pavement layers as new pavement layers

Where the in-situ material or existing pavement layers are classified as suitable for new pavement layers and have to be reconstructed as prescribed by the Employers Agent, the material or layers shall be scarified, watered and compacted to a percentage of modified AASHTO density. The density and compaction depth will be prescribed by the Employers Agent.

When additional material has to be imported to obtain the required level and layer thickness, and when the thickness of the layer of imported material would be less than the specified layer thickness after compaction, the in-situ material or existing pavement layers shall be scarified, the necessary imported material placed, and this combined material mixed and compacted to the full specified depth of the layer.

The imported material will be measured and paid for under item 34.01 and the in-situ material will be measured and paid for under item B34.04.

(g) Temporary stockpiling of material

The contractor shall plan his activities so that materials excavated from borrow areas and cuttings or imported from commercial sources can be directly transported to and placed at the designated points.

The temporary stockpiling of material will not be paid for separately unless instructed by the Employers Agent, and full compensation will be deemed to have been included in the rates tendered for the various payment items for work for which the material is to be used.

This subclause does not apply to the excavation and temporary stockpiling of existing pavement layers as instructed by the Employers Agent, in terms of subclause B3403(h), as these will be measured and paid for separately under item 32.06.

(h) Storing recovered pavement material

Excavated pavement material intended for reprocessing but which cannot be reprocessed in place or cannot, in the opinion of the Employers Agent, be placed in a windrow next to the excavation, nor directly placed in position anywhere else, shall be transported to approved stockpile or dumping sites with written permission from the Employers Agent.

Stockpile sites for material to be recycled or reprocessed shall be located as approved by the Employers Agent.

The stockpile site shall be cleaned, and all stones, vegetation and other materials which may cause contamination shall be removed. The site shall be graded smooth with an adequate slope to ensure proper drainage of water. If instructed by the Employers Agent, the surface shall be watered and compacted to a depth of at least 150 mm and to a density of 90% of modified AASHTO density. The compacted surface shall be firm. Upon completion, the surface shall be swept clean.

Stockpile sites shall be large enough to allow the different types of material to be stockpiled without overlapping or exceeding the limits of the prepared site. Enlargement of the stockpile sites after the stockpiles have been placed will not be permitted without the Employers Agent's approval.

Upon completion of the work, the stockpile sites shall be rehabilitated in accordance with the Employers Agent's instructions.

”

B3405 CONSTRUCTION TOLERANCES

(a) Level

REPLACE THE TABLE IN THE SUB-SUB-CLAUSE WITH THE FOLLOWING:

“	H90	Hmax
Selected layers	25 mm	33 mm
Sub-base layers	15 mm	20 mm
Base layers	12 mm	15 mm
Shoulders		25 mm
Subbases and shoulders below precast concrete interlocking paving blocks	15 mm	20 mm”

ADD THE FOLLOWING:

"Level control for the various pavement layers shall be done at least at the following intervals in the longitudinal direction:

Layer	Interval
Selected layer, sub-base, shoulders and wearing course	20 m
Base	10 m

ADD THE FOLLOWING AT THE END OF THE CLAUSE:

"If a selected subcontractor lays the precast concrete interlocking block paving, the contractor shall nevertheless be responsible for ensuring that the top levels of the subbases comply with the specifications. This could entail removing high spots and filling in depressions as specified in clause B7304."

(b) Layer thicknesses

REPLACE THE TABLE IN THE SUB-SUB-CLAUSE WITH THE FOLLOWING:

“	D90	Dmax	Dave
Selected layers	25 mm	35 mm	8 mm
Sub-base layers	18 mm	24 mm	5 mm
Base layers	15 mm	22 mm	5 mm
Shoulders		30 mm	0 mm"

ADD THE FOLLOWING:

"The construction tolerances of clause 3405 shall apply to layers constructed from reprocessed material, but when a gravel layer is placed on top of an existing layer without the existing layer being trimmed to prescribed levels, the thickness tolerances of subclause (b) do not apply."

(e) Cross-section

DELETE THE SECOND PARAGRAPH AND REPLACE WITH THE FOLLOWING:

"The normal cross-fall of the road wearing course where the road is in a straight horizontal alignment, is specified as shown on the drawings.

At any cross-section the measured cross-fall between any two points shall be at least 2,8% and not more than 3,5%. At any cross-section the actual level at any point shall not be higher than 10 mm above the computed level from the cross-section as specified and the actual level, if lower than the computed level, shall not be lower by more than that derived from the specifications for longitudinal grade and cross-fall deviations.

(f) Surface regularity

ADD THE FOLLOWING:

"Where transverse construction joints in base layers are made between newly and previously constructed sections, the contractor shall exercise level control at such joints by installing level poles at 5 m intervals on either side of the joint of the layer covering at least a 30 m length into the newly constructed section."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

"Test results and measurements will be assessed in accordance with the provisions of Section 8300"

B3407 MEASUREMENT AND PAYMENT

DELETE THE FIRST PARAGRAPH AND REPLACE IT WITH THE FOLLOWING:

“Note: No additional or extra over payment shall be made for work in restricted or confined areas. Provision is also made for the construction of pavement layers with material procured

from commercial sources. The costs of procuring and transporting the material from the source to the required position on site, shall be included in the tendered rates."

.

ADD THE FOLLOWING ITEMS:

"Item Unit

B34.14 Pavement layers constructed from gravel supplied from commercial sources or sources provided by the Contractor, including all haul

Gravel selected layer (G6) compacted to:

93% of modified AASTHO density

for a compacted layer thickness of 150mm cubic metre (m3)

Gravel subbase (unstabilised gravel G6) compacted to:

95% of modified AASTHO density

for a compacted layer thickness of 150mm …… cubic metre (m3)

97% of modified AASTHO density

for a compacted layer thickness of 150mm cubic metre (m3)

Gravel subbase (chemically stabilised material) compacted to:

95% of modified AASTHO density

for a compacted layer thickness of 100mm C4 cubic metre (m3)

96% of modified AASTHO density

for a compacted layer thickness of 100mm C3 cubic metre (m3)

Gravel base (unstabilised gravel G6) compacted to:

98% of modified AASTHO density

for a compacted layer thickness of 150mm cubic metre (m3)

100% of modified AASTHO density

for a compacted layer thickness of 150mm cubic metre (m3)

Gravel base (chemically stabilised material) compacted to:

97% of modified AASTHO density

for a compacted layer thickness of 150mm C4 cubic metre (m3)

98% of modified AASTHO density

for a compacted layer thickness of 150mm C3 cubic metre (m3)

(g) Gravel shoulders compacted to:

95% of modified AASHTO density for a compacted

layer thickness of 200 mm cubic metre (m^3)

(h) Gravel wearing course compacted to:

95% of modified AASHTO density for a compacted

layer thickness of 150 mm cubic metre (m^3)

The unit of measurement is the cubic metre of compacted pavement layer and the quantity shall be calculated by the method of from the authorized dimensions of the completed layer.

The tendered rates shall include full compensation for procuring, furnishing and transporting the materials over an unlimited free-haul distance from the sources to the site, for placing, preparing, processing, shaping, watering, mixing and compacting the materials to the densities or in the manner specified, and for removing and disposing of all oversize material from the road after processing, including transport for the haul distance to approved dumping sites provided by the contractor."

Initial here: _____

CHAPTER 5: STABILISATION

B5.4.1 SCOPE

Add the following as a 3rd paragraph:

“The use of recyclers for cold in situ recycling purposes is also covered in this section, which includes cement, and lime stabilisation of base and subbase layers consisting of gravel and/or crushed stone material as described in sections 3400 and 3600.

This section also covers the selection supply and construction of in-situ recycled bitumen emulsion and foam bitumen stabilized materials.””

BB5.4.5 MATERIALS

a) Chemical stabilizing agents

DELETE SUB-CLAUSES (II) ORDINARY PORTLAND CEMENT AND (III) PORTLAND BLAST-FURNACE CEMENT AND REPLACE WITH THE FOLLOWING:

"Cement shall comply with the relevant requirements of SANS 50197-1:2000. The use of strength classes greater than 32,5 shall not be permitted.

On this contract CEM II A-S (32.5) N shall be used for stabilization purposes.”

ADD THE FOLLOWING:

"The stabilizing agents for the gravel selected layer, the gravel subbase and the gravel base, and the modifying agent for the gravel base shall be as indicated on the design sheets. The quantities of stabilizing and modifying agents indicated in the bill of quantities are based on the percentages indicated on the design sheets.

The upper selected layer in cuts shall be stabilized with lime or cement if necessitated by moisture or other conditions.

The Employers Agent may instruct the contractor to alter the type or percentage of stabilizing or modifying agent after tests on the site during construction."

(i) Road lime

ADD THE FOLLOWING:

"Road lime shall be calcium type lime."

(e) Water

REPLACE THE ENTIRE SUBCLAUSE WITH THE FOLLOWING:

“Water for the foaming process or emulsion dilution shall not contain any deleterious material in harmful concentrations that could be detrimental to the foaming process or cause emulsions to break prematurely. Only approved sources of water shall be used and shall be tested for compatibility with the bitumen before approval shall be given. Generally, water suitable for human consumption shall be regarded as suitable.”

ADD THE FOLLOWING SUBCLAUSE:

"(f) Chemical modifying agents

The modifying agent under normal circumstances shall be slaked road lime, calcium type. The nominal rate of application for tender purposes as a percentage of the mass of the material to be modified and compacted to the required modified AASHTO density shall be as follows:

Gravel base (temporary works) : 2%

The Employers Agent will instruct the contractor to amend the percentage and possibly the type of modifying agent after tests on the site during construction."

A5.4.7.3 CHEMICAL STABILIZATION

a) Preparing the layer

INSERT THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

“Moisture content tests shall not be undertaken more than one day in advance of in situ stabilization operations. Care shall be taken to ensure that samples are representative of the in-situ material. Checks shall be conducted when wet weather occurs between initial testing and work commencing on any section.”

ADD THE FOLLOWING:

"The material to be stabilized shall be spread and pre-shaped, so that a true cross-fall is obtained. The upper level of the spread material shall be such that any indentations and depressions caused by construction equipment shall be above or at final cutting level. Enough extra material must be allowed for, so that no filling whatsoever is carried out. The final operation on the base prior to final compaction will be cutting and never making up of levels."

b) Applying the stabilizing agent

REPLACE THE SECOND SENTENCE OF THE SECOND PARAGRAPH WITH THE FOLLOWING:

“Spreading shall only commence when the Employers Agent is satisfied that the correct quantity of stabilizing agent has been placed on the layer and has given permission that the stabilizing agent may be spread uniformly over the entire surface to be treated."

(d) Mixing in the stabilizing agent

ADD THE FOLLOWING:

"The contractor shall prepare a trial section for each type of material without any extra payment to demonstrate his proposed mixing process before extensive mixing commences.

After approval has been obtained, the mixing process and equipment shall remain unaltered unless otherwise instructed by the Employers Agent.

The fact that the Employers Agent has approved the mixing process shall not relieve the contractor of his obligations in respect of the mixing specified elsewhere in the specifications. It will serve only as a guideline to ensure that the specified mixing requirements can actually be met."

(f) Compaction

ADD THE FOLLOWING:

"Where the gravel base is chemically modified with road lime to modify certain physical properties of the gravel material and not for purposes of cementation, the base shall be compacted by means of two roller passes with a heavy pneumatic roller after the stabilizing agent has been mixed in and the material watered as specified in subclauses 3503(d) and (e) respectively. After twenty-four (24) hours the base shall be loosened by ploughing to its full depth, and be shaped, compacted and finished in accordance with the specifications.

When cutting final levels, the top of the layer shall be lightly watered to reduce the risk of dragging the material and cause shear cracks. The blade of the grader shall be tilted forward to reduce the dragging effect. Under no circumstances shall material be imported from the windrow to make up for low spots or depressions caused by any construction equipment."

h) Curing the stabilized work

ADD THE FOLLOWING TO METHOD (II):

"The covering material shall be placed by end-tipping, spread, and not compacted until the underlaying layer has cured for at least 7 days."

ADD THE FOLLOWING TO PARAGRAPH:

“Method (iii) and (iv) shall not be applicable.”

ADD THE FOLLOWING TO PARAGRAPH (iv):

"As soon as the prime has sufficiently dried out and ball penetration tests allow so, and no longer than two weeks after the application of the prime, the layer must be surfaced or covered with the subsequent layer."

i) Construction limitations

REPLACE THE FOURTH PARAGRAPH STARTING WITH “No stabilization ...” WITH THE FOLLOWING:

“No stabilization shall be done during windy conditions, wet weather or with falling air temperatures (7°C and dropping), or during rising air temperatures (when the air temperature is below 3°C).

Moisture content tests shall not be undertaken more than one day in advance of in situ stabilization operations. Care shall be taken to ensure that samples are representative of the in-situ material. When wet weather occurs, checks shall be conducted between initial testing and work commencing on any section.

The surface temperature of a compacted stabilized layer shall not be allowed to fall below 1°C during the first three (3) days after stabilization. The Contractor shall be responsible for taking the necessary precautions to prevent the layer from freezing.

All stabilized layers damaged by rain, frost or by the formation of ice in the layer shall be removed and replaced by the Contractor at his own expense.

The Contractor shall make allowance for these requirements in his construction programme.”

IN TABLE 3503/1, DELETE “8 hours” FOR ORDINARY PORTLAND CEMENTS AND CEMENT BLENDS AND REPLACE WITH “6 hours”.

ADD THE FOLLOWING SUBCLAUSE:

"(j) General

The contractor shall at all times supply all workers exposed to chemical stabilizing or modifying agents with approved protective apparel, eyewear and masks, and no person without such apparel, eyewear and masks may be permitted to work with or be exposed to the chemical agents. Precautionary measures shall also be taken to ensure that any livestock and the public will not be exposed to the chemical agents, for instance when they are carried by the wind.

Any biscuit layers or bowls, identified by the hollow sound caused when a chain is dragged over the stabilized layer, shall be removed and repaired prior to surfacing. The repairs shall be for the account of the contractor. Before surfacing is allowed, ball penetration tests shall be carried out."

A5.4.8 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following after the second paragraph:

“The test results and measurements will be judged in accordance with the provisions of Section 8300.”

Add the following paragraphs:

"The Employers Agent shall be notified 24 hours in advance to enable him to conduct tests himself.

Sample preparation and testing for cement stabilization testing shall be done by means of the Rapid Cure Method as described in clause B8110.

The stabilized material sampled from the layer for the compaction of modified AASHTO briquettes, shall be prepared according to SANS 3001; GR54; i.e. discard material coarser than a 37,5 mm test sieve, and compacted according to SANS 3001; GR31.

Any delamination of the completed layer (biscuiting), identified by the hollow sound caused when a chain is dragged over the stabilized layer, shall be removed and repaired prior to the construction of subsequent layers. The repair method shall be approved by the Employers Agent. No payment will be made for repairs.

ADD THE FOLLOWING CLAUSES:

“BA5.4.6 PLANT AND EQUIPMENT FOR COLD IN SITU RECYCLING

All cold in situ recycling shall be done utilising purpose-built wheel-mounted in situ recycling machines. The following specifications are applicable to such machines. Where the Contractor intends using any other type of machine to recycle (e.g. a modified track-mounted milling machine) he shall submit for the approval of the engineer a full motivation for using such a machine, including a detailed work plan describing the recycling / mixing process and subsequent compaction / levelling processes that will produce a layer that meets the specified end product requirements.

In situ recycling machines

In situ recycling shall be carried out using a special-purpose recycling machine to break down and recover material from the prescribed horizon in the upper layers of the existing pavement, blended together with any imported material, stabilising agent(s), water and any other specified additives. The machine employed shall be capable of achieving the required grading and consistency of mix in a single pass.

In addition, the recycling machine shall meet the following requirements:

Be factory-built by a proprietary manufacturer having a demonstrable track record and manufacturing history in producing such equipment;

If older than 10 years, the machine shall be certified by the manufacturer or manufacturer's authorized agent to confirm operational fitness-for-purpose dated not more than 3 months earlier than the date on which it commences work on the contract;

Have a level-control system to maintain the cut depth within a tolerance of ± 10 millimeters of the required depth during continuous operation;

The milling / mixing drum (the “cutter”) shall have a minimum cut width of 2 metres with a facility to change the speed of rotation. The machine shall be capable of recycling to the maximum depth specified in a single pass;

The cutter shall rotate within an enclosed chamber (the mixing chamber) into which water and any liquid stabilising agents are injected under pressure at the specified application rate relative to the mass of material in the mixing chamber.

The cutter shall be mounted on a swing arm that is separate from the housing of the mixing chamber, thereby allowing the volume of the mixing chamber to increase as the depth of cut increases.

Have a liquid application system dedicated to adding water to the material in the mixing chamber;

Where a bitumen stabilising agent is to be applied, a second separate liquid application system shall be fitted to the mixing chamber. Such system shall be appropriate for the addition of either bitumen emulsion or foamed bitumen;

All liquid application systems shall be controlled by a micro-processor / flow meter combination that accurately regulates pump delivery (flow rate) with the speed of advance.

All liquid application systems shall include a dedicated spraybar that spans the full width of the mixing chamber. Each spraybar shall be equipped with multiple injection nozzles mounted equidistant along the length of the bar at a maximum interval of 200mm with the ability to close off selected nozzles, thereby allowing the width of application to be preset;

Where two liquid application systems are used, the water application spraybar shall be mounted below the other spraybar (relative to the direction of rotation of the cutter) such that the recycled material encounters the water spray before the stabilising agent; and

The recycler shall have sufficient power to recover and mix the existing pavement material together with all additives to produce a homogenously mixed material whilst pushing (or pulling) bulk supply tanker(s).

For foamed bitumen the liquid application system mounted on the recycler shall have the following additional features:

Each injection nozzle on the spraybar shall be fitted with an expansion chamber (the so-called “Mobil system”) for foaming the bitumen;

Functioning gauges on the bitumen supply line for monitoring temperature and pressure;

The ability to demonstrate that all expansion chambers are free of blockages in both the water and bitumen feed lines;

A means of producing a representative sample of foamed bitumen at any stage during normal operations (i.e. a “test nozzle”); and

The micro-processor shall continuously monitor the actual bitumen consumption whilst working and provide a running total that allows immediate reconciliation with theoretical (calculated) consumption.

Before any recycling work commences, the Contractor shall submit a specification sheet (obtained from the manufacturer) stating the capacity, pressure and temperature limits for each liquid application system that will be used to treat the recycled material.

The recycling machine that the Contractor intends deploying shall be subject to the engineer’s approval and he shall be entitled to reject a machine which, in his opinion, may not be capable of producing a consistent product when recycling to the specified depth(s).

Plant for compacting and finishing the treated layer

The treated material exiting from the rear of the recycler shall be processed using suitable compaction equipment and graders to achieve a layer that meets the specified requirements. Sufficient plant and equipment shall be deployed to enable the treated material to be processed and finished off within the time limitations specified below.

Minimum static mass of roller (tons)	Final layer thickness			
	< 150mm	150 – 200mm	200 – 250mm	> 250mm
	12	14	16	20
Minimum amplitude at frequency range	1.8mm @ 30 – 35Hz			

Primary compaction

Initial compaction shall be undertaken immediately behind the recycling machine using a vibrating single-drum padfoot roller selected in accordance with the following guidelines:

TABLE B3511/1 GUIDELINES FOR SELECTION OF PRIMARY ROLLERS

It will be advantageous if the roller is equipped with an integrated compactometer device to indicate and record the level of density that is achieved with each successive pass of the roller. These records can be used by the Contractor for process control to indicate that the maximum density has been achieved.

Secondary compaction

After primary compaction and shaping of the layer a smooth drum vibrating roller with a static mass not less than 10 tons and not more than 14 tons shall be used to compact the upper portion of the layer.

Finishing of the layer

After the final level of the layer has been obtained a pneumatic-tyred roller (PTR) with a minimum static mass of 18 tons and mounted on at least seven (7) tyres shall be used to finish off the layer.

Bulk tankers

Only tankers with a capacity exceeding ten thousand (10 000) litres shall be deployed to supply the recycling machine with water and/or liquid stabilising agents. Tankers containing a bitumen stabilising agent shall be fitted with appropriate tow hitches, one in front and one at the rear, thereby allowing the tanker to be pushed from behind by the recycling machine, and to push a water tanker in front. No leaking tanker will be permitted on the site.

Where a bituminous stabilising agent is added, each tanker shall be equipped with:

A thermometer reflecting the temperature of the contents in the bottom half of the tank; and

A rear feed valve (minimum internal diameter of 75mm when fully opened) that is capable of draining the contents of the tank.

B3512 CONSTRUCTION OF LAYERS BY MEANS OF COLD IN SITU RECYCLING

Requirements before recycling commences

(i) Stabilization mixes design procedure for cold in situ recycling

The following mix design procedure shall be followed as a minimum requirement for each stabilization type:

Within 30 days of the Contractor taking possession of the site, the Contractor shall commence with the mix design process. This process shall be carried out on samples of neat materials extracted from the full depth of the recycling horizon. Bulk samples shall be extracted by means of the recycling machine proposed for the stabilisation work. For each material uniform section identified, two separate bulk samples shall be extracted from the recycling horizon and used in the stabilization mix design process. The location at which such samples are taken shall be indicated by the engineer.

Stabilisation mix designs shall be undertaken by the engineer to determine:

details for blending the recycled material with imported material (where necessary);

application rates for stabilising agent(s);

target strengths achieved from such application rates; and

impact of material variations (sensitivity analysis)

Stabilisation mix designs shall be carried out in accordance with the latest edition of the following best practice guideline publications:

Cementitious stabilisation: SAPEM, SANRAL M5 manual and TRH 13

Bituminous stabilisation: SAPEM and TG2

The Contractor shall construct a trial section for the approved mix design developed for the first uniform section. Recycling work may only commence once the trial section has been approved by

the engineer. Thereafter, it will be incumbent on the Contractor to obtain the necessary approval for the relevant mix design for each uniform section ahead of the recycling work. Should the situation arise where the Contractor has not followed the mix design procedure to obtain the required approval of the engineer recycling work shall cease until such time as the prescribed process for approval has been followed. The Contractor shall have no recourse for costs incurred as a consequence of such a delay.

(ii) Setting out and control of the work for cold in situ recycling

Unless otherwise stated in the specifications, the Contractor shall establish his own reference and level beacons for the setting-out and control of the works.

Layers constructed utilising existing levels

The existing horizontal alignment shall be retained and only minor modifications made to the vertical alignment, as described below.

The Contractor shall establish a series of level control poles placed at a constant offset on both sides of the road at a maximum interval length indicated in clause B3405(a). At each level control location, the Contractor shall record the existing road surface levels at the centre-line and at the outer limits of each lane and prepare a series of graphs (for sections not less than 2.0km in length) with the recorded levels plotted at an exaggerated scale against the km distance. Final levels for the new stabilised layer shall be selected in accordance with a “best-fit” principle, taking into account the following:

the required camber or super elevation details at each location;

the minimum requirements governing changes in grade (longitudinal grade line);

the thickness of the existing base layer; and

minimising the amount of pre-work required (pre-treatment and/or importing new material) before recycling can commence.

At least two weeks before recycling work is scheduled to commence on any specific section, the Contractor shall select the best-fit design levels and submit these proposals to the engineer (both as a schedule of longitudinal grade, cross-fall and final surface levels, as well as a drawing with the design lines superimposed on the existing levels) for approval or amendment.

The engineer will take control measurements to determine the accuracy and adequacy of the reference beacons / control poles, and may instruct the Contractor to correct any faulty work and to take and provide such additional measurements and details as may be deemed necessary.

Survey work will not be measured and paid for separately and compensation for any work involved in staking, setting out, taking levels, determining the final surface elevations and transferring these design levels on to the level control poles (including the cost of all labour materials and reinstatement if required for any reason) will be deemed to be included in the rates for the relevant payment items for cold in situ recycling. No payment will be made for any inconvenience or delay caused by compliance with these requirements.

Layers constructed utilising new levels

Layers shall be constructed according to new design levels as indicated on the drawings.

(iii) Production Plan

Prior to the start of a shift, the Contractor shall prepare a production plan detailing his proposals for the forthcoming shift's work. As a minimum, this plan shall include a sketch showing:

the overall layout of the length and width of road intended to be recycled during the day, broken into the number of parallel cuts required to achieve the specified width of treatment;

the location of and overlap width (minimum 150mm) at each longitudinal joint between adjacent cuts, together with the location of the inner and outer wheel paths of each lane affected by recycling;

the sequence and length of each cut to be recycled before starting on the adjacent or following cut; and

an estimate of the time required for recycling each cut and for finishing off the work.

(iv) Preparing the surface

Before any recycling work commences, the surface of the existing road shall be prepared by:

cleaning all vegetation, garbage and other foreign matter including road studs from the full road width, including any adjacent lanes or shoulders that are not to be recycled;

removing any standing water;

pre-milling to remove high-spots and/or pre-pulverising where ordered;

providing a reference line to assist the operator to accurately steer the recycling machine, and

record the location of all road marking features (e.g. extent of barrier lines) that will be obliterated by recycling.

(v) Surface shape and level requirements

Where surface defects are to be corrected and/or modifications made to the grade line, instructions will be issued detailing the new surface level requirements. These may be achieved prior to recycling by either pre-milling to remove in situ material, by pre-pulverising, pre-shaping and pre-compacting the pulverised material, or by importing material and accurately spreading on the existing road surface, as described below.

Pre-milling

Where instructed, pre-milling shall be undertaken using a milling machine (not a recycling machine) to:

Remove isolated high spots and/or make minor modifications to crest vertical curves by accurate milling. The material resulting from such milling operations shall remain on the road, behind the milling machine, where it shall be spread across the width of recycling and rolled with a smooth-drum roller or loaded onto trucks and disposed of as directed;

Pre-pulverising existing pavement material

Pre-pulverising shall only be undertaken on instruction from the engineer for the purpose of:

breaking down excessively hard material;

loosening the material across the road width so that it can be cross-mixed by grader;

exposing the loosened (fluffed-up) material to the atmosphere to promote drying; or

loosening the material in the existing pavement so that it can be loaded and removed from site.

The depth of pre-pulverising shall be carefully controlled throughout the operation to ensure that the cut horizon always remains at least 25mm above the bottom of the subsequent recycling / stabilisation horizon.

Unless the objective of pre-pulverising is to dry the material, a water tanker shall be coupled to the recycling machine and sufficient water added to allow the material to be compacted to a minimum density of 95% of the mod AASHTO density. Except where the material is to be cross-mixed, it shall be compacted immediately behind the recycler before using a grader to pre-shape the material in accordance with final level requirements.

Cross-mixing

Where cross-mixing is ordered, the material shall be bladed by grader or utilising other mixing equipment to achieve a uniform blend of material throughout the layer. The layer shall be compacted and shaped before being in situ recycled,

(ix) Addition of imported material

Where instructed to import material for blending and/or as make-up material for the purpose of shape, level or material grading correction, the prescribed material shall be imported and spread on the existing road surface prior to recycling. The method of placing and spreading the imported material shall be such as to achieve the required surface levels and will require the use of a paver, motor grader or other such plant. All imported material shall be pre-compacted to a minimum of 95% of the mod AASHTO density.

Nowhere shall the thickness of imported material exceed the recycling depth.

(b) The recycling process

(i) Before starting

Prior to starting to recycle, the production planned for the day shall be approved by the engineer and the following checks carried out:

All relevant temperatures shall be measured and recorded, including:

air temperature;

the material in the recycling horizon; and

the contents of all bulk supply tankers (including water).

All plant and equipment are on site and the operators of the different machines are adequately trained and briefed on their particular tasks.

The recycling machine has been prepared and set up for the first cut. Such preparations shall include:

checking that the mixing chamber is free of any material build-up that may affect the functioning of the application nozzles on all relevant spraybars;

the cutting tools have sufficient remaining life to complete the first cut without stopping;

all relevant liquid application systems are functioning, free of blockages and the in-line filters are clean. Where a bitumen stabilising agent is applied, a relevant check-sheet (similar to the example forms included in the Appendices of SAPEM and TG2) shall be diligently followed, signed off and submitted to the engineer;

the on-board computer has been correctly set up and the input data verified;

the spraybar is set up with the correct nozzles selected to achieve the required width of application;

Bulk supply tanker(s) are coupled correctly to the recycling machine, all feed pipes are properly connected, bled of air and free of leaks. Where a bitumen stabilising agent is applied, the feed pipe shall only be connected immediately before work is about to start. Where the stabilising agent is foamed bitumen, the outlet plumbing on the tanker shall be checked and any “cold plug” of bitumen removed before attaching the feed pipe.

Where cement or lime is spread by hand on the road surface ahead of the recycling machine, the bag spacing shall be checked at random intervals and recorded.

A clear guideline is in place for the recycling machine to follow and is correctly aligned relative to the road geometry.

The integrated compactometer system on the primary roller properly functioning and has been set up to record the correct relevant data.

(ii) Recycling

The recycling machine shall be set up and operated to ensure that:

The speed of advance is regulated (below the maximum allowable of 10m/min) to achieve;

adequate pulverisation of all bound materials in the existing pavement to produce a material that meets the grading requirements;

operating pressures and flow rates in all liquid application systems that remain within the limits prescribed by the manufacturer of the machine.

The depth of recycling coincides with the line and level specified for the bottom horizon of the new stabilised layer. The bottom of cut horizon shall be checked at least once every 100m of cut using a suitable T-bar to dip from a stringline pulled between the relevant final level reference marks on the level control poles.

The planned width of overlap along all longitudinal joints is maintained and the line of cut does not deviate laterally by more than 50mm from that required (measured from the operator’s guideline that shall be positioned for each and every cut).

The process is continuous with a minimum number of stops. Transverse joints that occur every time the recycling machine stops are properly treated to achieve continuity of stabilisation and moisture across the resulting joint.

The application rate of liquid stabilising agent(s) and water is uniformly continuous across the required width of treatment, including all longitudinal joints.

The temperature across the width of material exiting the mixing chamber shall be checked at least once every 100m using a digital thermometer with a laser beam target held no more than 100mm above the material. Where the temperature varies consistently by more than 3°C along a particular longitudinal strip ± 200mm wide, the recycling machine shall be stopped and the

relevant application nozzles on all spraybars that coincide with the offending strip shall be checked for blockages.

The moisture content of the treated material is continuously monitored and the application of water adjusted to achieve a uniform moisture content as specified.

The mixed material exiting from behind the recycling machine is struck off by the rear door of the mixing chamber with sufficient pressure applied to obtain a uniform surface that is free of valley lines, empty pockets and particle segregation.

The advance speed of the recycling machine and the speed of rotation of the recycling drum shall be set to obtain the required grading and sufficient mixing of all components (recycled material and additives) so that a homogeneous material is produced.

(c) Primary compaction

Recycling machines are configured such that their rear wheels run on top of the treated material towards the outer extremities of the cut. To prevent introducing a density differential across the width of cut, primary compaction shall be completed prior to any grader work commencing. If the treated material is pre-shaped by grader prior to being compacted, the work shall be summarily rejected.

A single-drum vibrating roller shall be deployed to compact the recycled material immediately behind the recycling machine. This roller shall travel forwards and backwards at a constant speed (maximum 3km/hr (50m/min)), remaining within the confines of the recycled cut. Recycled material covering the outer extremities of cut shall be moved at regular intervals (± 5m) to expose the cut line, thereby allowing the operator to remain within the cut width.

Successive lengths of recycled / treated material shall be compacted (each approximately 50m in length).

Rolling shall continue on each section until the maximum achievable density has been reached. Where an integrated compactometer device is utilised normally rolling have to continue until the device indicates that no further density is being achieved over at least 80% of the length of the section (i.e. maximum achievable density has been reached). Should the device indicate a consistent loss of density at any point during primary compaction (as indicated over two successive recording passes), rolling on that section normally has to be terminated and the roller moved forward to start compacting the next section.

After each day's production, the Contractor shall provide the engineer with his process control records of the densities achieved for primary compaction. Where a compactometer device was used an electronic copy of the data file containing detailed compaction records for the day's work shall be provided to the engineer. As a minimum, the records shall include the number of passes

made on each section of every cut made by the recycling machine, the compaction achieved on every cut as well as the following data for each 2m interval along the length of each cut:

the compactometer reading (where applicable);

the amplitude of vibration; and

the advance speed of the roller.

These records will constitute the Contractor's Process Control for primary compaction.

A "roller pass" shall be defined as a single unidirectional pass made by the roller. Where the roller travels forwards and backwards over the same point, it would have made "2 passes".

A "recording pass" is a roller pass where the compactometer readings are stored (recorded) and used for comparison purposes. Recording passes are always in one direction of travel only. Recordings shall be made commencing with the first pass and every alternative subsequent pass that is made (i.e. 1, 3, 5, 7, etc.)

The primary compaction process shall follow at the same rate as the recycling operation. The Contractor shall ensure that a sufficient number of rollers are available to achieve this.

Final levels and secondary compaction

After completing the primary compaction on all adjacent cuts that make up the width of pavement that is recycled in one shift, the surface shall be pre-shaped and final levels cut before final compaction is applied. Pre-shaping shall address the lateral shift of material resulting from the surface inclination (cross-fall). The moisture in the layer shall be controlled during this process. No roller will be allowed onto the layer during the pre-shaping process to prevent the lamination phenomenon (biscuiting) occurring,

Secondary compaction shall then be applied using the smooth-drum vibrating roller operating in low amplitude vibration mode. The outer cut extremities shall be exposed as a guide for the roller operator to ensure that the compaction effort is directed only on to the recycled material (thereby preventing any "bridging across" from the unrecycled pavement).

B3513 REMEDIAL WORK

Should finally mixing or compaction not be completed within the time limits specified in subclause B3505(g), or the layer be damaged, but subject to the provisions of clauses 1220 and 3306(c) of the Standard Specifications, the layer shall be ripped up, broken down and all oversize lumps

removed. The procedures outlined in subclauses B3505(d) and (e) shall then be repeated at the contractor's expense, adding half the amount of bitumen originally specified for the initial application.

B3514 PROTECTION AND MAINTENANCE

(a) Trafficking the completed layer

(i) Cementitious stabilization

Under no circumstance shall traffic be allowed to travel on layers of cement stabilized material.

(b) Maintenance of the stabilized layer

Until the surfacing is applied, the Contractor shall maintain the surface integrity of the new layer by deploying staff on a daily basis to visually monitor all sections under traffic and take immediate action as soon signs of ravelling are detected. Such action shall include the local application of dilute emulsion (applied by hand using a large paint brush) or the application of a further fog spray.

Where damage occurs as a consequence of the surfacing not being applied within the time limits specified in clause B3513 (c) below, the Employers Agent shall have the right to summarily reject the affected layer and the Contractor will have no recourse for the costs he incurs in removing the layer and replacing it with fresh stabilized material.”

PART C MEASUREMENT AND PAYMENT

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"No additional or extra over payment shall be made for stabilization work in restricted or confined areas."

Item

C5.4.1 Chemical stabilization extra over un-stabilized

compacted layers

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The unit of measurement shall be the cubic metre of stabilized material, the quantity of which shall be determined in accordance with the final in-situ authorised dimensions of the layers treated as instructed by the Employers Agent. Additional material preshaped to allow for finishing by cutting only will not be included in the measurement."

ADD THE FOLLOWING TO THE PAYMENT PARAGRAPH:

"The tendered rate shall also include full compensation for working in restricted areas on top of and alongside culverts where necessary."

Item

BC5.4.5 Chemical stabilizing agent

REPLACE THE THIRD PARAGRAPH WITH THE FOLLOWING:

"Subject to the provisions of clause 1220, the quantity of stabilizer will be determined in accordance with the authorised rate of application and layer dimensions. Extra stabilizer added for wastage and higher pre-shaping levels will not be included in the quantity."

REPLACE ITEM 35.07 AS FOLLOWS:

“Item Unit

BC5.4.7 Bituminous stabilization:

(a) By conventional construction methods using

bitumen emulsion (extra over unstabilized

compacted layer) …… cubic metre (m3)

(b) By in-situ recycling:

(i) Using bitumen emulsion…… cubic metre (m³)

(ii) Using foam bitumen…… cubic metre (m³)

The unit of measurement shall be cubic metre of materials stabilized. The quantity shall be determined in accordance with the authorised dimensions of the completed layer.

The tendered rate for bituminous stabilization shall include full compensation for breaking up the existing pavement layer, including existing bituminous surfacing where applicable, to a specified depth, breaking down and preparing the material, mixing in of the stabilizing agent(s) as specified, placing and compacting the material as well as protection and maintenance of the layer, conducting control tests, measuring and demarcating the work where layers are reprocessed partly and protecting the adjacent pavement including its repair should it be damaged.

Material which is temporarily bladed to windrow for the removal of an underlying layer and then bladed back and compacted, will be classified as in-situ reconstruction and paid for under this item.

The tendered rate shall exclude surface enrichment as specified in subsubclause B3511(d)(iv) which shall be paid for under item B35.16."

Item Unit

BC5.4.8 Bituminous stabilizing agent:

REPLACE SUBITEM (c) WITH THE FOLLOWING:

"(c) 70/100 penetration-bitumen used in foaming process…… ton (t)"

Item Unit

BC5.4.9 Additive for bituminous stabilization:

REPLACE THE DESCRIPTION OF SUBITEM (a) WITH THE FOLLOWING:

."(a) Cement (CEM II (32.5) N) ……. ton (t)"

"Item Unit

B35.14 Extra over subitem 34.01(d) for complete
modification of the gravel base as specified
in subclause B3503(f) (thickness indicated) cubic metre (m^3)

The unit of measurement shall be the cubic metre of gravel base, the physical properties of which have been modified using road lime as specified in subclause B3503(f). The quantity will be calculated in accordance with the authorised dimensions of the base treated as instructed by the Employers Agent.

The tendered rate shall be extra over the rate tendered for subitem 34.01(d) for constructing the unstabilized layer and shall include full compensation for the complete processing of the base as specified in subclause B3503(f).

The road lime will be paid for under item 35.02.

Item Unit

B35.15 Establishment of bitumen emulsion or foam bitumen
recycling/milling machines on site lump sum

The tendered lump sum shall include full compensation for the provision of any number of recycling machine(s) on the site, moving on site and the subsequent removal thereof.

This work shall be paid for by way of a lump sum, 75% of which will become payable when all the equipment is on site and the first section of roadway has been recycled. The remaining 25% will become payable after all the in-situ recycling work has been completed and the equipment has been removed from the site.

Payment will not distinguish between the number of machines provided on the site simultaneously or the number of times a machine is brought onto and/or removed from the site or as a replacement for defective plant.

All recycling machine movements needed on site shall be included in the rate for this item.

Item		Unit
B35.16	Surface enrichment	square meter (m2)

The unit of measurement shall be square meter of completed surface enriched area completed.

The tendered rate shall include full compensation for supplying the diluted bitumen emulsion required, the application of the diluted bitumen emulsion and the slushing of the layer using an appropriate pneumatic tyre roller."

ADD THE FOLLOWING NEW PAYMENT ITEMS:

"IItem		Unit
B35.17	Removal from site of surplus material	cubic metre (m3)

The unit of measurement shall be the cubic metre of surplus material removed from site. The quantity shall be taken as 70% of the loose volume measured in trucks. Accurate load records shall be kept on site and submitted to the Employers Agent on a daily basis.

The tendered rate shall include full compensation for gathering the surplus material by windrowing or pushing it into heaps, for loading and transporting to a designated spoil or stockpile site including haul for a free haul distance of 1km, for offloading and either spreading the material or placing in neat stockpiles. It shall further include for all labour, plant, equipment and incidentals required to remove the material as specified."

Item		Unit
B35.19	In situ recycling	

(a) Chemically stabilized sub-base layer compacted to 95% of modified AASHTO density, using:

(i) Non-cemented material (150 mm layer thickness) cubic metre (m3)

(ii) Cemented material (150 mm layer thickness) cubic metre (m3)

Chemically stabilized sub-base layer compacted to 97% of modified AASHTO density, using:

(i) Non-cemented material (150 mm layer thickness) cubic metre (m3)

(ii) Cemented material (150 mm layer thickness) cubic metre (m3)

The unit of measurement shall be the cubic metre of in situ recycled pavement layer, the quantity of which shall be calculated in accordance with the authorized dimensions of the completed layer.

The tendered rate shall include full compensation for setting out the works, preparing and providing the production plan, preparing the existing road surface where required, breaking up the existing pavement layer to the specified depth, breaking down and preparing the material utilizing a in situ recycling machine, spreading and mixing the stabilizing agent but excluding the cost of supplying the stabilizing agent, any extra water required, placing and compacting (primary and secondary) the material, cutting final levels as well as the protection and maintenance of the layer, conducting process control and daily monitoring, measuring and demarcating the work where layers are reprocessed partly, protecting the adjacent pavement and its repair should it be damaged.

It shall further include for all labour, plant, equipment and incidentals required to in situ recycle the layer as specified.

The engineer reserves to himself the right to vary the thickness of the layer to be stabilized by up to 20 mm, and the contract rate for this work shall not be amended by such change.

The tendered rate shall include full compensation for breaking down the material to comply with the specified grading requirements.

Item Unit

B35.20 Extra over item B35.19 for adding extra material:

Sub-base layer (G6) cubic metre (m3)

The unit of measurement shall be a cubic metre of material added on the instruction of the engineer, which quantity shall be taken as 70% of the loose volume measured in trucks, unless instructed by the engineer that the quantity be determined by way of cross-sections.

The tendered rate shall include full compensation for procuring, adding and spreading the material to the existing pavement layer to be in situ recycled, and for haul over a free haul distance of 2,0 km except for material obtained from commercial sources where all haul will be deemed to be included. It shall further include for levelling and compacting the material to a nominal density of 95% of the modified AASHTO density.

.SECTION B 3600: CRUSHED-STONE BASE

B3602 MATERIALS

a) Requirements for crushed aggregate

AFTER THE FIRST SENTENCE DELETE THE REMAINDER OF THE PARAGRAPH AND REPLACE WITH THE FOLLOWING:

“The aggregate shall not contain more than 0,1% by mass of unwanted material such as wood, coal or similar organic material.

Aggregates containing mica, such as granite, gneiss, mica schist, pegmatite, sandstone shall not contain more than 2% by mass of free mica, especially muscovite, when assessed by visually separating the particles, or more than 4% by volume when assessed by means of microscopic slides.

Aggregate containing easily detectable quantities (more than 1%) of olivine, serpentine and sulphide minerals such as pyrites and marcasite, must be considered with caution, and may warrant additional evaluation to the satisfaction of the Employers Agent. Argillaceous rocks may only be used if specified in the project specifications, or with the Employers Agent’s written approval.

Soft or weathered particles shall be controlled by the Durability Mill Index values specified in B3602(e) Durability.

Provision has been made in clause B8108(b)(iii), calculation, for the determination and calculation of the Apparent Density for aggregates with a total water absorption greater than 1,5%, when total water absorption is determined according to TMH1 methods B14 and B15.”

ADD THE FOLLOWING:

"G1 material shall be used for the waterbound macadam base.

G2 material shall be used for the GEMs (also called emulsion-treated bases or ETB)."

c) Grading requirements

REPLACE ENTIRE CLAUSE WITH THE FOLLOWING:

“The target grading, after compaction, shall be as near as possible to the mean of the specified grading envelope listed in table B3602/1 and shall be continuous with no marked gaps or excessive quantities of any particular size. The mean grading of each lot (minimum of 4 but preferably 6 test points per lot) shall conform to the approved target grading plus or minus the tolerances specified in table B3602/4. However, no target grading plus tolerance can be set outside the original grading envelope in table B3602/1."

Table 3602/1

IN TABLE 3602/1 DELETE “85% of bulk relative density” AND REPLACE WITH:

"88% of Apparent Relative Density".

REPLACE THE GRADING SECTION IN TABLE 3602/1 WITH:

Grading	Nominal aperture size of sieve (mm)	Percentage passing through sieve by mass			
		Nominal max size			
		G1	G2	G3	
		37.5mm	37.5mm	37,5 mm	28 mm
	37,5	100	100	100	
	28	86 - 95	86 - 95	86 - 95	
	20	73 - 86	73 - 86	73 - 86	87 - 96
	14	61 - 76	61 - 76	61 - 76	73 – 86
	5	37 - 54	37 - 54	37 - 54	43 - 61
	2	23 – 40	23 – 40	23 – 40	27 – 45
	0,425	11 – 24	11 – 24	11 – 24	13 – 27

	0,075	6 - 10	6 - 10	6 - 10	5 - 12

Note:

Refer to standard COTO table for COTO grading if required

REPLACE TABLE 3602/4 WITH:

TABLE B3602/4

Sieve size (mm)	Permissible deviations by mean values (% by mass)		Permissible deviations by individual values (% by mass)	
	Nominal maximum size (mm)			
	37,5	26,5	37,5	28
28	± 5		± 5	
20	± 5	± 5	± 7	± 7
14	± 5	± 5	± 7	± 7
5	± 5	± 5	± 7	± 7
2	± 4	± 4	± 5	± 5
0,425	± 3	± 3	± 5	± 5
0,075	± 2	± 2	± 3	± 3

Note:

Refer to standard COTO table for COTO grading if required

ADD THE FOLLOWING NEW SUB-CLAUSE:

“e) Durability

The durability property of aggregates derived from the basic crystalline group shall be assessed by means of the Ethylene Glycol Durability Index. When tested in accordance with the method prescribed in B 8105(g) the Durability Index shall not exceed four.

In addition, the 10% FACT value obtained after soaking in ethylene glycol for four days shall not be less than 50% of that obtained on the unsoaked sample. Where any values are obtained that fall outside the above requirements, a detailed assessment of the quarry shall be undertaken

together with a specialist mineralogical evaluation of both the coarse as well as fine fractions in order to assess the long-term durability properties of the material.

For Basic crystalline rocks, Arenaceous rocks, Argillaceous rocks and Diamictites the Durability Mill Index (DMI) shall be less than 125. For all other rock types, the Durability Mill Index (DMI) shall not be more than 420, subject to the % passing the 0,425mm sieve not increasing by more than 8 percentage points during the Durability Mill test.”

B3604 CONSTRUCTION

b) Compaction

REPLACE THAT LAST SENTENCE OF THE FIRST PARAGRAPH WITH:

“The density of the layer shall be tested at each third of the layer thickness.”

IN THE FOURTH LINE OF THE FIRST PARAGRAPH, REPLACE THE WORDS "after slushing" WITH "before slushing".

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"Provision has been made in sub subclause B8108(b)(iii):

Calculation for the determination and of the apparent density for aggregates having a total water absorption exceeding 1,0% when determined or according with TMH methods B14 and B15."

c) Surfacing preparation of the base

REPLACE THE FINAL PARAGRAPH IN SUBSUBCLAUSE 3604(C)(I) WITH:

“Slushing of the base, is compulsory and shall be carried out within 48 hours after completion of the compaction. Even if the specified density is achieved without slushing or before completion of the slushing process, the full slushing process must still be completed.”

DELETE SUB-SUB-CLAUSE (II) MULTI-STAGE PROCESS (WATER OR SLURRY ROLLING).

REPLACE THE HEADING OF SUBCLAUSE (g) WITH THE FOLLOWING:

"(g) Work in restricted areas"

B3605 PROTECTION AND MAINTENANCE

REPLACE “moisture content of the layer” IN THE FIRST PARAGRAPH WITH “moisture content of the upper 50mm of the layer.”

ADD THE FOLLOWING TO THE END OF THE SECOND SENTENCE:

“As determined according to TMH 1 method A7.”

B3607 QUALITY AND WORKMANSHIP

DELETE “8200 or” IN THE SECOND PARAGRAPH.

B3608 MEASUREMENT AND PAYMENT

Delete the first paragraph and replace it with the following:

“Note: No additional or extra over payment shall be made for work in restricted or confined areas.”

Item Unit

B36.01 Crushed-stone base:

ADD THE FOLLOWING SUBITEM:

"(g) Constructed from type G1 material obtained from

approved commercial source, bituminous stabilized and

compacted to 88% of apparent relative density (E1)

(layer thickness indicated) …. cubic metre (m³)"

ADD THE FOLLOWING TO THE PAYMENT PARAGRAPH:

"The temporary stockpiling of material shall not be paid for separately and full compensation shall be deemed to have been included in the rates tendered for the various payment items in which the material is to be used."

The unit of measurement shall be the cubic metre of completed crushed-stone base in place and compacted to the specified density. The quantity shall be calculated from the net authorised dimensions of the layer as shown on the drawings or prescribed by the engineer. No adjustments shall be made to the net specified dimensions for level and thickness tolerances, overbuilding and/or other wastage.

AMEND THE DESCRIPTION OF ITEM 36.03 AS FOLLOWS:

"Item Unit

B36.03 Crushed-stone base trial section

(thickness indicated) constructed in

accordance with the provisions of

clause 3603 cubic metre (m³)"

REPLACE THE FIRST MEASUREMENT AND PAYMENT PARAGRAPH WITH THE FOLLOWING:

"The unit of measurement shall be the cubic metre of completed trial section approved by the engineer."

ADD THE FOLLOWING ITEMS:

"Item Unit

B36.16 Granular emulsion mix (GEMs) constructed from type G2 material obtained from commercial sources and compacted to 102% of modified AASHTO density, nominal maximum size of stone 37,5 mm cubic metre (m^3)

The unit of measurement shall be the cubic metre of completed granular emulsion mix in place and compacted to the specified density. The quantity shall be calculated from the authorised dimensions of the layer as shown on the drawings or prescribed by the engineer.

The tendered rate shall include full compensation for mixing, placing and preparing the final surface of the GEMs layer. It shall also include compensation for hauling the aggregates over an unlimited free-haul distance from commercial sources and for correcting the layers, as well as for testing, protecting and maintaining the work as specified."

SECTION B3700: PLANT-MIXED PAVER-LAID PAVEMENT LAYERS

B3701 SCOPE

ADD THE FOLLOWING:

“This section also covers the selection and supply of materials, mixing and processing of plant-mixed bitumen emulsion stabilised materials. The TG2 Guideline, 2nd addition, May 2009 is referenced.”

B3702 MATERIALS

(a) Stabilizing agents

ADD THE FOLLOWING:

“(vi) Bituminous stabilizing agents

The bitumen stabilising agent for this project shall be 60% anionic stable-grade bitumen emulsion produced from 70/100 road-grade bitumen complying with the SABS 307 specification.

(vii) Fillers

Where the relevant mix design indicates the use of an active filler to enhance the durability properties of the stabilised material, the stabilising additive shall be one of the following agents depending on the outcomes of mix design results:

(1) Road Lime

Road lime shall conform to the requirements of SABS 824: Lime for soil stabilisation, and the packaging shall bear the SABS mark.

(2) Portland Cement

Portland cement shall comply with the requirements of SABS ENV 197-1: 'Cement Composition, specifications and conformity Criteria Part 1: Common Cements'. The cement to be used for bitumen emulsion stabilisation shall be CEM II 32,5N"

The maximum application rate of active filler shall be 1% by mass or as directed by the Employers Agent."

(b) Water

ADD THE FOLLOWING:

"Water used for diluting emulsions shall be clean and fee from so many salts as will break the emulsions during dilution, and shall be tested for compatibility with the prescribed stabilizing agent."

B3703 REQUIREMENTS TO BE MET BEFORE A PAVEMENT LAYER MAY BE CONSTRUCTED

ADD THE FOLLOWING SUBCLAUSE:

"(a) Composition of bitumen emulsion treated material

The rate of application of bitumen emulsion shall be governed by the materials to be used.

The minimum requirements of the treated material on test specimen sizes of BSM1 as per the TG2 Guideline using testing methods 3, 4 and 5 shall be:

Table 3703/1

Sample – diameter	Test Parameter	Minimum	Maximum
100 mm	Unconfined Compressive Strength at 100% of modified AASHTO density	1 200 kPa	3 500 kPa
100 mm	Indirect Tensile Strength at 100% of modified AASHTO density (equilibrium)	225 kPa	

150 mm	Indirect Tensile Strength at 100% of modified AASHTO density (equilibrium)	175 kPa	
100 mm	Indirect Tensile Strength at 100% of modified AASHTO density (wet)	100 kPa	

The application rate of bitumen emulsion will be determined from mix design procedures described in TG2 Guideline for 'Level 2' mix designs, conducted on the various blends and the residual bitumen will vary between a minimum of 1,0% and maximum of 3,0% (by mass). The Employers Agent will carry out these mix designs and determine the required binder content. A nominal application rate of 1,0% (by mass) of cement or lime shall be included as an active filler for the bitumen emulsion."

ADD THE FOLLOWING SUBCLAUSE:

"(b) Setting-out and control of the work

The contractor shall programme his operations so that the paving work progresses in a logic and systematic manner.

The Contractor shall establish his own reference and level beacons for the setting-out and control of the works. The existing horizontal and vertical alignment shall be retained and only minor modifications made to the vertical alignment, as described below.

The Contractor shall establish a series of level control poles placed at a constant offset on either side of the road at 20 m intervals. At each 20 m location, the Contractor shall record the existing road surface levels at the center-line and at the dividing lines between the lanes or as directed by the Employers Agent on either side of the Centre-line and prepare a series of graphs (for sections not less than a section length) with the recorded levels plotted at an exaggerated scale against the km distance. Final levels for the new stabilised layer shall be selected in accordance with a 'best-fit principle, taking into account the following:

the required camber or super-elevation details at each location;

the minimum requirements governing changes in grade (longitudinal grade line);

the thickness of the existing base layer; and

the existing levels of footways plus accesses to properties.

The Contractor shall select the best-fit design levels and these proposals shall be delivered to the Employers Agent (both as a schedule of longitudinal grade, cross-fall and final surface levels, as well as a drawing with the design lines superimposed on the existing levels) for approval or amendment at least two weeks before paving work is scheduled to commence on any specific section.

The Employers Agent will take control measurements to determine the accuracy and adequacy of the reference/control beacons, and may instruct the Contractor to correct any faulty work and to take and provide such additional measurements and details as may be deemed necessary. Survey work will not be measured and paid for separately and compensation for any work involved in staking, setting out, taking levels, determining the final surface elevations and transferring these design levels on to the level control poles (including the cost of all labour materials and reinstatement if required for any reason) will be deemed to be covered by the rates tendered and paid for the various items of work included in this contract. No payment will be made for any inconvenience or delay caused by compliance with these requirements."

B3704 CONSTRUCTION

Mixing and transporting

ADD THE FOLLOWING:

"The bitumen stabilising agent shall be mixed into the aggregate using plant specifically developed for that process as described in Chapter 6.4.1 of the TG2 Guideline.

No mixing shall be undertaken if the temperature of any of the aggregate materials that will be used in the mix is less than 5ºC. The temperature of the material shall be measured not less than 150 mm below the surface of the stockpile. No mixing shall commence if the threat of rain is present.

Bitumen emulsion treated material may only be stockpiled if the conditions set out in TG2 Guideline Chapter 2.6.1.1 are met.

The mixing plant shall be capable of thoroughly mixing the material, blending the bituminous stabilising agent, active filler and water in approved pre-selected proportions and rates.

Care shall be taken to prevent segregation and excessive loss of moisture between the time the materials are mixed and when they are compacted on the road."

Spreading

ADD THE FOLLOWING:

“The choice of paver shall take into account the constraints imposed by paving width and thickness of the layer as described in Chapter 6.4.3.1 of the TG2 Guideline.

The contractor shall take note of the limitations of paving >200 mm layers as set out in the TG2 Guideline, Chapter 6.4.3.3, and use the trial section to overcome the limitations. Paving of a BSM-emulsion treated base shall be restricted to a single layer. “

Compaction

ADD THE FOLLOWING SUBSUBCLAUSE:

“(iv) In plant mixed paver laid base

Paving and compaction shall be in accordance with Chapter 6.4.3.4 of the TG2 Guideline with respect to paver set up, paving the layer, construction joints and compacting the paved BSM1 layer.

The BSM layer shall be compacted to an average density of 100 % modified AASHTO density with not less than 98% modified AASHTO per single test.

Before final compaction, the surface of the emulsion treated base layer shall be enriched with a 1:1 mixture of water from an approved source and 60% Anionic stable grade bituminous emulsion at an application rate of 0.4 to 0,5 l/m2. Payment for surface enrichment shall be done according to pay item B37.06.“

Construction joints

ADD THE FOLLOWING:

“The number of construction joints shall be minimised as far as possible within the daily production rate and accommodation of traffic constraints.”

ADD THE FOLLOWING SUBCLAUSE:

"(f) Plant and Equipment

The new stabilized base shall be constructed by in-plant mixing and laid by a paver.

(i) Mixing Plant

Only an approved purpose-built mixing plant like a high energy pugmill type mixer may be deployed on the site. As a minimum the mixing plant shall have the following features:

Able to accurately blend pre-determined proportions of different input materials whilst simultaneously adding the correct amount of bitumen stabilizing agent, water and active filler.

Consistently producing a homogenous product

(ii) Paver and Screed

Only an approved purpose-built paver may be deployed on the site. As a minimum the paver shall have the following features:

A screed attached to the paver, which uniformly pre-compact the material to the highest achievable level of density.

A screed attached to the paver, which is equipped with tamper bars and vibrators to effect compaction.

Paver with tracks and not wheels to avoid damage to the geogrid when paving on top.

(iii) Compaction Equipment

The rolling guidelines as set out in TG2 Guideline will apply and the contractor shall determine through the trial section the best technique and equipment to achieve the desired compaction density.

As in the guideline TG2, the following rollers for compacting the paved material will be used:

(a) Primary roller

Primary compaction shall be undertaken using a tandem-smooth-drum vibrating roller static mass not less than 10 tons and not more than 12 tons. The roller shall be fitted with an integrated

“intelligent compaction system” (e.g. Hamm HCQ GPS Navigator system, or similar) having the following features:

an accelerometer device fitted to the frame that continuously measures the rebound emanating from the force applied by the vibration (known as a compactometer);

a system that continuously determines the location of the roller within an accuracy of 0.1 m in the horizontal plane (a device mounted on the roller that reads signals emanating from satellites (GPS system) or fixed stations (land-based laser system));

an on-board micro-processor that simultaneously receives, stores and analyses the continuous data streams emanating from the compactometer and the location device. The data stored shall include the following information for each pass made by the roller at intervals not exceeding 2 m in the longitudinal direction (direction of travel) over the width of the roller:

the time that the data is stored,

the advance speed of the roller and direction of travel,

the amplitude of the applied vibration and compactometer reading.

a display monitor mounted in the cab of the roller that shows the path of the roller for a minimum distance of 50 m, colour-coded to show (for intervals not exceeding 2.0 m) whether the reading from the compactometer is increasing, remaining constant or decreasing;

a “flash drive” facility for downloading a complete record of the day’s compaction, and

software for analysing the compaction data on a remote computer. Such analyses shall include:

summary of data for specified lots (lengths varying from 2.0 m to 100.0 m) for each strip (cut width) compacted, and

summary of data for specific lots for the full half width of road, including the facility to plot contours of compactometer values.

(b) Roller for finishing

A pneumatic-tyred roller with a “load per tyre” rating >1750 kg shall be used to finish off the new layer (mild slushing) and for final compaction.”

ADD THE FOLLOWING SUBCLAUSE:

“(g) Construction in confined areas

Some construction work will be carried out in confined areas. No additional payment will be made as described for ‘restricted areas’ in Clause 3508 of the specifications. The method of

construction in these confined areas will depend largely on the contractor's constructional plant. However, the contractor shall note that measurement and payment will be in accordance with the specifications and drawings irrespective of the method used, and that the rates and amounts tendered shall be deemed to include full compensation for any special equipment or construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for payment be considered on account of these difficulties.

Where the construction of paved bitumen stabilised materials (BSM) is to be carried out at existing structures or alongside kerbs and channels and/or traffic islands, no separate payment will be made for working in close proximity to these elements and the contractor shall include for having to work close up to the elements in his tendered rates for the construction of the BSM layers."

ADD THE FOLLOWING SUBCLAUSE:

"(h) Daily production plan

Prior to the start of work every day, the Contractor shall provide the Employers Agent with a production plan detailing his proposals for the forthcoming day's work. As a minimum, this production plan shall include:

details of the section of road to be milled and or paved during the day, the start and end stake values, the sequence of cuts and overlap details for all longitudinal joints"

ADD THE FOLLOWING SUBCLAUSE:

"(i) Opening to traffic and protecting the surface of the new layer

The Contractor shall organise his daily operations such that sufficient time is allowed for the surface of the completed layer to dry back to a moist state after finishing.

Where the constructed sections show signs of travelling, the cause and extent of such travelling shall be investigated and, based on the results of these investigations, the Employers Agent will determine the required remedial measures to be taken by the Contractor."

B3705 CURING

ADD THE FOLLOWING:

“For bitumen stabilised layers, the surfacing layer shall only be placed on the completed layer once the moisture content in the upper 100 mm of the layer is less than 50% of the optimum moisture content.”

B3706 PROTECTION AND MAINTENANCE

REPLACE THE FIRST AND SECOND PARAGRAPHS WITH THE FOLLOWING:

“The Contractor shall protect the completed base layers from all damage until the surfacing is applied. Any damage occurring to the completed base or any defects which may develop due to faulty workmanship, shall be made good by the Contractor at his own expense and to the satisfaction of the Employers Agent.

Repairs shall be made in a manner approved by the Employers Agent to ensure an even and uniform surface.

During working and construction of the base, precautionary measures shall be taken to prevent kerbs and channeling and concrete work from being damaged or shifted. Care shall be taken to protect all precast units from chipping and breakage. Concrete kerbing and channeling, as well as other structures adjacent to the road, shall be protected against staining by bitumen. Any work stained by bitumen shall be broken down and replaced, unless all such bitumen is completely removed so as not to show any stains. Painting over stained work will not be allowed.

Where construction is carried out adjacent to existing structures, care shall be exercised to avoid damage to concrete elements, expansion joints, manholes, catch pits, etc. Damage caused to any element forming part of the permanent works shall be repaired at the Contractor's cost.

The Contractor shall make good careless or excessive demolition at his own expense. New construction shall be in accordance with the drawings and the Specifications. The Contractor will be held responsible for the timely adjustment of all covers and frames in advance of surrounding construction, whether they are indicated on the drawings or by the Employers Agent or not. No claims for delays arising from the failure of the Contractor to affect the necessary adjustments in good time will be allowed.

Due care shall be exercised when working around existing gullies or kerb inlets so as not to cause blockages. This shall be achieved either by covering them with steel plates during the recycling process, or by removing all trapped material immediately after the recycling operation.”

B3707 TRIAL SECTION

IN THE SECOND PARAGRAPH, REPLACE THE FIRST SENTENCE WITH THE FOLLOWING:

“Where ordered by the Employers Agent, the Contractor shall execute trial sections in accordance with the directives included under Section 6.7 in the TG2 Guideline. Trial sections shall be at least a section length of half the road width and located to suit the Contractor’s programme of work. During the trial section, the contractor shall also demonstrate that compliance with the level and thickness tolerances can be achieved, as well as the compaction dry densities specified “

B3708 TOLERANCES

ADD THE FOLLOWING:

“Routine inspection and tests will be carried out by the Employers Agent to determine the quality of the materials and workmanship for compliance with the requirements of this section.”

(a) Construction tolerances

ADD THE FOLLOWING:

“Measurements for construction tolerances shall be taken immediately after completion of the layer and before opening to traffic. Where the existing granular base abuts kerbs or channels, the new work shall extend to the edge of these facilities unless otherwise specified by the Employers Agent. The new base shall be constructed in sympathy with the existing levels, cross-section profile and cross-fall, unless otherwise specified.”

ADD THE FOLLOWING SUBCLAUSE:

“(c) Bituminous stabilizing agents

The average rate of application of bitumen emulsion as measured from consumption records shall be within 0,3 percentage points of the specified application rate.”

ADD THE FOLLOWING SUBCLAUSE:

“(d) Chemical stabilising agents

The average application rate of cement or lime used for chemical stabilisation, and as an active filler for bitumen stabilisation, as determined from application records shall be within 0,1 percentage points of the specified application rate.”

ADD THE FOLLOWING SUBCLAUSE:

“(e) Uniformity of mix of bituminous stabilized mixes

For each day’s work, two bulk samples of approximately 50kg mass shall be taken prior to being compacted and retained in sealed bags. The samples shall be transported to the laboratory and used immediately to manufacture specimens for Indirect Tensile Strength (ITS) testing. The procedure recommended in paragraph 6.8.3 of the TG2 Guideline shall be followed to manufacture and cure the specimens and determine the relevant ITS values. The minimum ITS values as specified in Table 3703/1 must be achieved.

At least two full samples of the bitumen stabilised material shall be taken daily and tested for compliance. Full records of the sample position, time and date of sampling and results, shall be kept by the contractor and made available to the Employers Agent.”

B3709 ROUTINE INSPECTION AND TESTS

REPLACE THE ENTIRE CLAUSE WITH THE FOLLOWING:

“Routine inspection and tests will be made to determine the quality of the materials and workmanship for compliance with the requirements of in plant mixed paver laid bitumen stabilized materials.

The quality of the completed work shall be determined from the results of tests that show:

The relevant strength of the material in the bitumen stabilized layer; which will be evaluated by the relevant ITS specifications,

The dry density of the compacted material; and

The thickness of the completed layer.

The statistical judgement schemes to be used to determine whether the in-situ density requirements specified are being complied with shall be those set out in Section 8200 (Scheme 1). Judgement plan A will be applied for judging measurements of the levels and thicknesses of the pavement layer and Judgement plan B for judging measurements of in-situ densities.

In-situ density measurements shall be taken after completing the recycling operation. Nuclear density gauges can be used on site to determine density. As the recycled mix will contain bitumen, the measured moisture content may be overstated, resulting in lower dry densities being reported. A sample for determining the moisture content in the laboratory shall be taken from each test location and be used in the calculation of the dry density. Random standard sand replacement tests (ASTM D1556 or AASHTO T191) shall also be carried out and compared with the results from the nuclear density gauge.

Despite acceptance of the above properties by the statistical methods, the work submitted may be rejected when other properties (which are not controlled by statistical methods) fail to comply with the requirements of the specifications. Where there are other causes for rejection such as obviously defective workmanship, excessively variable properties, visible signs of poor workmanship, or similar considerations which constitute sufficient ground for rejecting the work without any further testing, the Employers Agent may reject the work. Indirect tensile strength shall not be controlled by statistical methods.

Control samples on the bitumen emulsion or bituminous binder shall be taken daily by the contractor. The date of sampling, and batch number of the binder shall be recorded and kept by the contractor, and made available to the Employers Agent. Data from these samples may be used in quality control by the Employers Agent."

ADD THE FOLLOWING CLAUSE:

"B3711 WEATHER LIMITATIONS

No mixing work shall be undertaken during misty or wet conditions, nor shall any work commence if there is a risk that it may not be complete before such conditions set in. Similarly, work shall not be undertaken if the ambient temperature is below 5 °C and the temperature of the material being worked is below 5°C. No further work, other than finishing and compaction, shall be permitted if the ambient temperature drops below 5 °C during operations.

The contractor shall take the necessary precautions to ensure that no layer work is undertaken if cold weather is forecast (temperatures below 4°C) for three days following construction. All

stabilized layers damaged by frost or ice shall be removed and replace at the contractor's own cost. The contractor shall allow for these requirements in his programme and no claims in this regard shall be considered."

ADD THE FOLLOWING CLAUSE:

"B3712 OPERATIONAL LIMITATIONS

The Contractor shall arrange his milling and paving operations in such a manner as to minimize the disruption to public traffic. Rehabilitation operations shall be carefully planned and executed in accordance with the following limitations:

(a) Individual work areas shall be clearly demarcated with traffic signs, delineators and traffic control facilities as specified.

(b) The individual work areas shall be planned in such a manner that all paved pavement layers are completed as specified in Clause B3704 (i) for each day's production.

(c) Within individual working areas, the Contractor shall make adequate provision for drainage of water from the road surface during construction. No separate payment will be made for the provision and use of standby pumps, dewatering equipment or cutting of drainage slots and/or channels to effectively drain the roadway surface were instructed by the Employers Agent in the interests of safety for the travelling public. The Contractor shall make due allowance for this drainage in this tendered rate.

ADD THE FOLLOWING CLAUSE:

"B3713 GEO-REINFORCING LAYER

(a) Quality and standard

A mechanical stabilizing or geo-reinforcing layer shall be installed on top of the treated roadbed after the existing surface and base have been milled off and the roadbed treated. The quality of the stabilizing layer shall conform to the following:

i) The mechanical stabilization element shall be a polypropylene geogrid manufactured in accordance with a management system which complies with the requirement of

BS EN ISO 9001:2008. If required by the Employers Agent, the Contractor shall provide evidence of the manufacturer's certification of its Quality Assurance System.

ii) The geogrid class shall be 'punched and stretched' to create ribs having orientations in three equilateral directions. The resulting triangular-shaped apertures are defined by ribs having a high degree of molecular orientation which is continuous through the node.

iii) The rib pitch shall be 40 mm. The open area aspect ratio shall be 85% or more.

iv) The isotropic stiffness ratio of the grid, expressed as the ratio of the minimum / maximum radial stiffness at low strain, shall be greater than 0.75 (5)

v) The junction efficiency shall be 90% (1, 5); aperture stability shall be 610 N.mm/deg at a reference moment of 5.0 kg-cm (2, 5).

vi) The tension strength at maximum strain of 4% shall be 40 kN/m in each direction at young modulus of 70 GPa.

vii) The reinforcing grid shall be inert to all chemicals naturally found in soils and shall have no solvents at ambient temperature. It shall not be susceptible to hydrolysis, shall be resistant to aqueous solutions of salts, acids and alkalis, and shall be non-biodegradable. The reinforcing grid shall have a minimum of 2% finely divided carbon black, as determined by BS 2782: Part 4: Method 452B:1993, well dispersed in the polymer matrix to inhibit attack by ultra violet light.

Notes:

1. Load transfer capability determined in accordance with GRI-GG2 and GRI-GG1and expressed as a percentage of ultimate tensile strength.

2. In-plane torsional rigidity measured in accordance with US Army Corps of Employers Agents Methodology for measurement of Torsional Rigidity (Kinney, T.C. Aperture Stability Modulus Rev 3.1.2000).

3. Modulus tests carried out within the scope and principle of ISO 10319:1996.

4. All geometrical values are typical

5. Declared at the 95% confidence limits

(b) Construction

i) Subgrade preparation

The subgrade shall be levelled and treated as directed by the Employers Agent after milling out/excavation of the existing base. The geogrid or stabilizing layer shall be laid flat and level.

ii) Placing of the stabilizing layer/geogrid

Heavy-duty gloves shall be worn when handling the geogrid. The geogrid shall be placed parallel to the center line of the road or as directed by the Employers Agent.

iii) Overlap

The minimum overlap shall be 300 mm and not more than 600 mm. Overlaps shall be secured and maintained during the filling operation. If necessary, this is generally achieved by placing small heaps of the filling material locally over the overlaps ahead of the filling operation. For this specific project the filling operation will mean the laying of the BSM1 material.

iv) Placing the overlay/pavement layer

Care shall be taken to avoid damage to the geogrids. A paver machine with tracks shall be used to avoid damage to the grid. “

Item Unit

B37.03 Stabilizing agent

CHANGE THE UNIT OF MEASUREMENT FOR SUBITEM (e) TO LITRE (l)

“(e) Bitumen Emulsion, 60% anionic stable grade . litre (l)”

ADD THE FOLLOWING TO THE END OF THE FIRST SENTENCE OF PARAGRAPH ONE:

"…, except for item (e) where the unit of measurement shall be litre (l)."

REPLACE ITEM 37.05 WITH THE FOLLOWING:

Item		Unit
B37.05	Trial section of pavement layer…….	square metre (m2)

The unit of measurement shall be the square metre of paved pavement executed as a Trial Section, as ordered by the Employers Agent. Where the Trial Section is successful, this item shall be measured and paid in addition to the various related work items. Where a Trial Section fails to achieve the specified result for any reason whatsoever, no payment shall be affected under this item, nor shall any payment be made under the various related items for the failed work.

The tendered rate shall include full compensation for all additional costs incurred as a consequence of designating the section of work a Trial Section, including all costs relating to low productivity. The tendered rate for the trial section shall also include for constructing the base layer on top of the mechanical stabilizing layer/ geogrid layer."

ADD THE FOLLOWING PAYMENT ITEM:

Item		Unit
B37.06	Surface enrichment…….	square metre (m2)

The unit of measurement shall be square metre of completed surface-enriched area completed.

The tendered rate shall include full compensation of supplying the diluted bitumen emulsion required, the application of the diluted bitumen emulsion and the mild slushing of the layer using an appropriate pneumatic tyre roller."

ADD THE FOLLOWING PAYMENT ITEM:

Item		Unit
B37.07	Geo-reinforcing layer complete (Triax TX170 or similar) …….	square metre (m2)

The unit of measurement shall the square metre of roadbed covered with the reinforcing layer placed, complete as specified and accepted by the Employers Agent.

The tendered rate shall include full compensation for procuring, providing, placing and fixing all materials (irrespective of the quantity of stabilizing layer required), overlapping and cut-offs included, and for all transport, equipment, tools, labour, tying down the layer, supervision and all other cost necessary for installing and protecting the layer until the base layer has been placed. The tendered rate shall also include full compensation for all special preparatory work required. If it is necessary to repair the roadbed, separate payment will be made therefor under the appropriate items of payment.

SECTION B3800: BREAKING UP EXISTING PAVEMENT LAYERS

B3804 PLANT AND EQUIPMENT

(a) Milling equipment

ADD THE FOLLOWING PARAGRAPH:

"No payment shall be made for moving the milling machine on the site."

B3805 CONSTRUCTION

(vi) General

ADD THE FOLLOWING:

"The requirements for accommodation of traffic during milling operations shall be as specified in Section 1500 of the standard specifications as supplemented by Part B of the project specifications. In particular, the limitations on barricaded length to a maximum of 2,5 km and only during daylight hours are to be taken into account in programming the milling operations. If traffic is to be accommodated over milled areas overnight it shall be a requirement that the vertical longitudinal edge drop-off is not greater than 25 mm in depth and the transverse drop-off at the start and end of each section of work is tapered to a slope not steeper than 1:5 (vertical: horizontal) and all milled areas have been thoroughly cleaned before opening to public traffic. The total length of lane with milled areas open to traffic shall, at any time, not exceed 1,0 km even if the sections of milled areas are not contiguous.

Where milling is to be done at existing structures, care shall be exercised to avoid damage to concrete elements, expansion joints, nosings to expansion joints, manholes, catchpits etc. Damage caused to any element forming part of the permanent works shall be repaired at the contractor’s cost.

The floor of the milled excavation shall be cleaned by brooming out all loose materials. The exposed floor of the excavation shall be lightly sprayed with water to identify cracks. The Employers Agent shall be given the opportunity to inspect the milled surface for cracks and loose patches and any cracks and loose patches shall be repaired in accordance with the relevant sections of the specification."

40 mm compacted thickness."

B3807 MEASUREMENT AND PAYMENT

(a) General

ADD THE FOLLOWING SUBSUBCLAUSE:

"(vi) Providing the milling machine and moving the milling machine on site

No separate payment shall be made for providing the milling machine on site or for moving the milling machine on site. The size and numbers of milling machines required on site shall be determined by the contractor in accordance with the scope of the work and the approved works programme, noting that approval of the works programme shall be subject to compliance with the accommodation of traffic constraints. Temporary removal of milling machines from site and the re-establishment of the machines shall be subject to the approval of the Employers Agent and shall be in accordance with the approved works programme. No additional payments shall be made for the temporary removal and re-establishment of milling plant."

(d) Items of payment

Item

B38.02 Milling out existing bituminous material with an average milling depth

IN THE SECOND PARAGRAPH INSERT THE WORDS "to any location within the site of the works" AFTER "providing milling equipment."

B4102 MATERIALS

b) Aggregate for blinding

ADD THE FOLLOWING SENTENCE:

“Blinding of the primed surface with aggregate shall only be permitted to facilitate vehicular access to adjoining properties”

B4103 EQUIPMENT

ADD THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"Before any storage, dilution or spraying operations commence the contractor has to provide a safety and security and environmental protection method statement for approval of the Employers Agent. All personnel involved, including brooming, prime distributor, storage and production yard operators and labour shall wear the necessary protective clothing. Appropriate fire extinguishers and medical aid devices must be provided in working order. The Employers Agent reserves the right to stop the contractor's operation or order any person from the site who does not adhere to the above."

B4104 WEATHER AND OTHER LIMITATIONS

REPLACE PARAGRAPH (G) WITH THE FOLLOWING:

“(g) When at any position within the layer the moisture content of a granular base layer is more than 50% of the optimum moisture content determined according to SANS 3001 – GR30 In the event of rain after priming, the base shall be allowed to dry out to meet the above moisture content requirement prior to surfacing.”

Notes:

The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For referencing purposes no stirrers should be used.

No limits are given and the values should be recorded for reporting purposes only as they may be used in future specifications.

No values given but the test can be used to rank various binders according to their low temperature cohesion properties.

b) Aggregates

ADD THE FOLLOWING PARAGRAPH TO THE INTRODUCTORY DESCRIPTION:

All aggregate in excess of 5mm shall consist of individual nominal single sized aggregate.

The Contractor shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional onsite screening. No additional payment shall be made for screening aggregate. The use of crusher run type materials shall not be permitted, with the exclusion of crusher dust (<5mm).”

(v) Absorption

Add the following sentence:

“In addition, the total binder absorption of the combined coarse and fine aggregate blend shall not exceed 0,5%”

(x) Rolled-in chippings

REPLACE TABLE 4202/11 WITH:

TABLE B4202/11

Sieve size (mm)	Chip size - Percentage passing by mass	
	20 mm	14 mm
20,0	100	
14,0	0 – 20	100
10,0	0 – 5	0 – 20
7	0 – 1	0 – 5
0,425	0,5 max	0,5 max

Note:

Refer to standard COTO table for COTO grading if required

ADD THE FOLLOWING NEW SUB-ITEM:

"(xi) Moisture content

The moisture content of aggregates, sampled from the cold feed belt, shall not exceed the

PERCENTAGE THROUGH SIEVE BY MASS	Sieve size (mm)	Maximum nominal size (mm)	
		Continuously graded	
		37,5	28
		Percentage passing sieve by mass	
	37,5	100	
	28	86 – 95	100
	20	73 – 86	87 - 96
	14	61 – 76	73 - 85
	10	52 - 68	64 - 79
	5	37 – 54	43 – 61
	2	23 - 40	28 - 44
	1	17 - 32	20 - 35
	0,600		15 – 30
	0,300	9 – 21	11 – 24
	0,150	6 – 17	8 – 19
	0,075	4 - 12	5 - 12
NOMINAL PROPORTIONS BY MASS	Aggregate	95%	94,5%
	Bitumen (grade according to project specifications)	4%	4,5%
	Active filler*	1,0%	1,0%

following limits at the time that it is introduced into the mix:

Coarse aggregate 2%

Fine aggregate 4%"

Initial here: _____

c) Fillers

DELETE THE SECOND LAST SENTENCE OF THE FIRST PARAGRAPH AND REPLACE WITH:

ADD THE FOLLOWING AFTER THE LAST PARAGRAPH:

"For tender purposes the active filler shall be hydrated lime"

REPLACE TABLE 4202/6 WITH:

		Continuously graded		
		Coarse	Medium	Fine
PERCENTAGE THROUGH SIEVE BY MASS	28	100		
	20	100		
	14	85 – 97	100	
	10	70 – 92	85 – 100	100
	5	50 – 70	56 – 77	66 – 89
	2	27 – 45	33 – 48	42 – 59
	1	21 - 35	25 - 40	31 - 51
	0,600	16 – 28	18 – 32	24 – 40
	0,300	12 – 20	11 – 23	16 – 28
	0,150	8 – 15	7 – 16	10 – 20
	0,075	4 - 10	4 - 10	4 - 12
NOMINAL PROPORTIONS BY MASS	AGGREGATE	93,5%	93,5%	93,0%
	BITUMEN (GRADE ACCORDING TO PROJECT SPECIFICATIONS)	5,5%	5,5%	6,0%
	ACTIVE FILLER	1,0%	1,0%	1,0%

TABLE B4202/6

* Active filler for tender purposes to be hydrated lime.

REPLACE TABLE 4202/7 WITH:

TABLE B4202/7

Note:

Refer to standard COTO table for COTO grading if required

REPLACE TABLE 4203/1 WITH:

B4205 GENERAL LIMITATIONS AND REQUIREMENTS AND THE STOCKPILING OF MIXED MATERIAL

b) Moisture

AMEND THE LAST PARAGRAPH AS FOLLOWS:

INSERT “and/or primed base” AFTER “surfacing” IN THE THIRD LINE OF THE FIRST SENTENCE.

REPLACE THE LAST SENTENCE WITH “In such case the base shall be allowed to dry out to meet the above moisture content requirement prior to placing the surface layer.”

B4206 PRODUCING AND TRANSPORTING THE MIXTURE

b) Production of the mixture

(ii) Using drum-type mixer plants

ADD THE FOLLOWING:

“Pre-blending of aggregate fractions shall not be permitted and the Contractor shall ensure that sufficient cold-feed bins are installed to accommodate each individual aggregate fraction, including the filler.”

c) Transporting the mixture

DELETE THE SECOND SENTENCE IN THIS PARAGRAPH.

ADD THE FOLLOWING SUB-CLAUSE:

“

B4208 JOINTS

ADD THE FOLLOWING TO THIS CLAUSE:

“Where the difference in level between the new work and the existing road surface exceeds 25mm, joints shall be treated as follows:

Transverse steps at the end of a day’s work shall be tapered off at a slope of 1 vertical to 20 horizontals (1:20) to tie in with the existing surface. The tapered section shall be removed before surfacing is recommenced and a joint formed in accordance with clause 4208 of the specification.

B4209 LAYING OF TRIAL SECTION

ADD THE FOLLOWING TO THE END OF THE FIRST PARAGRAPH:

“As the purpose is not to calibrate any equipment, etc., the Contractor shall calibrate the equipment and refine the mix design at his own cost.”

B4210 CONSTRUCTION TOLERANCES AND FINISH REQUIREMENTS

(a) Construction tolerances

(v) Surface regularity

DELETE THIS SUBCLAUSE AND REPLACE WITH THE FOLLOWING:

"Roughness of the surfacing will be determined by using a profilometer capable of producing a Class 1 vertical measurement resolution, and a Class 3 longitudinal sampling distance as defined in ASTM standard (E950-94). Prior to using the profilometer it shall have successfully completed a validation trial against the Instrument of Reference (Face Dipstick ®) used by the South African National Roads Agency Limited.

The profilometer shall be used to record the longitudinal profile in both wheel tracks of the traffic lanes. The two-wheel tracks shall be 1,75 m apart, and the Employers Agent shall indicate the exact position of the wheel tracks. Should the two tracks not be measured simultaneously during the same pass, then procedures shall be implemented to ensure that the longitudinal profile data recorded for the two-wheel tracks are at the same longitudinal location on the road. The measured longitudinal profiles will then be processed using the Quarter-Car simulation model with parameter values as defined in ASTM standard (E1170-92) for Ride Meter-Vehicle Mounted. The simulated suspension mentioned will then be linearly accumulated and divided by the length to yield 100 m IRI (international roughness index) values in units of mm/m or m/km for each wheel track. The last 50 metres, and the joining first 50 metres of adjacent sections will be evaluated as a 100 m section in the direction of vehicle travel.

The left and the right 100 m IRI values will then be averaged to produce the Average IRI as follows:

$$\text{Average 100 m IRI} = \frac{\text{100 m IRI (Left Wheel track)} + \text{100 m IRI (Right Wheel track)}}{2}$$

The average 100 m IRI for surfacings placed on layers which have been milled, or constructed, by the contractor shall be judged differently from surfacings placed as an overlay on existing surfacing.

(1) The average 100 m IRI for surfacing placed on layers that have been milled or constructed by the contractor shall be evaluated and judged according to table B4213/2 to determine whether the 100 m section needs corrective work or payment adjustment.

(2) For surfacing placed as an overlay on existing surfacing the average 100 m IRI values for the new surfacing and the average 100 m IRI values of the existing surfacing shall both be used in table B4213/2 to determine whether the 100 m section needs corrective work or pavement adjustment. For this surfacing the payment adjustment factor applicable shall be the difference between the payment adjustment factors applicable to the new surfacing and the existing surfacing plus 1,0.

TABLE B4213/2: PAYMENT ADJUSTMENT

100 m IRI values (mm/m or m/km) *	Payment adjustment factor
< 0,90	1,050
0,91 to 0,95	1,040
0,96 to 1,00	1,030
1,01 to 1,05	1,020
1,06 to 1,10	1,010
1,11 to 1,20	1,000
1,21 to 1,30	0,990
1,31 to 1,40	0,975
1,41 to 1,50	0,955
1,51 to 1,60	0,930
1,61 to 1,70	0,900
> 1,70	Not acceptable

* This is the average 100 m IRI value per lane.

For overlay work on existing surfacing, the limits for payment adjustment factors shall be 1,050 and 0,900.

On sections where the average 100 m IRI on the existing surfacing is < 1,20 and the average 100 m IRI on the new surfacing does not worsen to > 1,20 no payment adjustment factor will be applicable. Should the average 100 m IRI value on the new surfacing worsen to > 1,20 payment adjustments will be applicable as shown in table B4213/2. Should the average 100 IRI value on the new surfacing worsen to > 1,70 corrective works will be necessary.

any corrective work to the Employers Agent for approval, prior to commencing with any corrective work. Corrective work shall be done at the contractor's expense and shall be completed prior to determining pavement thickness. After completion of the corrective work, the 100 m sections shall be re-evaluated according to the abovementioned procedure.

The longitudinal profile and the 100 m IRI values shall be determined using a profilometer furnished and operated by the contractor or on his behalf in the presence of the Employers Agent.

No direct payment will be made to the contractor for measurement and analysis of profiles and all costs shall be included in the rates tendered for the relevant pay items as provided in the bill of

quantities schedule. It is recommended that frequent measurements be made during the initial set up of the paver and over the progress of the project. However, as an absolute minimum, measurements shall be provided to the Employers Agent after 10%, 50% and 100% of the surfacing area has been completed."

(c) Gradings

REPLACE TABLE 4213/1 WITH:

TABLE B4213/1: AGGREGATE GRADING TOLERANCES

Size of aggregate passing Sieve size (mm)	Permissible deviation from target grading (%)
28	± 5
20	± 5
14	± 5
10	± 5
7	± 5
5	± 4
2	± 4
1	± 4
0,600	± 4
0,300	± 3
0,150	± 2
0,075	± 1*

* When statistical methods are applied the permissible deviation for the 0,075 fraction is ± 2%.

(d) Voids

ADD THE FOLLOWING:

"The void content shall not deviate from the approved production mix void content by more than 1%."

(e) Construction tolerances for overlays

(iii) REPLACE PARAGRAPHS THREE AND FOUR OF SUB-SUB-ITEM (III) TO READ:

“The calculated average thickness of the overlay for each day’s production shall be the nominal specified thickness ±3mm. No additional payment shall be made for inlays not adhering to this specification.”

ADD THE FOLLOWING SUBCLAUSE:

“(f) Construction tolerances for inlays,

USE THE SAME WORDING AS PER CLAUSE 1513 (F) WITH THE FOLLOWING CHANGES:

REPLACE PARAGRAPHS THREE AND FOUR OF SUB-SUB-ITEM (III) TO READ:

“The calculated average thickness of the inlay for each day’s production shall be the nominal specified thickness ±5mm. No additional payment shall be made for inlays not adhering to this specification.”

REPLACE THE WORD “overlay” WITH “inlay” FOR THE ENTIRE SUBCLAUSE.

(g) Air-void tolerance

The actual air voids may not deviate by more than 1 percentage point from the air voids in the approved production mixture."

B4214 QUALITY OF MATERIAL AND WORKMANSHIP

ADD THE FOLLOWING CLAUSES:

"B4216RUMBLE STRIPS

300 mm wide prefabricated rumble strips with 10 mm nominal-sized aggregate (Petrocol, Freyssinet or approved equivalent) shall be placed as instructed by the Employers Agent.

B4217 COLD PREMIX

Cold premix should preferably be mixed in a concrete mixer, but may be mixed by hand. When a concrete mixer is used, the mixing process must be stopped as soon as the mixture is evenly black. Further mixing may result in stripping.

(a) Mixture ratios

To prepare a cold continuously graded premix with ± 5% nett bitumen content (per weight) the following volumetric method can be used:

Mix 1 part 13,2 mm aggregate,

two parts 6,7 mm aggregate, and

one-part coarse river sand.

Then use 7½ parts of the above mixture, dampen lightly, and 1-part KMS 60% (cationic premix grade emulsion) and mix with spades or in a concrete mixer.

By covering the mixture with a canvas, it can be stored for ± 5 days.

The contractor shall make a test section for approval and it should be noted that an accurate grading and surfacing is required."

B4215 MEASUREMENT AND PAYMENT

AMEND THE FOLLOWING PAYMENT ITEM:

(i) Continuously graded:

(1) Up to 50 mm nominal thickness ton (t)"

INSERT THE FOLLOWING PARAGRAPHS AFTER THE 1ST PARAGRAPH:

ADD THE FOLLOWING TO THE 3RD PARAGRAPH:

“The tendered rate shall also include full compensation for joint forming, temporary ramping of construction joints between paving operations when new work is opened to traffic (including ramping material), breaking up and disposal of temporary ramps and waste material, weighing the material on the specified weighbridge and cleaning the surface.”

ADD THE FOLLOWING PAYMENT ITEMS:

Item	Unit
B42.21 Rumble strips	metre (m)

The unit of measurement shall be the metre length of 300 mm wide, approved rumble strip placed in accordance with the Employers Agent's instructions.

The tendered rate shall include full compensation for procuring and furnishing all materials, manufacturing the strips, applying the tack coat and placing the strips in accordance with the manufacturer's instructions on the instruction of the Employers Agent.

Item	Unit
B42.22 Removal of existing bituminous material	

by milling as directed by the Employers Agent cubic metre (m³)

The unit of measurement shall be the cubic metre of material removed by milling. The quantity shall be calculated in accordance with the authorised dimensions or as directed by the Employers Agent.

The tendered rate shall include full compensation for providing a milling machine on the site and all additional measure, adjustments and costs for the removal of material by milling, for loading and transporting (including all haul) to approved spoil sites provided by the contractor and for cleaning of the milled area.

Item Unit

B42.23 Traffic calming measures:

(a) 3.5m wide speed hump as per drawings number (No)

(b) Raised pedestrian crossing as per drawings number (No)

The unit of measurement shall be the number of speed bumps or raised pedestrian crossings completed as per the drawings and instructed by the employer's agent.

The tendered rates shall include full compensation for providing all material, labour and plant to complete the speed bumps or raised pedestrian crossings. Rate to exclude the road markings and road signs that will be measure and paid for under the respective sections.

SECTION B4600: BITUMINOUS SINGLE SEAL WITH SLURRY (CAPE SEAL)

B4604 SLURRY

(a) Composition of slurry

ADD THE FOLLOWING TO THE FIRST PARAGRAPH:

"The slurry shall be applied and spread by hand. Under no circumstances will the application of the slurry by means of a spreader box be allowed."

ADD THE FOLLOWING:

"The aggregate used for slurry shall comply with the requirements of table 4302/11. The first slurry shall be a fine slurry ‘course’ to 'medium grade' and the second slurry shall be fine slurry 'fine' grade. For tender purposes the mix proportions of the slurry shall be based on mass.”

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"The slurry consistency when measured in accordance with ASTM D3910 Section 6.1 shall be between 30 mm and 40 mm."

(b) Mixing of slurry

REPLACE THE LAST SENTENCE IN THE FIRST PARAGRAPH WITH:

"Only the use of batch mixers will be permitted."

(c) Application of slurry

IN THE FIRST SENTENCE OF THE THIRD PARAGRAPH INSERT THE WORDS "one or" BEFORE "two layers".

DELETE THE FIFTH AND SIXTH PARAGRAPHS AND REPLACE WITH:

"The measurement of slurry application rate shall be the dry mass of aggregate in kg/m² applied per m² of surfacing and the total nominal rate of application shall be 13 kg/m² if only the 1st slurry layer is applied, and 15 kg/m² in total if the 1st and 2nd slurry layers are applied. Payment for slurry application variations shall be based only on the actual total rate of slurry application of the completed Cape Seal."

ADD THE FOLLOWING AFTER THE EIGHTH PARAGRAPH (NOW THE SEVENTH PARAGRAPH):

"Both the first and second layer of slurry shall be spread to the full final width of the primed surface."

CHANGE THE EIGHTH LINE OF THE TENTH PARAGRAPH (NOW THE NINTH PARAGRAPH) AS FOLLOWS:

"….. pneumatic–tyred roller. However, each layer of slurry shall be …."

ADD THE FOLLOWING TO THE NINTH PARAGRAPH:

"This layer of slurry shall be compacted thoroughly by pneumatic tyred roller to the satisfaction of the Employers Agent. The compaction shall be carried out as soon as the emulsion has cured sufficiently so that there will be no picking up of the slurry by the tyres of the roller and not later than on the first working day following that on which that slurry seal was placed."

ADD THE FOLLOWING BEFORE THE FIRST SENTENCE OF THE TENTH PARAGRAPH:

"As soon as possible, but not later than four (4) weeks after the first layer of slurry has been applied, the second layer of slurry shall be placed. The second application of slurry shall not be applied less than four (4) days or more than four (4) weeks after the second application of bituminous binder. The binder shall be given sufficient time to dry before the second layer of slurry is applied."

ADD THE FOLLOWING TO THE FOURTEENTH PARAGRAPH:

"A moist burlap drag shall be drawn behind the squeegees in order to ensure an even textured finish."

ADD THE FOLLOWING PARAGRAPH AFTER THE EIGHTEENTH PARAGRAPH:

"The road shall not be opened to traffic until the slurry has, in the opinion of the Employers Agent, completely cured and the bitumen has set sufficiently so as not to be picked up by the wheels of passing traffic. The contractor shall not allow construction equipment, which is likely to cause damage, over the completed surface."

B4605 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING BEFORE THE PAYMENT ITEMS:

"No additional or extra over payment will be made for work in restricted or confined areas."

REPLACE THE DESCRIPTION OF PAYMENT ITEM 46.01 WITH THE FOLLOWING:

"Item Unit

B46.01 Bituminous single seal with 20,0 mm aggregate and
slurry (double layer)

70/100 penetration grade bitumen as a tack coat and
60% or 65% spray-grade emulsion in the penetration spray……. square metre (m²)

ADD THE FOLLOWING AT THE END OF THE PAYMENT CLAUSE FOR THIS ITEM:

"The cost of providing the slurry seal over the final primed width shall be included in the rate for providing the seal with slurry over the bituminous surfaced width."

COTO SERIES 5000: ANCILLARY ROADWORKS

SECTION B 5100: PITCHING, STONEWORK AND PROTECTION AGAINST EROSION

B5102 Materials

a) Stone

REPLACE THE 2ND PARAGRAPH WITH THE FOLLOWING:

“Unless suitable stone can be located on site, the stone for pitching shall come from commercial sources but, from whatever source, its use shall be subject to the prior approval of the Employers Agent.”

c) Sand

(ii) Sand for bedding

Replace this sub-sub-clause with the following:

Sand for bedding used for paving blocks shall not contain any deleterious impurities and shall comply with the requirements given in table B5102/1.

TABLE B5102/1

Sieve size (mm)	Percentage passing
10	100
5	95 – 100
2	73 – 86
1	43 – 78
0,600	25 – 60
0,300	10 – 30
0,150	5 – 15
0,075	5 – 10

Note:

Refer to standard COTO table for COTO grading if required

B5106 SEGMENTAL BLOCK PAVING

d) Edge beams

ADD THE FOLLOWING PARAGRAPH:

“Where concrete edge beams are constructed the relevant specifications under section 2300 shall apply."

SECTION B 5600: ROAD SIGNS

B5601 Scope

REPLACE “South African Road Traffic Signs Manual” IN THE SECOND PARAGRAPH WITH:

“SADC Road Traffic Signs Manual”

B5602 MATERIALS

(a) Structural steel

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

"All structural steel, including tubes, shall be galvanized in accordance with the requirements of SABS 763 for type A1 or B1 articles, as applicable."

REPLACE THE SECOND SENTENCE OF THE FIRST PARAGRAPH WITH THE FOLLOWING:

"Channels, square tubes, angle irons and other steel members on the reverse side of the sign boards and steel tubes for sign supports shall be painted in accordance with the following specifications: SABS 926 for a two-pack zinc-rich epoxy primer, SABS 681 for the undercoat, and SABS 1413 for a chloro-rubber finishing coat."

(g) Retro-reflective material

IN THE FIRST SENTENCE REPLACE “SABS 1519" WITH “SANS 1519-1:2014" AND DELETE "and the adhesion requirements of CRS 191".

REPLACE THE THIRD LAST PARAGRAPH WITH THE FOLLOWING:

"The contractor shall provide proof that Classes I and III of the retro-reflective commercial products to be used have been generally and successfully used in South Africa during the last three years.

Classes I and III retro-reflective materials shall be warranted against any abnormalities as described in SABS 1519 for 7 and 10 years respectively."

ADD THE FOLLOWING AFTER THE SECOND LAST PARAGRAPH:

"Should a contractor manufacture signs without the necessary approval it shall be deemed that the contractor unconditionally guarantees the sign for the full period of seven years. Should failure of the sign due to suspected incompatibility of materials (in the opinion of the Employers Agent) occur within seven years, the contractor shall remanufacture the sign and re-erect the sign at no cost to the employer."

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

"Reflective sheeting shall be applied to sign faces strictly in accordance with the retro-reflective material manufacturer's specifications. Legend and background materials shall be supplied by the same manufacturer. Every batch of material used for signs on the contract shall be identified by a batch number. A certificate of all materials' compliance with SANS 1519-1:2014 shall be submitted to the Employers Agent within 3 months of the material being used. An outdoor weathering test will not be required."

ADD THE FOLLOWING:

"Retro-reflective materials shall comply with the requirements of SANS 1519-1:2014.

Mixing 3M Scotchlite, Kiwalite or any other approved products on the same sign will not be permitted. The contractor will also be required to produce lifespan guarantees as well as SANS approved certificates with regard to the retro-reflective material specified or tendered for.

When measured in accordance with SANS 1519-1:2014, the coefficient of retro-reflection of a retro-reflective material shall not be less than the appropriate value given in Table 1 of SANS 1519-1:2014 (duplicated as table B8118/1 in these specifications).

The colour of the retro-reflective material shall match the specified colour and shall not be faded to such an extent that its effectiveness is unacceptably impaired in the opinion of the Employers Agent. The surface of the material shall be undamaged and free from scratches, stains or other marks.

When, in the opinion of the Employers Agent, the retro-reflective material does not comply with the above requirements, the contractor shall replace the defective material at his own cost, to the satisfaction of the Employers Agent.

When measured in accordance with SANS 1519-1:2014, the coefficient of retro-reflection of a retro-reflective material shall not be less than the appropriate value given in Table 1 of SANS 1519-1:2014."

(k) Back vinyl

IN THE SECOND SENTENCE REPLACE "SABS 1519" WITH "SANS 1519-1:2014" AND DELETE THE REST OF THE SENTENCE.

ADD THE FOLLOWING SUBCLAUSES:

"(l) Chromadek sections

Chromadek sections shall be 1,2 mm thick and shall comply with the details on the drawings.

(m) Temporary covers for road signs

When required, existing road signs shall be fully or partially covered with burlap or 0,5 mm thick black plastic or other approved material to obscure destinations that are temporarily inapplicable or irrelevant. As reflective material loses its retro-reflective and adhesive qualities in poorly ventilated conditions, 25 mm diameter holes spaced at maximum intervals of 300 mm shall be cut in the plastic to render it permeable.

The covers shall be neatly applied and firmly fixed in position so that they will be able to withstand strong gusts of wind or eddies caused by passing traffic."

B5603 Manufacturing of Road sign boards and supports

a) Road signboards

ADD THE FOLLOWING:

“The Contractor shall make every effort to ensure that signboards are correct in all respect and before dispatching the boards from the manufacturer’s factory shall provide the Employers Agent with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board. If the Contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification.”

(ii) Steel profile road signboards

ADD THE FOLLOWING:

“Chromadek section shall be assembled in accordance with the details of Standard Plans SP-B-12-Sheets 4 and 5 and SP-B-4-Sheets 33E and 34E.

Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius.

Retro-reflective material to adjoining Chromadek panels on a sign shall be practical visual match of the specified colour.”

B5604 Road Sign faces and painting

(b) Preparing surfaces and applying paint and retro-reflective sheeting

ADD THE FOLLOWING TO THE FIRST PARAGRAPH:

"And shall conform to the requirements of TYPE A signfaces, as indicated on the drawings."

ADD THE FOLLOWING SUB-CLAUSE:

“e) Application of retro-reflective material

All sign faces shall be faced with retro-reflective material. Painted front sign faces shall not be used.

Where applied to Chromadek sections, retro-reflective material shall be applied as specified for aluminium section in Clause 5603(d) of the Standard Specification, and of Clause B5603(a)(ii) of this Project Specification."

B5605 Storage and handling

ADD THE FOLLOWING:

"The following shall not be allowed on the sign face:

Drilling of holes, except for the fastening of overlays

Application of any form of adhesive

Cleaning with any chemicals that are not specifically approved by the manufacturer of the retro-reflective material.

Covering the sign face with an impermeable material that does not allow free circulation of air."

B5606 Erecting Road Signs

(b) Excavation and backfilling

ADD THE FOLLOWING AFTER THE FIRST SENTENCE OF THE FIRST PARAGRAPH:

"A 300 mm thick gravel drainage layer shall be placed at the bottom of the excavations and shall be compacted before the excavations are backfilled.

The dimensions of the excavation for the drainage layers shall be over and above that for the footings as shown on the drawings."

c) Erection

ADD THE FOLLOWING:

“After erection the signboard shall be thoroughly cleaned with a cleaning agent approved by the retro-reflective material’s manufacturer.

On completion of signs on the road section, the contractor shall clear an area immediately around the sign. The area shall be 10 m wide at the side closest to the road and 5 m wide at the side farthest from the road. The area so cleared shall be treated with an approved chemical growth-retarder in accordance with the supplier's application instructions.

No separate payment shall be made for the clearance, or the procurement and application of the growth retarder."

B5608 Dismantling, storing and re-erecting existing road signs

ADD THE FOLLOWING:

“Existing overhead and ground mounted road signs that are being replaced by new signs shall be dismantled and disposed of by the Contractor. Where possible the dismantling of the signs shall not be before the replacement sign is erected and displayed. Where dismantling of the sign is required before erection of the replacement sign, the dismantling shall not take place until immediately before work is to commence on the replacement, and the replacement shall be completed and the new sign displayed as soon as possible thereafter (within 72 hours).

Dismantling shall include sign panels and ground mounted sign supports.

Ground mounted sign supports shall be cut off just below ground level. Material excavated for removal of buried poles shall be replaced, and any depression made good using excess material from excavation for new signs.

Pay items are provided in the Pricing Schedule. Payment will differentiate between different types of sign panels.”

B5609 Measurement and Payment

Item	Unit
B56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering, and borders in semi-matt black or in Class I

retro-reflective material, where the sign board is constructed from

AMEND THE LAST TWO LINES OF THE SECOND PARAGRAPH TO READ:

“Completion, delivery, installation of the road sign board complete as specified, and the removal and disposal of all vegetation obstructing the motorists’ view of the new or replaced sign board.”

ADD THE FOLLOWING PAYMENT ITEMS:

Item Unit

B56.10 Hazard plates (size indicated):

(a) 600 mm x 150 mm number (No)

800 mm x 200 mm……... number (No)

The unit of measurement shall be the number of each size of hazard plate supplied and erected complete in accordance with the details on the drawings.

The tendered rates shall include full compensation for procuring and furnishing all materials, excavating, disposing of excavated material, erecting and painting the hazard plates and posts, and for placing and compacting the soilcrete backfilling.

Item Unit

B56.11 Dismantling and disposal of road signs:

(a) Hazard marker signs number (No)

(b) Single post signs (other R and W signs) number (No)

(c) Multiple post signs number (No)

The unit of measurement shall be the number of signs removed.

The tendered rate shall include full compensation for dismantling the sign boards, removing the supports and foundations of ground-mounted signs, disposing of the material and clearing the removal site. It shall also include for all labour, plant, supervision and all other incidentals.

SECTION B 5700: ROAD MARKINGS

B5701 Scope

REPLACE “South African Road Traffic Signs Manual” IN THE SECOND PARAGRAPH WITH:

“SADC Road Traffic Signs Manual”

REPLACE THE WORDS “ordinary road marking paint” with “solvent borne road marking paint”.

Replace “BS 3262” with “EN 1436”.

Replace “Hot melt plastic road marking” with “thermoplastic road marking”.

B5702 MATERIALS

INSERT THE FOLLOWING BEFORE SUBCLAUSE (A) PAINT:

“The selection of the appropriate road marking paint and materials for permanent road markings to ensure conformance with the requirements of this specification rests with the Contractor. Such paint and material shall have technical characteristics (brightness, luminance, skid resistance, durability) equal to or greater than road marking paint and materials specified in subclauses 5702(a), (b) and B5702(c).

Where plastic road-marking material (hot-melt plastic (also known as thermoplastic) and two-component (also known as cold plastic)) is used, the Contractor shall obtain an approved guarantee from the manufacturer that the paint complies with the specification. This shall be submitted to the Employers Agent on request.”

REPLACE SUB-SUBCLAUSE B5702(A)(I) WITH THE FOLLOWING:

"(i) Road marking paint

Road marking paint shall be Type 1 as specified in SANS 731-1. Only paint, manufactured in a SANS approved and accredited facility shall be accepted. The no-pick-up time of road-marking paint shall comply with the Class 1 requirement in accordance with SANS 731-1.

The paint shall be delivered at the site in sealed containers marked in accordance with SANS 731-1.

The viscosity of the paint shall be such that it can be applied without being thinned down."

(ii) Retro-reflective road-marking paint

ADD THE FOLLOWING:

"When measured in accordance with SABS Method 1261-1998 within a period of two weeks after application, the coefficient of retro-reflected luminance, RL, shall be at least 150 mcd/m². lx for white markings and 100 mcd/m². lx for yellow markings."

REPLACE SUB-SUBCLAUSE B5702(A)(III) WITH THE FOLLOWING:

"(iii) Thermoplastic Road marking material

b) Roadstuds

Replace the clause with the following:

"Permanent and temporary road studs shall comply with the requirements of the European Standard for road studs IS EN 1463.

The road studs to be used on this contract shall be RSA-1: Ferro Lynx A200 (shanked)."

Road studs for the areas of application shall be supplied and installed in accordance with the requirements set out in Table B5702/1 with reference to IS EN 1463.

TABLE B5702/1

Classification	Area of Application			
	RSA-1	RSA-2	RSA-3	RSA-T
Description	Bi-directional	Bi-directional	Circular Cats-Eye	Bi-directional
Material	Galvanized Cast Iron	Plastic	Glass	Plastic
Design	Type A	Type A	Type A	Type A
Use	Type P	Type P	Type P	Type T
Reflector	Type 1	Type 1	Type 1	Type 2
Reflectivity	R1	R1	R1	Not Specified
Installation System	Anchored	Bonded	Embedded	Self-Adhesive or Bonded
Height above Road	H3	H3	H3	H1
Dimensions (min-footprint)	100mmx80mm	100mmx100mm	100mm dia	100mmx100mm
Colours	W – R - Y	W – R -Y	W	W – R - Y
Road Trials	S1	S1	S1	Not Applicable

Add the following sub-item:

“c) Retro-reflective beads

Retro-reflective glass beads shall be applied to the wet paint, thermoplastic and cold plastic.

The beads shall comply with Class A beads in accordance with EN 1424: 1998, with the following requirements or as approved by the Employers Agent:

colour : crystal clear

roundness : > 80%

size range of : 14 – 200 US Mesh (75 – 1400 Microns)

refractive index : > 1.5

specific gravity : ± 2.5

granulometry :

Cumulative retained mass		
Sieve	Minimum	Maximum
1700	0	2
1400	0	10
1180	5	30
850	40	80
600	70	100
425	80	100
355	90	100
212	95	100
Pan	100	100

The beads shall be delivered to the site in sealed bags, marked with the name of the manufacturer, the batch number and an inspection seal of SANS, confirming that the beads form part of a lot tested by SANS and comply with the requirements of EN 1424: 1998. Alternatively, the Contractor shall at all times have a SANS certificate on the site, identifying the batches to which the inspection seals apply and certifying that they have been tested by SANS, and comply with the requirement of EN 1424: 1998."

B5704 MECHANICAL EQUIPMENT FOR PAINTING

ADD THE FOLLOWING SENTENCE AT THE END OF THE FIRST PARAGRAPH:

" The road-marking machine shall be fitted with a device to guide the operator to the centre of the line to be painted. This device shall be used at all times of operation.

The machine shall always operate in the direction of the traffic when applying lane markings"

B5705 SURFACE PREPARATION

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

"The onus is on the Contractor to ensure that the surface on which the road markings are to be applied is sufficiently clean and dry to ensure that the quality of the road markings will not be adversely affected. The Contractor is also responsible for protecting road studs from being painted over, and the subsequent cleaning thereof if such over-painting did occur."

B5706 Setting out the road markings

INSERT THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"Where road markings are to be replaced after any construction activity, it is essential that all existing road marking be accurately surveyed and referenced before commencement of such construction activities which will obliterate the existing road markings. The position of barrier lines shall be re-assessed on site by the Employers Agent before the Contractor commences with the road marking."

B5707 Applying the paint

INSERT THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"The Contractor's establishment on site and general obligation shall be deemed to fully include the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be on site or is required to move within the site.

Provision is also made under item B57.07 for de-establishment and re-establishment in the contract or maintenance period if such action is required by delays not attributable to the Contractor and/or ordered by the Employers Agent."

REPLACE THE SIXTH PARAGRAPH WITH THE FOLLOWING:

“Solvent borne road marking paint shall be applied at a nominal rate of 0,42ℓ/m2 or as directed by the Employers Agent. Thermoplastic road marking shall be applied at a nominal rate of 2,5 kg/m2 to achieve a minimum thickness of 1,25mm to 1,5mm or as directed by the Employers Agent. The two-component road marking material shall be applied by hand by means of a trowel. The desired symbol or line shall be marked with a tape or a template on the road surface. Thereafter apply the required volume of material and spread uniformly over the entire area. When dry/set, remove the tape or template. A spreading rate of 4,5kg/m2 is estimated to achieve a 2,0mm material thickness.

In order to ensure proper coverage on all types of surfaces the Employers Agent may order an increase in the above nominal application rates. Payment for these variations in application rates shall be made under item 57.04.

A daily log-sheet, provided by the Employer, shall be completed and signed by the Contractor and the Employers Agent’s representative, recording the quantities of paint and glass beads used on that day and shall be available for inspection at all times. The completed and signed log-sheet for the period covered by a payment certificate shall be attached to the payment certificate.”

REPLACE THE LAST PARAGRAPH WITH THE FOLLOWING:

“Solvent-based Road marking as specified by the Employers Agent shall be carried out within 14 days of opening the road full width to traffic after the completion of the surfacing.

B5708 APPLYING THE RETRO-REFLECTIVE BEADS

IN THE FIRST PARAGRAPH, REPLACE THE NOMINAL APPLICATION RATE OF 0,8KG/LITRE WITH “400gm/m2”.

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

“The thermoplastic road marking material and two-component road marking material shall contain in situ glass beads of minimum content of 25% in order to obtain night visibility (reflectivity). The Contractor shall immediately apply additional glass beads at 400g/m2 to obtain immediate reflectivity. The beads shall be sprayed onto the road marking layer by means of a pressure sprayer. Where letter, symbol, traverse line and island road marking is undertaken by hand, the glass beads may be applied by hand if approved by the Employers Agent. Prior to any hand application work, the Contractor shall first request approval from the Employers Agent.”

ADD THE FOLLOWING:

“Beads shall be applied in accordance with EN 1424.”

B5710 TOLERANCES

ADD THE FOLLOWING PARAGRAPHS TO SUBCLAUSE (C) ALIGNMENT OF MARKINGS:

” When an unbroken line and a broken line are painted alongside each other, the beginning and the end of the unbroken line shall coincide with the beginning of one broken line and the end of another broken line. When existing lines are repainted, the new markings shall not deviate more than 100mm in the longitudinal direction nor 10 mm in the transverse direction from the existing marking.

The alignment of the road studs shall not deviate from the true alignment by more than 10mm and shall be positioned so that the reflective faces are within 5° of a right angle to the center line of the road.”

ADD THE FOLLOWING SUBCLAUSE:

“e) Testing

(1) Plant

Before painting any permanent road markings, the Contractor shall satisfy himself and the Employers Agent, by painting test lines on a section of pavement other than the section required to be marked:

that the painting machine is in good working order and properly adjusted;

that the operator is fully experienced; and

that the machine sprays at the specified rate of paint application.

The Contractor shall bear the cost of all materials and workmanship required for the above plant tests.

In addition, the Contractor shall conduct random paint thickness tests and dip/spread tests as required by the Employers Agent.”

B5711 General

INSERT THE FOLLOWING INTO THE LAST SENTENCE OF THE LAST PARAGRAPH BETWEEN “black paint” AND “or chemical paint remover”:

“, bituminous emulsion, slurry”

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

“Where black paint is used, it shall be matt.”

ADD THE FOLLOWING CLAUSE:

” The Contractor shall provide temporary traffic control facilities in accordance with C11.5.1 of the COTO’s Ancillary Roadworks to ensure traffic safety where work is being executed.

Property and/or road signs damaged by the Contractor, his personnel, his agents or sub-Contractors shall be repaired or restored to their condition prior to the damage at his own cost.”

B5712 FAULTY WORKMANSHIP OR MATERIAL

ADD THE FOLLOWING PARAGRAPHS TO THIS ITEM:

” The Contractor shall rectify in an acceptable manner and at his own costs; all marking that do not comply with the specified requirements.

While work is in progress, tests shall be carried out on materials and/or the quality of work to ensure compliance with the specified requirements. The sampling methods are specified in SANS 731-1. The sampling methods described in TMH5 shall be followed where applicable.”

B5713 PROTECTION

ADD THE FOLLOWING PARAGRAPH

” Traffic cones shall not be smaller than 750mm in height and shall be placed on the road not further than 48m apart. Cones shall not be removed before the paint on the road has hardened to such an extent that it will not be damaged by traffic and the adhesive of the road studs has hardened to such an extent that the studs will not turn or become loose. All marks on the road caused by traffic driving over wet paint shall be removed by the Contractor at his own cost.”

B5714 Measurement and payment

AMEND PAY ITEM B57.05 AS FOLLOWS:

“Item Unit

B57.05 Roadstuds (installation and maintenance) number (No)”

ADD THE FOLLOWING AFTER THE FIRST SENTENCE OF THE SECOND PARAGRAPH:

“No additional payment will be made should temporary or permanent road studs be replaced if lost or broken during the construction period or during the Defects Notification Period.”

Item Unit

B57.06 Setting out and pre-marking the lines (excluding traffic island markings lettering and symbols) kilometre (km)

ADD THE FOLLOWING:

“Referencing of existing barrier lines and other road marking lines prior to milling and other operations, shall be included in the tendered rate for setting out and pre-marking.”

SECTION B 5800: LANDSCAPING AND PLANTING PLANTS

B5801 SCOPE AND DEFINITION

Scope

DELETE THIS PARAGRAPH AND REPLACE WITH

“This section includes all areas affected by construction activities. It includes landscaping, grassing, rehabilitation, erosion protections and planting trees and shrubs.

b) Definition

Weeds

DELETE THE FOLLOWING:

“(as listed in bulletin 413 issued by the Department of Agriculture, Directorate of Agricultural Information)”

AND REPLACE IT WITH:

“(as listed in the Conservation of Agricultural Resources Act)”

B5802 Materials

(a) Fertilizer/soil-improvement material

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The fertilizer/soil-improvement materials to be used shall be one or more of the following types, or as prescribed by the Employers Agent:

(i) Lime

(ii) Superphosphate (10,5)

(iii) Limestone ammonium nitrate

(iv) 2:3:2(22) + Zn

(v) 3:2:1(25)

(vi) Monophosphate

(vii) Ureum (46)

(viii) Potassium chloride (50)."

c) Grass seeds

ADD THE FOLLOWING:

“The grass seed mixture shall be as follows:

(i) Eragrostis teff 1,5 kg/ha

(ii) Eragrostis curvula 2,0 kg/ha

(iii) Cenchrus ciliaris Molopo 10,0 kg/ha

(iv) Chloris gayana Katambora 15,5 kg/ha

(v) Cynodon dactylon 16,5 kg/ha

45,5 kg/ha

g) Topsoil

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

“The Contractor shall be responsible for the control of any germination of weed seeds within topsoil used on site.”

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

“Areas such as stockpiles, borrow pits and spoil sites shall be stripped of all topsoil before work may commence within the area. Should a larger site for any of the above be required during construction, the Contractor shall refer to the DEO for best practice methods on ensuring the preservation of the additional stripped topsoil.”

ADD THE FOLLOWING PARAGRAPH:

“The topsoil shall be kept free of all foreign material generated during construction. This shall include all stone and bituminous products. Topsoiling shall not be accepted should it contain any of the above material.”

B5804 Preparing the areas for plants

b) Areas which do not require topsoil

REPLACE:

“50mm” WITH “20mm “AND “150mm” WITH “20mm”

ADD THE FOLLOWING:

“In areas with large natural rock, i.e. not blasted or excavated rock, these rocks may be placed so as to look like a natural part of the landscape”

ADD THE FOLLOWING SUB-CLAUSE:

“g) Removal of undesirable vegetation

During the course of the Contract the Employers Agent may instruct the Contractor to physically remove undesirable vegetation from within the road reserve. Such an operation will take place before the flowering stage of the undesirable vegetation upon written instruction from the Employers Agent, but shall not relieve the Contractor of his obligation towards weeding sodded, grassed areas as described under 5806(a) and any area directly affected by any construction activity. Should the Contractor fail to respond to the written instruction from the Employers Agent for the removal of the aforementioned undesirable vegetation before flowering, the Contractor shall be held contractually responsible for any growth or seeding of said vegetation for a period of not less than twenty-four (24) months in the affected area.”

B5805 Grassing

c) Hydroseeding

REPLACE THE FIRST SENTENCE OF THE SECOND PARAGRAPH WITH THE FOLLOWING:

"The seed shall be fresh and of good quality. The contractor shall provide samples of the seed for germination tests at an early stage. Hydroseeding shall preferably be carried out in the spring or early summer, and the Employers Agent's prior approval of the programme shall be obtained. The seed mixture shall consist of the following species in the stated proportions:

(i)	Eragrostis teff	1,5	kg/ha
(ii)	Eragrostis curvula	2,0	kg/ha
(iii)	Cenchrus ciliaris Molopo	10,0	kg/ha
(iv)	Chloris gayana Katambora	15,5	kg/ha
(v)	Cynodon dactylon	16,5	kg/ha
		45,5	kg/ha

Eragrostis curvula shall be obtained from the University of Potchefstroom and shall be of the ecotype recommended for revegetation of slopes in harsh conditions.

“The top 20mm of prepared topsoil shall be raked away in sections, the seed shall then be spread uniformly within the prepared area. The top 20mm topsoil shall then be raked over the seedbed,

ensuring an even thickness. This method is to be systematic, and where applicable, follow the contours of any slopes."

ADD THE FOLLOWING:

"The thickness of the topsoil layer shall be as specified by the Employers Agent. The preparation of the soil of the soil for areas to be grassed is to include scarifying just before sowing the grass seed. Should erosion of any kind (by animal, wind or rain) have occurred before the Contractor applies the grass seed, the slope shall be re-instated, at the Contractor's cost, to its original, erosion free state before seeding.

The types and mixtures of seeds to be used shall be as specified in the project specifications. The Contractor shall be solely responsible for establishing an acceptable grass cover, and any approval by the Employers Agent of seed mixtures intended for use by the Contractor shall not relieve him of his responsibility".

B5807 TREES AND SHRUBS

a) Positions of trees and shrubs

ADD THE FOLLOWING:

“(x) No median shall be planted with shrubs, should the median width be less than 10m wide.”

B5808 GENERAL

ADD THE FOLLOWING SUBITEMS:

“f) Weeding

The Contractor shall maintain all areas affected by construction activities free of all undesirable plant species. They shall be removed before the flowering stage of each species. Should the Contractor fail to remove the alien plant species before flowering he shall be held responsible for alien plant removal within the affected area, for an additional period of one year, over and above the contractual one-year defects liability period.

The method for the removal of undesirable plant species shall be either by hand, which shall include the removal of the complete root system, or by chemical means, through the use of a registered selective herbicide. A registered, licensed pest control operator, licensed for the industrial application of herbicides, shall only administer the application of the herbicide.

g) Establishment of vegetation within areas disturbed by construction activities

The Employers Agent shall assess any area within the construction boundaries that has been disturbed by construction activities, but which is not scheduled for formal revegetation within the contract. The assessment shall include whether re-vegetation is required. These disturbed areas, none the less remain the Contractor’s responsibility for the removal of alien vegetation (see 5807(e)).”

B5809 Measurement and Payment

Item Unit

B58.03 Preparing the areas for grassing

(c) Topsoiling within the road reserve,
where the following materials are used:

REPLACE SUBSUBITEM (i) WITH THE FOLLOWING:

"(i) Topsoil obtained from within the road reserve or borrow areas (including all haul) cubic metre (m^3)"

REPLACE SUBITEM (f) WITH THE FOLLOWING:

"(f) Stockpiling topsoil (including all haul) cubic metre (m^3)"

REPLACE THE THIRD PARAGRAPH OF MEASUREMENT AND PAYMENT ITEMS “(c) and (d) Placing the topsoil,” WITH THE FOLLOWING:

"The tendered rates shall include full compensation for excavating and loading the topsoil, any royalties or compensation that may be payable in the case of topsoil under sub subitem B58.03(c)(ii), transport including all haul, off-loading, placing and spreading it to the required thickness, levelling it off to a smooth surface, for removing any stones as specified and for roughening the surface to be topsoiled."

DELETE THE FIRST SENTENCE OF THE LAST PARAGRAPH OF MEASUREMENT AND PAYMENT ITEMS “(c) and (d) Placing the topsoil.”

COTO CHAPTER 6 CONCRETE LAYERS

6.2 SEGMENTAL BLOCK PAVING LAYERS

PART C MEASUREMENT AND PAYMENT

ADD THE FOLLOWING PAY ITEM:

"BC6.2.5 EXISTING PAVING

Lifting up existing paving blocks including neatly stacking on site designated by the Employers agent

(i) All types and sizes square meter (m²)

Lifting up existing paving blocks and spoil material

(i) All types and sizes square meter (m²)

The unit of measurement shall be the square meter of existing paving lifted, and stockpiled or spoiled. The quantity shall be calculated from the dimensions shown on the drawings or authorized by the Engineer.

The tendered rate shall include full compensation for removal of the paving, and stockpiling or spoiling with in a free haul distance of 0,5 km, for all other work necessary to complete specified."

BC6.2.6 Testing of bricks as per SANS 1058:2007.

The tendered unit rate shall include

full compensation for testing per unit batch…. Square metre (m²)

COTO CHAPTER 20: QUALITY ASSURANCE

For the purposes of this contract, the acceptance and rejection of material and workmanship shall be according to Quality Control Scheme 2.

TSWELOPELE LOCAL MUNICIPALITY

CONTRACT NO: SCM/TSW/23/2025/2026

FOR CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG (BULTFONTEIN)

C3.7 PARTICULAR SPECIFICATIONS

PCL : COMMUNITY LIAISON AND COMMUNITY RELATIONS

PES : LOCATING AND PROTECTING EXISTING SERVICES

PLIS : LABOUR INTENSIVE SPECIFICATION

PCL: COMMUNITY LIAISON AND COMMUNITY RELATIONS

PCL 1 GENERAL

The construction site is situated in a built-up area and the Contractor shall ensure the least possible disruption of movement of the public during construction. The Contractor shall be responsible for liaison with the Community Liaison Officer (CLO) in respect of construction activities next to private properties and entrances to properties. No separate payment will be made in this regard.

PCL 2 PROJECT STEERING COMMITTEE (PSC)

A Project Steering Committee (PSC) will be established for the project. The functions and powers of the PSC will be as approved by the Mantsopa Local Municipality.

In view of the Contract being executed in various Municipal Wards and to limit representation on the PSC, the PSC will consist of the local Ward Councillors and a total of three community representatives appointed by the Ward Councillors affected by the Works.

The Contractor will liaise with the CLO and Ward Councillors for the permanent appointment of local labour workforce for the duration of the Contract, irrelevant of the work being executed in various wards.

PCL 3 PUBLIC LIAISON OFFICER (PLO)

A Community Liaison Officer (CLO)will be appointed by the Contractor only on instruction of the Employer. In the event of an appointment of a CLO, the contractor shall, however, accept the appointment as part of his management personnel.

PCL 3.1 DUTIES OF THE CLO

The CLO's duties will be the following:

The CLO will liaise with the PSC for the permanent appointment of local labour workforce for the duration of the Contract, irrelevant of the work being executed in various wards.

To be available on site daily between the hours of 07:15 and 10:30 and at other times as the need arises. His normal work day will extend from 07:15 in the morning until 16:45 in the afternoon inclusive of a thirty minute lunch interval.

To determine, in consultation with the Contractor, the needs of the local labour for relevant technical training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.

To communicate with the Contractor and the Engineer to determine the labour requirements with regard to numbers and skill, to identify possible labour disputes and to assist in their resolution.

To attend all meetings in which the community and/or labour is present or is required to be represented. In particular he will attend the first part of the monthly Site Meeting to report on local community labour involvement.

To report to and liaise with the Project Steering Committee.

To inform local labour of their conditions of employment and to inform local labourers as early as possible when their period of employment will be terminated.

To ensure that all labourers who are involved in activities where tasks have been set are fully informed regarding the principle of task work.

To attend disciplinary proceedings to ensure that hearings are fair and reasonable.

To receive and attend to any complaints lodge by PSC and members of the community.

To keep a daily written record of his interviews and community liaison.

All such other duties as agreed upon between all parties concerned.

To prevent any interference with any matter that is in conflict with the relevant contract as approved by the Local Municipality, that could have a direct influence on the technical specification or the conditions of contract as set out in the relevant contract documents.

To ensure that no member of the PSC or any member of the community put any pressure on the consultant and/or the contractor involved to make any financial or other contribution to individuals or the community as a whole without the knowledge of the Twelopele Local Municipality.

Initial here: _____

PCL 3.2 PAYMENT FOR THE CLO

Remuneration of the CLO will be R7500.00 per month unless otherwise ordered by the Engineer. A special item is incorporated in the Schedule of Quantities relating to payment of the CLO on a monthly basis.

The Contractor shall give to the CLO, at the earliest opportunity, written notice of the termination of the project, provided always that such notice shall not be less than one month.

PCL 3.3 LOCAL SUB-CONTRACTING

TSWELOPELE Local Municipality requires that all tenders with a value exceeding R10 million including VAT will be subjected to subcontracting a minimum of 30% of contract value. The Contractor is required to identify and list the all the items that are to subcontracted to local SMME'S in Form T2.2.6, which is also part of the main contractors value of work excluding Chapter 1 and Part C of the Bill of Qauntites.

The Contractor is required to add their additional charges as set out in the bill of quantities on the items below. The Preliminary and General for Local Sub-Contracting are limited to 8% of the total cost of the sub-contracting activites and the handling charges must be inline with the Contractors handling cost.

Measurment and Payment

Preliminary and General for Local Sub-Contracting lump sum

Handling cost and profit in respect of subitem above and value of works to be completed by local SMME's %

"The tendered rate shall include full compensation for Complaince for the appointed sub-contractor in accordance with the Construction Regulation and Health and Safety Act of 2014 for all other work necessary to complete specified."

PES : LOCATING AND PROTECTING EXISTING SERVICES

PES 1 GENERAL

All services are not known and it will be the responsibility of the contractor to locate and protect all services in the vicinity of the construction work.

PES 2 LOCATION OF EXISTING SERVICES

Before underground or excavation work is carried out, the Contractor shall ascertain the presence and position of all services likely to be damaged or interfered with by his activities. He shall obtain up-to-date plans from the Engineer for this purpose, showing the position of services in the area where he intends to work. As services can often not be reliably located from such plans, the Contractor shall determine the exact position of such services by means of suitable detecting equipment and afterwards by careful hand excavation where necessary in order to expose the services at the positions of possible interference by his activities. This procedure shall also be followed in respect of services not shown on the plans but believed to be present.

All such services, the positions of which have been located at the critical points, shall be designated as 'known' services and their positions shall be indicated on a separate set of Drawings, a copy of which shall be furnished to the Engineer.

While he is occupying the Site, the Contractor shall be liable for all damage caused by him to known services as well as for consequential damage, whether caused directly by his operations or by the lack of proper protection.

PES 3 PROTECTION DURING CONSTRUCTION

The Contractor shall exercise all the necessary care to prevent damage to known services during construction operations. Major excavating equipment and other Plant shall not be operated dangerously close to these services. Where necessary, excavation in close proximity to these services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Services left exposed shall be suitably protected from damage.

PES 4 MEASUREMENT AND PAYMENT

Location and protection of existing services:

PES 4.1 Provision of detecting devices for:

(a) Water and sewer pipes Unit : Sum

(b) Electrical and other cables Unit : Sum

The tendered sums shall cover the cost of providing and operating suitable equipment for as long as it is needed to locate all the existing services likely to be affected by the construction activities. Alternatively, an approved specialist firm may be employed to carry out the work.

PES 4.2 Hand excavation necessary for locating and exposing existing services in all material:

(a) In roadways Unit : m3

(b) In all other areas Unit : m3

The rates shall cover the cost of excavating by means of hand tools within authorised dimensions, for all precautionary measures to protect the services from damage during excavation and backfilling, and for subsequent backfilling and compacting. Compaction of material in all areas except in roadways shall be to 90% of the modified AASHTO density.

The rate for hand excavation in roadways shall include compensation for compacting excavated or selected backfill material to 93% of modified AASHTO density. Reinstating layerworks and surfacing shall be measured and paid separately.

The tendered rates shall also include for keeping excavations safe, for dealing with surface and subsurface water, for removing surplus excavated material from the Site, for transporting all material within the free-haul distance, and for supplying adequate supervision during both excavation and backfilling operations.

PLIS : LABOUR INTENSIVE SPECIFICATION

PLIS 1 SCOPE

Scope of Specification

All items in the schedule of quantities with a “(L)” added to the item reference, will be classed as a Labour intensive task, and labour intensive principals must be used.

This specification establishes general requirements for activities which are to be executed by hand involving the following :

(a) trenches having a depth of less than 1.5 metres

(b) storm water drainage

(c) low-volume roads and sidewalks

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this contract, the requirements of this specification shall prevail.

Hand excavatable material

Hand excavatable material is material :

(a) granular materials :

i. whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense or dense; or

ii. where the material is a gravel having a maximum particle size of 10 mm and contains no cobbles or isolate boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100 mm;

(b) cohesive materials

i. whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

ii. where the material is a gravel having a maximum particle size of 10 mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic con penetrometer is required to penetrate 100 mm;

Note : 1) A boulder, a cobble and gravel material is with a particle size greater than 200 mm.

2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400 mm and drives a cone having a maximum diameter of 20 mm (cone angle of 60° with respect to the horizontal) into the material being used.

TABLE 1.3 STANDARD TASKS

ACTIVITY	TOOLS	TASK
Bush clearing	Axe, saw, rope	Medium dense bush (4 to 7 bushes per 100 m2) 350 m2/md Dense bush (10 to 15 bushes per 100 m2) 200 m2/md Very dense bush (20 to 30 bushes per 100 m2) 100 m2/md
Grass clearing	Slasher, spade, hoe, fork, rake.	Dense grass 85 m2/md
Stripping ground cover and grubbing out roots, haul to nearby dump and spread	Pick, shovel, fork, rake	Light vegetation, dig to 50 mm deep 150 m2/md Medium vegetation, dig to 100 mm deep 75 m2/md Heavy vegetation, dig to 150 mm deep 40 m2/md
Grubbing out roots to 250 mm deep		Dig in soft ground to remove roots 42 m2/md
Destumping (removal of stumps and large roots)	Pick, shovel, fork, rake	
	Pick, shovel, axe	Medium dense bush 60 m2/md
Removal of bush and tree cuttings	Bush hook, rope, axe, saw	Cut, bundle and load branches, tree trunk pieces, other vegetation 8 m3/md
Boulder removal	Crowbar	Daily paid
Excavation (measured in place)		Throwing distance: up to 4 m 4 to 6 m
Loose soil	Shovel	5 to 6 m3/md 4.5 to 5 m3/md
Sticky soil	Spade, fork, forked hoe	2 to 3 m3/md 1.5 to 2 m3/md
Firm soil		3 to 4.5 m3/md 2.5 to 4 m3/md
Hard stony gravel	Pick, shovel, spade, hoe	1.5 to 2 m3/md 1 to 1.5 m3/md

	Pick, shovel, crowbar		
Loading (measured loose) into: Wheelbarrow Trailer Truck	Shovel	Loose soil or gravel: 12 to 15 m3/md 7 to 10 m3/md 4 to 6 m3/md	
Levelling roadbed (measured loose)	Shovel, spreader	60 m2/md	
Wheel-barrow haul (measured loose; haul and unload only)	Wheelbarrow (Note production increases 30% for good haul route and decreases 30% for poor haul route)	Equivalent haul distance = length + 10(rise + fall) 20 m 40 60 80 100 120 140 160 180 200	Production in loose m3/md over average haul route 4.44 3.16 2.44 2.00 1.70 1.44 1.28 1.15 1.02 0.95

ACTIVITY	TOOLS	TASK		
Picking loose roadbed (bank m3)	Pick, shovel, fork	40 m2/md		
Spreading loose material (loose m3)	Shovel, spreader, hoe	Soil 12 loose m3/md Gravel 10 loose m3/md		
WATER INg, mixing, spreading and levelling	Shovel, spreader, hoe, string-lines, water bowser	Sandy soil 4.5 m3/md Gravel 3 m3/md (measured tight after compaction)		
Compaction and re-levelling	Roller, string lines, straightedge, shovel, spreader.	Depends upon chosen roller (see below)		
Compaction by pedestrian-controlled double drum vibro-roller	"Stampede" rollers: R75/50 S R90/55 S	Mass kg 980 1 350	Passes 5 4	Layer 100 mm 100 mm
Loosen material in trench with pneumatic tools	Compressor, pneumatic tools, team of 4 people	Intermediate 19 m3 for team Rock 12 m3 for team		
Screen bedding material	Sieve, shovel	7 m3 loose /md		
Offload flat-bed truck or trailer	Shovel	15 m3 loose /md		
Trench backfill, hand compaction	Shovel, spreader, hand-stamper, WATER INg can	Backfill, compact, clean-up and load spoil 4.5 m3/md		
Collecting loose stone	Gloves, wheelbarrows	Up to 20 m 2.5 m3/md 20 to 50 m 2.0 m3/md		
Quarrying, prying out cracked rock	Crowbar, gloves, sledgehammer.	Up to 20 m 0.5 to 1 m3/md		
Rock crushing	New Dawn Engineering hand-turned rock crusher, shovel	0.25 m3/md (depends on size of feed-stock and size of product)		
Backfill trench and compact	Shovel, WATER INg can, hand stamper	3.0 m3/md		

Lay kerbing on level base	Shovel, rubber mallet, string-line, trowel, wheelbarrow	Straight 6.5 to 10.0 m/md Curved 2.0 to 5.0 m/md
Stone pitching: Plain stone pitching Grouted stone pitching Wired and grouted stone pitching	Club hammer, gloves, string-line, shovel, wheelbarrow, stiff broom, pliers, short crowbar	10 to 15 m2/md, 200 mm thick 6 to 10 m2/md, 200 mm thick 3 to 5 m2/md, 200 mm thick
Block paving: placing bedding sand, laying blocks, compacting, joint filling, clean up	Shovel, screed rails and beam, rubber mallet, plate compactor, bass broom, wheelbarrow, gloves	16 to 20 m2/md
Stormwater drainage pipes: trimming, bedding, laying, backfilling, compaction	Shovel, rake, boning rods, hand stamper, WATER INg can, rope and ground anchors	450 mm dia concrete: 1.2 m/md (needs team of 10) 600 mm dia concrete: 1.0 m/md (needs team of 10) 450 mm dia plastic: 3.5 m/md (needs team of 5)
Concrete base slab: batch, mix, transport, pour and finish off	Batching boxes, wheelbarrow, shovel, screed beam, wood float	0.8 m3/md (needs team of 5)
Stone masonry walls	Wheelbarrow, shovel, trowel, club hammer, string line, spirit level, batching box.	1.0 m3/md
Gabion work	Gloves, string-line, shovel, wheelbarrow, pliers, short crowbar	1.5 m3/md

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100 mm.

Each layer shall be compacted using hand stampers :

to 90% Proctor density;

such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10 mm and contains no isolated boulders, or

such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All hand excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

Clearing and grubbing

Grass and small bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Loading

All loading shall be done by hand, regardless of the method of haulage.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper trucks are utilised for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

Grassing

All grassing shall be undertaking by sprigging, sodding or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

Grout shall be mixed and placed by hand.

Manufactured Elements

Element manufactured or designed by the contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320 kg. In addition, the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper handhold on them.

GUIDELINES FOR SUBCONTRACTING AND LABOUR ENHANCEMENT

C3.7.1 DEFINITIONS

The community means individual and communal property owners, organised groups of road users, other interest groups and departments or spheres of government that may be affected by the location, construction, operation and maintenance of the road to which this contract applies.

"Conventional contract" means any contract for the execution of civil engineering or building or similar construction works, in which the liabilities and responsibilities of the two parties thereto are assigned essentially in a manner which is consistent with that set out in the General Conditions of Contract for Road and Bridge Works for State Road Authorities, 1998 (as published by the Committee of Land Transport Officials) or other similar documents.

"Conventional subcontract" shall be similarly and appropriately construed.

“Contract Participation Goal” (or CPG), is the value of goods, services and works, excluding VAT, for which the Contractor proposes to engage labour and subcontractors.

“Contractor" means any person or group of persons in association, or firm, or body corporate who is registered with the Construction Industry Development Board (CIDB) and:

a) have a contractor grading designation equal to our higher than a contractor grading designation specified for the Contract, or

b) contractors registered as potentially emerging enterprises with the CIDB who are registered in one contractor grading designation lower than that required in terms of a) above

“Subcontractor" shall be similarly and appropriately construed.

Emerging contractor means an ABE that cannot reasonably be categorised as a conventional contractor defined above.

Affirmable Business Enterprise (ABE): a business which adheres to statutory labour practices, is a legal entity, registered with the South African Revenue Service and a continuing and Independent Enterprise for profit, providing a Commercially Useful Function and:

Which is at least two thirds owned by one or more previously disadvantaged individuals or, in the case of a company, at least two thirds of the shares are owned by one or more previously disadvantaged individual; and

Whose management and daily business operations are in the control of one or more of the previously disadvantaged individuals who effectively own it.

"Key Personnel" means all contracts managers, site agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators, and all other personnel in the permanent employ of the Contractor or his subcontractor who posses special skills and/or who play key roles in the Contractor's or subcontractor's operations.

"Worker" for the purposes of this specification means any person, not being one of the defined key personnel of the Contractor or his subcontractor, who is engaged by the Contractor or subcontractor to participate in the execution of any part of the contract works and shall include unskilled labour, semi-skilled and skilled labour, artisans, clerical workers and the like.

“Workforce” means the aggregate body comprising all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all his subcontractors.

“Subcontractor” means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the works are sublet or subcontracted by the Contractor in accordance with the provisions of the contract.

Level of subcontractor means the level of responsibility carried by and the assistance to be provided to the different grades of subcontractor in the execution of subcontracts.

“Project Committee” is the committee comprising out of the Employer’s representative, The Engineer or his representative, the Contractor or his representative and the CLO.

“CLO” is the Community Liaison Officer as appointed by the Contractor and paid under the Contract.

C3.7.2 LABOUR ENHANCED CONSTRUCTION

The Contractor's attention is drawn to the fact that it is an objective of the contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified

work allows for a choice between mechanical or labour-enhanced means, the former shall generally be kept to the practical minimum.

The Contractor shall submit on a monthly basis on the date as determined by the Employer, daily labour returns on the prescribed templates to the Engineer indicating the numbers of labour employed on the works and the activities on which they were engaged.

It is also an objective to utilize SMME's / ABE's in the vicinity of the project, the development of these resources in the execution of the project, and by maximising the amount of project funds retained within the project locality.

C3.7.3 TEMPORARY WORKFORCE

Record of workforce and subcontractors

The Contractor shall maintain accurate and comprehensive records of all workers engaged on the contract and shall provide to the Engineer at monthly intervals from the commencement of the contract, interim records substantiating the actual numbers of employment opportunities which have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a format approved by the Employer. Labour records of emerging contractors, SMME or ABE subcontractors, where applicable, shall also be provided by the Contractor and shall be deemed to form part of the workforce.

The Contractor shall, on completion of the contract, and as a pre-requisite to the release of any retention money, provide the Engineer with independently audited documentary evidence of the total number of employment opportunities actually generated during the contract.

The value of the target amount (minimum Contract Participation Goal) spent on local labour is prescribed in the PART T2.1 Contract Data.

Recruitment and selection procedures

The Contractor shall be responsible for the final selection of workers and subcontractors to constitute the temporary workforce but in doing so, shall adhere to the procedures adopted by the CLO along the following guidelines:

The Contractor shall advise the Engineer in writing, of the numbers of each category of temporary worker which he requires, together with the personal attributes which he considers desirable that

each category of worker shall possess (taking due cognisance of the provisions of the contract relating to training).

The CLO shall take the necessary actions to identify potential workers for the temporary workforce from communities in the vicinity of the works. The details of all persons applying for employment shall be recorded, including inter-alia:

Name, address, age and sex

Marital status and number of dependants

Qualifications and previous work experience (whether substantiated or not)

Period since last economically active

Preference for type of work or task.

The CLO shall make a selection of workers from amongst the applicants, taking due cognisance of his requirements for the workforce as supplied by the Contractor and the provisions of the contract in regard to the provision of training to selected members of the workforce and in accordance with the following principles:

No potential temporary worker shall be precluded from selection by virtue of a lack of skill in any suitable operation forming part of the works, unless:

all available vacancies have been or can be filled by temporary workers who already possess suitable skills; or

the completion period allowed in the contract, or the remaining portion of the contract period (as the case may be) is insufficient to facilitate the creation of the necessary skills;

The Contractor shall make a final selection from the list provided by the CLO using the following criteria:

preference shall be given to the long term unemployed and single heads of households

in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected and shall not be prejudicial to youth over the age of fifteen years and women.

The same provisions shall apply as is in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the contract.

Terms and Conditions Pertaining to the Employment of the Temporary Workforce and subcontractors

The onus shall be on the Contractor to ensure that all the requirements of all the acts relating to the employment of workers and subcontractors are observed.

Labour Relations and Worker Grievance Procedures

In accordance with the provisions of the General Conditions of Contract, the Contractor shall, at his own cost, be fully responsible for the establishment and maintenance of satisfactory labour relations on site and the resolution of all grievances of temporary workers and subcontractors as may occur.

The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the civil engineering construction industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the contract.

In the event of any temporary worker engaged by the Contractor in terms of the contract, being aggrieved on any issue, he shall have the right to nominate and be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor, by one member of the temporary workforce.

In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures described above, then either the Contractor or the worker concerned may require that the matter be referred to the PC for further consideration, with a view to facilitating resolution thereof.

C3.7.4 TRAINING OF THE TEMPORARY WORKFORCE

Selected members of the workforce are to be provided at least with structured training by a nominated subcontractor, in accordance with the provisions of this section. The Contractor shall make all necessary allowances in his program of work to accommodate and facilitate the delivery of such structured training.

ABE subcontractor's workforces will be entitled to receive accredited training that will improve on task skills necessary for the execution and successful completion of the various subcontracts. The Contractor, in conjunction with the Engineer, shall monitor each ABE's progress closely and shall identify those who will benefit from structured construction skills training

The technical training shall comprise of items selected from the table in paragraph 7 of this section and which are relevant to this project.

C3.7.5 ACCREDITED TRAINING AND ATTENDANCE

Only qualified trainers employed by training agencies who are accredited by the Civil Engineering Industry Training Scheme (CEITS), or any other institution recognised by the Department of Labour shall deliver all training certificates affirming the successful participation in the various courses and shall be presented to each attendant.

The contractor shall facilitate in the delivery of training, by instructing and motivating the relevant subcontractor regarding his staff's attendance and participation therein.

The contractor shall further make all reasonable efforts to co-ordinate subcontractor's work with that of the delivery of the structured training

The provision of structured training shall not relieve the Contractor of any of his obligations in terms of clause 24 of the General Conditions of Contract and the Contractor shall remain fully liable for the provision, at his own cost, of any other training of the workforce, additional to the structured training, as deemed to be necessary by the Contractor to achieve the execution and completion of the works strictly in accordance with the provisions of the contract.

C3.7.6 PENALTIES FOR NON-COMPLIANCE

Any deliberate failure or neglect by the Contractor to comply with the provisions of this specification, or any deliberate omission or neglect by the Contractor in adhering to or applying

the principles as are described and inherent in this specification, shall be deemed to constitute a warrant for the Engineer to act in terms of clause 55.1.5 of the conditions of contract or the penalties specified for non-attaining the prescribed CPG's will be applied and doubled.

C3.7.7 MEASUREMENT AND PAYMENT

ITEM	UNIT

ITEM	UNIT
BC 1.2.4.1	(a) Community Liaison Officer salary Month

The provisional sum provided shall cover the salary of the duly elected and approved CLO.

ITEM	UNIT
BC 1.2.4.1	(c) Training
a)	Training of the temporary workforce
i)	Technical training provisional (Prov) sum
ii)	HIV/AIDS provisional (Prov) sum

The provisional sums provided shall cover all the cost for the training of the temporary workforce.

ITEM	UNIT
B12.02/4 BC1.2.4.1 (a) and BC102.04	Handling costs and profits in respect of items percentage (%)

The tendered percentage is a percentage of the amounts actually spent under the items, which shall include full compensation for the handling costs of the Contractor, and the profit in connection with the training.

SDDB EARTHWORKS (PIPE TRENCHES)

SDDB 3 MATERIALS

SDDB 3.5 BACKFILL MATERIALS

ADD THE FOLLOWING PARAGRAPHS TO SUBCLAUSE 3.5:

"(c) Cement-stabilized backfilling

Backfilling shall, where directed by the Engineer, be stabilized with 5% cement. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.

(d) Soilcrete backfilling

The aggregate for soilcrete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary."

SDDB 3.7 SELECTION

REPLACE THE SECOND AND THIRD SENTENCES OF SUBCLAUSE 3.7 WITH THE FOLLOWING:

“The Contractor is required to use selective methods of excavation. The Contractor shall selectively remove and keep separate the sandy materials from unsuitable material and place it adjacent to the trench for reuse as backfill, selected fill, selected granular material or for other use as ordered by the Engineer.”

ADD THE FOLLOWING AT THE END OF SUBCLAUSE 3.7:

“Material which, in terms of Subclause 6.2 of SANS 1200 D or Subclause 6.1 of SANS 1200 LB, is too wet for immediate use in the trench (but which is otherwise suitable) will not be regarded as “unsuitable” material and, if so ordered by the Engineer, the Contractor shall spread such material in a suitable area until it has dried sufficient for later use. Should the material which is replaced in the trench become too wet again, due to the fact that the Contractor made insufficient provision for the handling and removal of groundwater in accordance with Subclause 5.5 of SANS 1200 A, the Contractor shall replace the material at his own cost with material which is, in the opinion of the Engineer, suitable.

When preparing his programme and construction methods, the Contractor shall make allowance for selective excavation and the handling and drying out of materials which is too wet for immediate use.”

SDDB 5 CONSTRUCTION

SDDB 5.1 PRECAUTIONS

SDDB 5.1.3 Accommodation of traffic and access to properties

REPLACE THE SEMICOLON AND THE WORD "and" AT THE END OF SUBCLAUSE 5.1.3(a) WITH A FULL STOP AND REPLACE ITEM (b) WITH THE FOLLOWING:

"(b) Where necessary to achieve compliance by the Contractor with his obligations to provide and maintain pedestrian and vehicular access to properties affected by the works, the Contractor shall construct and maintain to the satisfaction of the Engineer, such temporary access roads around, and/or steel or timber bridges over excavations in roads, pavements, entrances or accesses to properties.

Temporary pedestrian access bridges shall be at least 1,2 m wide and temporary access bridges for vehicles shall be at least 3,6 m wide. All temporary access bridges shall be fitted with handrails as well as protective mesh fencing on both sides.

On completion of the work, the Contractor shall dismantle and remove all such temporary constructions and reinstate these areas to their former condition.

Except only where the Engineer has included in the Schedule of Quantities, particular payment items specifically therefor, the Contractor will not be paid directly for the construction and maintenance of temporary access roads and/or the provision and maintenance of bridges as

aforementioned, and the costs thereof shall be deemed included in the Contractor's tendered rates for excavation."

SDDB 5.1.5 Removal of existing pipelines

Where existing pipes have to be removed, they shall be carefully opened up by machine excavation to 300 mm above the pipes after which the whole pipe shall be fully exposed by means of hand excavation. The excavation width shall comply with subclause 8.2.3.

The pipes shall be removed from the trench in a manner approved by the Engineer, and brought to the surface for inspection by the Engineer.

Pipes that are declared suitable for reuse and pipes declared unfit for reuse shall be dealt with in an applicable manner described in the specifications, or on the Drawings or on the Engineer's instructions, as relevant."

SDDB 5.4 EXCAVATION

ADD THE FOLLOWING:

"Except where otherwise specified, trenches shall be of such a depth that the minimum cover over the pipes shall be 700 mm except at road-crossings where the minimum cover shall be 1 000 mm."

Should the Contractor detect areas where the cover is doubtful, he shall report this immediately in writing to the Engineer, before any pipes are laid, so that remedial steps can be taken.

The Contractor shall exert maximum caution in excavating alongside or near existing services, pipelines, buildings or structures. The Contractor shall use non-explosive methods for the excavation of hard rock in these cases and were instructed by the Engineer (see SDD 5.2.2.5)."

SDDB 5.6 BACKFILL

SDDB 5.6.3 Disposal of soft excavation material

REPLACE THE WORDS "unless otherwise required in the project specification." AT THE END OF SUBCLAUSE 5.6.3 WITH:

"… or to spoil in accordance with the requirements of subclause SDD 5.2.2.3, as instructed by the Engineer."

ADD THE FOLLOWING NEW SUBCLAUSES IN CLAUSE 5:

"SDDB 5.11 UNSTABLE TRENCH BOTTOM

The Engineer may, upon consideration of the condition of the trench bottom, particularly with regard to the properties of the soil materials, order the use of a crushed stone layer in order to provide a stable platform for placing of the pipe bedding and laying the pipe in certain sections of the trenches. The stone layer shall consist of 19 mm single-sized crushed stone, and shall have a specified thickness of 150 mm over the specified minimum base width.

Should the material in the trench bottom or the bedding material be of such a nature that it can penetrate the stone layer, the Engineer may instruct the Contractor to enclose the stone layer completely within a geotextile filter blanket (Kaymat U14 or equal approved), which shall have overlaps of at least 200 mm.

SDDB 5.12 DEPOSITING MATERIAL EXCAVATED FROM TRENCH

Unless otherwise ordered by the Engineer, all excavated material shall be kept within 5 m of the pipeline centreline. The toe of the bank of excavated material shall be trimmed well back from the edge of the trench so as to leave a minimum 0,6 m clearance between the toe of the bank and the edge of the trench. The Contractor shall keep this strip clear of excavated material at all times.

The Contractor shall take steps to avoid burying or contaminating topsoil which shall be set aside for replacing, as far as practical, on the surface from which it was excavated.

SDDB 5.13 CLEANING UP AS WORK PROCEEDS

The Contractor shall complete all backfilling, trimming, levelling and cleaning up of the Site as work proceeds. This work shall not lag by more than 1 km behind the pipelaying team."

SDDB 8 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING TO SUBCLAUSE 8.1 AND AMMEND AS STATED:

“SDDB8.1 Basic principles

In Subclause 8.1.2(c), amend the last sentence to read:

The ground surface will be that existing after any bulk excavation has been carried out and before any embankment has been constructed, unless a portion of the embankment has to be constructed in order to achieve an acceptable cover over a pipe that is to be installed, in which case, measurement will be made from the level of embankment that produces an acceptable minimum cover over the pipe.”

SDDB 8.3 SCHEDULED ITEMS

SDDB 8.3.2 Excavation

(a) Excavate in all materials, for trenches, backfill compact and dispose of surplus material

REPLACE "of 1,0 m" IN THE FIRST SENTENCE OF 8.3.2(a) WITH:

"As specified in the Schedule of Quantities."

(b) Extra over item (a) above for:

ADD THE FOLLOWING AT THE END OF THE EXISTING SUBITEM 2:

"No payments will be made under subitems (1) and (2) in respect of any materials measured and paid for under subitem 3 below."

AND ADD THE FOLLOWING NEW SUBITEMS TO SUBCLAUSE 8.3.2(b), AFTER NEW SUBITEM 2:

"(3) Hand excavation was ordered by the Engineer in:

(a) Soft material Unit: m³

(b) Intermediate material Unit: m³

(c) Hard material Unit: m³

The unit of measurement shall be the cubic metre of material, measured in place according to the authorised dimensions, which was excavated by hand on the specific prior written instructions of the Engineer; provided always that the Engineer's said instruction shall have stated that measurement and payment for such hand excavation will be in accordance with this item.

The tendered rate shall include full compensation for the additional cost, effort and time resulting from excavating in the respective materials using hand methods only.

The Engineer shall not be obliged to authorise payment under this item in respect of any hand excavation carried out (whether ordered in writing or otherwise), which hand excavation was in any case necessary to achieve compliance by the Contractor with his obligations under the Contract to

(i) utilise construction appropriate to the nature of the specific parts of the works; and/or

(ii) protect existing structures and/or services; and/or

(iii) comply with all prevailing legislation and regulations.

(4) Backfill stabilized with 5% cement were directed by the Engineer
Unit: m³

The unit of measurement shall be the cubic metre of backfill material, measured in place after compaction according to the authorised dimensions, which was stabilized on the Engineer's instructions in accordance with subclause SDDB 3.5(c).

The tendered rate shall include full compensation for supplying the cement and for selecting, mixing, backfilling and compacting the stabilized material.

In the case of Road Construction, the material should be stabilised to 90% of modified AASHTO density.

(5) Soilcrete backfill where directed by the Engineer Unit: m³

The unit of measurement shall be the cubic metre of soilcrete placed on the Engineer's instructions in accordance with subclause SDDB 3.5(d), measured in place according to the authorised dimensions.

The tendered rate shall include full compensation for supplying the cement and for selecting, mixing and placing the soilcrete as well as for the cost of shuttering if required."

ADD THE FOLLOWING SUBITEMS IN 8.3.2 AFTER SUBITEM 8.3.2(c):

"(d) Excavate in all materials for stormwater inlet and outlet structures
and for manholes, catchpits, valve chambers and the like,
irrespective of depth, and backfill around structures: Unit: m³

The unit of measurement shall be the cubic metre of material excavated, measured in place according to the authorised dimensions, and excluding the volume of material excavated and paid for under subitem (a).

The tendered rate shall include for the costs of excavating in all materials, backfilling, compacting, trimming and tidying the final surface around the structure, disposing of surplus and unsuitable materials within the free-haul distance and, where applicable, selecting and keeping separate, excavated material suitable for use as backfill.

(e) Excavate open drains in all materials Unit: m³

The tendered rates shall include full compensation for excavating in all materials within the dimensions specified or authorised by the Engineer and to the specified lines and profiles, for the disposal of surplus and unsuitable excavated material where applicable, and in the case of item (d), for backfilling with suitable approved material compacted to 90% of modified AASHTO density around the structures.

(f) Extra over subitems (d) and (e) for excavating in:

(1) Intermediate material Unit: m³

(2) Hard rock material Unit: m³

Measurement and payment shall be in accordance with the provisions of 8.3.2(b) of SABS 1200 D (as amended)."

ADD THE FOLLOWING SUBCLAUSE AFTER SUBCLAUSE 8.3.2(c):

SDDB 8.3.3 Excavation ancillaries

SDDB 8.3.3.3 Compaction in road reserves

REPLACE THE HEADING OF THIS SUBITEM WITH THE FOLLOWING:

"SDDB 8.3.3.3 Compaction in road crossings"

REPLACE THE SENTENCE, "The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1", WITH THE FOLLOWING:

"To determine the volume in the case of gravel roads, the depth will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5, as applicable, and payment will be made under item 8.3.6.1."

SDDB 8.3.3.4 Overhaul

REPLACE THE CONTENTS OF THIS ITEM WITH THE FOLLOWING:

"Measurement and payment shall be in accordance with subclause SDD 5.2.5."

SDDB 8.3.7 Accommodation of traffic

REPLACE THE HEADING AND CONTENTS OF ITEM 8.3.7 WITH THE FOLLOWING:

“8.3.7 Accommodation of traffic Unit: sum

The tendered sum shall, (except where particular items are scheduled to cover particular costs) include full compensation for compliance with the requirements of 5.1.3 of SANS 1200 DB (as amended), including the construction and maintenance of bypasses and the use of existing roads as bypasses during the construction period.

It shall also include full compensation for: the provision, maintenance and removal of all traffic control measures, including temporary traffic signs, road markings, lighting, barricading, flagmen and, where necessary, communications equipment to regulate traffic; for the construction of temporary drainage works; for the maintenance of drainage works; and for arrangements for moving and subsequently reinstating services for the purposes of accommodating traffic, attending to traffic problems and complying with the requirements of the Road Traffic Ordinance and the relevant local authorities.

The tendered lump sum shall not be adjusted in the event of any extension of time for completion being granted by the Engineer in accordance with Clause 5.12.1 (GCC 2015).

Payment shall be made in equal monthly instalments over the entire period allowed for completion, provided that where any extension of time for completion is granted, the amount which shall be payable under this item in any subsequent monthly payment certificate shall be the outstanding unpaid amount of the lump sum, divided by the number of months remaining until the due completion date of the Contract, as revised in accordance with the Conditions of Contract."

“SDDB 8.3.8 Crushed stone bedding layer and geotextile blanket

Where the use of a layer of crushed stone in the trench bottom has been authorized by the Engineer, it will be measured by volume calculated according to the length multiplied by the specified thickness and specified minimum base width.

The rate shall cover the cost of all additional excavation and preparation of the trench bottom to accommodate the layer of stone, the removal of unsuitable material, the supply and placing of a layer of stone at least the specified thickness over at least the specified width and all related activities in order to produce a stable platform.

Where the Engineer has authorized the use of geotextile filter blanket, this will be measured by area as:

Area = 2 x (specified thickness + minimum base width) x net length.

The rate shall include the cost of supply, placing and losses as a result of overlaps and over-excavated trench widths."

SDG CONCRETE (STRUCTURAL). (SANS 1200 G)

SDG 2 Interpretations I

SDG2.1 Definitions. (Subclause 2.3)

Under (a) add:

"Constructional joint: a joint required on account of constraints or convenience in the method of construction and that is not a movement, contraction or expansion joint."

SDG2.2 Exposure condition. (Subclause 2.4.1)

All concrete on the Works shall be as specified for “very severe” exposure condition.

SDG2.3 Strength concrete. (Subclause 2.4.2)

Grade 30 MPa/19 mm means strength concrete grade 30 MPa with 19 mm stone.

SDG2.4 Joints

Notwithstanding Subclause 2.4.3, "designated joints" will only be joints that are shown on the drawings. Any other joints that are required by the Contractor as a result of his construction constraints or for any other reason, whether approved by the Engineer or not, will not be considered to be designated joints as defined in Subclause 2.4.3, i.e. they will be considered to be "non-designated" joints.

SDG3 Materials

SDG3.1 Cement. (Subclause 3.2)

All cement used in the works shall be Portland cement CEM I of strength class 42,5 complying with SANS 50197-1.

SDG3.2 Storage. (Subclause 3.2.3)

Cement shall be used in the order in which it is received.

Unless approved by the Engineer, cement kept in storage for longer than 8 weeks shall not be used in the Works.

Any cement that contains lumps that cannot easily be crumbled to powder between the fingers, may not be used.

SDG3.3 Water. (Subclause 3.3)

Only potable quality water from an approved source may be used for mixing concrete. Water from a river or stream may however be used for curing.

SDG3.4 Aggregates. (Subclause 3.4)

The nominal stone size specified in the concrete grade (e.g. 30 MPa/19 mm) shall mean stone conforming to the grading specified in SANS 1083 for the nearest equivalent size, i.e. 19 mm means stone that complies with SANS 1083 for 19 mm size.

SDG3.5 Concrete using reactive aggregates. (Subclauses 3.2 and 3.4

The Contractor shall provide the Engineer with sufficient data to enable him to assess the degree of alkali-aggregate reactivity of the aggregates to be used for concrete.

For each delivery of cement or precast concrete units the Contractor shall provide acceptable written evidence that the requirements of this clause are being met.

SDG3.6 Aggregates for grouting. (Subclause 3.4.1)

Notwithstanding the requirements of Subclause 3.4.1, the grading of the fine aggregate (sand) and coarse aggregate (stone or pea gravel) to be used for grouting shall conform to the gradings given in Tables 1 and 2 respectively, below.

TABLE 1 - SAND

Test sieve nominal aperture size, mm	% Passing (by mass)
9,5	100
4,75	95 - 100
1,18	45 - 65
0,3	5 - 15
0,15	0 - 5

TABLE 2 - STONE OR PEA GRAVEL

Test sieve nominal aperture size, mm	% Passing (by mass)
9,5	100
4,74	95 - 100
2,36	0 - 5

SDG3.7 Samples. (Subclause 3.4)

At least one month before commencement of concrete work the Contractor shall supply at his own cost representative samples to the Engineer of the aggregates he intends using, together with certificates from an approved laboratory indicating that the aggregates comply with the specifications. Approximately 50 kg of each sample of aggregate shall be supplied.

After approval these samples shall be taken as standard for the agreed aggregates to be used in the Works. If at any time during the course of the Contract the Engineer considers that there has been any deviation from the approved standard the Contractor shall submit further tested samples of material to the Engineer for approval.

SDG3.8 Use of plums. (Subclause 3.4.2)

The use of plums will not be permitted.

SDG3.9 Granolithic screed

Granolithic screed shall consist of:

Cement	1 part by mass
Sand	1, 25 parts by mass
Coarse aggregate	2 parts by mass

The coarse aggregate shall consist of granite or other approved chips which shall pass a 10 mm sieve and be retained on a 5 mm sieve.

The cement/water ratio of the mix shall be at least 2,0.

SDG3.10 Admixtures. (Subclause 3.5.1)

The use of admixtures will be subject to the approval of the Engineer. The information listed in Subclause 3.5.1 shall be provided.

SDG3.11 Joint materials

SDG3.11.1 Waterstops

Waterstops shall be of approved manufacture and of the pattern, material and widths scheduled, specified and shown on the drawings.

Where indicated, PVC waterstops shall be Fosroc “Supercast” range or equal approved. They shall contain no reclaimed PVC. Externally placed waterstops shall be “Supercast Rearguard S” or equal approved.

All intersections between waterstops shall be prepared by mitering and welding/vulcanizing intersection pieces in the factory in accordance with the manufacturer's instructions and to the approval of the Engineer. Only straight lengths of waterstops may be field welded. Alternatively, factory manufactured injection moulded transition pieces may be used to ensure continuity of the profiles.

Joints in PVC shall be heated and pressure shall be applied using the appropriate jigs and tools.

Waterstops shall have eyelets to enable them to be attached firmly to the adjacent reinforcing and in the case of "Rearguard" type waterstops, they shall have cleats.

SDG3.11.2 Fillers

Fillers for movement joints shall be closed cell expanded cross-linked polyethylene with properties equivalent to products manufacturer by Sondor for this purpose. The filler shall have the following minimum densities:

a) Water retaining structures: 110kg/m³

b) All other applications: 35kg/m³

SDG3.11.3 Bond breaker for contraction joints

The bondbreaker for contraction joints shall be lime wash.

SDG3.11.4 Sealants

The primer for the sealant shall be an approved primer fully compatible with the sealing compound specified below.

All elastomeric sealants shall comply with BS 4254, Type A1 and shall have a movement tolerance of 25%. Only approved materials shall be used.

Sealants shall be a one-part medium modulus type based on hybrid silyl modified polyether "Nitoseal MS600" from Fosroc (or equal approved) and shall have been tested to ensure that they are non-toxic and do not impart any taste or odour to or otherwise taint the water.

SDG3.12 Precast paving slabs

The paving slabs shall comply with the requirements of SANS 541, shall be as scheduled and with patterned surface, or similar approved. Samples of the types which the Contractor proposes to use, shall be submitted for approval prior to construction.

SDG4 Plant

SDG4.1 Mixing plant and vibrators. (Subclauses 4.3 and 4.4)

Stand-by mixers and vibrators of adequate capacity and with an independent power unit shall be maintained on site for immediate use in the event of breakdown of the regular mixers or vibrators or failure of the power supply.

SDG4.2 Formwork ties. (Subclause 4.5.3)

The use of sleeves for formwork ties through the walls of water-retaining structures will not be permitted. Ties, when cast in, shall have some form of positive anchorage to prevent any rotation when loosening formwork.

SDG4.3 Formwork: chamfers and fillets

All exposed external angles in concrete work shall have 20 mm x 20 mm chamfers unless otherwise specified or ordered, but the top edge of a slab that is to receive an applied finish shall not be chamfered.

Internal corners in concrete work need not have fillets unless such fillets have been specified on the drawings or ordered by the Engineer.

SDG4.4 Water-bath

A temperature-controlled water-bath with a capacity to cure two hundred cubes shall be provided on site. The water-bath shall be located under cover.

SDG5 Construction

SDG5.1 Reinforcement

SDG5.1.1 Fixing. (Subclause 5.1.2)

Fixing of reinforcing bars by welding and heating of bars will not be permitted.

SDG5.1.2 Spacers

Spacers of approved design include approved plastic or other proprietary spacers, or purpose made precast mortar blocks.

Where mortar blocks are used, they shall be properly shaped so as not to slip out of position and shall be made of the same mix as the mortar of the concrete in which they are to be placed. The mortar shall be well compacted by approved means into the moulds to result in blocks with a density of at least 2 300 kg/m3 and which are free from honeycombing. The mortar blocks shall be cured in water for at least 7 days. Blocks which have not been manufactured and cured strictly in accordance with these requirements or which are in any other way considered unsatisfactory by the Engineer, will be rejected and shall be removed from the Site.

SDG5.1.3 Cover. (Subclause 5.1.3)

In Subclause 5.1.3(a) amend the words "bar or stirrup" to read: "bar, secondary reinforcement, tie, stirrup, tying-wire knots or wire ends".

Add to Subclause 5.1.3: "Tying wire may not encroach on the specified minimum cover by more than a single strand thickness."

SDG5.2 Formwork

SDG5.2.1 Classification of finishes. (Subclause 5.2.1)

Formwork for formed concrete surfaces against which backfill will be placed shall be rough. Formwork for all other formed surfaces shall be smooth, except where otherwise specified.

SDG5.3 Concrete

SDG5.3.1 General. (Subclause 5.5.1.1)

The concrete mix design for strength concrete must be prepared in an approved laboratory and the results of actual test mixes must be submitted for approval together with 7-day and 28-day strength test results. Special attention is drawn to the fact that the concrete mix must provide a very dense and impervious concrete.

No concrete shall be cast until the mix designs have been approved by the Engineer. The Engineer may call for revised mix designs at any stage during the Contract.

Any mix for use in the wall or floor of a water-retaining structure shall have a water/cement ratio not exceeding 0,5, shall contain not less than 325 kg cement per cubic metre of concrete and the proportions of the various aggregates shall be such as to produce a density of at least 2 400 kg/m3.

In order to facilitate increasing the workability of concrete in the fresh/plastic state, to ensure watertightness without increasing the water/cement ratio, the Engineer may approve the use of an additive.

The workability of concrete shall be assessed by means of the slump test. The slump shall be between 30 and 40 mm.

SDG5-3.2 Chloride content. (Subclause 5.5.1.4)

With reference to Table 4, efflorescence will not be acceptable on any exposed concrete surface.

SDG5.3.3 Durability. (Subclause 5.5.1.5)

The water/cement ratio shall be as specified in Table 5.

SDG5.3.4 Prescribed mix concrete. (Subclause 5.5.1.6)

Notwithstanding the requirements of Subclause 5.5.1.6, samples of aggregates will not be made available by the Engineer. The Contractor shall supply aggregates from commercial sources located by him, complying with the requirements of Subclause 3.4.1, for the production of prescribed mix concrete.

Unless otherwise directed by the Engineer in writing, prescribed mix concrete shall be mixed in the following proportions:

Grade	By mass			By volume		
	Cement	Sand	Stone	Cement	Sand+	Stone
30	1	2,2	2,9	1 bag	0,08 m³	0,09 m³
25	1	2,5	3,2	1 bag	0,09 m3	0,11 m3
20	1	2,9	3,6	1 bag	0,11 m3	0,13 m3
15	1	3,6	4,2	1 bag	0,14 m3	0,15 m3
10	1	4,5	5,0	1 bag	0,17 m3	0,17 m3

+ Assuming 5% moisture in sand

1 bag = 50 kg

SDG5.3.5 Strength concrete. (Subclause 5.5.1.7)

With the exception of mixes weaker than 15 MPa, all concrete for structural units/the Works shall be considered to be strength concrete in terms of Subclause 5.5.1.7.

Unless otherwise specified on the drawings or in the Bill of Quantities, all structural concrete shall be Grade 30 MPa.

SDG5.3.6 Batching. (Subclause 5.5.2)

Batching of strength concrete shall be by mass. Prescribed concrete may be batched by volume.

SDG5.3.7 Ready-mixed concrete. (Subclauses 5.5.3.2 and 7.3)

Concrete from a central concrete production facility other than on the construction site will be permitted and, apart from test results in terms of 7.3.1, 7.3.2 and/or 7.3.3, test results obtained by such a production facility as part of its quality control system will be accepted for evaluation in terms of Subclause 7.3.4, provided they are stored and cured on site.

SDG5.3.8 Casting of concrete in excavation. (Subclause 5.5.5)

Structural concrete shall not be cast directly against the side of any excavation without the use of formwork unless prior approval has been obtained in writing from the Engineer.

Concrete used in pipe trenches for encasement may be cast directly against the side of the excavation. Concrete for thrust/anchor blocks shall be cast directly against the side of the excavation.

SDG5.3.9 Hot weather conditions. (Subclause 5.5.9.2)

No placing of concrete shall take place if the ambient temperature exceeds 32oC, or is likely to rise to above 32oC during the casting period or within eight hours after casting is completed.

If concrete is to be cast during times of high ambient temperature or hot drying winds, the Contractor shall be responsible for taking the necessary steps to keep the placement temperature as low as possible. Such steps include the spraying of the coarse aggregate with water, the painting of silos with a reflecting aluminium paint, the insulation of tanks and pipelines, and the protection of concrete ingredients against the direct rays of the sun. The area of the pour shall be shaded before and during concreting and the concrete shall be shaded from the time of mixing until eight hours after placing.

Windbreaks shall be erected if necessary.

SDG5.3.10 Prevention and repair of plastic shrinkage cracks

The Contractor shall take whatever measures are necessary to prevent plastic shrinkage cracking in the concrete. Particularly on dry windy days or hot sunny days the Contractor shall make provision for fine spraying of the concrete surface with water within one hour of casting or covering of the concrete with black plastic sheeting. It may be necessary to change the aggregates or the concrete mix proportions.

If plastic shrinkage cracking occurs, the cracks shall be closed up by revibrating the concrete with a poker vibrator, within about three hours of casting. Once the cracks have been closed, the concrete shall be kept thoroughly wet, or covered with plastic sheeting for at least a further three hours.

SDG5.4 Construction joints. (Subclause 5.5.7)

SDG5.4.1 General

The edge of joints, exposed to view in the finished structure, shall be formed with suitable beads to provide a straight edge true to line and level.

All joints, other than expansion, contraction and other movement joints, shall be treated as follows:

As soon as practical, but not before 15 hours after placing, the construction joint surface shall be prepared to receive fresh concrete. This preparation, as specified in 5.5.7.3(a) to (d), shall be such as to remove all laitance or inert and strengthless material which may have formed and the specified chipping or sand blasting shall be such as to produce a roughened surface all over.

When concreting is interrupted concrete surfaces shall be protected from the sun as specified in Subclause 5.5.8(d) or by means of hessian kept damp until concreting is resumed.

All constructional joints (see SDG2-1) (both designated and non-designated, see SDG2-4), (i.e. all joints other than movement, contraction and expansion joints) shall be dealt with as specified in Subclause 5.5.7.3.

Unless construction joints between designated joints shown on the drawings are authorized by the Engineer in writing, concrete in the floor and wall shall be cast continuously between the designated joints shown on the drawings.

SDG5.4.2 Formed joints. (generally vertical or near vertical)

Formed joints will be considered to be designated joints as defined in Subclause 2.4.3. (The forming of a straight edge to a construction joints as specified in SDG5-4.1 does not constitute a formed joint).

Each joint shall be formed as shown on the drawings, complete with shear key rebates, waffle formwork, V-feature, waterstops, "Flexcell" or equal approved joint filler, dowel bars and their PVC tubes, etc. as indicated.

SDG5.4.3 Non-designated joints

Any non-designated joints shall be identical to designated joints, as shown on the drawings, which would be used in similar positions and perform the same function.

SDG5.4.4 Joints between footings or floors and walls or columns

Construction joints between foundations, footings or floors and walls, columns or piers connected to them, shall not be made flush with the supporting surface, but shall be made at a distance above the footing or floor shown as on the drawings or approved by the Engineer. The "kicker" shall be cast as an integral part of the foundation, footing or floor.

SDG5.5 Curing and protection. (Subclause 5.5.8)

SDG5.5.1 Horizontal surfaces

Horizontal and near horizontal surfaces shall be treated in accordance with Subclause 5.5.8.

Other surfaces of the concrete shall be treated with a curing compound complying with SDG5-5.3.

SDG5.5.2 Formed surfaces

In order to improve the effectiveness of the curing treatment, the specified minimum time for the removal of the formwork shall be four days.

SDG5.5.3 Curing compound

The use of membrane curing compounds will be allowed on vertical faces or steeply inclined faces (i.e. steeper than 45o to the horizontal) of cast in situ members of the structures subject to the Contractor producing sufficient, satisfactory cube crushing strength test results where the crushing strength of cubes which have been cured with the proposed curing membrane and left exposed to the elements are compared with those of an equal number of water cured cubes. The crushing strength of cubes cured with the proposed membrane shall be at least 85% of the crushing strength of the water cured cubes.

Before any membrane curing compound is used, each batch shall be tested on a trial surface to ensure that it forms a satisfactory membrane, and any compound which is unsatisfactory in the opinion of the Engineer, shall be rejected. Curing membranes will be disallowed if permanent discolouration of the concrete takes place. Surfaces where curing membranes are used shall be treated in such a manner that the final concrete texture and colour blends in with the rest of the concrete work. Furthermore, the Engineer shall, at his discretion, require the Contractor

immediately to adopt an effective alternative means of curing any area of the structure to which a membrane has been applied which, in the opinion of the Engineer, is unsatisfactory. The curing compound used shall be to the approval of the Engineer. Wax based curing compounds will not be permitted.

The curing compound shall be applied immediately as formwork is progressively stripped or, in the case of unformed surfaces, when the concrete has taken its initial set. It shall preferably be applied by spraying and the rate of application shall be strictly in accordance with the manufacturer's recommendations. A method of monitoring the area to which curing compound has been applied and the application rate shall be as approved by the Engineer and rigidly applied by the Contractor.

Surfaces of joint rebates, where elastomeric sealant is to be applied, shall be protected from contamination by curing compound by the use of masking tape.

SDG5.6 Concrete surfaces. (Subclause 5.5.10)

SDG5.6.1 Screeded finish

After placing and compacting, the concrete on a top (unformed) surface shall be struck off with a template to the designated grades and tamped with a tamping board to compact the surface thoroughly and to bring mortar to the surface, leaving the surface slightly ridged but generally at the required elevation. No mortar shall be added, and noticeable surface irregularities caused by the displacement of coarse aggregate shall be made good by re-screeding after the interfering aggregate has been removed or tamped.

SDG5.6.2 Wood-floated finish. (Subclause 5.5.10.1)

Where wood-floating is ordered or scheduled, the surface shall first be given a finish as specified in SDG5-6.1 Subclause 5.5.10.1 and, after the concrete has hardened sufficiently, it shall be wood-floated, either by hand or machine, only sufficiently to produce a uniform surface free from screeding marks.

SDG5.6.3 Steel-floated finish

Where steel-floating is specified or scheduled, the surface shall be treated as specified in SDG5-6.1 except that, when the moisture film has disappeared and the concrete has hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be

steel-trowelled under firm pressure to produce a dense, smooth, uniform surface free from trowel marks.

SDG5.6.4 Power-floated finish

Where power floating is specified or scheduled the surface shall be treated as specified in SDG5-6.1 except that when the moisture film has disappeared, and the concrete has hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be power floated to produce a dense, smooth and uniform surface free of all trowel marks. In corners and areas of restricted access the concrete surface shall be finished by steel floating in accordance in SDG5-6.3.

The timing of power-floating is critical to its success. Power-floating shall not commence until the concrete can support the weight of a man without indentation and until the moisture sheen has disappeared. Thus, several hours will have to elapse after concreting has been completed before this operation can commence. Night work may therefore be required.

The main objective of power floating the mortar skim on the no-fines underdrainage layer is to achieve a plane, smooth surface. This need not be dense.

SDG5.6.5 Broom-swept finish

Where broom-swept finish is specified, the surface shall be treated as specified in SDG5-6.2 and thereafter swept transversely (to the direction of the roadway paving) with a stiff bristle broom to produce an approved non-skid finish.

SDG5.6.5 Granolithic screeds

SDG5.6.5.1 General

Before placing any granolithic screeds, the base concrete shall be chipped to expose the aggregate over 100% of the area to be screeded and soaked with water for at least 24 hours.

The base concrete shall be thoroughly cleaned by scrubbing and all standing water removed after soaking. A 1:2 cement/sand grout shall then be brushed into the prepared surface followed by the granolithic screed before the grout sets. The granolithic screed shall be of the driest feasible consistency with a slump not exceeding 50 mm and shall be formed true to profile and shape as required and shown on drawings. Before placing granolithic screed against an adjacent band of granolithic screed the edge of the latter shall be prepared by chipping back to firm material, wire brushing and brushing with grout as for the base concrete.

Granolithic screed shall be compacted to remove all air and shall be screeded and finished with a steel trowel to Degree of Accuracy 1.

The trowelling shall be carried out in the following stages: -

a) First - as soon as the granolithic screed has been compacted and screeded.

b) Second - after 2 hours to close the surface and remove laitance.

c) Third - after a further 4 hours.

The time intervals are estimated as appropriate to normal temperature conditions and shall be varied by the Contractor to ensure a smooth dense finish.

Granolithic screed shall be cured as specified in Subclause 5-5.8(b) but shall additionally be protected from direct sunlight and drying winds as it is being placed.

All screeding necessary to accommodate mechanical equipment shall be done under the equipment supplier's supervision and in strict accordance with his instructions. It shall be commenced as soon as the equipment supplier gives notice on completion of erection and shall be finished expeditiously.

The Contractor shall make good any damage to the mechanical equipment resulting from his personnel not following the supplier's instructions. Any spillage on the equipment shall be cleaned off immediately.

SDG5.7 Watertight concrete. (Subclause 5.5.11)

The reservoir floor and walls shall be considered to be watertight concrete and Subclause 5.5.11 shall apply.

SDG5.8 Defects. (Subclause 5.5.14)

All defects shall be repaired as soon as possible after the formwork has been removed and the Engineer has inspected the concrete. A statement of the method to be used for each repair shall be submitted to the Engineer for his approval before any work is carried out. The Engineer may

prohibit the further placing of concrete in the particular area concerned until he is satisfied that the repair has been satisfactorily executed.

SDG5.9 Casting in and grouting of equipment, structural steel columns and door frames

For equipment or items supplied by others, the Contractor will be supplied with all holding-down bolts and other details necessary for the construction of holding-down pockets or the fixing of bolts, including templates. For items supplied by the Contractor, the Contractor will be responsible for providing the same (see also SDH5-5.1).

The Contractor shall cast in the holding-down bolts (whether supplied by others or under this Contract), as ordered. No bolts shall be actually cast into the concrete until set up by the Contractor and approved by the Engineer.

After the erection, alignment and levelling of equipment or items supplied by others (e.g. mechanical equipment) or by the Contractor (e.g. structural steelwork), the Contractor shall grout up the baseplates solidly with “5 star” non-shrink grout, mixed and placed in accordance with the manufacturer’s instructions.

SDG5.10 Casting pipes and specials in concrete

Where the pipe or special is supplied by others the Contractor shall provide a box-out in the wall and cast the unit in at a later stage. When constructing such box-outs reinforcement shall not be cut but shall run through the opening. Reinforcement shall be cut and/or bent out at a later stage to suit the item being cast in. After installation of the item the remaining reinforcement shall be bent back in position.

Where entry holes for pipes/specials have been provided in the walls, the Contractor shall be responsible for the concreting in of such pipes/specials regardless of whether or not these have been supplied by himself.

Before commencing the positioning in holes of any pipes/specials the Contractor shall:

a) remove all formwork and boxing remaining in the holes;

b) make any alterations required to the position and shape of the holes and cut reinforcement to suit the item, as directed by the Engineer; and

c) thoroughly scabble the sides of the holes so as to obtain a satisfactory bond surface for the new concrete and treat the surface as specified in Subclause 5.5.7.3.

Immediately prior to concreting being carried out by the placing of mortar and concrete around the pipes, the surface of the existing concrete shall be saturated with water. All surplus water shall be removed and the surface covered with a layer, approximately 12 mm thick, of mortar made of the same mix as the concrete in which the pipes/specials are to be placed.

The concrete ingredients shall be mixed and placed as dry as possible to obtain a dense, waterproof concrete. The concrete shall be carefully worked around the puddle flange, if any, and the pipe barrel or

body of the special, and shall be vibrated in layers so as to obviate a falling away from pipe/special surfaces of the concrete already placed. The whole shall, when set, form a dense, homogeneous, and waterproof mass.

SDG7 Testing

SDG7.1 Frequency of sampling. (Subclause 7.1.2)

One sample shall consist of three concrete test cubes.

For each sample taken the position in the structure shall be recorded where the batch represented by that sample is placed.

Sampling of concrete of a particular grade shall be as specified in Subclause 7.1.2 with the following frequency of sampling referred to in Subclause 7.1.2.2 being amended to read as follows:

"A minimum of 4 samples per day of each grade of concrete placed or 6 samples for pours in excess of 10 m3 shall be taken."

PSG 7.2 Trial panel

At least two weeks before commencing with his casting programme for the wall panels, the Contractor shall cast a trial panel for the approval of the Engineer. If the method of casting produces finishes as specified to approval of the Engineer the Contractor will be permitted to proceed with his casting programme but should the finishes not be to specification the Contractor

shall revise his method and/or use alternative materials and cast a further trial panel until satisfactory finishes to the approval of the Engineer are produced.

SDG7.3 Watertightness test

The watertightness of the water retaining structures shall be tested as follows:

The structure shall be filled with clean water and shall be allowed to remain filled for a period of seven days during which time any loss of water which may occur shall be made up by filling the structure to top water level. At the beginning of the test, the water level shall be recorded and the structure shall be left undisturbed for a period of not less than seven days. The structure shall be considered watertight if the drop in level, excluding losses due to evaporation, does not exceed 10 mm in 7 days and no leakage or dampness is apparent.

The evaporation shall be measured by means of the drop in water level due to the evaporation of water in three flat dishes left floating in the structure.

In the event of any leakage or dampness being evident at any stage of the filling or testing or in the event of the Engineer considering the final degree of watertightness to be unsatisfactory, the Contractor when ordered by the Engineer shall discontinue such filling or testing and shall, at his own expense, take approved steps immediately to rectify the leakage and to make the work thoroughly sound to the complete satisfaction of the Engineer. All such work of rectification shall be continued assiduously until a satisfactory test is obtained, which shall prove to the Engineer that watertightness has been obtained.

If required by the Engineer, the structure shall be retested before the expiry of the Defects Liability Period.

The Works will not be certified complete until the structure has been proved by testing to be watertight to the satisfaction of the Engineer.

SDG8 Measurement and payment

SDG8.1 Reinforcement. (Subclauses 8.1.2.2 and 8.1.2.3)

Notwithstanding the method of measuring and paying for reinforcement specified in Subclauses 8.1.2.2 and 8.1.2.3, reinforcement will be measured and paid for as scheduled.

SDG8-2 Concrete. (Subclause 8.1.3.3)

The rates for concrete shall also cover:

a) the cost of meeting the requirements of SDG3.6,

b) the cost of the preparation of design mixes by an approved laboratory and submission for approval by the Engineer (see SDG5.3.1),

c) the cost of non-designated joints (see SDG2.4),

d) screeded finish of unformed surface as specified in SDG5.6.1, and

e) wood-floated finish to exposed surfaces as specified in SDG5.6.2.

SDG8.3 Joints. (Subclause 8.5)

Only designated joints as shown on the drawings will be measured for payment according to the length of each type of joint constructed (see SDG2.4). The rate shall cover the cost of all materials, labour and plant required to construct each type of joint specified on the drawings, including the cost of all shuttering, treatment of the joint as specified in Subclause 5.5.7.3, the provision of chamfers as specified where concrete is exposed, as well as testing and repairing where necessary.

Non-designated joints will not be measured for payment.

SDG8.4 Formwork

SDG8.4.1 Edges of blinding layer

No separate payment will be made for formwork to the edge of the blinding layer. The rates tendered for concrete to the blinding layer shall cover the cost of such formwork.

SDG8.4.2 Kickers

Formwork to the edges of kickers will be measured as plane (or circular) vertical (not as narrow widths).

SDG8.5 Unformed surface finishes (Subclause 8.4.4)

The rates for unformed surface finishes shall cover the cost of providing the respective surface finish as specified in SDG5-6.

SDG8.6 Holding down bolts

Fixing of holding down bolts will be measured by number. The rate shall cover the cost of all things necessary to ensure that the bolts are effectively and rigidly held in position during casting, complete with sleeved pockets, all as detailed on the drawings.

SDG8.7 Items cast in concrete

The casting in of Items cast in concrete will be measured by number separately for each type of item.

Notwithstanding Subclause 8.2.6, the rate shall cover the cost of fixing in position and casting in the item as construction proceeds, irrespective of whether the Contractor chooses to fix the item in the formwork and cast it in directly or to box out a hole and grout the item in subsequently.

The supply and delivery of the items will be measured and paid separately.

SDG8.8 Grouting

Grouting of base plates and equipment bases will be measured by the volume of grout used.

The rate shall cover the cost of the supply and floating in of grout under the plates to ensure solid and complete filling of the gap.

SDG8.9 Special floor finish

Special floor finish will be measured by area. The rate shall cover the cost of the supply and application of the specified material, complete as specified by the manufacturer and to the approval of the Engineer. Repairs to unsatisfactory work will not be paid for.

SDG8.10 Precast paving slabs

Precast paving slabs will be measured by the area paved.

The rate shall cover the cost of compacting the area, application of weed-killer, supplying, laying and bedding the slabs, grouting the joints and filling any gaps, all as specified.

PSG 8.11 Trial panel

The casting of a trial panel will be measured for payment as a lump sum.

The sum shall cover the cost of casting the trial panel in accordance with the requirements of SDG7.3.

SDG8.12 Watertightness test

The watertightness test will be paid by a lump sum separately for each structure.

The sum shall cover the cost of all labour, equipment and materials to carry out the tests, as specified in SDG7.3, to rectify faults and to achieve a test result to the satisfaction of the Engineer.

The sum shall include for all water required over and above that required for one filling of the water retaining structure.

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FOR CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG (BULTFONTEIN)

C3.8 DRAWINGS

LIST OF DRAWINGS PREPARED BY THE EMPLOYER

The following is the list of drawings prepared by the Employer and applicable to this Contract:

DRAWING NO. DESCRIPTION

Issued Separately

LIST OF DRAWINGS

2022078-CIV-DRG-101: LAYOUT: SITE LAYOUT

2022078-CIV-DRG-102: LAYOUT: STREET 1 CH 0 TO CH 580

2022078-CIV-DRG-103: LAYOUT: STREET 1 CH 580 TO CH 960

2022078-CIV-DRG-104: LAYOUT: STREET 2 CH 0 TO CH 580

2022078-CIV-DRG-103: LAYOUT: STREET 3 CH 0 TO CH 436

2022078-CIV-DRG-104: LAYOUT: STREET 4 CH 0 TO CH 270

2022078-CIV-DRG-400: DETAIL: ROAD CROSSING SECTION

2022078-CIV-DRG-401: DETAIL: STORMWATER CHANNELS AND ROAD CROSSING DETAILS

2022078-CIV-DRG-402: DETAIL: ROAD PAVING DETAILS

2022078-CIV-DRG-403: DETAIL: SPEED HUMP AND SIGN DETAILS

2022078-CIV-DRG-404: DETAIL: STREET SIGNS AND TYPICAL INTERSECTION

2022078-CIV-DRG-405: DETAIL: STREET SIGNS

2022078-CIV-DRG-406: DETAIL: PIPE CULVERT

Note: Although, elsewhere in the Contract Document, drawings are referred to by their generic numbers only, the alphabetic suffix (if any) to a drawing number as given in this List of Drawings denotes the revision of the drawing that is applicable to this document.

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FOR CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG (BULTFONTEIN)

PART C4 SITE INFORMATION

SITE INFORMATION

1 NATURE OF GROUND AND SUBSOIL CONDITIONS

Details of the ground condition shall be provided to the appointed Contractor

TSWELOPELE LOCAL MUNICIPALITY

CONTRACT NO: SCM/TSW/23/2025-2026

FOR CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE IN PHAHAMENG (BULTFONTEIN)

PART C5 APPENDICES

Appendix A: Occupational Health and Safety Specification and Baseline Risk Assessment

Appendix B: Socio Economic Requirements

Appendix C : Drawings

APPENDIX A

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION AND BASELINE RISK ASSESSMENT

APPENDIX B

SOCIO ECONOMIC REQUIREMENTS

APPENDIX C

TENDER DRAWINGS

C1.3 Bill of quantities and summary sheet

							CHAPTER 1
ITEM		**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**	
C1.2	**GENERAL REQUIREMENTS AND**						
	PROVISIONS						
C 1.2.4	**Stake holders Liaison**						
BC 1.2.4.1	**Remuneration of the Project Liaison Officer**						
	and members of the Project Liaison						
	Committee:						
	(a)	Project Liaison Officer	month	10	R7 500	R75 000.00	
	(b)	Project Liaison Committee (R500 per member)		Prov.Sum	1	R 16 000.00	R 16 000.00
	(c)	Training (Fomal and Informal)		Prov.Sum	1	R 150 000.00	R150 000.00
	(d)	Handling costs and profit with respect to item					
		SDA 8.10 (a), (b) & (c)		%		R 241 000.00	
C 1.2.5	**Safety**						
C 1.2.5.1	Health and safety plan	lump Sum	1				
C 1.2.5.2	Implementation of health and safety plan	month	10				
C 1.2.8	**Dayworks**						
C 1.2.8.1	**Personnel**						
	(a)	Unskilled Labourer	hour	6			
	(b)	Semi-Skilled Labourer	hour	8			

	(c)	Skilled Labourer	hour	10			
C 1.2.8.2	**Construction equipment**						
	(b)	Vibratory roller	hour	5			
	(e)	TLB (CAT 416 or similar)		hour	5		
	(f)	Excavator		hour	5		
	(h)	Watercart (10 000 litre)		hour	5		
	(i)	Other equipment					
		(ii) Grid roller	hour	5			
		(iii) Other equipment	hour	5			
C 1.2.8.3	**Vehicles**						
C 1.2	**Carried forward**						

C1.2	**Brought forward**						
	(a)	Light Vehicle	km	10.0			
	(b)	Flatbed Truck	km	10.0			
	(c)	Dump Truck	km	10.0			

	(d)	Other Vehicles	km	10.0			
C 1.2.8.4	**Materials**						
	(a)	Procurement of materials		Prov Sum	-	R10 000.00	R10 000.00
	(b)	Contractor's handling costs, profit and					
		all other charges in respect of					
		subitem B18.03(a)	%		R 10 000.00		
C 1.2.9	**Disposal of non- usable material;**						
C 1.2.9.2	Material not identified at the time of tender	Prov Sum	-	R 15 000.00	R 15 000.00		
C 1.2.9.3	Handling costs, profit and all other charges in						
	respect of subitem C 1.2.9.2	%		R 15 000.00			
C 1.3	**CONTRACTOR'S ESTABLISHMENT ON SITE**						
	AND GENERAL OBLIGATIONS						
C 1.3.1	**The Contractor's general obligations:**						
C 1.3.1.1	Fixed obligations			lump sum	1		
C 1.3.1.2	Value-related obligations			lump sum	1		
C 1.3.1.3	Time-related obligations			month	10		
BC 1.3.2	**Contract sign board**			No	2		
C 1.4	**FACILITIES FOR THE ENGINEER**						
C1.4.1	**Site Accomodation**						
C1.4.1.1	Offices and conference room			No	1		
C1.4.1.13	Rented housing paid for by the Contractor			Prov Sum	1	R 56 000.00	R 56 000.00
C1.4.1.14	Contractor's handling costs, profit and all other charges in respect of item C1.4.1.13			%		R56 000.00	
C1.4.1.2	Laboratories	No	1				

C1.4.1.5	Store rooms inside the laboratory	No	1				
C1.4.1.6	Car ports	No	2				
C 1.4	**Carried forward**						

							CHAPTER 1
ITEM NO			**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
C 1.4	**Brought forward**						
C1.4.1.7	Ablution unit (x2) (equipped as specified)	Month	10				
C 1.4.3	**Items mearsured by number**						
C1.4.3.1	Office swivel chair			No	12		
C1.4.3.5	Office desk with 3 drawers (at least one	No	2				
	lockable drawer)						
C 1.4.3.8	Conference table	No	1				
C 1.4.3.10	Steel filing cabinets with drawers		No	2			
C 1.4.3.19	Wash hand basins complete with taps		No	1			
	and drains						
C 1.4.3.23	Fire extinguishers, 9,0kg, all purpose dry			No	1		
	powder type, complete, mounted on wall with						
	brackets.						
C 1.4.3.24	Air-conditioning units with, 2,2 kW minimum		No	1			
	capacity, mounted and with own power						
	connection						

C 1.4.3.29	A3/ A4 color printer, copier, scanner	No	1				
C 1.4.3.31	Rain Gauge	No	1				
C 1.4.3.36	Measuring wheel	No	2				
C 1.4.3.37	First Aid kit		No	1			
C1.4.4	**Prime-cost items and items paid for in**						
	lump sum:						
C 1.4.4.1	Provision of cellphones including pro-rata rentals,	PC Sum	1	R20 000.00	R20 000.00		
	and the cost of phone calls in connection with						
	the administration of the contract						
C 1.4.4.2	Handling cost and profit in respect of item	%		R 20 000.00			
	C 1.4.4.1						
C 1.4.4.3	The provision of a direct independent telephone	PC Sum	1	R10 000.00	R10 000.00		
	line for the Engineer, including the monthly						
	rental charges and the cost of business calls						
C 1.4	**Carried forward**						
							CHAPTER 1
ITEM NO			**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
C 1.4	**Brought forward**						
C 1.4.4.6	Handling cost and profit in respect of item						
	C 1.4.4.3	%		R 10 000.00			

C 1.4.4.5	The provision of internet connectivity and WiFi					
	data for Engineer's site staff	PC Sum	1	R 8 000.00	R 8 000.00	
C 1.4.4.6	Handling cost and profit in respect of item					
	C 1.4.4.5	%		R 8 000.00		
C 1.4.4.9	The provision of a complete 220/250 volt single					
	electrical power installation, including all poles,					
	phase insulators, wiring, switchboards, main					
	connections, meters etc.	PC Sum	1	R 5 000.00	R 5 000.00	
C 1.4.4.10	Handling cost and profit in respect of item	%		R 5 000.00		
BC1.4.4.11	Engineers travelling on site	Prov	Sum	R 50 000.00	R50 000.00	
	Handling cost and profit in respect of subitem					
	14.11 above	%		R 50 000.00		
C 1.4.5	**Services at site offices, laboratories and**					
	site accomodation					
C 1.4.5.1	Fixed Costs	Sum	1			
C 1.4.5.2	Running costs	month	10			
C1.5	**ACCOMMODATION OF TRAFFIC**					
C1.5.1	**Accommodating of pedestrian and non-**					
	motorised traffic					
C1.5.1.1	Accommodation of pedestrian and non-					
	motorised traffic	month	10			
C1.5.2	**Accommodation of vehicular traffic**	month	10			
C1.5.3	**Liason with traffic authorities**	month	10			

C1.5.4	**Construction of temporary deviations**	km	9				
C1.5.5	**Maintenance of temporary deviations**						
C1.5.5.9	Grading of temporary deviations and						
	existing roads used as detours	km	5				
C1.5.5.10	Watering of temporary deviations and						
C 1.5	**Carried forward**						
							CHAPTER 1
ITEM NO			**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
C 1.5	**Brought forward**						
	existing roads used as detours	kl	100				
C1.5.5.11	Other road maintenance work ordered						
	by the Engineer	Prov Sum	-	R 10 000.00	R10 000.00		
C1.5.5.12	Handling cost, profit and all other charges						
	in respect of item C1.5.6.11	%		R 10 000.00			
C1.5.7	**Temporary traffic control facilities**						
C1.5.7.1	Delineators including mounting bases and						
	ballast:						
	(b)	Double sided, reversible left or right	No	20			
C1.5.7.3	Flagmen	hr	1350				

BC1.5.7.7	Traffic calming device						
	(c)	150mm high x 5 m wide speed					
		control humps	No	10			
C1.5.7.10	Movable Stop/ Go sign	No	2				
C1.5.11	**Provision of safety equipment for visitors**						
C1.5.11.1	Provision of reflective safety vests for visitors	No	5				
C1.6	**CLEARING AND GRUBBING**						
C1.6.1	**Clearing**						
C1.6.1.1	Clearing with machines and some hand labour						
	where necessary			ha	1.5		
C1.6.1.2	Clearing with hand labour only when labour						
	enhanced work is specified			ha	0.20		
C1.6.1.3	Clearing for new fence line (over a width of 2,0 m)			km	0.50		
C1.6.2	**Grubbing**						
C1.6.2.1	Grubbing with machines and some hand labour						
	where necessary			ha	1		
C1.6.2.2	Grubbing with hand labour when labour						
	enhancement work is specified or it is not			ha	0.2		
	practical to use a machine						
C 1.5	**Carried forward**						
							CHAPTER 1

ITEM NO			DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 1.5	**Brought forward**						
C1.6.3	**Removal and grubbung of large trees and**						
	tree stumps:						
C1.6.3.1	Girth equal to or exceeding 1,0 m up to and						
	including 2,0 m			No	3		
C1.6.4	**Removal of buildings and structures**						
BC1.6.4.1	Building (concrete and masonry structures)			Lump.Sum	1.00		
C1.7	**LOADING AND HAULING**						
C1.7.2.1	Hauling material for use in the Works and						
	off-loading it on site of the works						
	(a)	Soil, gravel, crushed stone and pavement	m^3- km	1000			
		layer material					

Chapter 1	Total for Chapter 1 - Carried to summary

CHAPTER 2

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C2.1	**GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES**				
C2.1.1	**Location, Identification and relocation of existing services**				
C2.1.1.1	Contractor's obligations	Lump sum	1		
C2.1.1.2	Permanent services relocation or protection work by others	PC.Sum	-	R 5 000.00	R 5 000.00
C2.1.1.3	Handling costs and profit in respect of item C2.1.1.2 above	%		R 5 000.00	
C2.1.1.4	Permanent services relocation and or protection work by the Contrcactor	Prov.Sum	-	R 10 000.00	R 10 000.00

C2.1.1.5	Handling cost, profit and all other charges in respect of item C2.1.1.4	%		R 10 000.00	
C 2.1.2	**Existing services location, detection and verification**				
C2.1.2.5	Using hand excavation to locate, expose and verify services	m^3	40		
C 2.1.19	**Dealing with water during services**				
C2.1.19.1	Dealing with surface water	Lump sum	1		
C2.1.19.2	Dealing with sub-surface water	Lump sum	1		
C 2.1.24.2	**Saw-cutting concrete to an average depth:**				
C2.1.24.2.1	Not exceeding 50 mm	m^2	10		
C2.1.24.2.2	Exceeding 50 mm but not exceeding 100mm	m^2	10		
C2.1.27	**Demolition of existing manholes, access chambers and other service structure consisting of:**				
C 2.1.27.1	Unreinforced concrete	m^3	5		
C2.1.27.2	Reinforced concrete	m^3	5		
C 2,1	**Carried forward**				

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 2,1	**Brought forward**				
C 2.3.9	**Raising and lowering existing sewer manholes**				
C2.3.9.1	Raising manholes				
	(a) Precast manhole ring with cast insitu base and cast iron lid and frame	No	5		
C2.3.9.2	Lowering manholes				
	(a) Precast manhole ring with cast insitu base and cast iron lid and frame	No	4		

C 3	Total for Schedule - Carried forward				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 3.1	**DRAINS**				
C3.1.1	**Excavation for open drains:**				
C3.1.1.1	Excavating all material situated within the following depth ranges below the surface level:				
(a)	0 m up to 1,5 m	m^3	550		R -
(b)	Exceeding 1,5 m and up to 3,0 m	m^3	0		R -

C3.1.1.2	Extra over sub-item C3.1.1.1 for excavation in hard and boulder material, irrespective of depth		m³	55		R -
C3.1.3	Excavation, clearing and disposal of accummulaed sediment in existing lined drains and drainage systems		m³	45		R -
C3.1.3.3	Using labour enhanced construction methods					
	(c)	Concrete or other lined side drains	m³	50		R -
C3.1.4	**Excavation and disposal of material for subsoil drainage system**					
C3.1.4.1	Excavating all material situated within the following depth ranges below the surface level:					
	(a)	0 m up to 1,5 m	m³	0		R -
	(b)	Exceeding 1,5 m and up to 3,0 m	m³	0		R -
C3.1.4.2	Excavating soft material situated within 0 m to 1,5 m below the surface using labour enhanced construction methods		m³	0		R -
C3.1.4.4	Extra over sub-item C3.1.4.1 for excavation in hard and boulder material, irrespective of depth		m³	0		R -
C3.1.4.5	Extra over sub-item C3.1.4.1 for excavation in stabilised existing road layers,		m³	0		R -
C3.1.7	**Natural permeable material in subsoil drainage systems**					
C3.1.7.1	Crushed stone obtained from commmercial source (19.0 mm crushed stones)		m³	0		R -
C 3.3	**Carried forward**					

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 3.3	**Brought forward**				
C3.1.9	**Pipes in subsoil drainage systems:**				
C3.1.9.1	U-PVC pipes and fittings, normal duty, complete with couplings, HDPE Flexible slotted 110mm pipe	m	0		R -
C3.1.9.2	U-PVC pipes and fittings, normal duty, complete with couplings: HDPE Flexible slotted 75mm pipe	m	0		R -
C3.1.11	**Geotextiles**				
	(F50 SA Polypropylene needled punched geotextile blanket)	m²	0		R -
C3.1.13	**Concrete outlet structure,Manhole boxes, junction boxes and cleaning eyes for subsoil drainage system**				
C3.1.13.1	Outlet structures concrete V-drain	No	0		R -
C3.1.14	**Caps for subsoil drain pipes**				
C3.1.14.3	HDPE DN 75 mm caps	No	0		R -
C3.1.14.4	HDPE DN 110 mm caps	No	0		R -
C3.2	**CULVERTS**				
C3.2.1	**Excavation for culvert structures:**				
C3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:				

	(a)	0 m to 1,5 m	m³	68		R -
	(b)	Exceeding 1,5 m and up to 3,0 m	m³	5		R -
C3.2.1.4	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material, irrespective of depth		m³	5		R -
C3.2.2	**Backfilling:**					
C3.2.2.2	Using selected imported material					
	(b)	From sources on site (Suitable material for 300mm thick fill blanket)	m³	15		R -
C 3.3	**Carried forward**					

ITEM NO	DESCRIPTION	UNIT	QUAN - TITY	RATE	AMOUNT
#REF!	**Brought forward**				
C3.2.3	**Concrete Pipe Culverts**				
C3.2.3.2	Class 100D - Ø600mm	m	30		R -
C3.2.3.3	Class 100D - Ø900mm	m			
C3.2.5	**Rectangular culvert with prefabricated elements;**				
C3.2.5.1	Prefabricated portal culverts; walls and roof combination (900mm x 450mm)	m			R -
C3.2.5.2	Prefabricated floor slab (100mm thick)	m			R -

C3.2.5.3	Cast in situ roof slab (150mm thick)		m			R -
C3.2.7	**Cast in situ concrete and formwork:**					
C3.2.7.5	Inlet and outlet structures(including kerbs, chutes and down pipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surfacing finish (30 Mpa concrete)		m³	50		R -
C3.2.7.6	Formwork of concrete under item C3.2.7.3 to C3.2.7.5		m²	70		R -
C3.2.10	**Reinforcement:**					
C3.2.10.1	Mild steel bar		t	0.2		R -
C3.2.10.2	High-tensile steel bars		t	0.2		R -
C3.2.10.3	Welded steel fabric (Mesh Ref No.245)		m²	3000		R -
C3.3	**CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS**					
C3.3.1	**Concrete kerbing:**					
C3.3.1.1	**Prefabricated kerbing**					
		Prefabricated Mountable kerb, SABS 927 Fig 8c	m	20		R -
	(b)	Prefabricated Barrier kerb, SABS 927 Fig 12	m	0		R -
	(c)	Transition kerb class 25/19	m	60		R -

C 3.2	**Carried forward**	

ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
C 3.2	**Brought forward**				
C3.3.1.2	**Cast in situ kerbing**				
	(a) Concrete edge beam (25/19 Mpa)	m^3	45.00		R -
C3.3.8	**Linings for open drains:**				
C3.3.8.1	Cast in situ concrete Class 30/19 lining	m^3	300		R -
C3.3.8.2	Class U2 surface finish to cast in situ concrete	m^2	3000		R -
C3.3.8.3	Stone pitched lining (200mm thickness)				
	(b) Grouted stone pitching on a concrete bed (Open drains)	m^2	3000		R -
C3.3.9	**Formwork to cast in situ concrete lining for open drains (Class F2 surface finish):**				
C3.3.9.3	To ends of slabs	m^2	400		R -
C3.3.10	**Sealed joints in concrete and stone pitched linings of open drains (closed cell polystrene)**	m	1 500		R -
C3.3.15	**Energy dissipaters in outlet structures**				
C3.3.15.2	Stones set in outlets structures	m^2	10		R -

C 3	Total for Schedule - Carried forward				

CHAPTER 4

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BORROW MATERIALS				

C4.1.3	**Construction and maintenance of temporary haul and access roads**					
C4.1.3.1	temporary unsealed roads	km	2		R	-
C4.1.4	**Removing of the overburden**					
C4.1.4.1	In borrow pits	m³	1500		R	-
C4.1.5	**Excavating materials in the borrow pit and quarries materials obtained from:**					
C4.1.5.1	Soft excavation	m³	6500		R	-
C4.1.5.2	Boulder excavation Class A	m³	900		R	-
C4.1.5.3	Boulders excavation Class B	m³	100		R	-
C4.1.5.4	Hard excavation (other than by blasting)	m³	250		R	-
C4.1.12	**Stockpiling the material**					
C4.1.12.2	Material directly from the excavation	m³	7750		R	-
C4.2.7	**Removal of unsuitable stable cut material to spoil**					
C4.2.7.1	In layer thicknesses of 200 mm and less	m³	800		R	-
C4.3	**EXISTING ROAD MATERIALS**					
C 4.3.4	Saw-cutting existing materials within the following average depth ranges					
C 4.3.4.1	Asphalt material:					
	(a) Up to 50 mm	m	0		R	-
C 4.3.4.4	Concrete Material:					
	(a) Up to 50 mm	m	20		R	-
C4.3.5	**Providing the milling machine on the site**					
C4.3.5.1	Small milling machine with a cutting width of					

	1,2 m or smaller	No	0		R	-
C 5.3	**Carried forward**					

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 5.3	**Brought forward**				
C 4.3.6	**Milling and removal of existing asphalt layers with an average milling depth (Contractor takes ownership)**				
C 4.3.6.1	Not exceeding 50 mm	m³	0		R -
C4.3.13	**Lifting of existing paving blocks**				
C4.3.13.2	Using labour enhanced methods of construction	m²	300		R -
C4.3.14	**Removing of existing road edging and services structures**				
C4.3.14.2	Removing of existing road edging using labour enhanced methods of construction				
	(a) kerbing and edge beam				
	(i) In situ concrete kerbing and edge beams	m³	5		R -
	(iii) Precast concrete kerbing and in-situ concrete channel	m	50		R -

C4.1	Total for Schedule - Carried forward				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EARTHWORKS AND PAVEMENT LAYERS CONSTRUCTION				
C5.1	**ROADBED**				

C5.1.1	**Roadbed construction and compaction**					
C5.1.1.2	Compaction of in-situ material to 93 % of MDD	m³	2750		R	-
C5.1.3	**Excavate material to spoil sites designated by the Contractor**					
C5.1.3.1	Excavate material to spoil from roadbed construction, material obtained from:					
	(a) Soft excavation	m³	5040		R	-
	(c) Boulder excavation Class B	m³	500		R	-
	(d) Hard excavation (other than by blasting)	m³	500		R	-
C5.1.4	**Removal of unsuitable material to spoil**					
C5.1.4.1	In layer thicknesses of 200 mm and less					
	(a) Stable material	m³	75		R	-
C5.2.2	**Fill Construction**					
C5.2.2.1	Normal fill material in compacted layer thickness of 200mm and less:					
	(a) Compacted to 93% of MDD	m³	75		R	-
C5.2.2.4	Rock fill material all per Clause A.5.2.7.6	m³	75		R	-

C 5.3	**Carried forward**	

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 5.3	**Brought forward**				
C5.3	**ROAD PAVEMENTLAYERS**				
C5.3.2	**Construction of pavement layers**				
C5.3.2.1	**Construction of layers using conventional construction methods**				
	(b) Lower selected subgrade layer (150mm thick G10 layer material) compacted to 90% of MDD	m³	0	R	-
	(d) Upper selected subgrade layer (150mm thick G9 layer material) compacted to 93% of MDD	m³	0	R	-
	(i) Lower selected subbase layer (150mm thick G7 layer material) compacted to 95% of MDD	m³	2 750	R	-
	(m) Upper selected subbase layer (150mm thick G6 layer material) compacted to 95% of MDD	m³	0	R	-
	(j) Lower subbase (Chemically stabilized material) layer thickness of 150 mm(C4) compacted to 97% MDD:	m³	2 750	R	-
	(n) Gravel base (Chemically stabilized material) layer thickness of 150 mm(C3) compacted to 97% MDD:	m³	0	R	-
C5.3.2.2	**Construction of layers using labour enhancement:**				
	(m) Bedding sand layer	m³	260	R	-
C5.4	**STABILIZATION**				
C5.4.6	**Addition of cementitious stabilisation agents**				

C5.4.6.1	Cement	t	80		R -
C5.1	Total for Schedule - Carried forward				

CHAPTER 6

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C6.2	**SEGMENTAL BLOCK PAVING LAYERS**				
C6.2.1	**Segmental block paving**				
C6.2.1.1	Concrete block paving Type S-A interlocking paving blocks, 80mm thick, for the roadway	m²	14400		R -
C6.2.2	**Cast in situ concrete edge and intermeadiate beams**	m^3	50		R0.00
C6.2.3	**Provision and application of approved herbicide and ant poison**				
C6.2.3.1	Provision of material	PC sum	-	R40 000.00	R 40 000.00
C6.2.3.2	Contractor's charges and profit added to the prime cost sum	%		R40 000.00	R -

C6.2	Total for Schedule - Carried forward				

CHAPTER 11

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 11	**ANCILLARY ROAD WORKS**				
C11.1	**PITCHING, STONEWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION**				

C11.1.2	Stone pitching	m²	100		R -
C11.2	**NON-STRUCTURAL GABIONS**				
C11.2.1	**Foundation trench excavation:**				
C11.2.1.1	Excavating all material situated within the following depth ranges below the surface level:				
	(a) 0 m to 1,5 m	m³	0		R -
C11.2.1.2	Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	m³	0		R -
C11.2.1.3	Excavating soft material within 1,5 m below the surface level using labour enhanced construction methods:	m³	0		Rate only
C11.2.1.4	Excavating intermediate material within 1,5 m below the surface level using labour enhanced construction methods:	m³	0 0		Rate only
C11.2.2	**Surface preparation for bedding the gabion boxes and mattresses**	m²	0		R -
C11.2.3	**Gabion boxes and mattresses:**				
C11.2.3.1	Galvanized gabion boxes (1,0 m wide by 1,0 m deep)				
	(a) by 2,0 m long mesh Type 80 with 3.7mm Class A	m³	0		R -
C11.2.3.3	Galvanized gabion mattresses (1,0 m diaphragm spacing, 6,0 m long by 2,0 m wide)				
	(a) by 0,3 m deep mesh Type 80 with 3.7mm Class A	m³	0		R -
C11.2.4	**Geotextile**				
	Bidim U14 or similar (MacTex N 20,2 (195g/sqm)	m²	0		R -

C11.6	**ROAD SIGNS**				
C 11.6	**Carried forward**				

ITEM NO	DESCRIPTION		UNIT	QTY	RATE	AMOUNT
C 11.6	**Brought forward**					
C11.6.1	**Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in Class I retro-reflective material, where the sign board is constructed from:**					
C11.6.1.7	Regulatory signs, permanent					
	(a)	600 mm diameter (1,4 mm chromadek flatsheeting)	No	25		R -
C11.6.1.9	Warning signs, permanent					
	(a)	600 mm diameter (1,4 mm chromadek flatsheeting)	No	25		R -
C11.6.2	**Extra over on item C11.6.1 for using**					
C11.6.2.1	Background of retro-reflective material of:					
	(a)	Class I	m²	50		R -

C11.6.2.2	Lettering, symbols and borders of retro-reflective material of:					
	(a)	Class III	m²	50		R -
C11.6.3	**Road sign supports (overhead road sign structures excluded):**					
C11.6.3.2	Timber (100mm diameter)		m	200		R -
C 11.6	**Carried forward**					

CHAPTER 11

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C 11.6	**Brought forward**				R -
C11.6.5	**Excavation and backfilling for road sign supports (not applicable to kilometre posts)**				
C11.6.5.1	Excavating soft material and backfilling	m³	32		R -
C11.6.5.2	Excavating soft or intermediate material and backfilling using labour enhanced construction methods	m³	20		R -
C11.6.5.3	Extra over item C11.6.5.1 and 2 for cement-treated soil backfill	m³	10		R -
C11.6.5.4	Extra over item C11.6.5.1 for hard material excavation	m³	10		R -

C11.7	**ROAD MARKINGS AND ROAD STUDS**				
C11.7.1	**Road markings**				
C11.7.1.1	White lines broken or unbroken (Arcrylic paint, 100 mm wide)	km	2		R -
C11.7.1.2	Yellow lines broken or unbroken (Arcrylic paint, 100 mm wide)	km	2		R -
C11.7.1.4	White lettering and symbols (Arcrylic paint)	m²	10		R -
C11.7.1.5	Yellow lettering and smbols (Arcrylic paint)	m²	10		R -
C11.7.1.8	Labour enhanced hand painted white lines broken or unbroken (Arcrylic paint, 100 mm wide)	m²	10		R -
C11.7.1.9	Labour enhanced hand painted Yellow lines broken or unbroken (Arcrylic paint, 100 mm wide)	m²	10		R -
C11.7.8	**Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)**	km	2		R -
C11.9	**FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS**				
C11.9.1	**Finishing the road and road reserve**				
C11.9.1.2	Single carriageway road	km	2		R -
C 11.6	**Carried forward**				

ITEM		DESCRIPTION		UNIT	QTY	RATE	AMOUNT
C20.1	**TESTING MATERIAL AND JUDGEMENT**						
	OF WORKMANSHIP						
C20.1.2	**Special tests requested by the Engineer**						
C20.1.2.1	Employers's contribution to other special tests						
	(a)	Specify test		PC Sum	1	R100 000,00	R 100 000,00
		(i)	Handling costs and profit in respect of item C20.1.2.2(a)	%		R100 000,00	R -
C20.1	Total for Schedule - Carried forward						

CLIENT: TSWELOPELE LOCAL MUNICIPALITY

PROJECT NAME: APPOINTMENT OF A SERVICE PROVIDER FOR PHAHAMENG (BULTFONTEIN) CONSTRUCTION OF 2KM PAVED ROAD AND STORMWATER DRAINAGE (CONSULTANT)

CONTRACT NO: SCM/TSW/23/2025-2026

SECTION	DESCRIPTION	TOTAL AMOUNT
CHAPTER 1	GENERAL REQUIREMENTS AND PROVISIONS	R -
CHAPTER 2	SERIVCES	R -
CHAPTER 3	DRAINAGE	R -
CHAPTER 4	EARTHWORK AND PAVEMENT LAYERS: MATERIALS	R -
CHAPTER 5	EARTHWORK AND PAVEMENT LAYERS: CONSTRUCTION	R -

CHAPTER 6	CONCRETE LAYERS	R	-
CHAPTER 11	ANCILLARY ROAD WORKS	R	-
CHAPTER 20	QUALITY ASSURANCE	R	-
	SUB TOTAL	**R**	**-**
	CONTINGENCIES (10%)	R	-
	SUB TOTAL (EXCL. VAT)	**R**	**-**
	15% VALUE ADDED TAX (VAT)	R	-
	TOTAL (INCL VAT)	**R**	**-**
AMOUNT IN WORDS			

PART C3 AGREEMENT AND CONTRACT DATA [WHITE]

C3.1 FORM OF OFFER AND ACCEPTANCE

C3.2 CONTRACT DATA

C3.3 PERFORMANCE GUARANTEE

C3.4 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

C3.1 FORM OF OFFER AND ACCEPTANCE [THIS SECTION MUST BE COMPLETED AFTER APPOINTMENT]

FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

1. OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works Phahameng (Bultfontein): Rehabilitation and construction at existing sports facilities – Phase 6

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

By the representative of the Bidder, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Bidder offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS FOR DURATION OF THE CONTRACT.

_____

Rand (in words);

R (in figures),

_____

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Bid Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

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

FOR THE BIDDER:

Signature(s) _____

Name(s) _____

Capacity _____

Company Name_____

Name of Witness _____

Signature _____

Date: _____

4. ACCEPTANCE

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

The terms of the contract, are contained in

Part C1 Pricing Data

Part C2 Scope of Work

Part C3 Agreements and Contract Data, (which includes this Agreement)

AND Documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 above.

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

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

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

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

FOR THE EMPLOYER: TSWELOPELE LOCAL MUNICIPALITY

Signature(s)_____

Name _____

Capacity _____

Name of Witness _____

Signature _____

Date _____

2. SCHEDULE OF DEVIATIONS

Notes:

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

1 Subject_____

Details

_____

2 Subject _____

Details _____

3 Subject _____

Details _____

4 Subject _____

Details _____

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

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

FOR THE BIDDER:

Signature(s) _____

Name(s) _____

Capacity _____

(Bidder's Name) _____

Name of Witness _____

Signature _____

Date: _____

FOR THE EMPLOYER: TSWELOPELE LOCAL MUNICIPALITY

Signature(s) _____

Name _____

Capacity _____

Name of Witness _____

Signature _____

Date _____

C3.2 CONTRACT DATA

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

The *General Conditions of Contract for Construction Works,* Third Edition, 2015, published by the South African Institution of Civil Engineering, is applicable to this Contract and is obtainable from www.saice.org.za.

Copies of these Conditions of Contract may be obtained from the South African Institution of Civil Engineering, Tel 011 805 5947.

CONTRACT SPECIFIC DATA

The following contract specific data are applicable to this Contract:

Clause

1.1.1.13 The Defects Liability Period is 365 days.

1.1.1.14 The time for achieving Practical Completion is **365** Days.

1.1.1.15 The name of the Employer is **Tswelopele Local Municipality.**

1.2.1.2 The Employer's address for receipt of communications is:

Postal Address	Physical Address
P.O Box 3	3 Bosman Street
Bultfontein	Bultfontein
9670	9670

Telephone: 051 8531 111
Fax: xxx
Email: info@Tswelopele.co.za
website: www.Tswelopele.fs.gov.za

1.1.1.16 The Engineer is **Makunjani Technical Consultants and Project Managers (Pty) Ltd** represented by an Employee duly authorised thereto in writing.

1.2.1.2 The Engineer's address for receipt of communications is:

Physical address:	Postal address:
114 General Dan Pienaar	114 General Dan Pienaar
Bloemfontein	Bloemfontein
9301	9301

Telephone: 051 430 0525
Email: admin@makunjani.com

Clause

1.1.1.26 The Pricing Strategy is: Re-measurement Contract.

3.2.3 The Engineer shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:

1 Clause 6.3: Variations

2 Clause 5.11.1: Suspension of the Works

3 Clause 5.12: Extension of Time for Practical Completion

5.3.1 The documentation required before commencement with Works execution are:

Health and Safety Plan (Refer to Clause 4.3)
Initial programme (Refer to Clause 5.6)
Security (Refer to Clause 6.2)
Insurance (Refer to Clause 8.6)
Cash flow projection.
Quality assurance plan
Concrete mix design

5.3.2 The time to submit the documentation required before commencement with Works execution is fourteen (14) days.

5.8.1 The non-working days are Sundays.

The special non-working days are:

1 Usually public holiday and (add voting days if applicable)

2 The year end break commencing and ending on dates as specified by SAFCEC.

5.13.1 The penalty for failing to complete the Works is R 2 300 per day.

5.16.3 The latent defect period is ten (10) years for civil engineering works.

6.2.1 The Type of Security provided by the Contractor shall be a Performance Guarantee of 10% of the Contract Sum.

6.8.2 Contract Price Adjustment: Is not applicable

6.10.1.5 The percentage advance on materials not yet built into the Permanent Works is 80%.

6.10.3 Percentage retention is 10%.
The retention money amount is limited to 10% of the Contract value.

8.6.1.1.2 The value of Plant and materials supplied by the Employer to be included in the insurance sum is NIL

8.6.1.1.3 The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R 250 000

8.6.1.3 The limit of indemnity for liability insurance is R5 000 000 for any single claim, the number of claims to be unlimited during construction and Defects Liability Period.

Clause

8.6.1.5 In addition to the insurance required in terms of General Conditions of Contract Clause 8.6.11 to 8.6.1.3 the following insurance is also required:

Insurance cover against any damages or loss against production due to political unrest. The client shall not be held responsible for such damages or losses.

Existing buildings and infrastructure in the vicinity of the works likely to suffer damage as a result of the Contractor`s negligence to the value of R5 000 000.00

10.7.1 The determination of disputes shall be by arbitration.

PART 2: DATA PROVIDED BY THE CONTRACTOR

1.1.1.9 The Contractor is ……

1.2.1.2 The Contractor's address for receipt of communications is:

Physical address:	Postal address:
.....	.....
.....	.....
.....	.....
.....	.....

Telephone: .....

Fax: .....

Email: .....

6.2.1 The security to be provided by the Contractor shall be a Performance Guarantee of 10% of the Contract sum (inclusive of 15% VAT) plus retention as stated in 6.10.3 of part 1

VARIATIONS TO THE CONDITIONS OF CONTRACT ARE:

Clause

4.4.2 Liability for subcontractors

Add the following to Clause 4.4.2 after the last sentence:

"The Contractor shall not subcontract any part of the Contract without the prior written consent of the Engineer, which consent shall not be unreasonably withheld."

5.3.3 Time to instruct commencement of the Works

Add the following to Clause 5.3.3 after the last sentence:

"The Contractor shall not commence working until they have an approved project specific health and safety plan in terms of the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 and complied with the initial requirements thereof."

5.14.2 Issue of Certificate of Practical Completion

Replace "the Employer's Agent" *in the second line with the following:*

", the Contractor shall notify the Engineer, who shall inspect the Works and the Engineer"

5.14.4 Certificate of Completion

Replace " the Employer's Agent " *in the third line of the first paragraph with:*

", the Contractor shall notify the Engineer, who shall inspect the works and the Engineer"

6.2.2 *Delete Clause 6.2.2 in its entirety.*

6.10.4 Delivery, dissatisfaction with and payment of payment certificate

Replace "28 days" *in the seventh line with* "30 days".

6.11 Variations exceeding 15 per cent

Replace "15 per cent" *in the heading, the marginal heading and the fourteenth line with* "20 per cent".

C3.3 PERFORMANCE GUARANTEE (PRO FORMA)

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address: .....

"Employer" means: .....

"Contractor" means: .....

"Engineer" 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: .....

"Expire Date" means: .....

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

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

3 The Guarantor hereby acknowledge that:

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

3.2 its obligation under this Performance Guarantee is restricted to the payment of money.

4 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;

4.2 A first written demand issued by the Employer to the guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;

4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.

5 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:

5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or

5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and

5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7 Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

8 Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9 Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.

10 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

11 The Guarantor chooses the physical address as stated above for the service of all notices for al purposes in connection herewith.

12 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

13 This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

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

Signed at .....

Date .....

Guarantor's signatory: (1) .....

Capacity .....

Guarantor's signatory: (2) .....

C3.4 AGREEMENT IN TERMS OF THE OCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

THIS AGREEMENT made at _____

On this the _____ day of _____20_____

Between **TSWELOPELELOCAL MUNICIPALITY** (hereinafter called "the

Employer") herein represented by _____

In his/her capacity as_____

And

_____

(Hereinafter called "the Mandatory") of the other part, herein represented by

_____

In his/her capacity as _____

WHEREAS the Employer is desirous that certain works be undertaken as per this contract:

_____

and has accepted a Bid by the Mandatory for the provision of such services and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1 The Mandatory shall execute the work in accordance with the Contract Documents pertaining to this Contract.

2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Employer’s representative requiring him to commence the execution of the Works, to either

(a) the date of the Final Approval Certificate issued

(b) the date of termination of the Contract

3 The Mandatory declares himself/herself to be conversant with the following:

(a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:

(i) Section 8 : General duties of employers to their employees;
(ii) Section 9 : General duties of employers and self-employed persons to persons other than employees;
(iii) Section 37 : Acts or omissions by employees or mandataries, and
(iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.
(b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.

3 The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.

4 The Mandatory warrants that all his/her and his/her subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.

5 The Mandatory undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:

(a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.

(b) All incidents referred to in the Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.

(c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of section 32 of the Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.

6 In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF THE EMPLOYER:

SIGNATURE _____ DATE _____

DESIGNATION _____ DATE _____

SIGNED FOR AND ON BEHALF OF THE MANDATORY:

SIGNATURE _____ DATE _____

DESIGNATION _____ DATE _____

C3.3 CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatory in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the Board of Directors.

An example is given below:

"By resolution of the Board of Directors passed at a meeting held on

_____ 20_____,

Mr/Ms
_____ whose signature

Appears below, has been duly authorised to sign the AGREEMENT in terms of THE

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 of 1993) on behalf of

_____

SIGNED ON BEHALF OF THE COMPANY:_____

IN HIS/HER CAPACITY AS: _____

DATE: _____

SIGNATURE OF SIGNATORY: _____

WITNESS SIGNATURE _____

NAME _____
(IN CAPITALS)

N.B. MAKE SURE YOU INDEX ALL THE ATTACHMENTS FOR EASE OF IDENTIFICATION

….THE END…..