



MPUMALANGA PROVINCIAL GOVERNMENT

DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

TENDER No. PWRT/2581/24/MP

***THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE***

TENDER CIDB GRADING CLASS 8 CE OR HIGHER

**THE DEPARTMENT OF PUBLIC WORKS,
ROADS AND TRANSPORT**
Private Bag x 11310
NELSPRUIT
1200

Contact Person: Mr E. Baloyi
Telephone: 013 766 8527
Fax: 013 766 8449
Email: baloyie@mpg.gov.za

**MSW PROJECT MANAGERS AND
CONSULTING ENGINEERS**
PO Box 2486, Rivonia 2128
Sandton,
2191

Contact Person: Kenneth Muli
Telephone: 071 608 1768
E-mail: ken.muli@msw.za.com

Name of Tenderer

.....
CIDB Registration Number:

.....
Total of the prices inclusive of value added tax:

Preferences claimed for:

☐ **SPECIFIC GOALS**

CLOSING DATE: As Advertised

LIST OF CONTRACT DOCUMENTS

The following documents form part of this contract:

Volume 1: The General Conditions of Contract for construction works – 3rd Edition (2015), issued by the South African Institution of Civil Engineering, which the tenderer shall purchase himself. (See note 1 below).

Volume 2: The COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (2020 Edition), compiled under the auspices of the Committee of Land Transport Officials (COTO), Roads Coordinating Body (RCB) and Roads Materials Committee (RMC) which the tenderer shall download himself. (See Note 2 below).

Volume 3: The Project Document, containing the tender notice, Conditions of Tender, Tender Data,

Returnable Schedules, general and particular conditions of contract, project specifications, Pricing Schedule, Form of offer and Site Information is issued by the Employer (see note 3 below). The Employer's Form of Acceptance and any correspondence from the selected tenderer, performance security-demand guarantee, and all addenda issued during the period of tender will also form part of this volume once a successful tenderer has been appointed.

Volume 4: Reduced Book of drawings for tender purposes (incorporated and sold as part of Volume 3)

Notes to tenderer:

1. Volume 1 is obtainable from SAICE, Private Bag X200, Halfway House, 1685. Tel: (011) 8055947/8, e-mail: civilinfo@saice.org.za.
2. Volume 2 is available in electronic format from the official website of The National Department of Transport (NDoT) and The South African National Road Agency SOC Limited (SANRAL)
3. Volume 3 to 4 is obtainable from the Mpumalanga Provincial Government Tender Offices at the time of advertisement of applicable tenders and contains the following files:

- The full Project Document in hard copy
- The book of drawings

At contract stage Volume 3 will be a bound signed paper copy containing the following documents:

- Returnable schedules relevant to the project
- Agreements and Contract Data
- Pricing Data
- Scope of Work
- Site Information

4. **SUBMISSION OF TENDER** – Of the contract documents, all the elements of Volume 3 needs to be submitted in hard copy

Information provided by a tenderer over and above the above elements of volume 3 shall be treated as information only and will only be bound into the document if the tenderer notes on Form A4: Schedule of Variations or deviations that the information has a bearing on the tender price.

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

Table of Contents

The Tender

Part T1: Tendering Procedures	T1
T1.1. Tender Notice and Invitation to Tender	WHITE T2
T1.2. Tender Data	PINK T7
Part T2: Returnable Documents	T17
T2.1. List of Returnable Documents	YELLOW T17
T2.2. Returnable schedules	YELLOW T21

The Contract

Part C1: Agreements and Contract Data	C3
C1.1. Form of Offer and Acceptance	YELLOW C4
C1.2. Contract Data	YELLOW C9
Part C2: Pricing Data	C34
C2.1. Pricing Assumptions	YELLOW C35
C2.2. Bill of Quantities	YELLOW C37
Part C3: Scope of Work	C39
C3.1. Standard Specifications	BLUE C40
C3.2. Project Specifications	BLUE C1
C3.3. Particular Specifications	BLUE C92
Part C4: Site Information	C131
C4.1. Locality Plan	GREEN C132
C4.2. Conditions on Site: Geotechnical Report	GREEN C143
C4.3. Traffic Count Results	GREEN C144
C4.4. Drawings (Bound separately)	C149
PART C5. EPWP Guidelines	C158
C5.1. Guidelines for the implementation of labour intensive infrastructure projects under the expanded public works programme	C159
C5.2. Participants information (National, Provincial and Municipal) Template	C161

**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE
*TENDER No. PWRT/2581/24/MP***

PART T1 TENDERING PROCEDURES

Table of Contents

Part T1: Tendering Procedures	T1
T1.1. Tender Notice and Invitation to Tender.....	T2 WHITE
T1.2. Tender Data	T7 PINK

T1.1. TENDER NOTICE AND INVITATION TO TENDER

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
INVITATION TO BID

The Mpumalanga Department of Public Works, Roads and Transport invite bidders to bid for the following bid:

Bid No.	Bid Description	CIDB Grading	Bid available from	Compulsory Briefing Session	Bid Enquiries	Closing date and time
Tender No: PWRT/182/22/MP	THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE MPUMALANGA PROVINCE	8CE OR HIGHER	As Advertised	As Advertised	Contact Person: Kenneth Muli e-mail: ken.muli@msw.za.co.m Tel: 071 608 1768 Mr M E Baloyi at e-mail: baloyie@mpg.gov.za Tel: 013 766 6554	As Advertised

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT					
BID NUMBER:	PWRT/2581/24/MP	CLOSING DATE:	As Advertised	CLOSING TIME:	12h00
DESCRIPTION	THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE MPUMALANGA PROVINCE				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
MBOMBELA , Riverside Government Complex, Building No 9, Government Boulevard, Mbombela, 1200, PIET RETIEF , No. 11 Measroch Street, Piet Retief Office, KWAMHLANGA , KwaMhlanga Government Complex, Department of Finance, Building No. 12, Computer Centre EVANDER , 10 Cornell Road (previously occupied by Evander Home Affairs Offices), Evander, 2280, BUSHBUCKRIDGE , Bushbuckridge Advice Centre, Department of Finance, Protea building (old Telkom building), MIDDELBURG , Department of Public Works, Cnr. Lillian Ngoyi and Dr Beyers Naudé Streets – Old TPA Building, Upper ground floor, Office numbers A20, 21 and 25, MALELANE , 24 Air Street, Malelane, ELUKWATINI , Elukwatini Sub Regional offices, Office numbers A49 and A50 (opposite Elukwatini Community Hall) Stand number 12 Extension A, Elukwatini.					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON	Mr E Baloyi		CONTACT PERSON	Mr Kenneth Muli	
TELEPHONE NUMBER	013 766 6554		TELEPHONE NUMBER	011 990 7600	
FACSIMILE NUMBER	013 766 8449		FACSIMILE NUMBER		
E-MAIL ADDRESS	baloyie@mpg.gov.za		E-MAIL ADDRESS	ken.muli@msw.za.com	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
A. ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		B. ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?		☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?				☐ YES ☐ NO	
DOES THE ENTITY HAVE A BRANCH IN THE RSA?				☐ YES ☐ NO	
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?				☐ YES ☐ NO	
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?				☐ YES ☐ NO	
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 BELOW.					

PART B TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
- 1.4. **THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).**

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

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

SIGNATURE OF BIDDER:

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

DATE:

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

On collection of the tender documents a non-refundable tender deposit of R200.00 is required payable in cash or by bank guarantee cheque made out in favour of the "Mpumalanga Department of Public Works, Roads and Transport". The deposit is payable at the following Central Supply Chain Offices;

1. Mbombela

Riverside Government Complex, Building No 9, Government Boulevard, Mbombela, 1200

Contact Person: Mr VS Ngobe (013) 766 6339 or Ms NN Ndlovu (013) 766 8258 Fax: (013) 766 8455

2. Malelane

24 Air Street , Malelane

Contact Person: Ms DM Thobela: 013 7900 719/723, Fax: (013) 790 0514

3. Siyabuswa

Old Parliament Building, Building No. 1, Job Skhosana Street, Siyabuswa, 0472

Contact Person: Mr. Tsepho Ngwatle or Ms Sophie Masanabo : (013) 766 7961/62

4. Middelburg

Department of Public Works, Cnr. Lillian Ngoyi and Dr Beyers Naudé Streets – Old TPA Building, Upper ground floor, Office numbers A20, 21 and 25

Contact Person: Ms Lorraine Motebu or Ms Mendy Kabini : (013) 282 8776/9151, Fax: (013) 282 8776

5. Elukwatini

Elukwatini Sub Regional offices, Office numbers A49 and A50 (opposite Elukwatini Community Hall) Stand number 12 Extension A, Elukwatini, 1190

Contact Person: Mr Z Mkhonza or Ms TL Khathide : (017) 883 1396/7

6. Piet Retief

No. 11 Measroch Street, Piet Retief Office

Contact Person: Mr Alex Shongwe : (017) 826 1671, Fax: (017) 826 0577

7. Kwamhlanga

Kwamhlanga Government Complex, Department of Finance, Building No. 12 Computer Centre

Contact Person: Ms TA Sibanyoni: (013) 766 4872, Ms Sophie Masanabo: (013) 766 4874, Ms Emilly Mnguni: (013) 766 4873, Ms TS Mabena: (013) 766 4875, Fax: (013) 947 2250

8. Evander

10 Cornell Road (Previously occupied by Evander Home Affairs Offices), Evander, 2280

Contact Person: Mr Andries Mahlangu or Ms Martha Mahlangu or Mr Nhlanhla Mavuso : (017) 632 1607/1540/1549, Fax: (017) 632 1395

9. Bushbuckridge

Bushbuckridge Advice Centre, Department of Finance, Protea Building (old Telkom Building)

Contact Person: Mr Cecil Tshabangu or Mr Peterson Sithole: (013) 799 2125, Fax: (013) 799 0535

Documents may be collected between 08:30 and 13:00 or between 14:00 and 16:00 on weekdays.

Please note that the tender closures are only administered at the following Central Supply Chain Offices;

1. Mbombela

Riverside Government Complex, Building No 9, Government Boulevard, Mbombela, 1200

Contact Person: Mr VS Ngobe (013) 766 6339 or Ms NN Ndlovu (013) 766 8258 Fax: (013) 766 8455

2. Piet Retief

No. 11 Measroch Street, Piet Retief Office

Contact Person: Mr Alex Shongwe : (017) 826 1671, Fax: (017) 826 0577

3. Kwamhlanga

Kwamhlanga Government Complex, Department of Finance, Building No. 12 Computer Centre

Contact Person: Ms TA Sibanyoni: (013) 766 4872, Ms Sophie Masanabo: (013) 766 4874, Ms Emily Mnguni: (013) 766 4873, Ms TS Mabena: (013) 766 4875, Fax: (013) 947 2250

4. Evander

10 Cornell Road (Previously occupied by Evander Home Affairs Offices), Evander, 2280

Contact Person: Mr Andries Mahlangu or Ms Martha Mahlangu or Mr Nhlanhla Mavuso : (017) 632 1607/1540/1549, Fax: (017) 632 1395

5. Bushbuckridge

Bushbuckridge Advice Centre, Department of Finance, Protea Building (old Telkom Building)

Contact Person: Mr Cecil Tshabangu or Mr Peterson Sithole: (013) 799 2125, Fax: (013) 799 0535

6. Middelburg

Department of Public Works, Cnr. Lillian Ngoyi and Dr Beyers Naudé Streets – Old TPA Building, Upper ground floor, Office numbers A20, 21 and 25

Contact Person: Ms Lorraine Motebu or Ms Mendy Kabini : (013) 282 8776/9151, Fax: (013) 282 8776

7. Malelane

24 Air Street , Malelane

Contact Person: Ms DM Thobela: 013 7900 719/723, Fax: (013) 790 0514

NB: Late tenders will not be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

It is a requirement of this project that the successful tenderer subcontract a minimum of thirty percent (30%) of the work.

NB: The Client is not obliged to accept the lowest or any of the tenders.

T1.2. TENDER DATA

The conditions of tender are those contained in the latest edition of SANS 10845-3, *Construction Procurement – Part 3: Standard conditions of tender*.

SANS 10845-3 makes several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the provisions of SANS 10845-3.

Each item of data given below is cross-referenced to the clause in SANS 10845-3 to which it mainly applies.

Clause number	Tender Data
3.1	The Employer is MPUMALANGA PROVINCIAL GOVERNMENT, DEPARTMENT OF PUBLIC WORKS ROADS AND TRANSPORT.
3.2	The tender documents issued by the employer comprise the following documents: THE TENDER Part T1: Tendering procedures T1.1 - Tender notice and invitation to tender T1.2 - Tender data Part T2: Returnable documents T2.1 - List of returnable documents T2.2 - Returnable schedules THE CONTRACT Part C1: Agreements and Contract data C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Performance Bond <i>referred as Performance Guarantee in the GCC2015-3rd Edition</i> Part C2: Pricing data C2.1 - Pricing assumptions C2.2 - Bill of Quantities Part C3: Scope of work C3 - Scope of work Part C4: Site information C4 - Site information
3.4	The Engineer is: Name: MSW PROJECT MANAGERS & CONSULTING ENGINEERS(PTY) LTD Address: Block 12, Pinewood Office Park, 33 Riley Road Woodmead, Sandton, 2191 Tel: 011 990 7600 E-mail : ken.muli@msw.za.com

3.4	The language for communications is English.
3.6	The competitive negotiation procedure shall be applied.
4.7	Site inspection and briefing meeting is as detailed in the tender advertisement. • There will be compulsory site briefing session. Tenderers /Bidders must sign attendance in the name of tendering entity. • Tenderers/bidders will be considered for evaluation only from those tendering entities appearing on the attendance list. • In case of a joint venture partnership, one entity will be considered to represent the Joint Venture. Once in a JV, neither entity can tender on their own for the same tender The arrangements for the compulsory site inspection visit and briefing meeting are as follows: Location: The Employer will meet tenderers in the intersection where the Provincial Road P100 (R544) crosses two Transnet Railway lines in Witbank Extension 63 - where attendance will be registered and from where a site visit will be conducted. Co-ordinates: 25°52'01"S 29°12'35"E Date: As Advertised Meeting time: As Advertised Enquiries and confirmation of attendance at least one full working day in advance regarding the meeting and site inspection may be directed to: Mr. E. Baloyi tel. 013 766 8527 and baloyie@mpg.gov.za , Mr. Kenneth Muli tel. 011 990 7600 or ken.muli@msw.za.com
4.13.1	Parts of each tender offer communicated on paper shall be submitted as only original copy.
4.13.5	The employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are: Location of tender box: Any of the six regional branches as specified on page T4 Identification details: Tender reference number: PWRT/2581/24/MP Title of Tender: THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE MPUMALANGA PROVINCE Tender Closing date and time of the tender: As Advertised

4.13.6	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.						
4.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.						
4.16	The tender offer validity period is 180 Days.						
4.20	The tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Bond (<i>Performance Guarantee GCC2015</i>) to the format included in Part C1.3 of this procurement document						
5.11.5	The Bid Evaluation Committee (BEC) on the following basis shall conduct the evaluation: <table border="1"> <tr> <td>Functionality</td><td>100</td></tr> </table> Points for Price and Specific Goals <table border="1"> <tr> <td>PRICE</td><td>90</td></tr> <tr> <td>SPECIFIC GOALS</td><td>10</td></tr> </table> Only Bidders, who score 70 points or more for Functionality, will qualify for further evaluation for PRICE and PREFERENCE, provided that they meet 50% of each of the points allocated under functionality criteria in major bridge construction projects as a pre-requisite. Method 4: Financial Offer, Functionality and Preference will be used for the Evaluation of Tender Offer.	Functionality	100	PRICE	90	SPECIFIC GOALS	10
Functionality	100						
PRICE	90						
SPECIFIC GOALS	10						
5.11.9	The BEC members shall individually evaluate the responses received and /or presentations made against the following criteria. The applicable points to be applied to functionality evaluation as follows: Functionality will include the following: • Company Experience in Roads and Bridges Construction Works (50 points) • Key Personnel Experience (25 points) • Key Personnel Qualifications (10 points) • Plant and Equipment (5 points) • Realistic Works Program and Cash-flow Projections (10 points) Functionality is evaluated out of 100 points, and the points are allocated for each Criteria listed above. The evaluation of Functionality and allocation of points for Functionality is explained further below:						

Functionality criteria	Sub criteria	Maximum number of points																				
Company Experience in Road Construction Works	Company Experience in Roads and Bridges Construction Works is evaluated according to the formula below: $\frac{\text{Highest project cost in roads construction completed in the last 5 years}}{\text{Highest amount as per the CiDB grading for the Project under evaluation}} \times 100 = \%$ <i>NB: For a grade 9 project under evaluation, use Engineers Estimates or the highest bidder Amount.</i> % of 25 = points out of 25 Proof of experience to be provided by attaching copies of Appointment Letters and copies of Completion Certificates. If the copies of Appointment Letters and copies of Completion Certificates are not attached, the project will not qualify for the allocation of points.	50																				
Key Personnel: Experience in Roads Construction	a) Contracts Manager on permanent basis with relevant experience of 10 or more years' experience in roads construction as a contracts manager, 5 points allocated. Experience in bridge construction would be an added advantage. The bidder must have in its employment one contracts manager with a minimum of 5 years' experience in contracts management in road and bridge construction. Points will be allocated on a pro-rata basis for experience between 5 and 10 years, as indicated below: <table><thead><tr><th>YEARS RELEVANT EXPERIENCE equal to or more than ... years</th><th>POINTS</th></tr></thead><tbody><tr><td>10</td><td>2</td></tr><tr><td>13</td><td>4</td></tr><tr><td>15</td><td>6</td></tr><tr><td>17</td><td>8</td></tr><tr><td>20 and more</td><td>10</td></tr></tbody></table> b) Senior Site Agent on permanent basis with relevant experience of 10 or more years, 10 points allocated. A minimum of 5 years' experience in roads construction as a Site Agent is required. Points will be allocated on a pro-rata basis for experience between 5 and 10 years, as indicated below: <table><thead><tr><th>YEARS RELEVANT EXPERIENCE equal to or more than ... years</th><th>POINTS</th></tr></thead><tbody><tr><td>10</td><td>1</td></tr><tr><td>11</td><td>2</td></tr><tr><td>12</td><td>3</td></tr></tbody></table>	YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS	10	2	13	4	15	6	17	8	20 and more	10	YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS	10	1	11	2	12	3	25
YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS																					
10	2																					
13	4																					
15	6																					
17	8																					
20 and more	10																					
YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS																					
10	1																					
11	2																					
12	3																					

	<table><tr><td>13</td><td>4</td></tr><tr><td>15 and more</td><td>5</td></tr></table> c) Safety Officer on permanent basis with relevant experience of 5 or more years, 5 points allocated. Points will be allocated on a pro-rata basis for relevant experience between 1 and 5 years, as indicated below: <table><tr><th>YEARS RELEVANT EXPERIENCE equal to or more than ... years</th><th>POINTS</th></tr><tr><td>10</td><td>1</td></tr><tr><td>13</td><td>2</td></tr><tr><td>15</td><td>3</td></tr><tr><td>18</td><td>4</td></tr><tr><td>20</td><td>5</td></tr></table> d) General Foremen: Two General Foremen on permanent basis each with 8 or more years' experience, one in roads construction and the other in bridge construction as general foremen, 10 points allocated. A minimum of 4 years' experience in both roads and bridge construction as General Foremen is required. Points will be allocated on a pro-rata basis for experience between 4 and 8 years, as indicated below: <table><tr><th>EXPERIENCE OF GENERAL FOREMAN IN MAJOR BRIDGE WORKS equal to or more than ... years</th><th>POINTS</th></tr><tr><td>10</td><td>1</td></tr><tr><td>15</td><td>2</td></tr><tr><td>20</td><td>3</td></tr></table> <table><tr><th>EXPERIENCE OF GENERAL FOREMAN IN ROADS WORKS equal to or more than ... years</th><th>POINTS</th></tr><tr><td>10</td><td>1</td></tr><tr><td>15</td><td>1.5</td></tr><tr><td>20</td><td>2</td></tr></table>	13	4	15 and more	5	YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS	10	1	13	2	15	3	18	4	20	5	EXPERIENCE OF GENERAL FOREMAN IN MAJOR BRIDGE WORKS equal to or more than ... years	POINTS	10	1	15	2	20	3	EXPERIENCE OF GENERAL FOREMAN IN ROADS WORKS equal to or more than ... years	POINTS	10	1	15	1.5	20	2	
13	4																																	
15 and more	5																																	
YEARS RELEVANT EXPERIENCE equal to or more than ... years	POINTS																																	
10	1																																	
13	2																																	
15	3																																	
18	4																																	
20	5																																	
EXPERIENCE OF GENERAL FOREMAN IN MAJOR BRIDGE WORKS equal to or more than ... years	POINTS																																	
10	1																																	
15	2																																	
20	3																																	
EXPERIENCE OF GENERAL FOREMAN IN ROADS WORKS equal to or more than ... years	POINTS																																	
10	1																																	
15	1.5																																	
20	2																																	
Key Personnel: Qualifications in the Built Environment	e) Contracts Manager on permanent basis: Maximum points will be allocated for bidder with a suitably qualified and professionally registered in the Built Environment (registered with SACPCMP as Pr CM, Pr CPM or with ECSA as Pr Eng or Pr Tech Eng) Points will be allocated	10																																

on a pro-rata basis between 1 and 5 points as indicated below:

QUALIFICATIONS IN THE BUILT ENVIRONMENT	POINTS
National Diploma	2
BSc, B Eng or BTech	5

f) Senior Site Agent on a permanent basis: Maximum points will be allocated for a bidder with a suitably qualified site agent in the built environment. Points will be allocated on a pro-rata basis between 1 and 3 points as indicated below:

QUALIFICATIONS IN THE BUILT ENVIRONMENT	POINTS
National Diploma	1
BSc, B Eng or BTech	2
BSc, B Eng or BTech with minimum NQF 5 in LIC	3

g) Safety Officer on a permanent basis: Maximum points will be allocated for a bidder with a suitably qualified Safety Officer professionally registered with SACPCMP. Points will be allocated on a pro-rata basis between 1 and 2 points as indicated below:

QUALIFICATIONS IN THE BUILT ENVIRONMENT	POINTS
Certificate in Safety Management	1
Certificate in Safety Management with SACPCMP registration / SAIOSH Registration	

Note:

- o Certified Proof of qualifications and experience of key personnel must be provided by attaching copies of certificates and CVs, detailing relevant experience and years of experience.

	o Full points will be given to personnel in permanent employment, half points for personnel contracted from outside; proof of agreement should be submitted for a personnel contracted from outside the entity.	
--	---	--

Recognized Accredited Quality Management Systems	Points for in-house or accredited QMS will be allocated as indicated in the table below: Points will be awarded as per the Table below: <table><tr><th>PROGRAM AND CASHFLOW</th><th>POINTS</th></tr><tr><td>No Submission</td><td>0</td></tr><tr><td>In-House QMS</td><td>3</td></tr><tr><td>Accredited QMS</td><td>5</td></tr></table>	PROGRAM AND CASHFLOW	POINTS	No Submission	0	In-House QMS	3	Accredited QMS	5	5								
PROGRAM AND CASHFLOW	POINTS																	
No Submission	0																	
In-House QMS	3																	
Accredited QMS	5																	
Works Program and Cash Flow Projections	Maximum points will be allocated for a realistic and practical baseline works program with the realistic cash-flow projections. Points will be allocated on a pro-rata basis between 0 and 10 points as indicated below: <table><tr><th>WORKS PROGRAM</th><th>POINTS</th></tr><tr><td>No Submission</td><td>0</td></tr><tr><td>Submission, Not Satisfactory</td><td>3</td></tr><tr><td>Submission, Satisfactory</td><td>5</td></tr></table> NB: Satisfactory Programme must at least include the following: • Indicate all major work activities, • Critical path, • Project duration, • Project float and slag. <table><tr><th>CASHFLOW PROJECTIONS</th><th>POINTS</th></tr><tr><td>No Submission</td><td>0</td></tr><tr><td>Submission, Not Satisfactory</td><td>3</td></tr><tr><td>Submission, Satisfactory</td><td>5</td></tr></table>	WORKS PROGRAM	POINTS	No Submission	0	Submission, Not Satisfactory	3	Submission, Satisfactory	5	CASHFLOW PROJECTIONS	POINTS	No Submission	0	Submission, Not Satisfactory	3	Submission, Satisfactory	5	10
WORKS PROGRAM	POINTS																	
No Submission	0																	
Submission, Not Satisfactory	3																	
Submission, Satisfactory	5																	
CASHFLOW PROJECTIONS	POINTS																	
No Submission	0																	
Submission, Not Satisfactory	3																	
Submission, Satisfactory	5																	

	NB: Satisfactory Cash-flow must at least include the following: • Mobilisation requirements • Cash-flow peaks • Drawdowns • Demobilisation cash-flow impacts.	
Maximum possible score for functionality		100
PRICE	Only qualifying bids shall be evaluated further in terms of the 90/10 preference points system, 90 points will be only for the price. A maximum of 90 points is allocated for price on the following basis: 90/10 $Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$ Where Ps = Points scored for comparative price of bid under consideration Pt = Comparative price of bid under consideration Pmin = Comparative price of lowest acceptable bid	90
SPECIFIC GOALS	A maximum of 10 points shall be awarded to a bidder(s) in respect of Specific goals as contemplated in the Preferential Procurement Policy Framework Act 2000 (PPPFA) Preferential Regulations 2022, Regulations were gazetted on 4 November 2022 (No. 47552) Vol 689 and effective from 16 January 2023. This bid will be evaluated as per the above-mentioned regulations. Bidders are required to submit evidence by which Preference points can be claimed based on the Specific goals determined by the Department. In case of a Joint Venture, the average score of the joint companies will be considered for determining preference point score. Points will only be allocated from proof of members appearing on the company registration document (CK) for the various specific goals allocated.	10

	<table><tr><th>Specific Goals</th><th>Maximum Preference Points Allocated</th></tr><tr><td>HDI</td><td>5</td></tr><tr><td>Women</td><td>3</td></tr><tr><td>Disabled persons</td><td>2</td></tr><tr><td>TOTAL</td><td>10 Points</td></tr></table>	Specific Goals	Maximum Preference Points Allocated	HDI	5	Women	3	Disabled persons	2	TOTAL	10 Points	
Specific Goals	Maximum Preference Points Allocated											
HDI	5											
Women	3											
Disabled persons	2											
TOTAL	10 Points											
5.11.9												
5.17	The number of paper copies of the signed contract to be provided by the employer is ONE .											
	The additional conditions of tender are: • Supervision of Labour Intensive Works The tenderer must submit to the Employer, names of all management supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements											

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE
TENDER No. PWRT/2581/24/MP

T2. RETURNABLE DOCUMENTS**T2.1. LIST OF RETURNABLE DOCUMENTS**

A: CERTIFICATE OF ATTENDANCE AT A TENDER SITE MEETING.....	21
B: RECORD OF ADDENDA TO TENDER DOCUMENTS	22
C: PROPOSED AMENDMENTS AND QUALIFICATIONS	23
D: COMPULSORY DECLARATION	24
E: CERTIFICATE OF AUTHORITY OF AN ENTITY	29
F REGISTRATION CERTIFICATE OF AN ENTITY	34
G: SCHEDULE OF THE TENDERER'S EXPERIENCE.....	35
H: KEY PERSONNEL	36
I: CURRICULUM VITAE FORMAT OF KEY PERSONNEL.....	37
J: SCHEDULE OF PLANT AND EQUIPMENT	38
K: COPY OF WORKMENS' COMPENSATION REGISTRATION CERTIFICATE	39
L : SARS PIN	40
M: FORM OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE	41
N: PREFERENCING SCHEDULE (FOR CONTRACT PARTICIPATION GOAL).....	42
O: EXECUTION PROGRAMME AND CASH FLOW PROJECTIONS	46
P: CONTRACTORS' HEALTH AND SAFETY DECLARATION	47
Q: CONTRACTORS' SAFETY PLAN	49
R: PRO FORMA NOTIFICATION FORM IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, CONSTRUCTION REGULATIONS 2014.....	50
S: CONTRACTORS' QUALITY MANAGEMENT PLAN	52
T: VAT REGISTRATION CERTIFICATE.....	53

W:	SBD 4.....	56
X:	SBD 6.1.....	59
Y:	SBD 6.2 DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS	64
Z:	SBD 6.2 ANNEXURE C - LOCAL CONTENT DECLARATION	69

Note: Failure to provide these documents will result in the tender not being evaluated

1. Documentation to demonstrate eligibility to have tenders evaluated

Compulsory Returnable Schedules are copies/originals of the following documents.

Failure to submit any of the documents listed below will automatically disqualify the Bid.

- a) Record of Addenda to tender documents (where applicable)
- b) Copy of valid SARS PIN issued. It must be valid on the date on which the tender closes.
- c) Certificate of Authority of Joint Ventures/ Close Corporations/ Partnership/Company/Sole Proprietor (Certified Copies of the Identity Documents in the Case of Sole Proprietor)
- d) Compulsory Enterprise Questionnaire
- e) Form of intent by a bank or insurance company to provide a performance guarantee
- f) Schedule Registration Certificates of Entities - Joint Ventures/Close Corporations/Partnership/ Company/Sole Proprietor
- g) Copy of Workmen's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993) – a Letter of Good standing.
- h) Signed Form of Offer
- i) Fully completed Bill of Quantities (BoQ) / Pricing schedule
- j) Legal Joint Venture Agreement (in case of a JV)
- k) Fully completed tender document and the Standard Bidding Documents (SBD 1, SBD 4, SBD 6.1 and SBD 6.2 and Annexure C)
- l) Contractors Quality Management Plan
- m) Contractors Safety Plan

Note:

- o As mandated by DTI and the South African Bureau of Standards (SABS) only locally, produced goods or locally manufactured goods meeting the minimum stipulated threshold for local production and content will be considered. **(See designated industries, sectors and sub-sectors found under www.thedtic.gov.za).**

2. Returnable Schedules required for tender evaluation purposes

The following **RETURNABLE SCHEDULES** will be required for tender evaluation purposes:

- a) Schedule of Key Personnel - In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.
- b) Curriculum Vitae, and certified copies of qualifications done within three months of tender closing.
- c) Schedule of Tenderer's Experience (attach Appointment Letters or Completion Certificates)
- d) Schedule of plant and equipment (attach proof of ownership / lease agreement)
- e) Form of Intent to offer a Performance Guarantee
- f) Specific goals
- g) Proposed execution programme and Cash flow Projections
- h) Contractor's health and safety declaration
- i) Contractors environmental management plan

NB: Failure of the bidder to attach any of the above-mentioned supporting documents will result in zero point's allocation during the evaluation process.

T2.2. RETURNABLE SCHEDULES**A: CERTIFICATE OF ATTENDANCE AT A TENDER SITE MEETING**

This is to certify that (*Tenderer*)
of (*address*).....

..... was represented by the
person(s) named below at the compulsory meeting held for all tenderers at.....

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site
of the works and / or matters incidental to doing the work specified in the tender documents in order
for me / us to take account of everything necessary when compiling our rates and prices included in
the tender.

Particulars of person(s) attending the meeting:

Name: Signature:

Capacity:

Name: Signature:

Capacity:

**Attendance of the above person(s) at the meeting is confirmed by the Employer's
representative, namely:**

Name: Signature:

Capacity: Date and Time:

B: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from 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

Tenderer

C: PROPOSED AMENDMENTS AND QUALIFICATIONS

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

The Tenderer's attention is drawn to clause 5.8 of SANS 10845-3 regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed

Date

Name

Position

Tenderer

D: COMPULSORY DECLARATION

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

Section 1: Enterprise Details

Name of enterprise:	
Contact person:	
Email:	
Telephone:	
Cell no	
Fax:	
Physical address	
Postal address	

Section 2: Particulars of companies and close corporations

Company / Close Corporation registration number	
--	--

Section 3: SARS Information

Tax reference number	
VAT registration number:	<i>State Not Registered if not registered for VAT</i>

Section 4: CIDB registration number

CIDB Registration number (if applicable)	
---	--

Section 5: National Treasury Central Supplier Database

Supplier number	
Unique registration reference number	

Section 6: Particulars of principals

principal: means a natural person who is a partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act of 2008 (Act No. 71 of 2008) or a member of a close corporation registered in terms of the Close Corporation Act, 1984, (Act No. 69 of 1984).

Full name of principal	Identity number	Personal tax reference number

Attach separate page if necessary

Section 7: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any principal is currently or has been within the last 12 months in the service of any of the following:

- | | |
|--|--|
| ☐ a member of any municipal council | ☐ an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act of 1999 (Act No. 1 of 1999) |
| ☐ 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 | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ an official of any municipality or municipal entity | ☐ an employee of Parliament or a provincial legislature |

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

Name of principal	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 8: Record of family member in the service of the state

family member: a person's spouse, whether in a marriage or in a customary union according to indigenous law, domestic partner in a civil union, or child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption

Indicate by marking the relevant boxes with a cross, if any family member of a principal as defined in section 5 is currently or has been within the last 12 months been in the service of any of the following:

- | | |
|--|--|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or |
|--|--|

- | | |
|--|--|
| ☐ 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 | constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 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 family member	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 9: Record of termination of previous contracts with an organ of state

Was any contract between the tendering entity including any of its joint venture partners terminated during the past 5 years for reasons other than the employer no longer requiring such works or the employer failing to make payment in terms of the contract.

☐ Yes ☐ No (Tick appropriate box)

If yes, provide particulars (insert separate page if necessary)

Section 10: Declaration

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the tendering entity confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise in an attachment hereto, are to the best of my belief both true and correct, and:

- i) neither the name of the tendering entity or any of its principals appears on:
 - a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004)
 - b) National Treasury's Database of Restricted Suppliers (see www.treasury.gov.za)
- ii) neither the tendering entity or any of its principals has within the last five years been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa);
- iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration);
- iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers
- v) has not engaged in any prohibited restrictive horizontal practices including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches

to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract etc) or intention to not win a tender;

vi) has 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;

vii) neither the tenderer or any of its principals owes municipal rates and taxes or municipal service charges to any municipality or a municipal entity and are not in arrears for more than 3 months;

viii) SARS may, on an on-going basis during the term of the contract, disclose the tenderer's tax compliance status to the Employer and when called upon to do so, obtain the written consent of any subcontractors who are subcontracted to execute a portion of the contract that is entered into in excess of the threshold prescribed by the National Treasury, for SARS to do likewise.

Signed

Date

Name

Position

Enterprise name

NOTE 1 The Standard Conditions of Tender contained in SANS 10845-3 prohibits anticompetitive practices (clause 3.1) and requires that tenderers avoid conflicts of interest, only submit a tender offer if the tenderer or any of his principals is not under any restriction to do business with employer (4.1.1) and submit only one tender either as a single tendering entity or as a member in a joint venture (clause 4.13.1). Clause 5.7 also empowers the Employer to disqualify any tenderer who engages in fraudulent and corrupt practice. Clause 3.1 also requires tenderers to comply with all legal obligations.

NOTE 2: Section 30(1) of the Public Service Act, 1994, prohibits an employee (person who is employed in posts on the establishment of departments) from performing or engaging remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department. When in operation, Section 8(2) of the Public Administration Management Act, 2014, will prohibit an employee of the public administration (i.e. organs of state and all national departments, national government components listed in Part A of Schedule 3 to the Public Service Act, provincial departments including the office of the premier listed in Schedule 1 of the Public Service Act and provincial departments listed in schedule 2 of the Public Service Act, and provincial government components listed in Part B of schedule 3 of the Public Service Act) or persons contracted to executive authorities in accordance with the provisions of section 12A of the Public Service Act of 1994 or persons performing similar functions in organs of state from conducting business with the State or to be a director of a public or private company conducting business with the State. The offence for doing so is a fine or imprisonment for a period not exceeding 5 years or both. It is also a serious misconduct which may result in the termination of employment by the employer.

NOTE 3: Regulation 44 of Supply Chain Management regulations issued in terms of the Municipal Finance Management Act of 2003 requires that organs of state and municipal entities not award a contract to a person who is the service of the state, a director, manager or principal shareholder in the service of the state or who has been in the service of the state in the previous twelve months.

NOTE: 4: Regulation 45 of Supply Chain Management regulations requires a municipality or municipal entity to disclose in the notes to the annual statements particulars of any award made to a close family member in the service of the state.

NOTE: 5 Corrupt activities which give rise to an offence in terms of the Prevention and Combating of Corrupt Activities Act of 2004) include improperly influencing in any way the procurement of any contract, the fixing of the price, consideration or other moneys stipulated or otherwise provided for in any contract and the manipulating by any means of the award of a tender.

NOTE: 6 Section 4 of the Competition Act of 1998 prohibits restrictive horizontal practice including agreements between parties in a horizontal relationship which have the effect of substantially preventing or lessening competition, directly or indirectly fixing prices or dividing markets or constitute collusive tendering. Section 5 also prohibits restrictive vertical practices. Any restrictive practices that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties.

E: CERTIFICATE OF AUTHORITY OF AN ENTITY

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

(I) Company	(II) Close Corporation	(III) Partnership	(IV) Joint Venture	(V) Sole Proprietor

(I) CERTIFICATE FOR COMPANY

I, chairperson of the Board of Directors of, hereby confirm that by resolution of the Board (copy attached) taken on 20.....,

Mr/Ms, acting in the capacity of, was authorised to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

Signature of Chairman:

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

(II) CERTIFICATE FOR CLOSE CORPORATION

We, the undersigned, being the key members in the business trading
as.....

hereby authorises Mr/Ms.....,

acting in the capacity of,

to sign all documents in connection with the tender for Contract No
..... and any contract resulting from it on our behalf.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

NAME	ADDRESS	SIGNATURE	DATE

Note: This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

(III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key members in the business trading
as.....

hereby authorises Mr/Ms.....,

acting in the capacity of,

to sign all documents in connection with the tender for Contract No
..... and any contract resulting from it on our behalf.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

NAME	ADDRESS	SIGNATURE	DATE

Note: This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.

(IV) CERTIFICATE FOR JOINT VENTURE

We, the undersigned, being the key members in the business trading
as.....

hereby authorises Mr/Ms.....,

acting in the capacity of

.....,

to sign all documents in connection with the tender for Contract No
..... and any contract resulting from it on our behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME AND CAPACITY
Lead partner		
		
		

Note: This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.

(V) CERTIFICATE FOR SOLE PROPRIETOR

[Important note to Tenderer: Certified copies of the Identity Documents must be included here in case of a Sole Proprietor]

I....., hereby confirm that I am the sole owner of the

business trading as:.....

Signature of Sole owner:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

F REGISTRATION CERTIFICATE OF AN ENTITY

[Important note to Tenderer: Registration Certificates for Companies, Close Corporations and Partnerships, certified copies of ID documents for Sole Proprietors, must be inserted here. In the case of a Joint Venture, a copy of a duly signed Joint Venture Agreement must be included]

G: SCHEDULE OF THE TENDERER'S EXPERIENCE

The tenderer is to provide the following information regarding the seven largest relevant projects of similar nature (Road Rehabilitation Works) completed by the tenderer during the last five years, in order of contract price. Only experience by the tendering entity, and not by staff members, shall be taken into account in awarding functionality points. **Only projects listed in the table below will be considered for acquiring points.**

Employer: Contact Person and Telephone Number	Consulting Engineer: Contact Person and Telephone Number	Nature of Work	Value of Work (inclusive of VAT)	Date Completed or Expected to be Completed

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

H: KEY PERSONNEL

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

Category of Employee	Number of Persons	
	Personnel, Part of the Contractor's Organisation	Personnel to be contracted if not available within the employ of the company
#Contract Manager		
#Site Agent		
#Safety Officer		
#General Foremen		
Technicians, Surveyors, etc.		
Artisans and other Skilled workers		
Plant Operators		
Unskilled Workers		
Others:		
.....		
.....		
.....		

Notes. The categories marked are Key Personnel.

1. Contract Manager on permanent basis with a suitably qualified qualification and professionally registered in the Built Environment (registered with SACPCMP as Pr CM, Pr CPM or with ECSA as Pr Eng or Pr Tech Eng) and with relevant experience of more than six or more years will score the full 5 functionality points.
2. Site Agent on permanent basis with a suitably qualified qualification in the Built Environment and with experience of eight or more years, will score the full 10 functionality points. A minimum of 4 years' experience in road construction as a site agent is required.
3. Safety Officer on permanent basis with a suitably qualified qualification and professionally registered with SACPCMP and relevant experience of five or more years, will score the full 5 functionality points.
4. Two General Foremen on permanent basis each with eight or more years of experience, one in roads construction and the other in bridge construction both as a general foreman, will score full 10 functionality points.

SIGNATURE:

DATE:

(of person authorized to sign on behalf of the Tenderer)

I: CURRICULUM VITAE FORMAT OF KEY PERSONNEL

To be done for at least the following personnel:

#Contract Manager

#Site Agent / Project Manager

#Foremen

Quality Controller

Safety Officer

Traffic Safety Officer

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

J: SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I/we presently own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

**K: COPY OF WORKMENS' COMPENSATION REGISTRATION CERTIFICATE (OR
PROOF OF PAYMENT OF CONTRIBUTIONS IN TERMS OF THE COMPENSATION
FOR OCCUPATIONAL INJURIES AND DISEASES ACT NO. 130 OF 1993)**

***[Certified Copy of the Certificate or Proof of Payment thereof obtained from the
Workmen's Compensation Commissioner to be inserted here]***

L : SARS PIN

[Copy of Valid Tax SARS PIN to be inserted here]

M: FORM OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE

[In case the Tenderer chooses to provide surety in the form of a Performance Guarantee (as per section C.1.2.2 Part B: Data provided by the Contractor):

The Tenderer must attach hereto a letter from the bank or institution with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so].

A Proforma is attached in this document under section C1.2.3 for the tenderers to use.

N: PREFERENCING SCHEDULE (FOR CONTRACT PARTICIPATION GOAL)**1. DEFINITIONS**

The following definitions shall apply to this schedule:

- a) **Contract Participation Goal (CPG)** amount equal to the sum of: a) the wages and allowances for which the contractor contracts to engage targeted labour; and b) the value of supplies, services and works for which the contractor contracts targeted enterprises in the performance of the contract; exclusive of any value added tax or sales tax required by law, expressed as a percentage of the net amount of the contract.
- b) **Targeted Labour:** Individuals, employed by the contractor in the performance of the contract, who are defined as the target group in the contract and who permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area.
- c) **Targeted Enterprises:** Suppliers of goods, providers of services, providers of plant and transport, or manufacturers, and who are recognized by the Community Forum as being Local enterprises, or individuals permanently residing in the Local area that are potential emerging Local enterprises, and who are subcontracted by the Contractor for the contract as may be elected by the Contractor. The distinction of enterprises, suppliers and manufacturers is further made for weighting purposes. The standard definitions apply.
- d) **Target Area (local)** is defined as being within the Bushbuckridge Local Municipality, subdivided into three priority areas as described in clause 11.1 of the Contract Specific Data by the Employer.
- e) **Net Amount:** is the Sum Tendered exclusive of any VAT, and before adding Contract Price Adjustment and Contingencies, in other words, the Total of the Schedules.

2. CONDITIONS ASSOCIATED WITH THE GRANTING OF PREFERENCES

The Tenderer undertakes to:

- a) subcontract one or more Targeted Enterprises in accordance with the provisions of the SANS 1914-4 as varied in Section 3 hereunder, towards achieving the Contract Participation Goal;
- b) in addition to his own enterprise status or that of the JV tendering entity, offer a minimum Contract Participation Goal (D3), below which the tender is disqualified;
- c) deliver to the Community Forum, within 5 working days of being requested in writing to do so, a Targeted Enterprise Declaration Affidavit in respect of any Targeted Enterprises engaged that are not already endorsed by the Community Forum as being local;
- d) accept the sanctions set out in Section 4 below should such conditions be breached;
- e) complete the Tender Preference Claim Form contained in Section 5 below; and

The parameters determining the claiming of functionality preference points are as follows:

- a) D1 = the tendered Contract Participation Goal (%) as calculated and claimed in section 5 below
- b) D2 = the maximum Contract Participation Goal (%) above which no further evaluation points are granted, namely 30%
- c) D3 = the minimum Contract Participation Goal (%) below which the tender is disqualified, namely 30%, of which minimum 15% for Targeted Labour.

3. VARIATIONS TO THE TARGETED CONSTRUCTION PROCUREMENT SPECIFICATION SANS 1914-4

- Where different, the definitions provided above shall apply.
- Method 2 only must be used for claiming of preference.
- The weighting for Targeted Enterprises is 1.0, for Targeted Suppliers is 0.5, and for Targeted Manufacturer is 1.0.
- The weighting for Targeted Areas is: 1.25 for 1st Priority Target Area, 1.0 for 2nd Priority Target Area and 0.75 for 3rd Priority Target Area
- Written contracts shall be entered into with targeted enterprises.

4. SANCTIONS / BONUS

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal relating to the granting of a preference 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:

$$P = 0,20 \times \frac{(D - Do)}{(100)} \times NA$$

where

D = tendered Contract Participation Goal percentage.

Do = the Contract Participation Goal which the Employer's representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

NA = Net Amount

P = Rand value of penalty payable

In the event that the Tenderer exceeds the Contract Participation Goal offered, the Contractor is offered a financial bonus calculated in the following manner:

$$B = 0,05 \times \frac{(D - Do)}{(100)} \times NA$$

Where:

D = tendered Contract Participation Goal percentage.

Do = the Contract Participation Goal which the Employer's representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

NA = Net Amount

B = Rand value of Bonus payable (to maximum of R150 000)

5. TENDER PREFERENCE CLAIM IN RESPECT OF ENTERPRISE STATUS OR STRUCTURE OF THE TENDERING ENTITY

Table A.2.2.1 Method #2 (SANS 1914-4:2002)

Category of targeted enterprise	(1) Estimated value of contracts to be awarded to targeted enterprises (excl. VAT)	(2) Weighting	(3) Target Area 1.25 1 st Priority 1.00 2 nd Priority 0.75 3 rd Priority	(1) x (2) x (3) Total (A)
Suppliers		0.5		
Manufacturers		1.0		
Service Providers		1.0		
Total towards CPG				

Table A.2.2.2 Method #2 (SANS 1914-4:2002)

Category of targeted labour	(1) Estimated value of wages towards targeted labour (excl. VAT)	(2) Weighting	(1) x (2) Total (B)
Targeted Labour		1.0	
Total towards CPG			

	Targeted Enterprise (A)	Targeted Labour (B)	TOTAL + (B)
Total towards CPG			

I / we hereby tender a Contract Participation Goal (D1) in order to claim a preference, calculated as follows:

D1 = (Total towards CPG) divided by(Net Amount tendered)

=%

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the firm or sole proprietor confirms that he / she understands the conditions under which such preferences are granted and confirms that the tenderer satisfies the conditions pertaining to the granting of tender preferences.

Signature:

Name:

Duly authorized to sign on behalf of:

Telephone:

Fax: Date:

O: EXECUTION PROGRAMME AND CASH FLOW PROJECTIONS

The Tenderer shall attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his Tender.

The Execution Programme must be based on the sequencing and completion times as specified in the Contract Data.

PLEASE NOTE:

The cashflow projections from the contractor (to be submitted before commencement of the execution of the contract) must be in accordance with this execution plan in order to ensure proper cashflow management by the Department and to minimise delayed payments.

[The Tenderer must attach hereto a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract].

SIGNATURE: DATE:

(of person authorised to sign on behalf of the Tenderer)

P: CONTRACTORS' HEALTH AND SAFETY DECLARATION

In terms of Clause 4(4) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2014.

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

Declaration by Tenderer

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
3. I propose to achieve compliance with the Regulations by one of the following:
 - (a) From my own competent resources as detailed in 4(a) hereafter: ***Yes / No**
 - (b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter: ***Yes / No**
 - (d) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: ***Yes / No**

(* = delete whatever is not applicable)

4. Details of resources I propose:

(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 6, and competent persons as defined in Regulations 7, 8, 10, 11, 12, 14, 15, 18, 21(1), 22, 26 and 27, as applicable to this contract)

- (a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided?.....

(ii) When will training be undertaken?

(iii) List the positions to be filled by persons to be trained or hired:

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

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:

Qualifications or details of competency of the subcontractor:

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

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

Q: CONTRACTORS' SAFETY PLAN

[The Tenderer shall submit separately before commencement of the works, his Health and Safety Plan as required in terms of Regulation 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, in compliance with the Employer's current Occupational Health and Safety Specifications as revised from time to time, and referred to in T2.1]

R: PRO FORMA NOTIFICATION FORM IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, CONSTRUCTION REGULATIONS 2014

[This form must be completed and forwarded, prior to commencement of work on site, by all Contractors that qualify in terms of Regulation 3 of the Construction Regulations 2014, to the office of the Department of Labour]

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

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

SIGNED BY:

CONTRACTOR: DATE:

CLIENT: DATE:

S: CONTRACTORS' QUALITY MANAGEMENT PLAN

[The Tenderer shall submit his Quality Management Plan]

T: VAT REGISTRATION CERTIFICATE

[VAT Registration Certificate obtained from SARS to be inserted here]

U: Legal Joint Venture Agreement (In Case of a JV)

[The Tenderer must attach hereto a Legal Joint Venture Agreement]

V: Contractors' Environmental Management Plan

[The Tenderer shall submit his Environmental Management Plan]

W:**SBD 4****BIDDER'S DISCLOSURE****1. PURPOSE OF THE FORM**

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

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

2. Bidder's declaration

2.1. Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? YES/NO

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

Full Name	Identity Number	Name of State institution

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

2.2.1. If so, furnish particulars:

.....

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

2.3. Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? YES/NO

2.3.1. If so, furnish particulars:

.....
.....

3. DECLARATION

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

- 3.1. I have read and I understand the contents of this disclosure;
- 3.2. I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture consortium² will not be construed as collusive bidding.
- 3.4. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.5. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.6. There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.7. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

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

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

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

X:

SBD 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

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

a) The value of this bid is estimated to exceed R50 000 000 (all applicable taxes included) and therefore the 90/10 preference point system shall be applicable

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 The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

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

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

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 \\
 \mathbf{Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)}
 \end{array}$$

Where

- 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:

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 \\
 \mathbf{Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)}
 \end{array}$$

Where

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

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 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 per the table below.

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
HDI	5			
Women	3			
Disabled persons	2			

DECLARATION WITH REGARD TO COMPANY/FIRM

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

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

(iii) The information furnished is true and correct;

(iv) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

- (v) 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;
- (vi) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
- (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

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

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

Y:

SBD 6.2

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

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

1. General Conditions

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

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

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

1.6. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation;

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

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

3. Does any portion of the goods or services offered have any imported content?

(Tick applicable box)

YES		NO	
-----	--	----	--

3..1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

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

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

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

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

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):

NB

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

I, the undersigned, (full names),
 do hereby declare, in my capacity as
 of(name of bidder
 entity), the following:

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

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

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

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

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Local Content Declaration - Summary Schedule

Note: VAT to be excluded from all calculations

Pula EU GBP [illegible]

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE
TENDER No. PWRT/2581/24/MP

Contract

C1. Agreements and Contract Data.....	C3
C2. Pricing Data.....	C34
C3. Scope of Work.....	C39
C4. Site Information.....	C151
C5. EPWP Guidelines	C158

MPUMALANGA PROVINCIAL GOVERNMENT**DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP**TABLE OF CONTENTS**

C1. Agreements and Contract Data	C3
C1.1. Form of Offer and Acceptance.....	C4
C1.2. Contract Data	C9
C1.2.1. Conditions of Contract	C9
C1.2.2. PART A: Data Provided by the Employer	C21
C1.2.2. PART B: Data Provided by the Contractor	C25
C1.2.3. PerformaNce Guarantee	C26
C1.2.4. Agreement with Adjudicator	C29
C1.2.5. Agreement in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993	C31
C2. Pricing DATA	C34
C2.1. Pricing Assumptions	C35
C2.2. Bill of Quantities	C37
C3. Scope of Work	C39
C3.1. Standard Specifications	C40
C3.2. Project Specifications	C1
C3.3. Particular Specifications	C89
C4. Site Information	C131
C4.1. Locality plan, project description, description of site and access	C132
C4.2. Conditions on Site: Geotechnical Report	C143
C4.3. Traffic Count Results	C147
C4.4. Drawings (Bounded separately)	C149
C5. EPWP GUIDELINES.....	C151
C5.1. Guidelines For The Implementation Of Labour Intensive Infrastructure Projects Under The Expanded Public Works Programme 3 rd Edition 2015 (Attachment On Cd) C152	
C5.2. Participants Infromation (National, Provincial And Municipal) Template	C154

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE
TENDER No. PWRT/2581/24/MP

C1. AGREEMENTS AND CONTRACT DATA

Contents

C1. Agreements and Contract Data	C3
C1.1. Form of Offer and Acceptance.....	C4
C1.2. Contract Data	C9
C1.2.1. Conditions of Contract	C9
C1.2.2. PART A: Data Provided by the Employer	C21
C1.2.2. PART B: Data Provided by the Contractor	C25
C1.2.3. PerformaNce Guarantee	C26
C1.2.4. Agreement with Adjudicator	C29
C1.2.5. Agreement in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993	C31

C1.1. FORM OF OFFER AND ACCEPTANCE**Offer**

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

TENDER No. PWRT/2581/24/MP: THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE MPUMALANGA PROVINCE

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

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

The offered total of the prices inclusive of any value added tax or sales tax which the law requires the employer to pay is:

.....
.....

.....
Rand (in words);

R (in figures)

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

Signature(s) : Date

Name(s):

Capacity:

for the tenderer

(Name and address of organization)

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

Name and signature

of witness Date

Acceptance

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

The terms of the contract, are contained in:

- Part C1: Agreements and contract data, (which includes this agreement)
Part C2: Pricing data
Part C3: Scope of work.
Part C4: Site information

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

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

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Engineer (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 tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (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.

Signature Date
Name
Capacity

for the Employer

Name and address of the organisation: Mpumalanga Department of Public Works, Roads and Transport
Riverside Government Complex, Building No. 7, Nelspruit

Name and
signature of witness Date

Schedule of Deviations

Notes:

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

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

5. Subject:

Details:

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

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

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

For the Tenderer:

For the Employer:

..... Signature

..... Name

..... Capacity

Name and address of organisation:

Name and address of organisation:

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

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

..... Witness Signature

..... Witness Name

..... Date

Confirmation of Receipt

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

the (day) of (month) 20.....(year)

at (place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

C1.2. CONTRACT DATA

Section 1.01 The General Conditions of Contract for Construction Works 3rd Edition (2015) published by the South African Institution of Civil Engineering, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947).

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

Each item of data given below is cross-referenced to the clause in the General Conditions of Contract for Construction Works to which it mainly applies.

C1.2.1. CONDITIONS OF CONTRACT

General Conditions of Contract

This Contract will be based on the "General Conditions of Contract for Construction Works – 3rd Edition 2015", published by the South African Institution of Civil Engineering. (Short title: **"General Conditions of Contract for Construction Works 2015 or GCC2015"**) and can be obtained from:

SAICE

SAICE House
Block 19
Thornhill Office Park
Bekker Street
MIDRAND
1685

Gauteng Province
Tel: (011) 805-5947
Fax: (011) 805-5971.
Email: civilinfo@saice.org.za
Web: www.saice.org.za

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

Special Conditions of Contract**1. GENERAL**

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

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Contract 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

2. AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT

The additional clauses to the General Conditions of Contract are:

SCC 5.12 EXTENSION OF TIME FOR PRACTICAL COMPLETION

Add the following to the sub-clause:

- SCC 5.12.1 Approval for extension of time shall be done as defined above in this sub clause. Payment in respect of general obligations of the extended period shall only account for the period which actually extended the practical completion of the works beyond the due completion date in order to achieve practical completion.

This means that extension of time awarded in the course of carrying out the works, will only come into effect on the original due completion date, if practical completion is not yet achieved by that time. The employer will pay for the Contractors general obligations covering the period beyond the original completion date permitting the contractor to achieve practical completion.

SCC 6.3 VARIATIONS

Add the following to the last sentence of the sub-clause

- SCC 6.3.3 ".....required therefor, provided the increase in quantities in the Bill of Quantities does not exceed 10%.

SCC 11. CONTRACT PARTICIPATION GOAL**SCC 11.1 DEFINITIONS**

The following definitions shall apply to this schedule:

1. Contract Participation Goal (CPG) amount equal to the sum of: a) the wages and allowances for which the contractor contracts to engage targeted labour; and b) the value of supplies, services and works for which the contractor contracts targeted enterprises in the performance of the contract; exclusive of any value added tax or sales tax required by law, expressed as a percentage of the net amount of the contract.

2. Targeted Labour: Individuals, employed by the contractor in the performance of the contract, who are defined as the target group in the contract data and who permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area.
3. Targeted Enterprises: Suppliers of goods, providers of services, providers of plant and transport, or manufacturers, and who are recognized by the Community Forum as being Local enterprises, or individuals permanently residing in the Local area that are potential emerging Local enterprises, and who are subcontracted by the Contractor for the contract as may be elected by the Contractor. The distinction of enterprises, suppliers and manufacturers is further made for weighting purposes. The standard definitions apply.
4. Local is defined as being within the Targeted Area as defined in the contract data.
5. Net Amount: is the Sum Tendered exclusive of any VAT, and before adding Contract Price Adjustment and Contingencies, in other words, the Total of the Schedules.
6. Priority should be given to the following specific categories (i) the youth (ii) women (iii) and people living with disabilities; unless or otherwise these specified categories cannot be appointed due to unavailability or inability of the specified categories to meet the contract specifications requirements.

SCC 11.2 **VARIATIONS TO THE TARGETED CONSTRUCTION PROCUREMENT SPECIFICATION ISO 10845-5; ISO 10845-6; ISO 10845-7; ISO 10845-8**

Specification ISO 10845-Part 5-8 applies:

- 1) Where different, the definitions provided above shall apply.
- 2) Method 2 only must be used for claiming of preference.
- 3) The weighting for Targeted Enterprises is defined in the contract data.
- 4) Written contracts shall be entered into with targeted enterprises.

SCC 11.3 **SANCTIONS / BONUS**

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal relating to the granting of a preference 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:

$$P = 0,20 \times \frac{(D - D_o)}{100} \times NA$$

Where D = tendered Contract Participation Goal percentage.

D_o = the Contract Participation Goal which the Employer's representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

NA = Net Amount

P = Rand value of penalty payable

In the event that the Tenderer exceeds the Contract Participation Goal offered, the Contractor is offered a financial bonus calculated in the following manner:

$$B = 0,05 \times \frac{(D - D_0)}{100} \times NA$$

Where D = tendered Contract Participation Goal percentage.

D₀ = the Contract Participation Goal which the Employer's representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

NA = Net Amount

B = Rand value of Bonus payable (to maximum of R150 000)

SCC 11.4

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.

Applicable labour laws

The current Ministerial Determination (also downloadable at www.epwp.gov.za), Expanded Public Works Programmes issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice shall apply to works described in the scope of work as being labour intensive which are undertaken by unskilled or semi-skilled workers, as reproduced below, shall apply to work which are undertaken by unskilled or semi-skilled Targeted Labour.

1) Introduction

- 1.1. This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). In this contract it shall apply to the targeted labour employed by the Contractor. These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.
 - a. In this document –
- 1.1.1. "Department" means any department of the State, implementing agent or contractor;
- 1.1.2. "Employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on an EPWP;
- 1.1.3. "Worker" means any person working in an elementary occupation on an EPWP;
- 1.1.4. "Elementary occupation" means any occupation involving unskilled or semi-skilled work;

- 1.1.5. "Management" means any person employed by a department or implementing agency to administer or execute an EPWP;
- 1.1.6. "Task" means a fixed quantity of work;
- 1.1.7. "Task-based work" means work in which a worker is paid a fixed rate for performing a task;
- 1.1.8. "Task-rated worker" means a worker paid on the basis of the number of tasks completed;
- 1.1.9. "Time-rated worker" means a worker paid on the basis of the length of time worked.

i.Terms of Work

- 2.1 Workers on an EPWP are employed on a temporary basis or contract basis.

ii.Normal Hours of Work

- 1.1 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
- 1.2 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.
- 1.3 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.

iii.Meal Breaks

- 4.1. A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- 4.2. An employer and worker may agree on longer meal breaks
- 4.3. 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.
- 4.4. 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.

iv.Special Conditions for Security Guards

- 5.1. A security guard may work up to 55 hours per week and up to eleven hours per day.
- 5.2. 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.

v.Daily Rest Period

- 6.1. 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.

vi. Weekly Rest Period

- 7.1. 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").

vii. Sick Leave

- 8.1. Only workers who work more than 24 hours per month have the right to claim sick pay in terms of this clause.
- 8.2. 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.
- 8.3. A worker may accumulate a maximum of twelve days' sick leave in a year.
- 8.4. Accumulated sick leave may not be transferred from one contract to another contract.
- 8.5. An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- 8.6. An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- 8.7. An employer must pay a worker sick pay on the worker's usual payday.
- 8.8. 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 –
- 8.8.1. Absent from work for more than two consecutive days; or
- 8.8.2. Absent from work on more than two occasions in any eight-week period.
- 8.9. 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.
- 8.10. 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.

viii. Maternity Leave

- 9.1. A worker may take up to four consecutive months' unpaid maternity leave.
- 9.2. A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 9.3. A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 9.4. 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.
- 9.5. A worker may begin maternity leave –
- (a) Four weeks before the expected date of birth; or

- (b) On an earlier date –
 - (i) 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
 - (ii) 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.
- 9.6. 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.

ix. Family responsibility leave

- 10.1. 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 –
 - (i) The employee's spouse or life partner;
 - (ii) The employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

x. Statement of Conditions

- 11.1. 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.
- 11.2. An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- 11.3. An employer must supply each worker with a copy of these conditions of employment.

xi. Keeping Records

- 12.1. Every employer must keep a written record of at least the following –
- (a) the worker's name and position;
 - (b) copy of an acceptable worker identification
 - (c) in the case of a task-rated worker, the number of tasks completed by the worker;
 - (d) in the case of a time-rated worker, the time worked by the worker;
 - (e) payments made to each worker.
- 12.2. The employer must keep this record for a period of at least three years after the completion of the EPWP.

xii. Payment

- 13.1. An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- 13.2. A worker may not be paid less than the minimum EPWP wage rate as per the labour department rate for the project area or per task. This will be annually adjusted in-line with inflation.
- 13.3. A task-rated worker will only be paid for tasks that have been completed.
- 13.4. 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.
- 13.5. A time-rated worker will be paid at the end of each month.
- 13.6. Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- 13.7. Payment in cash or by cheque must take place –
 - (a) at the workplace or at a place agreed to by the worker;
 - (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
 - (c) in a sealed envelope which becomes the property of the worker.
- 13.8. An employer must give a worker the following information in writing –
 - (a) the period for which payment is made;
 - (b) the numbers of tasks completed or hours worked;
 - (c) the worker's earnings;
 - (d) any money deducted from the payment;
 - (e) the actual amount paid to the worker.
- 13.9. 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
- 13.10. 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.

xiii.Deductions

- 14.1. An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- 14.2. An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- 14.3. 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.
- 14.4. An employer may not require or allow a worker to –
 - (a) repay any payment except an overpayment previously made by the employer by mistake;
 - (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
 - (c) pay the employer or any other person for having been employed.

xiv.Health and Safety

- 15.1. Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- 15.2. A worker must –
 - (a) work in a way that does not endanger his/her health and safety or that of any other person;
 - (b) obey any health and safety instruction;
 - (c) obey all health and safety rules of the EPWP;
 - (d) use any personal protective equipment or clothing issued by the employer;
 - (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

xv.Compensation for Injuries and Diseases

- 16.1. It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 16.2. A worker must report any work-related injury or occupational disease to their employer or manager.
- 16.3. The employer must report the accident or disease to the Compensation Commissioner.
- 16.4. 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.

xvi.Termination

- 17.1. The employer may terminate the employment of a worker for good cause after following a fair procedure.
- 17.2. A worker will not receive severance pay on termination.
- 17.3. 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.
- 17.4. 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.
- 17.5. A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

xvii.Certificate of Service

- 18.1. 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.

SCC 11.5 LINKAGE OF PAYMENT FOR LABOUR INTENSIVE COMPONENT OF WORKS TO SUBMISSION OF PROJECT DATA

The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.

APPENDIX A: TRANSFER OF RIGHTS**TRANSFER OF RIGHTS AND INDEMNITY (To be completed during construction by successful Tenderer only).**

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

Contract No: For (contract title)

.....

.....

.....

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

.....

duly authorised hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favour of (name of Employer) Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

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

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

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

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

Description of Item	Unit	Quantity	Rate	Amount	Supplier
Total Value of Materials and goods					

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

Witnessed by: **Date:**

NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 6.10.2 of the General Conditions of Contract 2015.

C1.2.2. PART A: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA BY THE EMPLOYER																		
Clause 1.1.1.13:	The Defects Liability Period is 12 months.																		
Clause 1.1.1.14:	The time for achieving Practical Completion is 24 months.																		
Clause 1.1.1.15:	Name of Employer: Provincial Government of Mpumalanga represented by Head of Department: Department of Public Works, Roads and Transport																		
Clause 1.1.1.26:	The Pricing Strategy is by Re-measurement Contract.																		
Clause 1.2.1.2:	Address of Employer: <table> <tr> <td><u>Physical:</u></td><td><u>Postal:</u></td></tr> <tr> <td>THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT</td><td>Private Bag X 11310</td></tr> <tr> <td>No.7 Government Boulevard, Riverside Park, Ext 2 Mbombela, 1200 Mpumalanga Province</td><td>Mbombela 1200</td></tr> <tr> <td>Contact Person: Mr E Baloyi</td><td></td></tr> <tr> <td>Telephone: 013 766 6554</td><td>Fax: 013 766 8449</td></tr> <tr> <td>Email: baloyie@mpg.gov.za</td><td></td></tr> </table>	<u>Physical:</u>	<u>Postal:</u>	THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT	Private Bag X 11310	No.7 Government Boulevard, Riverside Park, Ext 2 Mbombela, 1200 Mpumalanga Province	Mbombela 1200	Contact Person: Mr E Baloyi		Telephone: 013 766 6554	Fax: 013 766 8449	Email: baloyie@mpg.gov.za							
<u>Physical:</u>	<u>Postal:</u>																		
THE DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT	Private Bag X 11310																		
No.7 Government Boulevard, Riverside Park, Ext 2 Mbombela, 1200 Mpumalanga Province	Mbombela 1200																		
Contact Person: Mr E Baloyi																			
Telephone: 013 766 6554	Fax: 013 766 8449																		
Email: baloyie@mpg.gov.za																			
Clause 1.1.1.16:	The name of the Engineer: MSW PROJECT MANAGERS & CONSULTING ENGINEERS (PTY) LTD																		
Clause 1.2.1.2:	The address of the Engineer: <table> <tr> <td><u>Physical:</u></td><td><u>Postal:</u></td></tr> <tr> <td>Block 12, Pinewood Office Park</td><td>PO BOX 2486</td></tr> <tr> <td>33 Riley Road, Woodmead</td><td>RIVONIA</td></tr> <tr> <td>Sandton</td><td>2128</td></tr> <tr> <td>2191</td><td></td></tr> <tr> <td>Contact:</td><td></td></tr> <tr> <td>Name: Mr Kenneth Muli</td><td></td></tr> <tr> <td>Telephone: 011 990 7600</td><td></td></tr> <tr> <td>E-mail: ken.muli@msw.za.com</td><td></td></tr> </table>	<u>Physical:</u>	<u>Postal:</u>	Block 12, Pinewood Office Park	PO BOX 2486	33 Riley Road, Woodmead	RIVONIA	Sandton	2128	2191		Contact:		Name: Mr Kenneth Muli		Telephone: 011 990 7600		E-mail: ken.muli@msw.za.com	
<u>Physical:</u>	<u>Postal:</u>																		
Block 12, Pinewood Office Park	PO BOX 2486																		
33 Riley Road, Woodmead	RIVONIA																		
Sandton	2128																		
2191																			
Contact:																			
Name: Mr Kenneth Muli																			
Telephone: 011 990 7600																			
E-mail: ken.muli@msw.za.com																			
Clause 3.3.3.1:	The Engineer is required to obtain the specific approval of the Employer for the following: The Engineer requires the Departmental approval in order to authorise any expenditure in excess of the tender Sum excluding contingencies as per Clause 6.4.																		

- Clause 3.2.3: The Employers Agent is required to obtain the specific approval of the Employer for the following:
- The Employers Agent requires the Employers approval in order to authorise any expenditure in excess of the tender Sum excluding contingencies as per Clause 6.4.
 - The Employers Agent requires the Employers approval to increase quantities or change/ increase the value of any specific pay item included in the Bill of Quantities beyond 10%.
- Clause 5.3.1: The following documentation is to be provided by the Contractor before commencement of the works:
- Health and Safety Plan as per Clause 4.3
 - Programme of Work as per Clause 5.6
 - Security as per Clause 6.2.1
 - Insurances as per Clause 8.6
 - Quality Assurance Plan as per Clause B1205 (Standard Specifications)
 - Project Team
 - Method Statement for the construction
 - Contract Participation Goal (CPG) utilisation plan
- Clause 5.3.2: The time to submit the documentation required before commencement with Works execution is 28 days.
- Clause 5.8.1: Non-working days are Sundays.
- Special Non-working days are the following statutory public holidays as declared by National or Regional Government:
- New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill including the construction industry year-end break.
- The year-end break commences on the first working day after 15 December and ends on the first working day after 4 January of the next year.
- Clause 5.13.1: The penalty for failing to complete the works on the Due Completion Date is **0.02%** of the Total Tender Sum per Day.
- Clause 5.14.1: Practical completion will be considered when:
- The roads and bridges have been fully constructed and existing roads rehabilitated to surface standard, including at least pre-markings for road markings and vehicles and pedestrians can pass in a safe manner.
 - Additional pavement structure including surfacing has been completed for junctions and interchanges.
 - All surfaced walkways have been completed, including kerbing.
 - All road signs and traffic signals are in place.
- Clause 5.16.3: The latent defect period is 10 years.
- Clause 6.5.1.2.3: The percentage allowance to cover overhead charges is max. 15%

Clause 6.8.2: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:

$$\text{Contract Price Adjustment Factor} = (1 - x) \left[\frac{aL_t}{L_o} + \frac{bP_t}{P_o} + \frac{cM_t}{M_o} + \frac{dF_t}{F_o} - 1 \right]$$

rounded off to the fourth decimal place.

Coefficients for calculating Contract price Adjustment Factor shall be:

Value of x is 0.10

a = 0.20 b = 0.35 c = 0.35 d = 0.10

L is the "Labour Index" and shall be the "Consumer Price Index – for Mpumalanga" In Release P 0141 Table A.

The base month is: **May 2024.**

Clause 6.8.3: Price adjustments for variations in the costs of special materials are allowed.

Clause 6.10.1.5: The percentage advance on materials not yet built into the Permanent Works is: 80% on material paid by the contractor at the purchase cost but not more than 80% of the tender amount as per clause 6.10.2.

Clause 8.2.2 The safekeeping of the material paid as material on site not yet built into the works remains the responsibility of the contractor, although ownership rest with the client as per clause 6.10.1.5.

Clause 6.10.3: The retention money is 10% of the value of the works.

Clause 8.6.1.1.2: None

Clause 8.6.1.1.3: The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R 5 000 000.00

Clause 8.6.1.3: The limit of indemnity for liability insurance is R 15 000 000.00 for any single liability claim. Liability insurance shall include spread of fire risk.

Clause 10.5.3: The number of Ad-Hoc Adjudication Board Members is one.

Clause 10.7.1: The determination of disputes shall be by arbitration.

Clause 11.1: The Clients' minimum target for CPG is 25%, divided in 10% for Local Labour and 15% for Targeted Enterprises.

As part of the CPG target a minimum of **175 FTE's** (Full Time Equivalent), equal to **59 WO's** (Work Opportunities) must be achieved for this project for local labour opportunities. Refer to Section C1.2.1 – Special Conditions of Contract Clause SCC 11 for definitions and penalty/bonus conditions.

Target Areas for both Targeted Labour and Targeted Enterprises:

First priority target area:	Wards 14, 15, 20 and 22 along Road P100 – Weighting factor: 1.25
Second priority target area:	Emalahleni Local Municipality - Weighting factor: 1.00
Third priority target area:	Nkangala District Municipality – Weighting factor: 0.75

Clause 11.2

Weighting factors:

First priority target area: Weighting factor: 1.25

Second priority target area: Weighting factor: 1.00

Third priority target area: Weighting factor: 0.75

Clause 11.3

CPG Utilisation plan:

A labour and targeted enterprises utilisation plan needs to be submitted at the commencement of the works, clearly indicating how the CPG target will be met. The plan needs to be linked to the program of the works.

PART B: Data Provided by the Contractor

The following contract specific data are applicable to this contract.

REFERENCE CONTRACT SPECIFIC DATA BY THE CONTRACTOR

Clause 1.1.1.9: Name of Contractor:

.....

Clause 1.2.1.2: Address of the Contractor:

Physical:

Postal:

.....

.....

.....

.....

.....

.....

E-Mail:

Telephone No: Fax No:

Clause 6.2.1: The Security to be provided by the Contractor shall be Retention withheld on the payment certificates as per Clause 6.10.3 and a Performance guarantee of 10% of the Contract Sum

Clause 6.8.3: The variation in cost of all special materials is to be provided in the table SM 1 for special materials.

The rates and prices for the special materials shall be furnished by the Tenderer, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies. The quoted price is the ruling price on the 1st of **October 2023**

TABLE: SM1

Special Materials	Unit*	Rate or Price for the base month
Bitumen	Ton	
Cement	Ton	
Steel Reinforcing	Ton	

* Indicate whether the material shall be delivered in bulk or in containers. When called upon to do so, the Contractor shall substantiate the above rates or prices with acceptable documentary evidence.

Signed on behalf of Tenderer:

PRO FORMA**C1.2.3. PERFORMANCE GUARANTEE**

For use with the General Conditions of Contract for Construction Works, 3rd Edition, 2015.

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 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:

R

.....
.....

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

.....
.....

Amount in words:

.....
.....

“Expiry Date” means:

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificates 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 is signed 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 acknowledges that:
 - 3.1. any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory 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 the payment of a sum certified by Engineer in an Interim Payment Certificate has not been made of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon Guarantor to make payment in terms 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 not still 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 upon in terms of 5; and
 - 5.3. the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provision/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 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 tot 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 notice for all 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 Acts No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date.....

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1)

Witness signatory (2).....

C1.2.4. AGREEMENT WITH ADJUDICATOR

This agreement is made on the.....day of 20.....between: the Employer

(name of company / organisation).....of (address)

.....

.....and the Contractor (name of company / organisation)

..... of

(address).....

.....

(hereinafter called **the Parties**) And

(name)..... of (address)

.....

..... (hereinafter called **the Adjudicator**)

Disputes or differences may arise/have arisen* between the Parties under a Contract dated..... and known as Contract No.....

(Contract

title).....

and these disputes or differences shall be/have been* referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "**the Procedure**") and the Adjudicator may be or has been requested to act.

(* Delete as necessary)

IT IS NOW AGREED as follows:

1. The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
2. The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
3. The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
4. The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by:

(Signature):

Name:

who warrants that he/ she is.
duly authorised to sign for and
on behalf of the **First Party** in
the presence of

(Signature):

Name:

who warrants that he/ she is
duly authorised to sign for
and on behalf of the **Second
Party** in the presence of

(Signature):

Name:

the **Adjudicator** in the
presence of

Witness:

(Signature)

Name:

Address:.....

.....

.....

Date:

Witness:

(Signature).....

Name:

Address:.....

.....

.....

Date:

Witness:

(Signature)

Name:

Address:.....

.....

.....

Date:

C1.2.5. AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO 85 OF 1993

THIS AGREEMENT is made between The Province of Mpumalanga represented by Head of Department: Department of Public Works, Roads and Transport.

(hereinafter called the EMPLOYER of the one part, herein represented by:

.....
.....

in his capacity as:

AND:

.....

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

.....
.....

in his capacity as:

duly authorised to sign on behalf of the Contractor.

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

CONTRACT No:

.....
.....

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

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.

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

Thus signed atfor and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:.....

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

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

the day of 20.....

SIGNATURE:.....

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

***THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE***

TENDER No. PWRT/2581/24/MP

C2. PRICING DATA

Contents

C2. Pricing DATA	C34
C2.1. Pricing ASSUMPTIONS	C35
C2.2. Bill of Quantities	C37

C2.1. PRICING ASSUMPTIONS

1. Measurement and payment shall be in accordance with the relevant provisions of the COTO Standard Specifications for Road and Bridge Works for South African Road Authorities October (2020 edition) as amended in the Scope of Works.
2. The units of measurement described in these Bills of Quantities are metric units. Abbreviations used in the Bills of Quantities are as follows:

%	: percent
ha	: Hour
ha	: hectare
kg	: kilogram
kl	: kilolitre
km	: kilometre
km-pass	: kilometre-pass
kPa	: kilopascal
kW	: kilowatt
l	: litre
m	: metre
mm	: millimetre
m ²	: square metre
m ² -pass	: square metre-pass
m ³	: cubic metre
m ³ -km	: cubic metre-kilometre
MN	: meganewton
MN.m	: meganewton-metre
MPa	: megapascal
No.	: number
Prov Sum	: Provisional sum
PC Sum	: Prime Cost sum
R/Only Sum	: Rate only lump sum
t	: ton (1000 kg)
W/day	: Work day

3. For the purpose of these Bills 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 COTO Standard Specifications for Road and Bridge Works for South African Road Authorities October (2020 edition).

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

Rate: The agreed payment per unit of measurement.

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

Lump sum: An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).
6. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sums tendered for such items.
8. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
9. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in these Bills of Quantities.
10. Reasonable compensation will be received where no pay item appears in the Bills of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item.
11. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
12. The item numbers appearing in the Bills of Quantities refer to the corresponding item numbers in the COTO Standard Specifications for Road and Bridge Works for South African Road Authorities October (2020 edition).
13. Those items in the Bills of Quantities to be constructed using labour-intensive methods have been marked in the Bills of Quantities with the prefix "LI". The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.
14. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

C2.2. BILL OF QUANTITIES

COTO CHAPTER 1: GENERAL

COTO CHAPTER 2: SERVICES

COTO CHAPTER 3: DRAINAGE

COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

COTO CHAPTER 5: EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION

COTO CHAPTER 6: CONCRETE LAYERS

COTO CHAPTER 9: ASPHALT LAYERS

COTO CHAPTER 10: SURFACE TREATMENTS

COTO CHAPTER 11: ANCILLARY ROAD WORKS

COTO CHAPTER 12: GEOTECHNICAL APPLICATIONS

COTO CHAPTER 13: STRUCTURES

COTO CHAPTER 20: QUALITY ASSURANCE

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C1.2.8	SECTION 1	GENERAL				
	SECTION 1.2	GENERAL REQUIREMENTS AND PROVISIONS				
	C.1.2.1	<u>Environmental Management</u>				
	C1.2.1.1	Monitoring of compliance with and reporting on the EMP	Months	24		
	PC 1.2.4	<u>Stakeholder liaison</u>				
	PC1.2.4.1	Project Steering Committee(PSC)				
		a) Stipends for a 6 member PSC attending meetings	Pvov sum	1	270 000,00	270 000,00
		b) Community Liaison Officer (CLO)	Prov sum	1	432 000,00	432 000,00
		c) Contractor's handling costs, profit and all other charges in respect of sub items PC1.2.4.1 a) and b)	%		702 000,00	
	C 1.2.5	<u>Safety</u>				
	C1.2.5.2	Implementation of Health and Safety Plan	Month	24		
	C 1.2.6	<u>Work adjacent to properties</u>				
	C1.2.6.1	Survey of adjacent properties	No	15		-
	C1.2.6.2	Preventive and/or mitigation measures	Prov.Sum	1	100 000,00	100 000,00
	C1.2.6.3	Handling cost, profit and all other charges in respect of item C1.2.6.2	%		100 000,00	
		<u>Dayworks</u>				
	C1.2.8.1	<u>Personnel</u>				
	(a)	Unskilled labour	hour			Rate Only
	(b)	Semi-skilled labour	hour			Rate Only
	(c)	Skilled labour	hour			Rate Only
	C1.2.8.2	Construction equipment				
	(a)	Motor grader	hour			Rate Only
	(b)	Vibratory roller	hour			Rate Only
	(c)	Front end loader (950 H wheel loader)	hour			Rate Only
	(d)	Tractor loader backhoe	hour			Rate Only
	(e)	Excavator (HEX) TA1	hour			Rate Only
	(f)	Hand held compactors				
		i) Pedestrian roller (Bomag BW90)	hour			Rate Only
		II) Vibratory plate	hour			Rate Only
		iii) Rammers	hour			Rate Only
	C1.2.8.3	Vehicles				
	(a)	Light delivery vehicle	km			Rate Only
TOTAL CARRIED FORWARD						802 000,00

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C.1.2.9	(b)	Tipper Trucks				
		i) 3-5 ton	km			Rate Only
		ii) 5.1-10 ton	km			Rate Only
	(c)	Water Truck (min 10000l)	km			Rate Only
	C1.2.8.4	Materials				
	(a)	Procurement of materials	Prov.Sum	1	250 000,00	250 000,00
	(b)	Contractor's handling costs, profit and all other charges in respect of item C1.2.8.4(a)	%		250 000,00	
		<u>Disposal of non-useable assets</u>				
	C1.2.9.1	Disposal of non-useable assets identified in the Contract Documentation at time of tender				
		a) Storm water pipe culverts equal to and less than 600mm Ø OD	m	200		
		b) Storm water portal culverts equal to and less than 750 x 750mm	m	50		
		b) Road signs	No	50		
	C 1.2.9.2	Disposal of non-useable assets not identified at time of tender	Prov.Sum	1	50 000,00	50 000,00
	C 1.2.9.3	Handling cost, profit and all other charges in respect of item C1.2.9.2	%		50 000,00	
PC 1.2.10		<u>CETA Accredited Training (40 labourers)</u>				
	PC1.2.10.1	a) Technical skills	Prov.Sum	1	1 000 000,00	1 000 000,00
	PC1.2.10.2	b) Generic skills	Prov.Sum	1	1 000 000,00	1 000 000,00
	PC1.2.10.3	a) Management skills	Prov.Sum	1	1 000 000,00	1 000 000,00
	PC1.2.10.4	Remuneration of workers undergoing technical, generic and management skills training	Prov.Sum	1	500 000,00	500 000,00
	PC1.2.10.5	Contractors handling cost and profit in terms of items PC1.2.10.1, PC1.2.10.2 and PC1.2.10.3	%		3 000 000,00	
PC 1.2.11		HIV/AIDS Awareness				
		a) Awareness Champion	L.Sum	1		
		b) Awareness Workshops	L.Sum	1		
		c) Posters, Booklets, Videos etc	L.Sum	1		
		d) Access to condoms				
		i) Dispensers fixed in position containing male and female condoms	No	6		
		e) Monitoring	L.Sum	1		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C.1.3.1		<u>The Contractor's general obligations</u>				
	C1.3.1.1	Fixed obligations	Lump Sum	1		
	C1.3.1.2	Value-related obligations	Lump Sum	1		
	PC1.3.1.3	Time-related obligations				
		a) Mobilization and services relocation period	Month	1		
		b) Services Relocation Period	Month	3		
		c) Execution of the Works	Month	20		
		<u>NB The combined total tendered for sub items C1.3.1.1, C1.3.1.2 and PC1.3.1.3 shall not exceed 15% of the Tender Sum (excluding CPA, contingencies and VAT)</u>				
PC.1.3.2		Contract sign boards	Number	4	-	-
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C1.4.1	SECTION 1.4	FACILITIES FOR THE ENGINEER				
		Site Accommodation (As indicated in the tender document)				
	PC 1.4.1.1	Offices and conference room	m ²	70		
	PC 1.4.1.2	Laboratories	m ²	120		
	C 1.4.1.3	Open concrete working floors and verandas	m ²	200		
	C 1.4.1.4	Roofs over open concrete working floors and verandas	m ²	500		
	C 1.4.1.5	Storerooms inside the laboratory	m ²	40		
	C1.4.1.6	Car ports	No.	5		
	C1.4.1.7	Ablution unit (equipped as as specified)	No.	4		
	C1.4.1.9	Kitchen unit (equipped as specified)	No.	2		
	PC1.4.1.13	Rented housing paid for by the Contractor	Prime cost	1	2 500 000,00	2 500 000,00
	C1.4.1.14	Contractor's handling costs, profit and all other charges in respect of item PC1.4.1.13	%		2 500 000,00	
C1.4.2		<u>Items measured by area</u>				
	C1.4.2.7	Venetian blinds	m ²	32		
	C1.4.2.8	Notice boards	m ²	5		
	C1.4.2.9	White boards	m ²	5		
C1.4.3		<u>Items measured by number</u>				
	C1.4.3.1	Office swivel chair	No	10		
	C1.4.3.2	Office chair	No	10		
	C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No	10		
	C1.4.3.8	Conference table	No	1		
	C1.4.3.11	General purpose steel cabinet with shelves	No	10		
	C1.4.3.13	220/250 volt power outlet plug point	No	10		
	C1.4.3.15	Single 1 500 m, 58 watt fluorescent tube ceiling light	No	10		
	C1.4.3.19	Wash-hand basin	No	5		
	C1.4.3.23	Fire extinguisher 9,0 kg, dry powder type	No	1		
	C1.4.3.29	A3 / A4 colour printer, copier, scanner	No	2		
	C1.4.3.36	Measuring wheel	No.	1		
C1.4.4		<u>Prime cost items</u>				
	C1.4.4.1	Cell phones costs, including pro-rata rentals, for calls made in connection with contract administration	Prime cost	1	90 000,00	90 000,00
	C1.4.4.2	Handling costs and profit in respect of item C1.4.4.1	%		90 000,00	
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 1.4.5	C1.4.4.5	The provision of internet connectivity and WiFi data for Engineer's site staff	Prime cost	1	36 000,00	36 000,00
	C1.4.4.6	Handling costs and profit in respect of item C1.4.4.5	%		36 000,00	
	C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	Prime cost	1	3 000,00	3 000,00
	C1.4.4.8	Handling costs and profit in respect of item C1.4.4.7	%		3 000,00	
	PC1.4.4.17	The provision of digital cameras	Prime cost	1	30 000,00	30 000,00
	PC1.4.4.18	Handling costs and profit in respect of item PC1.4.4.17	%		30 000,00	
	PC 1.4.3.19	Computer hardware and software facilities for the supervisory staff	Prime cost	1	75 000,00	75 000,00
	PSC 1.4.3.20	Handling costs and profit in respect of item C1.4.4.1	%		75 000,00	
		Services at site offices, laboratories and site accommodation				
	C 1.4.5.1	Fixed costs	Lump sum	1		
	C 1.4.5.2	Running costs	Months	24		
		Office Staff				
	C1.4.6.2	Student trainees	P. Sum	1	940 000,00	R 940 000,00
		Site security measures for the Engineer's facilities				
C1.4.8	C1.4.8.4	Provision of security guards / watchmen at site offices	Month	24		
	PC1.4.8.7	Provision and erection of security fencing (Including gate)	m	500		
TOTAL CARRIED FORWARD						1 084 000,00

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 1.5.1	SECTION 1.5	ACCOMMODATION OF TRAFFIC				
		Accommodation of pedestrian and non-motorised traffic				
	C 1.5.1.1	Accommodation of pedestrian and non-motorised traffic	month	24		
C 1.5.2		Accommodation of vehicular traffic	month	24		
C 1.5.3		Liaison with traffic authorities	month	24		
C 1.5.4		Construction of temporary deviations				
	C1.5.4/C5.1.1	Roadbed construction and compaction:				
	C1.5.4/C5.1.1.2	Compaction to 93 % of MDD	m ³	800		
	C1.5.4/C5.3.2.1	Construction of layers				
		(g) 200 mm G5 lower subbase gravel layer unstabilized compacted to 95 % of MDD	m ³	1000		
		(j) 150 mm G4 gravel base unstabilized, compacted to 97 % of MDD	m ³	800		
	C 1.5.4/C9.1.3.1	(a) Stone skeletal mix – continuously graded 30mm thick with binder type AE-2 and design class/ level II				
	C1.5.4/C 4.2.4.1	Excavating of materials in box cuts, material obtained from soft material	m ³	1500		
	C1.5.4/C 5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less compacted to 93 % of MDD	m ³	1000		
	C1.5.4/C 3.2.1.1	Excavating for temporary culverts in all material not exceeding 1.5m below the surface level	m ³	200		
	C1.5.4/C3.2.2.1	Backfilling using the excavated material	m ³	150		
	C1.5.4/C 3.2.3.3	600mm Ø temporary pipe culverts 100 D on class C bedding	m	50		
	PC1.5.4/C3.2.28	Eventual removal of prefabricated culverts	m	100		
	PC 1.5.4.2	Transnet rail crossings precast slabs				
	PC 1.5.4.2.1	Precast concrete slabs to Transnet detail	No	2		
C1.5.5		Maintenance of temporary deviations				
	C1.5.5.3	Cleaning out culverts	m ³	50		
	C1.5.5.9	Grading of temporary deviations and existing roads used as detours	km	2		
	C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl	2500		
	C1.5.5.11	Other road maintenance work ordered by the Engineer	Prov sum	1	25 000,00	25 000,00
	C1.5.5.12	Handling cost, profit and all other charges in respect of item C1.5.6.11	%		25 000,00	
C1.5.6		Removal of temporary deviations	Km	1		
C 1.5.7		Temporary traffic control facilities				
	C1.5.7.1	Delineators including mounting bases and ballast:				
		(b) Double sided, reversible left or right (reflector size: 600x200; blade size 800x200)	No.	1500		
	C1.5.7.2	Traffic cones, minimum height 750 mm	No	500		
	C1.5.7.3	Flagmen	man-shift	8000		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)	
C 1.6	C1.5.7.5	Provision of illuminated traffic signs a) Sign mounted flashing amber lights (2 lights with the specified power supply) mounted on a backing board which is: i) 900 mm wide x 150 mm high ii) 1 200 mm wide x 200 mm high c) Illuminated road sign – R & TR series (600mm diameter) d) Illuminated road sign – TW series (900mm sides)	No	6			
			No	8			
			No	15			
			No	15			
	PC 1.5.7.10	Temporary traffic control signals as specified or shown on the drawings	Set	2			
	C1.5.11	Provision of safety equipment for visitors					
	PC1.5.11.3	Provision of safety gear for Engineer's staff	No	5			
	PC1.5.11.4	Provision of amber flashing LED light/light bar for Engineer's site vehicle	No	3			
	C1.5.12	Additional traffic accommodation facilities ordered by the Engineer:					
	C1.5.12.1	Provision of additional traffic accommodation facilities	Prov sum	1	150 000,00	150 000,00	
	C1.5.12.2	Handling cost, profit and all other charges in respect of item C1.5.12.1	%		150 000,00		
		CLEARING AND GRUBBING					
	C 1.6.1	Clearing					
	C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	2			
	C1.6.2	Grubbing					
	C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	2			
	C1.6.3	Removal and grubbing 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	12		
		C1.6.3.2	Girth exceeding 2,0 m up to and including 3,0 m	No	3		
C1.6.7		Re-clearing of surfaces of previously cleared areas	ha	1			
	SECTION 1.7	LOADING AND HAULING					
C1.7.1		Loading					
	C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m ³	18500			
	C1.7.1.2	Loading from heaps or windrows using machines and some hand labour where necessary	m ³	1500			
C1.7.2		Hauling					
	C1.7.2.1	Hauling material for use in the Works and off-loading it on the site of the Works: (a) Soil, gravel, crushed stone and pavement layer material	m ³ -km	52500			
	C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil or stockpile area: (a) Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m ³ -km	20000			
TOTAL CARRIED FORWARD TO SUMMARY							

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
	SECTION 2	SERVICES				
	SECTION 2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES				
C 2.1.1		<u>Location, identification, protection and relocation of existing services</u>				
	C2.1.1.1	Contractor's obligations	lump sum	1		
	PC2.1.1.2	Permanent services relocation or protection work by others	lump Sum	1		
	PC2.1.1.4 "LI"	Permanent services relocation or protection work by the Contractor	lump sum	1		
C 2.1.2		Existing service locations, detection and verification				
	PC 2.1.2.3	Survey to verify existing service positions	lump sum	1		
	C 2.1.2.5	Using hand excavation to locate, expose and verify services	m ³	200		
C 2.1.5		Provision of record drawings and applicable data	lump sum	1		
C 2.1.25		<u>Removal of existing services</u>				
		Stormwater services				
	C2.1.25.1 "LI"	600 mm dia stormwater pipes	m	150		
	C 2.1.25.2	750 mm dia stormwater pipes	m	150		
	C 2.1.25.3	1200 x 900mm portal culverts	m	75		
	C 2.1.25.4	1800 x 1200mm portal culverts	m	75		
		Wet services				
	C 2.1.25.5	110 mm dia water pipes	m	250		
	C 2.1.25.6	160 mm dia water pipes	m	250		
C 2.1.26		<u>Disposal of existing service materials</u>				
		Stormwater services				
	C2.1.26.1	600 mm dia stormwater pipes	m	150		
	C 2.1.26.2	750 mm dia stormwater pipes	m	150		
	C 2.1.26.3	1200 x 900mm portal culverts	m	75		
	C 2.1.26.4	1800 x 1200mm portal culverts	m	75		
		Wet services				
	C 2.1.26.5	110 mm dia water pipes	m	250		
	C 2.1.26.6	160 mm dia water pipes	m	250		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 2.1.27		Demolition of existing manholes, access chambers and other service structures consisting of:				
	C2.1.27.1	Unreinforced concrete	m ³	100		
	C2.1.27.2	Reinforced concrete	m ³	100		
	C2.1.27.3	Masonry	m ³	100		
PC 2.3		WET SERVICES				
		Water Services				
	PC 2.3.37	a) Provisional sum for the complete installation of water services outside relocations	Prov.Sum	1	250 000,00	250 000,00
		b) Handling costs and profit in respect of item PC 2.3.37 a)	%		250 000,00	
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
	SECTION 3	DRAINAGE				
	SECTION 3.1	DRAINS				
C.3.1.1		<u>Excavations for open drains</u>				
C 3.1.1.1		Excavating all material situated within the following depth ranges below the surface level using conventional methods: a) 0 m to 1,5 m	m ³	1250		
C 3.1.1.2		Extra Over sub item C 3.1.1 for excavation in hard and boulder material, irrespective depth	m ³	150		
C.3.1.2		<u>Clearing, shaping and disposal of accumulated sediment in existing unlined open drains</u>				
C 3.1.2.1		Using conventional methods	m ³			Rate Only
C 3.1.2.2		Using labour enhanced construction methods	m ³	500		
C.3.1.4		<u>Excavation and disposal of material for subsoil drainage systems:</u>				
C 3.1.4.1		Excavating in all material situated within the following depth ranges below the surface: (a) 0 m to 1,5 m	m ³	500		
C 3.1.4.5		Extra over sub item C 3.1.4.1 for excavating through stabilised existing road layers	m ³	175		
C 3.1.5		<u>Impermeable backfilling to subsoil drainage systems</u>				
C3.1.5.1		Un-stabilised natural gravel obtained from approved sources on the site	m ³	200		
C 3.1.5.2		G5 Material obtained from commercial source	m ³	200		
C 3.1.5.3		Extra over items C3.1.5.1 and C 3.1.5.2 for stabilisation with 4% CEM I I(32.5) Cement	m ³			Rate only
C3.1.7		<u>Permeable backfilling to subsoil drainage systems</u>				
C3.1.7.1		19 mm crusher stone obtained from approved sources	m ³	200		
C3.1.9		<u>Pipes in subsoil drainage systems:</u>				
C3.1.9.1		U-PVC pipes and fittings, normal duty, complete with couplings 160mm Ø HDPE slotted	m	1500		
C3.1.11		<u>Geotextiles</u>				
		(a) Bidum A4 geotextile	m ²	2500		
C 3.1.13		Concrete outlet structures, manholes boxes, junction boxes and cleaning eye for subsoil drains				
C 3.1.13.1		Outlet structures (Drwing Ref: MSW-1717-DWG-033-00)	No	4		
C 3.1.13.3		Junction Boxes (Drwing Ref: MSW-1717-DWG-033-00)	No	6		
C 3.1.13.4		160mm Ø cleaning eyes (Drwing Ref: MSW-1717-DWG-033-00)	No	10		
C 3.1.14		<u>Caps for subsoil drains</u>				
C 3.1.14.1		Concrete caps	No	6		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 3.1.22		Testing flushing of subsoil drains	No	5		
C 3.1.23		Subsoil drains marker (Drwing Ref: MSW-1717-DWG-033-00)	No	6		
C.3.1.24		Submission of as built drawings by the Contractor	Prov.Sum	1	5 000,00	5 000,00
C.3.2.1		Excavation for culvert structures:				
	C 3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:				
		a) 0 m to 1,5 m	m ³	5000		
		b) Exceeding 1,5 m and up to 3,0 m	m ³	1750		
		c) Exceeding 3,0 m and up to 4.,5 m	m ³	725		
	C 3.2.1.4	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material,irrespective of depth	m ³	500		
C.3.2.2		Backfilling:				
	C 3.2.2.1	Using the excavated material	m ³	3500		
	C 3.2.2.2	Using imported selective material				
		a) Using imported G6 material from commecrial sources	m ³	400		
	C 3.2.2.3	Extra over sub items C 3.2.2.1 and C 3.2.2.2 for soil cement stablisation				
		a) with wet mixtures 4 % cement	m ³	500		
		b) with dry mixtures 4 % cement	m ³	300		
C 3.2.3		Concrete pipe culverts:				
	C 3.2.3.3	Class 100 D on class C bedding				
		(a) 450 mm diameter	m	650		
		(b) 600 mm diameter	m	350		
		(c) 750 mm diameter	m	100		
	C 3.2.3.5	Provision of skew ends of pipe culvert				
		(a) 450 mm diameter Class 100 D	No	10		
		(b) 600 mm diameter Class 100 D	No	3		
		(c) 750 mm diameter Class 100 D	No	2		
C 3.2.6		Extra over items C3.2.3, C3.2.4 and C3.2.5 for constructing inclined culverts	m	100		
	PC3.2.3.6	Waterproofing of prefabricated culverts joints with two 500 mm wide layers of filter fabric strips, impregnanted with bitumen emulsion	m	200		
C3.2.5		Rectangular culverts with prefabricated elements:				
	C3.2.5.1	Prefabricated portal culverts; wall and roof combination				
		(a) 1200 x 900 mm portal culverts	m	100		
		(b) 1800 x 1200 mm portal culverts	m	70		
		(c) 2100 x 2100 mm portal culverts	m			Rate only
		(d) 2400 x 2100 mm portal culverts	m			Rate only
	C3.2.5.2	Prefabricated floor slabs				
		(a) 1200 x 900 mm portal floor slabs	m	100		
		(b) 1800 x 1200 mm portal floor slabs	m	70		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C3.2.7		Cast in situ concrete and formwork:				
	PC3.2.7.2	In complete in situ floor slabs for rectangular culverts, manholes and catchpits including formwork, joints and Class U2 surface finish Class 30/19 concrete				
		(i) Installed at a standard depth of 1.0m	m ³	20		
		(ii) Installed at depths between 1.0 to 2.0m	m ³	10		
		(iii) Installed at depths between 2.0 to 3.0m	m ³			Rate Only
	C3.2.7.5	In inlet and outlet structures including kerbs, chutes and down pipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including formwork, joints and Class U2 surface finish Class 30/19 concrete	m ³	20	2 100,00	42 000,00
C3.2.9		Prefabricated concrete inlets and outlets to culverts from commercial sources				
		a) Single barrel 450 mm dia pipe Class 100D	No	4		
		b) Single barrel 600 mm dia pipe Class 100D	No	6		
		b) Single barrel 750 mm dia pipe Class 100D	No			Rate Only
PC3.2.12		<u>Demolition of concrete members or elements:</u>				
	PC3.2.12.1	Storm water inlet, outlet and chamber structures	m ³	10		
	PC3.2.12.2	Water and sewer chamber structures	m ³	15		
C3.2.13		Removing and re-laying existing culverts:				
	C3.2.13.1	Removing and stacking existing culverts for re-use				
		(a) 600 mm dia 100D	m	50		
	C3.2.13.3	Re-laying existing culverts from stacking on class C bedding				
		(a) 600 mm dia 100D	m	50		
PC 3.2.15		Manholes ,Catchpits and Kerb Inlet complete as shown on drawings (Ref: MSW-1717-DWG-032 & 033-00)				
	PC 3.2.15.1	a) Manholes and catch pit chambers to accommodate maximum pipe and portal sizes within the following depth ranges (1-1.5 m)				
		i) 450 mm diameter	No	8		
		ii) 600 mm diameter	No	5		
		iii) 750 mm diameter	No	2		
		iv) 1200 x 900mm	No	1		
		v) 1800 x 1200mm	No	1		
		b) 3 m kerb inlet with precast cover slab complete as shown on the drawing to accomdate pipes within the following ranges (Standard depth 1 -1.5)				
		(i) 450 mm diameter	No	14		
		(i) 600 mm diameter	No	1		
		(i) 750 mm diameter	No	1		
	PC3.2.15.4	Extra over item C3.2.15.1 for variation in depth of all types of manholes with brickwork walls deeper than 1.5m designated for tendering purposes	m	20		
C3.2.16		Brickwork (Engineering bricks)				
	C3.2.16.3	230 mm thick	m ²	75		
C3.2.17		Plaster	m ²	150		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
PC3.2.22		Cutting of concrete pipes				
	PC 3.2.22.1	Pipe culverts				
		(a) 450 mm dia	No	2		
		(b) 600mm dia	No	14		
		(c) 750mm dia	No	4		
	C3.2.24.1	Preparation and compaction of in situ bedding material to 90 % of MDD at 150 mm	m ³	125		
	SECTION 3.3	ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS				
C.3.3.1		Concrete kerbing:				
	C3.3.1.1 "LI"	Concrete kerbing on 40mm thick 1:6 cement/sand mortar bedding and Class 15/19 concrete backing at joints				
		(a) Prefabricated kerbing to SABS 927				
		(i) Figure 3 kerb	m	1500		
		(ii) Figure 8c kerb	m	200		
		(iii) Figure 12 kerb	m	1250		
	C 3.3.2	Concrete kerbing-channeling combination:				
	C 3.3.2.1	Prefabricated kerbing-channeling as per detail on drawing MSW-1717-DWG-012-00				
		a) Fig 3 kerbs	m	2600		
	C 3.3.4	Extra over item C 3.3.2 for drop kerbs at pedestrain crossing and driveways	m	20		
C3.3.8		Linings for open drains:				
	C3.3.8.1 "LI"	Cast in situ concrete lining Class 25/19 to trapezoidal drains	m ³	175		
	C3.3.8.2 "LI"	ClassU2 surface finish to cast in situ concrete in trapezoidal drains	m ²	1250		
C3.3.9		Formwork to cast in situ concrete lining for open drains				
	C3.3.9.1 "LI"	To sides with formwork on the internal face only	m ²	1250		
	C3.3.9.3 "LI"	To ends of slabs	m ²	75		
C3.3.10		Sealed joints in concrete and stone pitched linings of open drains a per drawing MSW-1717-DWG-033-00)				
		(a) Expansion joints	m	400		
C3.3.12		Reinforcement:				
	C 3.3.12.1	Mild steel bars	ton	5		
	C3.3.12.3 "LI"	Welded steel fabric-Mesh 395	kg	2000		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C3.3.14		Cutting bituminous surfacing and pavement layers for concrete kerbing, channeling or concrete lined drains	m	750		
C3.3.15		Energy dissipators in outlet structures				
	C3.3.15.1 "LI"	Precast concrete blocks in outlet structures	No	25		
	C3.3.15.2 "LI"	Stones set in outlet structures	m ²			
C3.3.16		Demolition and removal of existing kerbs and/or channel (maximum size 250mm)	m ³	500		
PC 3.3.18		Removal of unsuitable material and replacement with selected quality material in excavations for concrete lined drains	m ³	200		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C4.2.2	SECTION 4	EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION				
	SECTION 4.2	CUT MATERIALS				
		Additional material investigations during the supplementary exploration				
	C4.2.2.1	Cost of additional trial pits and/or drilling and laboratory testing	Prov sum	1	50 000.00	50 000.00
	C4.2.2.2	Handling costs and profit in respect of item C4.2.2.1	%		50 000,00	
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C4.2.3		obtained from				
	C 4.2.3.1	Soft excavations	m ³	3000		
	C 4.2.3.2	Boulders	m ³	600		
	C 4.2.3.3	Hard Excavation	m ³	300		
C 4.2.6		Widening of cuts				
	C 4.2.6.1	Soft excavation	m ³	500		
C 4.2.7		Removal of unsuitable stable cut materials to spoil				
	C 4.2.7.1	In layer thicknesses of 200 mm and less	m ³	500		
C4.2.8		Excavate material to spoil in sites designated by the Employer, material obtained from				
	C4.2.8.1	Soft excavation, overburden and unsuitable material	m ³	3500		
C 4.3		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	500		
C 4.3.5		Providing the milling machine on site				
	C 4.3.5.2	Large milling machine with a cutting width exceeding 1.2 m	No	1		
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	m ³	500		
	C 4.3.6.2	Exceeding 50 mm but not exceeding 100 mm	m ³	250		
C 4.3.8		Excavating material by milling				
	C 4.3.8.1	Crushed stone material	m ³	1500		
	C 4.3.8.2	Cemented material	m ³	1500		
	C 4.3.8.3	Natural gravel material	m ³	1500		
C 4.3.9		construction equipment :				
	C 4.3.9.1	Asphalt material	m ³	300		
	C 4.3.9.2	Crushed stone and macadam material	m ³	1280		
	C 4.3.9.3	Cemented material	m ³	1220		
	C 4.3.9.4	Natural gravel and sand materials	m ³	1100		
C 4.3.14		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:				
TOTAL CARRIED FORWARD						-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 4.3.15		(ii) Precast concrete kerbing Fig 3, Fig 7 Fig 8c etc	m	750		
			No			
		(b) Kerb inlets		3		
		c) Grid inlets	No	1		
		Stockpiling of road layer materials				
	C4.3.15.2	Crushed stone material	m ³	3000		
	C4.3.15.3	Cemented material	m ³	3000		
	C4.3.15.4	Natural gravel material	m ³	1000		
	C4.3.18	Excavate non-compliant or excess pavement layer material to spoil in sites designated by the contractor, material consisting of				
	C 4.3.18.1	Crushed stone, macadam, gravel and sand material	m ³	1000		
C 4.4		COMMERCIAL MATERIALS				
C4.4.2		Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers				
	C 4.4.2.1	Pavement layer material :				
		(a) G1 material	m ³	5250		
		(d) G4 material	m ³	14000		
		(e) G5 material	m ³	1250		
		(f) G6 material	m ³	7000		
		(g) G7 material	m ³	55000		
	C4.4.2.3	Drainage blanket layer material	m ³	4		
	C4.4.2.5	Fill material in the earthworks				
		(a) Normal or coarse fill	m ³	500		
C 4.4.4		Cementitious stabilising agents				
	C 4.4.4.1	Cement	ton	1000		
	C4.4.4.2	Road lime	ton			Rate Only
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
	SECTION 5	EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION				
	SECTION 5.1	ROADBED				
C.5.1.1		Roadbed construction and compaction				
	C 5.1.1.1	Compaction of in-situ material to 90 % of	m ³			Rate Only
	C 5.1.1.1	Compaction of in-situ material to 93 % of	m ³	2500		
C 5.1.2		Excavate material to spoil sites designated by the Employer				
	C5.1.2.1	Excavate material to spoil from roadbed construction, material obtained from:				
		a) Soft excavation	m ³	6500		
		(b) Boulder excavation class A	m ³	100		
		c) Boulder excavation class B	m ³	100		
		(d) Hard excavation (other than by blasting)	m ³	50		
C 5.1.4		Removal of unsuitable material to spoil				
	C 5.1.4.1	In layer thicknesses of 200 mm and less				
		a) Stable material	m ³	500		
		b) Unstable material	m ³	500		
	C 5.1.4.2	In layer thicknesses exceeding 200 mm				
		(a) Stable material	m ³	500		
		b) Unstable material	m ³	500		
C 5.1.9		Construction of the roadbed in collapsing				
	C 5.1.9.1	By material modification	m ³			Rate only
	C 5.1.9.2	By lime modification	m ³			Rate only
C 5.1.6		<u>Roller-pass compaction</u>				
	C 5.1.6.1	Grid rollers	m ²	7000		
C 5.1.7		Construction of a roadbed trial section				
	C 5.1.7.1	Non wetting-up collapsing soil trial section at in-situ moisture content using conventional rollers and/or HEIC	m ²			Rate only
	SECTION 5.2	FILL				
C 5.2.2		<u>Fill construction</u>				
	C 5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less:				
		(a) Compacted to 93 % of MDD	m ³	5000		
TOTAL CARRIED FORWARD						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 5.2.5		Fill in walkways				
	C5.2.5.2	Fill material in sidewalk compacted to 93 % of MDD using labour enhanced methods of construction and light hand equipment.	m ³	2000		
C5.2.6		Fill material in shoulder widening				
	C 5.2.6.1	Fill material in shoulder widening compacted to 93 % of MDD using labour enhancement and light hand equipment.	m ³	1500		
	SECTION 5.3	EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION				
C 5.3.2		Construction of pavement layers				
	C5.3.2.1	Construction of layers using conventional construction methods:				
		(b) Upper selected subgrade layer compacted 95% of MDD	m ³	5250		
		(g) 200 mm lower subbase gravel layer chemically stabilised, compacted to 95 % of	m ³	7000		
		chemically stabilised, compacted to 97 % of MDD	m ³	3750		
		o) 150 mm G1 crushed stone base layer compacted to 88 % of AD	m ³	7000		
C 5.3.11		Riding quality measurements				
	C 5.3.11.1	Using a rolling straight edge	Km	3		
	SECTION 5.4	STABILISATION				
C5.4.2		Chemical stabilisation				
		Chemical stabilisation :				
		(a) Subbase				
		(i) 200 mm thick layers	m ³	10750		
C 5.4.5		Cementitious stabilisation agents for pavement layers				
	C5.4.5.1	Addition of cementitious stabilisation agents for pavement layers and spreading the agent using bags and labour enhancement methods.				
		(a) Cement stabilisation over 200 mm subbase layer	ton	1000		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBE	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C6.2.3	SECTION 6	CONCRETE LAYERS				
	SECTION 6.2	SEGMENTAL BLOCK PAVING LAYERS				
	C6.2.1	<u>Segmental block paving</u>				
	C6.2.1.1 "LI"	Concrete block paving 60 mm thick with crushing minimum strength of 25 Mpa	m ²	4 500		
	C6.2.2 "LI"	Cast in situ concrete edge and intermediate beams class 25/19	m ³	100		
		<u>Provision and application of approved herbicide and ant poison.</u>				
	C6.2.3.1	Provision of materials	pc sum	1	100 000,00	100 000,00
	C6.2.3.2	Contractor's charges and profit added to the prime cost sum	%		100 000,00	
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBE	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
	SECTION 9	ASPHALT LAYERS				
	SECTION 9.1	ASPHALT LAYERS				
C 9.1.1		Asphalt Mix Designs				
	C9.1.1.1	Stone skeletal mixes:				
		(a) Continuously graded base or surfacing AE-2 binder Level II	L sum	1		
C 9.1.2		Construction of trial sections				
	C9.1.2.1	Asphalt layers				
		a) Type II, 50mm thick laid by paver	m²	420		
		b) Type Ib, 30mm thick laid by paver	m²	380		
	C9.1.2.2	Removal of trial section where so instructed by the Engineer.	m²	800		Rate Only
C9.1.3		<u>Application of bond coat</u>				
	C9.1.3.1	Stable –grade 30 % net bitumen emulsion as specified. Applied with a calibrated distributor	l	33 500		
C9.1.5		<u>Asphalt surfacing</u>				
	C9.1.5.1	(a) Stone skeletal mix – continuously graded 50mm thick with binder type AE-2 and design class/ level II	m²	22 000		
		(b) Stone skeletal mix – continuously graded 00mm thick with binder type AE-2 and design class/ level Ib	m²	11 800		
C9.1.8		<u>Surfacing of bridge decks</u>				
	C9.1.8.2	Surfacing 50mm layer thickness, mix type, stone skeletal, AE-2 binder type, 6mm nominal maximum particle size and placing	ton	60		
C9.1.13		<u>Coring of asphalt layers</u>				
	C9.1.13.1	100 mm diameter	No	15		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C11.1	SECTION 11	ANCILLARY ROAD WORKS				
		PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION				
C11.1.2		Stone pitching				
C11.1.2.2 "LI"		Grouted stone pitching with mortar	m²	200		
C11.2		NON-STRUCTURAL GABIONS				
C11.2.1		Foundation trench excavation:				
C11.2.1.1 "LI"		Excavating all material situated within the following depth ranges below the surface level				
		(a) 0 m to 1,5 m	m²	10		
C11.2.2 "LI"		Surface preparation for bedding the gabion boxes and mattresses	m²	12		
C11.2.3		Gabion boxes and mattresses:				
C11.2.3.1 "LI"		Galvanized gabion boxes (2m x 1m x 1m)	m³	10		
C11.2.4 "LI"		Geotextile (Bidum A4)	m²	30		
C11.4		ROAD RESTRAINT SYSTEMS				
C11.4.1		Erecting of guardrails at 3,81 m spacing				
C11.4.1.1 "LI"		Complete galvanized system compliant to SANS 1350:				
		(a) On timber posts (Drawing reference) MSW-DWG	m	200		
		(b) Extra over C11.4.1.1(a) for excavating holes of posts using labour enhanced methods (soft and intermediate)	m	25		
C11.4.1.2 "LI"		<u>Terminal sections for 3,81 guardrails comprising of:</u>				
		(a) End wings to SANS 1350	No	4		
		(b) End treatments where single guardrail sections are specified as per drawing MSW-1717-DWG-036/037-00	No	4		
C11.4.2		Performance based vehicle restraint systems				
C11.4.2.2		Terminal sections for the following to EN 1317 or AASHTO MASH or NCHRP350 as alternative where no MASH product is available:				
		(b) Crash cushions to NCHRP250 70km/h Test Level 2 and 3m backstop width as per drawing MSW-1717-DWG-036/037-00	No	2		
C11.4.6		Reflective plates				
C11.4.6.1 "LI"		Steel plates	No	20		
C11.4.7 "LI"		Removing existing guardrails:	m			Rate Only
TOTAL CARRIED FORWARD						-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C11.5		FENCING				
	C11.5.3	Moving existing fences and gates				
	C11.5.3.1	Fences:				
		(d) Security fences	km	1		
	C11.5.3.2	Gates	No	5		
C11.6		ROAD SIGNS				
	C11.6.1	Road signboards 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:				
	C11.6.1.7	Regulatory signs, permanent				
		(a) 600 mm diameter	No	25		
		(b) 900 mm diameter	No	35		
	C11.6.1.9	Warning signs, permanent				
		(b) 900 mm diameter	No	25		
		(c) 1200 mm diameter	No	30		
	C11.6.2	Extra over on item C11.6.1 for using:				
	C11.6.2.1	Background of retro-reflective material:				
		a) Class I	m ²	25		
		c) Class III	m ²	30		
		Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
C11.6.2.2		(a) Class III	m ²	25		
		(b) Class IV specify a) or b)	m ²	35		
C11.6.3		Road sign supports (overhead road sign structures excluded):				
	C11.6.3.1	Steel tubing 2 mm thick 75 to 100 mm dia	ton	1		
	C11.6.3.2	Timber, 150 mm dia Creosote treated	m	250		
TOTAL CARRIED FORWARD						-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C11.7	C11.6.5	Excavation and backfilling for road sign supports				
	C11.6.5.1	Excavating soft material and backfilling	m ³	100		
	C11.6.7	Dismantling and storing of road signs and overhead signs				
	C11.6.7.1	Dismantling and storing of road signs with a surface area of:				
		(a) Area 0 to 0,5 m2	m ²	10		
		(b) Area exceeding 0,5 m2 but not 2,0 m2	m ²	10		
	C11.6.8	Danger plates at culverts/structures				
	C11.6.8.1	(a) Size 150 x 600 mm	No	10		
		Road Markings and Road Studs				
	C11.7.1.1	White lines broken or unbroken with retro reflective paint				
		(a) 100mm wide	km	5		
		(b) 300mm wide	km	0,2		
	C11.7.1.2	Yellow lines broken or unbroken with retro reflective paint				
		(a) 100mm wide	km	1,5		
	C11.7.1.4	White lettering and symbols with retro reflective paint	m ²	250		
	C11.7.1.7	Transverse lines, painted island and arrestor bed markings (any colour) with retro	m ²	600		
	C11.7.7	Road studs				
	C11.7.7.1	Permanent road studs compliant to SANS 1442				
		a) Road studs heavy duty raised with highly reflective prismatic lens bi-directional permanently mounted with shank.				
		i) Yellow / Red	No	110		
		ii) Red/Yellow	No	52		
		iii) White/White	No	220		
		iv) Red/Red	No	20		
		v) White/Red	No	52		
		vi) Red/White	No	6		
TOTAL CARRIED FORWARD						-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C11.8	C11.7.7.5	Provision of temporary and permanent road studs	P sum	1		
	C11.7.8	Setting out and premarking the lines (excluding traffic island markings,	km	5		
	C11.7.9	Re-establishing the painting unit during the defects notification period and at other instances on instruction of the	No	1		
		LANDSCAPING AND PLANTING PLANTS				
	C11.8.3	Preparing the areas for grassing:				
	C11.8.3.2	Scarifying for loosening topsoil	h	1		
	C11.8.3.3	Topsoiling within the road reserve where the following materials are used:				
		(b) Topsoil obtained from commercial sources by the Contractor	m ³	250		
	C11.8.3	Preparing the areas for grassing				
	PC11.8.3.5	Providing and applying chemical fertilisers and/or soil-improvement material:				
		g) Provisional sum for providing and applying chemical fertilisers and/or soil-improvement material	Prov sum	1	5 000,00	5 000,00
	C11.8.4	Grassing				
	PC11.8.4.3	Hydroseeding:				
		d) Providing an approved indigenous grass seed mixture	Prov sum	1	5 000,00	5 000,00
C11.9	C11.8.6	Watering the already planted grass, trees and shrubs during the growing season	kl	100		
	C11.8.9	Trees and shrubs:				
	C11.8.9.1	Providing trees and shrubs as per existing species				
		(a) Trees as per existing species 3m high	No.	24		
	C11.8.9.2	Planting and establishing:				
		a) Trees, all types and sizes	No.	24		
PC11.10		FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
	C11.9.1	Finishing the road and road reserve:				
	C11.9.1.1	Dual carriageway road	km	1,2		
	C11.9.1.2	Single carriageway road	km	1,6		
	C11.9.2	Treatment of old roads and temporary deviations	km	1,0		
		ELECTRICAL WORKS				
	PC11.10.1	Prime cost sum for electrical works				
	PC11.10.1.1	Street lighting	P Cost	1,0	3 000 000,00	3 000 000,00
	PC11.10.1.2	Traffic signals	P Cost	1,0	2 000 000,00	2 000 000,00
	PC11.10.1.3	Contractor's handling costs, profit and all other charges in respect of items PC11.10.1.1 and PC11.10.1.2	%			-
TOTAL CARRIED FORWARD TO SUMMARY						

EARTH REINFORCED WALLS

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C12.1	SECTION 12	GEOTECHNICAL APPLICATIONS				
		<u>PILING</u>				
	C12.1.1	Additional foundation investigations	Prov sum	1		200 000,00
	C12.1.2.1	Access and drainage				
	C12.1.2.1	Access	lump sum			
	C12.1.2.2	Drainage by pumping or other means	lump sum			
	PC12.1 32	Lump sum being costs for concrete piles along abutment walls as per geotechnical investigations and to specialist requirements	lump sum	1		
C12.6		MECHANICALLY STABILISED EARTH AND GABIONS				
		MAIN CONTRACTOR WORKS				
	C12.6.1	Establishment on site for MSE				
	C12.6.1.1	For reinforced concrete facing	lump sum	1		
	C12.6.1.3	For metallic facing	lump sum	1		
	C12.6.2	Excavation for wall base foundation 0 m to 1.5m)	m ³	643		
	C12.6.3	Concrete for wall base foundation (150x300mm, 15MPa, Unreinforced)	m ³	49		
	C12.6.3 (a)	Concrete for Coping and Enclosure detail	m ³	213		
	C12.6.5	Preparation of surface for laying metallic strips or geosynthetic	m ²	8917		
	C12.6.11	Backfill (G7 minimum, compacted in 150mmn layers to 93% MOD AASHTO)	m ³	31210		
	C12.6.12	Cruciform facing, rectangular interlocking 150mm thick				
	C12.6.12.1	For reinforced concrete panel facing	m ²	6000		
	PC12.6.12.4	Precast coping units 240mm wide and 610mm deep	m	1100		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.1	SECTION 13	STRUCTURES - BRIDGE 1				
		FOUNDATIONS				
	C13.1.3	Excavation:				
	C13.1.3.1	Excavating soft material situated within the following successive depth ranges:				
	(a)	0 m to 1,5 m	m³	475		
	(b)	Exceeding 1,5 m and up to 3,0 m	m³	475		
	C13.1.3.2	Extra over sub-item C13.1.3.1 for excavation in hard material, irrespective of depth	m³	25		
	C13.1.3.3	Extra over subitem C13.1.3.1 for additional excavation required by the Engineer after excavation is complete	m³	30		
	C13.1.3.5	Extra over subitem C13.1.3.1 for excavation in restricted areas	m³	45		
	C13.1.6	Access and drainage:	lump	1		
	C13.1.7	Backfill to excavations utilising:				
	C13.1.7.1	Material from excavation	m³	257		
	C13.1.7.2	Imported material	m³	317		
	C13.1.9	Fill within a restricted area (extra over item C5.2.2)	m³	20		
	C13.1.14	Foundation fill consisting of:				
	C13.1.14.4	Mass concrete (class 30/19)	m³	328		
	C13.1.14.5	Concrete blinding (150mm thickness and class of concrete C30/19)	m³	48		
	C13.1.23	Lateral support for excavations:				
	C13.1.23.1	Excavation or fill at Abutment foundation				
	(a)	0 to 2,5 m depth	m³	317		
	(b)	2,5 to 5,0 m depth	m³	45		
C13.2		FALSEWORK, FORMWORK AND CONCRETE FINISH				
	C13.2.2	Vertical formwork to provide surface finish to				
	(i)	Class F1 finish to approach slab	m²	27		
	(ii)	class F1 finish to sides of abutment footing	m²	237		
	(iii)	class F2 to sides and ends of deck slab	m²	34		
	(iv)	class F2 finish to longitudinal beam ends	m²	20		
	(v)	Class F2 to longitudinal beam sides	m²	635		
	(vi)	class F2 to sides of transverse beams	m²	110		
	(vii)	ss F2 finish to sides of abutment wing walls, ballast walls and foot w	m²	283		
	TOTAL CARRIED FORWARD					-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.3	C13.2.3	Horizontal formwork to provide surface finish to	m ²			-
	(i)	class U1 finish to top of deck slab	m ²	590		
	(ii)	class U1 finish to top of approach slab	m ²	290		
	(iii)	class U1 finish to top of abutment footing	m ²	156		
	(iv)	Class F2 finish to soffit of longitudinal beams	m ²	165		
	(v)	Class F2 finish to soffit of transverse beams	m ²	55		
	(vi)	Class F2 finish to soffit of deck slab	m ²	590		
	C13.2.5	Permanent formwork				
	C13.2.5.2	Under bridge deck slabs	m ²	548		Rate Only
	C13.2.10	Provision of designs and drawings of falsework and formwork by an ECSA registered Professional Engineer or Technologist - For Bridge 1&2	lump	1		
		<u>STEEL REINFORCEMENT</u>				
	C13.3.1	Reinforcement for:				
	C13.3.1.1	Abutments and approach slabs				
	C13.3.1.1.1	High-yield-stress-steel bars (Y)				
		b) High-yield-stress-steel bars (Y)	t	123,1		
	C13.3.1.1.2	Superstructure and longitudinal beams				
		b) High-yield-stress-steel bars (Y)	t	18		
	C13.3.1.1.3	Superstructure deck slab, footwalks and transverse beams				
		b) High-yield-stress-steel bars (Y)	t	26		
TOTAL CARRIED FORWARD						-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.4		<u>CONCRETE</u>				
	C13.4.1	Cast in situ concrete:				
	C13.4.1.1	Strength concrete (class C):				
	1	Class 30/19 concrete in superstructure;				
	(i)	Deck slab	m ³	177		
	(ii)	Transverse beams	m ³	44		
	2	Class 30/19 concrete in abutment;				
	(i)	Abutment footing	m ³	328		
	(ii)	Wing walls	m ³	127		
	(iii)	Front wall	m ³	656		
	(iv)	Blinding	m ³	48		
	3	Class 30/19 concrete in;				
		(i) Approach slabs	m ³	90		
	C13.4.7	No-fines concrete (class NF):				
	C13.4.7.1	Cast in situ:				
	(a)	Class NF19 of no-fines concrete for Abutment Concrete Filter	m ³	6		
	C13.4.9	Manufacturing precast concrete members				
	(i)	Beam 01(550Wx1300Dx20985L Each 36t)	No.	8		
	(ii)	Beam 02(1200Wx1500Dx20985L(to shape) Each 55t)	No.	1		
	(iii)	Beam 03(550Wx1300Dx18860L Each 32t)	No.	1		
	(iv)	Beam 04(550Wx900Dx18013L Each 21t)	No.	1		
	(v)	Beam 05(550Wx900Dx14686L Each 17t)	No.	1		
	(vi)	Beam 06(550Wx1300Dx11048L Each 13t)	No.	1		
	(vii)	Beam 07(550Wx900Dx7456L Each 9t)	No.	1		
	(viii)	Beam 08(550Wx900Dx3745L Each 5t)	No.	1		
	C13.4.11	Transporting and erecting precast concrete members	No.	15		
	C13.4.12	Labour enhanced transporting and erecting precast concrete members				
	(i)	Beam 01(550Wx1300Dx20985L Each 36t)	No.	8	-	-
	(ii)	Beam 02(1200Wx1500Dx20985L(to shape) Each 55t)	No.	1	-	-
	(iii)	Beam 03(550Wx1300Dx18860L Each 32t)	No.	1		
	(iv)	Beam 04(550Wx900Dx18013L Each 21t)	No.	1		
	(v)	Beam 05(550Wx900Dx14686L Each 17t)	No.	1		
	(vi)	Beam 06(550Wx1300Dx11048L Each 13t)	No.	1		
	(vii)	Beam 07(550Wx900Dx7456L Each 9t)	No.	1		
	(viii)	Beam 08(550Wx900Dx3745L Each 5t)	No.	1		
C13.6		<u>BEARINGS</u>				
	C13.6.1	Bearings:				
	C13.6.1.1	Bearings (450x350x96mm thick laminated Elastometric bearings with nominal hardness IRHD = 60(68.03)	No.	30		
		TOTAL CARRIED FORWARD				

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.7		JOINTS				
	C13.7.1	Expansion joints:				
	C13.7.1.1	Thormajoints installed as per manufacturer's specification and as shown on the drawings	m	56		
	C13.7.4	Sealing joints with:				
	C13.7.4.1	Flexothane HS Highway Sealant or Similar approved on Duracord backing cord on Kaylite infill)	m	14		
C13.8		ANCILLARY STRUCTURAL ELEMENTS				
	C13.8.1	Concrete barriers and parapets				
	C13.8.1.1	Barriers (Precast Concrete Barrier 810mm high x 560mm wide, Rocla RB81_6_N2 or similar/equivalent according to SANS 51317-2 : 2009)	m	1 075		
	C13.8.5	Steel railings and posts as detailed on the drawings(rate to include hot dip galvanising of parapets and railings)	m	1 135		
	C13.8.7	Numbers for structures:				
	C13.8.7.1	Number plates	No.	2		
	C13.8.10	Drainage pipes and weep holes:				
	C13.8.10.2	Weep holes:				
	(a)	Weep holes as per drawing (diameter 100mm x 1300mm long each Class 10 PVC pipe x 14 number for abutments	m	18		
	TOTAL CARRIED FORWARD					

TOTAL FOR BRIDGE 1	
---------------------------	--

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.1	SECTION 13	STRUCTURES				
		FOUNDATIONS				
	C13.1.3	Excavation:				
	C13.1.3.1	Excavating soft material situated within the following successive depth ranges:				
	(a)	0 m to 1,5 m	m ³	369		
	(b)	Exceeding 1,5 m and up to 3,0 m	m ³	369		
	(c)	Etc, in increments of 1,5 m	m ³	160		
	C13.1.3.2	Extra over sub-item C13.1.3.1 for excavation in hard material, irrespective of depth	m ³	20		
	C13.1.3.3	Extra over subitem C13.1.3.1 for additional excavation required by the Engineer after excavation is complete	m ³	30		
	C13.1.3.5	Extra over subitem C13.1.3.1 for excavation in restricted areas	m ³	30		
	C13.1.6	Access and drainage:	lump sum	1		
	C13.1.7	Backfill to excavations utilising:				
	C13.1.7.1	Material from excavation	m ³	327		
	C13.1.7.2	Imported material	m ³	246		
	C13.1.9	Fill within a restricted area (extra over item C5.2.2)	m ³	10		
	C13.1.14	Foundation fill consisting of:				
	C13.1.14.4	Mass concrete (class 30/19)	m ³	289		
	C13.1.14.5	Concrete blinding (150mm thickness and class of concrete C30/19)	m ³	37		
	C13.1.23	Lateral support for excavations:				
	C13.1.23.1	Excavation or fill at Abutment foundation				
	(a)	0 to 2,5 m depth	m ³	246		
	(b)	2,5 to 5,0 m depth	m ³	25		
		FALSEWORK, FORMWORK AND CONCRETE FINISH				
C13.2	C13.2.2	Vertical formwork to provide surface finish to				
	(i)	Class F1 finish to approach slab	m ²	24		
	(ii)	class F1 finish to sides of abutment footing	m ²	207		
	(iii)	class F2 to sides and of deck slab	m ²	27		
	(iv)	class F2 finish to longitudinal beam ends	m ²	8		
	(v)	Class F2 to longitudinal beam sides	m ²	220		
	(vi)	class F2 to sides of transverse beams	m ²	86		
	(vii)	Class F2 finish to sides of abutment wing walls, ballast walls and foot walks	m ²	262		
	TOTAL CARRIED FORWARD					

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.3	C13.2.3	Horizontal formwork to provide surface finish to;				-
	(i)	Class U1 finish to top of deck slab	m ²	323		
	(ii)	Class U1 finish to top of approach slab	m ²	227		
	(iii)	Class U1 finish to top of abutment footing	m ²	133		
	(iv)	Class F2 finish to soffit of longitudinal beams	m ²	80		
	(v)	Class F2 finish to soffit of transverse beams	m ²	49		
	(vi)	Class F2 finish to soffit of deck slab	m ²	323		
	C13.2.5	Permanent formwork				
	C13.2.5.2	Under bridge deck slab	m ²			Rate Only
		<u>STEEL REINFORCEMENT</u>				
	C13.3.1	Reinforcement for:				
	C13.3.1.1	Structural elements as below				
	(i)	Abutments and approach slabs				
	(a)	High-yield-stress-steel bars (type indicated)	t	70		
	(ii)	Superstructure and longitudinal beams				
	(a)	High-yield-stress-steel bars (type indicated)	t	10		
	(iii)	Superstructure deck slab, footwalks and transverse beams				
	(a)	High-yield-stress-steel bars (type indicated)	t	16		
	TOTAL CARRIED FORWARD					

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.4		CONCRETE				
	C13.4.1	Cast in situ concrete:				
	C13.4.1.1	Strength concrete (class C):				
	1	Class 30/19 concrete in superstructure;				
	(i)	Deck slab	m ³	98		
	(ii)	Transverse beams	m ³	35		
	(iii)	Longitudinal beams	m ³	61		
	2	Class 30/19 concrete in abutment;				
	(i)	Abutment footing	m ³	289		
	(ii)	Wing walls	m ³	137		
	(iii)	Front wall	m ³	229		
	(iv)	Blinding	m ³	37		
	3	Class 30/19 concrete in;				
		(i) Approach slabs	m ³	68		
	C13.4.7	No-fines concrete (class NF):				
C13.6	C13.4.7.1	Cast in situ:				
	(a)	Class NF19 of no-fines concrete for Abutment Concrete Filter Block	m ³	4		
		BEARINGS				
C13.7	C13.6.1	Bearings:				
	C13.6.1.1	Bearings (450x350x96mm thick laminated Elastometric bearings with nominal hardness IRHD = 60(68.03)	No.	20		
		JOINTS				
	C13.7.1	Expansion joints:				
	C13.7.1.1	Thormajoints installed as per manufacturer's specification and as shown on the drawings	m	39		
	C13.7.4	Sealing joints with:				
	C13.7.4.1	Sealed joints between footwalks as detailed on drawing (Flexothane HS Highway Sealant or Similar approved on Duracord backing cord on Kaylite infill)	m	14		
	TOTAL CARRIED FORWARD					-

ITEM NUMBER	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C13.8		<u>ANCILLARY STRUCTURAL ELEMENTS</u>				
	C13.8.10	Drainage pipes and weep holes:				
	C13.8.10.2	Weep holes:				
	(a)	Weep holes as per drawing (diameter 100mm x 1300mm long each Class 10 PVC pipe x 14 number for abutments	m	18		
TOTAL CARRIED FORWARD						
TOTAL FOR BRIDGE 2						

ITEM NUMBE	PAYMENT	DESCRIPTION	UNIT	QUANTITY	RATE (ZAR)	AMOUNT (ZAR)
C 20.1	SECTION 20	QUALITY ASSURANCE				
		TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP				
	C 20.1.1	Special tests on elastomeric bearings (150 % vertical load and 150 % shear distortion)	No.	4		
	C 20.1.2	Special tests requested by the Engineer				
	C20.1.2.2	Employer's contribution to other special tests				
		(a) Tests to be specified (as and when required)	Prime cost	1	100 000,00	100 000,00
		(i) Handling costs and profit in respect of C20.1.2.2(a)	%		100 000,00	
TOTAL CARRIED FORWARD TO SUMMARY						

SECTION	DESCRIPTION	AMOUNT (ZAR)
1	GENERAL	
2	SERVICES	
3	DRAINAGE	
4	EARTHWORKS AND PAVEMENT LAYERS : MATERIALS	
5	EARTHWORKS AND PAVEMENT LAYERS : CONSTRUCTION	
6	CONCRETE LAYERS	
9	ASPHALT LAYERS	
11	ANCILLARY ROAD WORKS	
12	GEOTECHNICAL APPLICATIONS	
13	STRUCTURES	
	BRIDGE 1	
	BRIDGE 2	
20	QUALITY ASSURANCE	
SUB-TOTAL (A)		
	CONTINGENCIES (A x 10%)	
	CPA /ESCALATION (A x 10%)	
SUB-TOTAL (B)		
	ADD VAT (B x15%)	
GRAND TOTAL CARRIED TO OFFER PAGE		

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

C3. SCOPE OF WORK

Contents

C3. Scope of Work	C39
C3.1. Standard Specifications.....	C40
C3.2. Project Specifications	C1
C3.3. Particular Specifications	C89

C3.1. STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are the **COTO Standard Specifications for Road and Bridge Works for South African Road Authorities October 2020 editions**

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 1921 –1 (2004):	Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:
SANS 1921-2 (2004):	Construction and Management Requirements for Works Contracts; and Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.
SANS 294 (2004)	Construction procurement processes, methods and procedures.
SANS 10845-5	Targeted enterprise
SANS 10845-6	Targeted partners in joint ventures
SANS 10845-7	Local Resources
SANS 10845-8	Targeted labour
National Treasury (16 January 2023)	Preference Points Claim Form In Terms Of The Preferential Procurement Regulations 2022

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

***THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE INTERCHANGE ON
THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE EMALAHLENI LOCAL
MUNICIPALITY IN THE NKANGALA REGION OF THE MPUMALANGA PROVINCE***

TENDER No. PWRT/2581/24/MP

C3.2. PROJECT SPECIFICATIONS

STATUS

The Project Specifications, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

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

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

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

PART A: GENERAL

PS-1 PROJECT DESCRIPTION

1.1. Employer's objectives

The Mpumalanga Department of Public Works, Roads, and Transport have indicated that the primary objective for the new overhead railway crossing and associated roads interchange upgrades is to alleviate the present traffic congestion experienced on the road P100, which will enable efficient mobility of transported goods, and ultimately benefit the economic activity within Emalahleni Local Municipality.

For the project, the Contract Participation Goal (CPG) is introduced to obtain maximum local participation. A minimum CPG target of 30% is set for this contract. The employer's objectives during construction are to provide local enterprises and local labour with a substantial portion of work, provide training to local labourers and emerging entrepreneurs, and to use labour intensive methods of construction. The specific categories under CPG are youth, women, and people with disability. Priority should be given to these specific categories unless they cannot be appointed due to unavailability or failure to meet the required project specifications. The work must be executed to the highest technical standard and with a high degree of safety.

1.2. Location of site

The project is located as shown on the locality plan provided in section C4.1.

The site shall not only include the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract.

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

1.3. Access to site

Access to the site can be obtained from the R544 (P100) from Verena towards the north and from the national road N4 along the R544 from the south.

The contractor shall be responsible for the maintenance and reinstatement of damage caused by him or his agents/deliveries to vehicular access roads, tracks and rights of way. No damage to fauna and flora located outside the limits of the road reserve will be permitted on the contract.

The contractor shall take cognisance of the aforementioned items concerning roads and tracks and allow for any costs in his tender under the relevant section in the Bill of Quantities.

The description of the project contained in this section is merely an outline of the contract works and shall not limit the work to be carried out by the Contractor under this contract. Approximate estimated quantities of each type of work to be carried out are listed in the bills of quantities bound in this document.

1.4. Extent of the works

The works comprise of the following construction activities, but are not limited to these descriptions:

- Site establishment, providing for engineers and contractors camps.
- Identify and relocate existing services where needed and facilitate specialist service provider relocation of their respective utilities prior to any road construction activities.
- Provision of surfaced temporary diversions

Construction Works

- Construction of 30mm asphalt surfacing on the municipal roads
- Construction of 50mm asphalt surfacing on the P100
- Construction of crushed stone base (150mm)
- Construction of subbase (400mm), stabilised with cement (C3)
- Construction of selected sub grade (150mm)
- Ripping and recompacting insitu selected layer (150mm)
- Construction and extension of stormwater structures
- Construction of concrete side drains and channels.
- Construction of 2No. Bridges with their approach ramps supported by MSE Walls
- The installation of concrete kerbing.
- Construction of paved walkways.
- The erection of new guardrails
- Painting of new road markings and erection of new road signage and traffic signals.
- The construction of stone pitching and gabion erosion protection.
- Lanscaping of disturbed and new areas.

Breaking up existing pavement layers

- Excavating and recycling in-situ existing bituminous and base layer materials

Storm-water drainage system

- Construction, reinstating and cleaning of storm water drainage system
- Maintenance and clearing of existing culverts.

Ancillaries

- Installation of road traffic signals
- Installation of street lighting.

1.5. Drawings

The tender drawings applicable to the contract are attached separately to this document under the book of drawings. The drawing register in C4.4 which will give an overview of all the drawings bound into that document.

1.6. Procurement

1.6.1. Preferential procurement procedures

Preference is given on the basis of the Specific Goals of the tenderer.

1.6.2. Contract Participation Targets:

In this project the minimum target values shall be as follows:

Targeted Labour: 15%

Targeted
Enterprises: 15%

i. Targeted Labour:

Unskilled and semi-skilled labour may only be sourced from Wards 14 and 4 of the Emalahleni Local Municipality, unless these are not available.

Targeted labour must be trained on the job by the Contractor with the goal these workers can enter the labour market as a skilled worker in a specific task when the project is finished, for those tasks that are practically suitable. On-site training and mentoring is deemed to be included in the tenderers rates for the specific items. A provisional sum is allowed for practical and theoretical training by service providers.

ii. Targeted Enterprises:

First priority target area: Ward closer to Road P100/Railway crossing – Weighting factor: 1.25

Second priority target area: Wards within project area (Wards 20 and 22) – Weighting factor: 1.25

Third priority target area: Emalahleni Local Municipality - Weighting factor: 1.00

1.7. Construction

1.7.1. Applicable SANS 2001 standards for construction works

There are no SANS 2001 standards applicable.

1.7.2. Applicable national and international standards

1.7.3. The relevant provisions of the COTO Standard Specifications for Road and Bridge Works for South African Road Authorities October (2020 edition) shall apply to the contract.

PS-2 Details of the Works

A brief detail of the works for which this specification is applicable is as follows:

2.1. Roadworks

2.1.1. The design pavement structure for the upgrade of Road P100 as well as the raised approach ramps and municipal roads is summarised in the following table:

Layer	Thickness (mm)	TRH 14 Code	Description	Compaction (%)
Surfacing	50/30		Continuously graded, medium grade asphalt, using AE-2 type modified binder.	
Base	150	G1	Commercially sourced crushed stone material.	88%
Subbase	400/200	C3	Imported materials from commercial sources, stabilised with cement.	97%
Selected	150	G6	Imported materials from commercial sources.	93%
Fill	150	G7	Imported materials from commercial sources.	93%
Roadbed (Greenfield)	150	G7	Rip and re-compacted in-situ material.	90%
Existing Pavements	Varies		Mill out existing asphalt surfacing and base	

The typical cross section for the dual carriageway P100 road is 2 x 3.7m wide lanes, 2.0m wide paved walkways where indicated, 1m surfaced shoulders elsewhere and 1.0m gravel shoulders. The single carriageway local roads designated **M** are one way and two way streets with 3.7m wide lanes, 2m wide paved shoulders with 1m gravel shoulders or just 2m walkways where indicated. Also refer to drawing MSW-1717-DWG-010 012 – Typical Pavement Details.

2.1.2. Material sources and quantities

The principal materials sources and approximate quantities are summarized in the following table:

Description	Source	Approximate Quantity
Medium Grade Asphalt with AE-2 Binder	Commercial Source	33 800 m ²
G1 Base	Commercial Source	5 250 m ³
C3 Subbase layer	Commercial Source	14 000 m ³
Selected Subgrade Layer	Commercial Source	7 000 m ³
Fill	Commercial Source	50 000 m ³
Selected Layers	In-situ Treatment	3000 m ³

2.2. Drainage

The existing cross drainage facilities and culverts in the general area will require replacement or upgrades. Additional lined channels and kerbs with channels will be constructed for the proper handling of surface water. Energy breakers and gabion mattresses will be provided to prevent soil erosion at outlets where necessary.

2.3. Bridge Structure works

The road over rail interchange has two bridges. The main bridge (Bridge1) is a dual carriageway road bridge over the railway lines, whilst Bridge 2 is a smaller dual carriageway road bridge over a two lane interchange road.

The main bridge (Bridge 1) structural components and configurations comprise of:

- (i) 2 No 700mm thick reinforced concrete abutments cast in situ of lengths 40m and 27m respectively.
- (ii) 1300mm deep and 550mm wide precast beams laid skewed on the abutments walls and of spans up to 18.7m.
- (iii) 300mm concrete bridge deck constructed in two sections, 150mm precast and 150mm cast in-situ
- (iv) Hot dipped galvanised steel parapets on either side of the bridge
- (v) The finish of the concrete works will be U1 (top of deck, top of abutment footing and top of approach slab), F1 (sides of approach slab and sides of abutment footing) and F2 (for the rest of the other areas).

PRECAST BEAMS

- (i) Beam 01(550Wx1300Dx20985L Each 36t)
- (ii) Beam 02(1200Wx1500Dx20985L(to shape) Each 55t)
- (iii) Beam 03(550Wx1300Dx18860L Each 32t)
- (iv) Beam 04(550Wx900Dx18013L Each 21t)
- (v) Beam 03(550Wx1300Dx18860L Each 32t)
- (vi) Beam 06(550Wx1300Dx11048L Each 13t)

The bridge superstructure is to be constructed with an average skew angle of 24.2deg. The bridge top is 7.2m above the rail lines.

The smaller bridge (Bridge 2) comprises of:-

- (I) 2 No 700mm thick reinforced concrete abutments cast in situ of lengths 27m and 24m respectively.
- (II) 750mm deep and 550mm wide cast in-situ beams laid skewed on the abutment walls and spans up to 14.7m.
- (III) 300mm reinforced concrete bridge deck cast in situ.
- (IV) Hot dipped galvanised steel parapets on either side of the bridge
- (V) The finish of the concrete works will be U1 (top of deck, top of abutment footing and top of approach slab), F1 (sides of approach slab and sides of abutment footing) and F2 (for the rest of the other areas).

The top of the deck is of 7m above the road below.

RAMP WALLS

Mechanically Stabilised Earth Wall

Mechanically Stabilised Earth walls shall support construction of ramps to the bridges, up to a height of 8m, with a total length of 1072m and an area of 5859m². The walls are split into 6 sections, namely RE wall A up to RE Wall F as per MSE Walls layout drawing. A 150mmX300mm thick unreinforced concrete levelling pad shall support the wall and a 280mm wide coping will top up the wall. The founding depth shall be a minimum of 750mm below finished ground level. The MSE Wall panels shall have a minimum thickness of 140mm, shall be interlocking and made up of reinforced concrete. Panel joints shall be covered with 305mm wide geotextile. Underdrain system shall be designed based on site conditions and shall slope to drain to an outlet leading to adjacent drainage structures. 1200mm high handrails shall be fixed on the coping. 810mm high traffic barriers will separate the pedestrian walkway from the road.

The Contractor shall prepare detailed method statements for each facet of the work describing key aspects such as construction methodology, key plant, materials, personnel as well as any programme constraints of the envisaged construction process according to Chapter 12.6 (Mechanically Stabilised Earth and Gabions) of the Standard Specifications for Road and Bridge works for South African Road Authorities (2020)

2.4. Ancillary works

Guardrails will be constructed at the leading end terminals on the ramps. Landscaping in select areas will be undertaken. Street lighting and traffic signals will form part of the project as well as road marking and road signs.

2.5. Traffic Accommodation

Temporary surfaced deviations will be constructed within or near the road reserve where possible. Where space limitations exist the works can be carried out in half-widths.

The temporary deviations will be used by all local and through traffic. Proposed permanent roads and existing streets will be used as alternative routes.

There are 4 possible phases of construction that will utilize the traffic accommodation procedures. These are referenced in C4.1.2.1 (d).

2.6. Nature of ground conditions and subsoil conditions

The geotechnical investigations summary of the existing pavement conditions will be provided to the appointed Contractor.

2.7. General climatic conditions

Located at an elevation of 1519.81 meters above sea level, Emalahleni has a Temperate highland tropical climate with dry winters climate. The district's yearly temperature is 22.52°C and it is 1.3% higher than South Africa's averages. Emalahleni normally receives about 684mm of rain per year, with most rainfall occurring during summer. and has 91 rainy days annually.

2.8. Community Liaison

Local labour is to be used and the employment of such labour is to be done in conjunction with community structures. The Community Liaison Officer (CLO) shall facilitate the formation of a Labour Committee who shall assist the Contractor with the recruitment of local labourers to ensure an equal distribution of people employed between the various civic and tribal structures in the area.

The community structures shall identify and nominate one (1) CLO. He will be appointed and paid by the Contractor out of a provisional sum. The CLO shall be full time employed on the project. The CLO shall fulfil the secretariat function of the community Structure, and be the communication link with the contractor. The CLO shall attend all site-meetings held by the Employer, the Contractor and the Employer's Agent, and report from and back to the Community.

The CLO shall chair the Labour Committee, and assist in compiling a skills audit of the available skills in the community, compile and keep a database of the available labour, and administer the selection of labour on behalf of the Labour Committee.

2.9. Construction in confined areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant.

However, the Contractor shall note that, unless provided for in terms of the scheduled payment items in the COTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

PS-3 Construction and Management Requirements

3.1. General

The Contractor is referred to COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (2020 Edition). These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

3.1.1. Drawings

The reduced drawings which form part of the tender documents shall be used for tendering purposes only.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense produce there from all further paper prints required for the construction of the work.

At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period.

Any information which the Contractor has control over and which is required by the Representative of Engineer to complete the as-built drawings shall be made available to the of Engineer before the completion certificate is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.

Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

3.2. Responsibilities for design and construction

3.2.1. Pavement Engineer

The pavement engineer responsible for the design in accordance with the specifications will be: MSW Project Managers and Consulting Engineers.

3.3. Planning and Programme (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities October 2020 Edition, Clause A1.2.3.23; COTO and the General Conditions of Contract for Construction Works – 3rd Edition 2015 Clause 5.6*)

3.3.1. Preliminary programme

The Contractor shall include with his tender a preliminary programme on the prescribed form to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion and client Priorities as stated in the Contract Data.

Tenderers may submit tenders for an alternative Time for Completion in addition to a tender based on the specified Time for Completion. Each such alternative tender shall include a preliminary programme similar

to the programme above for the execution of the works, and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to services relocations, normal adverse weather conditions and special non-working days as specified in the Special Conditions of Contract, in the Project Specifications and in the Contract Data.

The following constraints shall be taken into account in preparing the preliminary construction programme which must be submitted with the Tender. These same constraints shall apply to the final construction programme.

- a) The Contract period is **24 months**. The first three (3) months should be for the mobilization, relocation and/or accommodation of existing services, obtaining the work permit and submission of the contractual document. 21 months is the construction and the last (one month) to attend to the defects for the issuing of the completion certificate. Plant and personnel requirements to complete the project in 20 months must be incorporated in the Tender.
- b) Sourcing of off-site materials for pavement layers.
- c) Involvement of local SMME's.
- d) A high standard of traffic accommodation

3.3.2. Programme in terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme. The Contractor's attention is also drawn to clause 5.7.3 of the General Conditions of Contract 2015.

3.4. Quality Assurance (QA) *(Read with Standard Specifications for Road and Bridge Works for South African Road Authorities October 2020 Edition, Chapter 20; COTO*

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end, it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site at his own expense. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall conduct tests or have them conducted continuously on a regular basis, to check the properties of natural materials and processed natural materials and of products manufactured on the site such as concrete. The Contractor shall remain fully responsible for any defective material or equipment provided by him such as cement, bitumen, steel, pipes and commercially sourced materials.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment and tools are available to control the quality of his own workmanship in accordance with his QA-system. The intensity of control and of tests to be conducted by the Contractor in terms of these obligations is not specified but shall be adequate to ensure that proper and high level control is being exercised.

No specific pay items are provided as compensation for the above obligations, including the provision of all samples delivered to the Engineer, the repair of places from which samples were taken, and the provision of the necessary personnel and testing apparatus and facilities for which compensation shall be

included in the tendered rates of the Contractor for the various items of work to which these obligations comply.

His attention is drawn to the fact that it is not the duty of the Engineer or the Representative of the Engineer to act as foreman or surveyor.

3.5 Method Statement

The Contractor will submit a detailed work method statement to be approved by the Engineer prior to commencing with the execution of any of the following work:

New layer works (including sub base and base)

Stabilisation of pavement layers

Accommodation, protection and relocation of existing services

Milling and recycling of in situ materials

Asphalt surfacing

Bridge works inclusive of piling, casting, transportation and placing of precast members,

Slip form concrete works

Traffic Management Plan

Method statements should consist of at least (but not restricted to) the following:

Site specific details

Personnel responsible (organogram)

Risk assessment

Prestart checks and information transmittals

Description activities

Sequence activities

Plant details

Staff details

Materials details

Health and Safety considerations

Hold points

Failure to submit an approved work method statement will result in no work commencing for that activity.

3.6. Management and disposal of water *(Read with Standard Specifications for Road and Bridge Works for South African Road Authorities October 2020 Edition, Clause A1.2.3.23; COTO)*

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

3.7. Earthworks *(Read with Standard Specifications for Road and Bridge Works for South African Road Authorities October 2020 Edition, Chapter 4.1; COTO)*

Borrow pits and spoil areas

Borrow sources and spoil areas have not been identified for use on this project. Instead granular backfill and pavement materials will be sourced by the Contractor from commercial sources. The Contractor will be responsible for the disposal of the excess and unsuitable material encountered and excavated on site.

The spoil sites shall be determined by the Contractor in conjunction with the Engineer and the local communities. The Contractor shall be permitted to use only those spoil areas thereafter approved by the Engineer.

Should the Contractor wish to use any other tip area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the landowner.

3.8. Testing (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.2.8, Chapter 1; COTO*)

Process control

The Contractor shall arrange for all tests required for process control to be done to ensure compliance with the requirements of the specifications. The cost of process control is deemed to be included in the rates, and no special pay item is provided for such.

Acceptance control

The process control test results submitted by the Contractor for approval of materials and workmanship will be taken into account by the Engineer in his appraisal for acceptance. However, the Engineer shall commission further acceptance control testing by the Engineer's laboratory. The cost of such acceptance control testing is carried by the Employer. The laboratory to be used for conducting acceptance test must be accredited with SANAS.

3.9. Site Establishment (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.3; COTO*)

Contractor's camp site and depot

The Contractor is responsible to provide a suitable site for his camp, the Engineer's personnel and the Engineer's site laboratory, and to provide accommodation for his personnel and labourers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor. The construction site must be along the route under construction with a maximum of 2km away from the road. The Engineer offices, site laboratory and contractor's offices need to be provided for at the same location.

The chosen site shall be subject to the approval of the Engineer and the Community Structures. The Contractor shall conform to all local authority, environmental and industrial regulations.

The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.

Accommodation of Employees

No employees except for security guards will be allowed to sleep or be accommodated on the site, unless otherwise approved by the land owner and endorsed by the Community Structure.

The Contractor shall make his own arrangements to house his permanent employees and to transport them to site. The contractor shall also make arrangements regarding transport of local temporary labour to and from site. No additional payment shall be made for transport of labour to and from site, and the rates shall be deemed to include the cost of transportation.

No informal housing or squatting will be allowed on the site.

The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets only will be allowed where temporary facilities have to be provided.

3.10. Survey beacons (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.2.7.2; COTO*)

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

3.11. Services (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.2.7.2; COTO*)

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

A provisional amount is included in the bill of quantities for the protection of services and/or relocation thereof.

Prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately.

The Contractor shall take note of the requirements of clause A2.1.3.2 of the standard specifications with regard to services.

The drawings indicate of some of the existing services known to the Engineer at the time of tendering. This is by no means a comprehensive inventory, and the contractor shall ascertain the status of existing services.

3.12. Health and Safety (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.2.3.6; COTO*)

3.12.1. General statement

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHS Act 1993 Construction Regulations 2014 issued on 07 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in section C1.2.4.

3.12.2. Health and Safety Specifications and Plans

a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in Part E of the Project Specifications.

b) Tenderer's Health and Safety Plan

The Tenderer shall submit before commencement of his works his own documented Health and Safety Plan for the execution of the works under the contract. The Health and Safety Plan must comply with the employer's specification, at least cover the following:

- i. a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 7 to 28;
- ii. pro-active identification of potential hazards and unsafe working conditions;
- iii. provision of a safe working environment and equipment;
- iv. statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 5*);
- v. monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- vi. details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 6 and other applicable regulations; and
- vii. Details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2003.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

3.12.3. Cost of compliance with the OHSA Construction Regulations

The rates and prices (see pay item B13.02, B13.03, B13.04, Part B of the project specifications) tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as well as the Mine Health and Safety Act as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

3.13. Management of the environment (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.2.3.3; COTO*)

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

a) Natural Vegetation

The Contractor shall confine his operation to the limits of the road reserve for the purpose of constructing the works and where applicable detours, shall be sited in consultation with the Engineer and the local communities.

Only those trees and shrubs directly affected by the works and such others as the Engineer may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

b) Fires

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

The contractor shall engage actively in the local fire protection and disaster management structures.

c) Environmental Management Plan

In addition to the above, all requirements according to the Environmental Management Plan as detailed in C3.3, Particular Specifications Part C Section 2, shall be adhered to.

To be highlighted is that it is a requirement of the Record of Decision regarding the Environmental Management Plan that the Employer shall appoint a full time Environmental Control Officer whose duty it shall be to independently monitor compliance with the environmental requirements of the contract and to report to the Employer. The ECO shall be given full access to the site, and shall be invited to all Community Structure and technical project meetings and shall receive all minutes. The ECO shall be skilled in the specific environmental mitigation measures provided for in the scope of works, and shall provide the project technical team with technical guidance. However, the work instructions shall be issued by the Engineer.

3.14. Requirements for Accommodation of Traffic (*Read with Standard Specifications for Road and Bridge Works for South African Road Authorities 2020 Edition Clause A1.5; COTO*)

General

The Contractor will be responsible for the safe and easy passage of public traffic past and on sections of roads of which he has occupation or where work has to be done near traffic.

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.

Accommodation of traffic, where applicable shall comply with SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor. The Contractor shall obtain this specification from Standards South Africa if accommodation of traffic will be involved on any part of the construction works.

Basic Requirements

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

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc., in a good condition shall constitute ample reason for the Engineer to suspend the work until the road signs, etc., have been repaired to his satisfaction.

The Contractor may not commence constructional activities affecting existing roads before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.

The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working.

Payment

The Contractor's tendered rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the *modus operandi* will be considered.

(c) Environmental Management Plan

In addition to the above, all requirements according to the Environmental Management Plan as detailed in C3.3, Particular Specifications Part C Section 2, shall be adhered to.

PS-4 Labour Intensive Specification

4.1. Labour intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading designation of 5CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1CE, 2CE, 3CE and 4CE shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm-water Drainage	any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm-water Drainage	any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

Employment of unskilled and semi-skilled workers in labour-intensive works

4.1.1. Requirements for the sourcing and engagement of labour

4.1.1.1. Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and the specifications.

4.1.1.2. Tasks established by the contractor must be such that:

- the average worker completes 5 tasks per week in 40 hours or less; and
- the weakest worker completes 5 tasks per week in 55 hours or less.

4.1.1.3. 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 5.2.1.3.

- 4.1.1.4. The Contractor shall, through the Community Structure, 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
- 4.1.1.5. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
- a) 40% women;
 - b) 20% youth who are between the ages of 18 and 35; and
 - c) 2% on persons with disabilities.

4.1.2. Specific provisions to training

The skills audit conducted by the Project Steering Committee and the appointed Social Facilitator will inform the Contractor's training programme. The contractor shall hence design a training programme for labour and entrepreneurs and submit it to the Engineer for approval. This programme will be provided by commercial training institutions on a quotation basis. This category of training paid under the contract, must be endorsed by the Engineer prior to the appointment of the training institutions. This category of training shall be only CETA accredited training (NQF levels 1 to 4) covering the courses of special skills, construction supervisors, and construction contractors.

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.

An allowance equal to 100% of the daily rate shall be paid by the contractor to workers who attend formal training. 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 contractor shall do nothing to dissuade targeted labour from participating in training programmes.

Proof of compliance with the requirements of the above must be provided by the Contractor to the Employer prior to submission of the final payment certificate. The payment arrangements for this category of training are set out in part B of the project specifications.

PART B: AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATIONS

B1: PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

In certain clauses in the standard, standardised and particular specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains the necessary additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix **P** followed by a number corresponding to the relevant clause or payment item in the standard specification.

The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by **P**, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

IN ALL CASES WHERE REFERENCE IS MADE IN COTO TO THE “GENERAL CONDITIONS OF CONTRACT” THIS WILL REFER TO THE “GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS” 3RD EDITION 2015. REFERENCE MADE TO A SPECIFIC CLAUSE IN COTO MUST BE CROSS-REFERENCED FROM THE GCC 2015 TO THE SPECIFIC CLAUSE NUMBER IN GCC 2015.

SECTION A1.1.2 DEFINITIONS

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

SECTION A1.2: GENERAL REQUIREMENTS AND PROVISIONS

A1.2.3.22 Wayleaves/Agreements and Permits

a) Wayleaves/Agreements (Planning and Design Approvals)

The Employer will be responsible for obtaining the necessary planning and design approvals for the work described in the Contract Documentation or shown on the drawings. In terms of this Standard Specification such approval is deemed to be granted in accordance with the terms of what are referred to as “wayleaves”. Before commencing any work the Contractor shall ask the Engineer to obtain all the applicable wayleaves from the Employer.

If specified in the Contract Documentation, the Contractor shall be responsible for applying for certain wayleaves and, if so specified, the Contractor shall determine and comply with the wayleave application processes specified by the road authority responsible for the road reserve and by any other service authority/provider whose services are known to exist in the road reserve.

The applications for such wayleaves shall be submitted timeously by the Contractor to ensure that wayleaves can be issued before the work is programmed to start. Applications for wayleaves shall be submitted with the relevant design drawings.

The Contractor shall pay all fees and charges for wayleaves to the road authority responsible for the road reserve or to any other service authority/provider whose services exist in the road reserve.

The Contractor shall comply with all conditions pertaining to the approval of wayleaves that may be imposed by the road authority or by the relevant service provider.

PA1.2.7.1: PROGRAMME OF WORK

a) General

Add the following at the end of the fourth paragraph:

Scheme 2 programme is required and specified for this contract.

c) Scheme 2

Delete and replace the following words/ paragraphs:

Replace “for at least the first three months of work in detail” in the second sentence of the first paragraph with “to complete the full Works in the necessary details”.

Replace “full programme” everywhere under this sub clause with Initial/ first programme

Delete “and need only show the major activities for the balance of the work.” in the second and third sentence of the first paragraph.

Delete The entire paragraph two (2) “Within six weeks.....revise the programme if necessary”

PA1.2.8: WORKMANSHIP

Add the following:

“The contractor shall submit the quality assurance plan and systems he proposes using in accordance with Clause A1.2.8.1 read in conjunction with Chapter 20 of this Standard Specification to the Engineer before Commencement of the Works as per Clause 5.3.1 of GCC2015. Once accepted

it shall not be deviated from unless written notification of proposed changes have similarly been submitted and approved. The system shall record lines and levels of responsibility and indicate the method by which testing procedures will be conducted.”

Add the following to the end of this clause:

“The Engineer shall for the purpose of acceptance control on products and workmanship, assess test results and measurements in accordance with the provisions of Clause A1.2.8.2 of the standard specifications. 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.

PA1.2.7.2: THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Add the following sentence at the end of the last paragraph:

“Temporary by passes are also elements of the road that require proper setting out. The contractor shall provide the Engineer the on-site setting out for confirmation and acceptance prior to construction.”

PC1.1.3.5: PAYMENT FOR MATERIAL ON THE SITE

Delete and replace the words in the first paragraph:

“the Contract Documentation” in the first sentence of the first paragraph with accordance with Clause 6.10.2 of the General Conditions of Contract for construction works 2015.

PA1.2.3.4: EXTENSION OF TIME FOR DELAYS CAUSED BY RAINFALL

Add the following after the first paragraph:

Method (2) (Critical path method with consequential delays) shall be used on this contract.

b) Method 2 (Critical path method with consequential delays)

Add the following at the end of the third paragraph:

The 'n' value of working days, as specified in this clause as being expected delays for which the contractor must make allowance in his programme, have been calculated from the figures given in Table BA1.2.3.4/1 below:

Table PA1.2.3.4/1: Rainfall records

Rainfall records for Witbank Weather Station (05153208) are shown in the table below.

MONTH	AVERAGE RAINFALL (mm)	AVERAGE RAIN DAYS (≥ 1.0 mm) (per month)	(n) DELAY DAYS RAIN (per month)	(n) DELAY DAYS OTHER (per month)
JANUARY	117.8	15	6	
FEBRUARY	78.5	11	4	
MARCH	87.5	11	4	
APRIL	48.5	7	4	
MAY	24.5	3	1	
JUNE	4	2	0	-
JULY	6.5	1	0	-
AUGUST	1	0	0	-
SEPTEMBER	19.1	2	1	-
OCTOBER	53.6	8	4	
NOVEMBER	116.3	14	5	
DECEMBER	127.6	15	6	
TOTAL	648.8		33	

The number of rain-related delays is the days on which 10 mm of rain or more is expected to fall. Other inclement weather delays for which the contractor must make allowance in his programme have been derived from previous experience of wind and temperature influence on similar construction in the area of the site. Actual extensions of time due to inclement weather shall be agreed between the Engineer's and contractor's representatives on the site. The agreed whole days or parts thereof shall be recorded at the monthly site meetings.

PA1.2.3.5: THE HANDING-OVER OF THE SITE OF THE WORKS

Add the following:

The full extent of the site of the works will be handed over to the Contractor at the beginning of the contract. He shall be responsible for the maintenance along all portions of the roads until completion of the contract.

PA1.2.3.3: ENVIRONMENTAL MANAGEMENT

Add the following after the sixth paragraph:

Respect for the environment is an important aspect of this contract. The environmental control of the site shall be governed by the Environmental Management Specification and Plan included in Part C of the Particular Specification C3.3 of this document, which provides, inter alia for:

- a) The Contractor must allow for the satisfactory combating of dust and noise nuisance throughout the contract length during construction.
- b) The Contractor must make provision for the prevention of excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer.
- c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the Engineer.
- d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not, under any circumstances be allowed.
- e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.
- f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed authorised disposal facilities.
- h) Clearing shall be limited to the road prism and, where applicable, detours, which shall be sited in consultation with the Engineer and the local communities.
- k) The Environmental Management Plan included as Part C Section C3.3 of the Particular Specifications provides further detail regarding the sensitivity of the area and the requirements regarding mitigating the impact of the construction process, which shall be observed by the Contractor. Other than the pay items provided for in Schedule E of the Bill of Quantities or elsewhere, no other additional payment shall be made to the Contractor for complying with the Environmental Management Specification and Plan. Costs involved in order to comply with these shall be regarded to be included in other rates.

PA1.2.9: WORKMEN'S COMPENSATION ACT

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 manner in which Workmen's Compensation shall be handled shall be resolved by the Contractor at the commencement of the contract.

PA1.2.10: CARE OF WORKS, DAMAGE, INJURY AND INSURANCE

Compliance with Road Traffic Act:

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

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

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Engineer or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic.

The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Engineer against any claims, damages and / or costs that may arise in this regard.

SECTION C1.2: GENERAL REQUIREMENTS AND PROVISIONS

PART C MEASUREMENT AND PAYMENT

PC1.2.4 Stakeholder liaison

Add the following pay items:

"Item	Description	Unit
PC1.2.4.1	Project Steering Committee(PSC)	
	a) Stipends for a 6 member PSC attending meetings	provisional sum
	b) Community Liaison Officer (CLO)	provisional sum
	c) Contractor's handling costs, profit and all other charges in respect of sub items PC1.2.4.1 a) and b)	%

Expenditure of the above items shall be made in accordance with the general conditions of contract. Invoices for the services rendered need to be provided to the Employer's Agent when claiming for these items. Only the amount actually spent and approved by the Employer's Agent may be claimed.

The tendered percentage is a percentage of the amount actually spent under the sub-item PC1.2.4.1 a) and b), and which shall include full compensation for the handling costs of the contractor, and the profit in connection with providing the community liaison officer.

The provisional sum for PC1.2.4.1 a) shall include full compensation for all on-going stakeholder liaison that the Contractor is required to carry out after the contract has been awarded as specified in Section A1.2, Clause A1.2.3.18, including informing stakeholders of the Works procedures and of the accommodation arrangements for pedestrians and nonmotorised traffic through or over the site of the Works, providing health and safety information to stakeholders, arranging and attending meetings, providing meeting facilities and sandwiches, tea, coffee or soft drinks. Payment shall be made every month for the duration of the approved contract period regardless of the amount of stakeholder liaison required during that month."

PC 1.2.10 CETA Accredited Training (40 labourers)

"Item	Description	Unit
PC 1.2.10.1	a) Technical skills	Prov.Sum
PC 1.2.10.2	b) General skills	Prov.Sum
PC 1.2.10.3	c) Management skills	Prov.Sum
PC 1.2.10.4	Remuneration of workers undergoing technical, generic and management skills training	Prov.Sum
PC 1.2.10.5	Contractors handling cost and profit in terms of items PC1.2.10.1, PC1.2.10.2 and PC1.2.10.3	%

This payment item covers the cost of all CETA accredited training provided for locally sourced labourers. The sum covers the cost of paying for the commercial training service provider, for the venue, and for stationary etc.

Progress payments shall be considered by the Engineer. Payment of 50% of the amount quoted shall be kept in retention until such time as training certificates have been duly issued by the service provider.

No progress payment shall be considered for this item. This amount shall be payable only after all certificates have been issued to trainees. The Contractor's cost in respect of all expenditure on training shall be covered under the items provided."

"Item	Description	Unit
PC 1.2.11	HIV/AIDS Awareness	
	a) Awareness Champion	L.Sum
	b) Awareness Workshops	L.Sum
	c) Posters, Booklets, Videos etc	L.Sum

d) Access to condoms	
i) Dispensers fixed in position containing male and female condoms	No
e) Monitoring	lump.sum

The successful tenderer shall provide the Engineer with a complete breakdown of the tendered sums. These sums will be paid to the contractor subject to proper/substantial compliance."

SECTION C1.3: CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

PART C: MEASUREMENT AND PAYMENT

Add the following at the end of Item C1.3.1.

"..... and provided the Contractor has fulfilled his obligations as far as the Engineer's office, laboratory and housing accommodation is concerned".

Add the following:

"The contractor shall, at each area where work is being undertaken, provide on a daily basis at least one portable chemical latrine unit 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 Engineer. No separate payment shall be made for this requirement and shall be deemed to be included in the rates tendered for the contractor's time-related obligations.

Tenderers shall allow under the rates in this section for the costs involved in complying with the health and safety requirements".

PC1.3.1 The Contractor's general obligations

Delete subitem C1.3.1.3 and replace with the following:

Item	Description	Unit
"PC1.3.1.3	Time related obligations:	
	a) Mobilisation period.....	month
	b) Services relocation period.....	month
	c) Execution of the works.....	month"

Under the heading "Item C1.3.1.3", delete the 2nd paragraph and replace with the following:

"The contract rate shall include full compensation for that part of the Contractor's general obligations which are mainly a function of construction time. The contract rate shall be deemed to include, hire costs or cost of ownership or minimum hourly charges (standing time costs) per month for Contractor's Equipment. The contract rate will be paid monthly, pro rata for parts of a month, from the Commencement Date in terms of the Contract Documentation until the

end of the Mobilisation Period for item PC1.3.1.3(a). For item PC1.3.1.3(b) the contract rate will be paid monthly, pro rata for parts of a month, from the end of the Mobilization Period in terms of the Contract Documentation until the end of the Services Relocation Period. For item PC1.3.1.3(c) the contract rate will be paid monthly, pro rata for parts of a month, from the end of the Mobilisation and Services Relocation Period until the end of the original Contract Period specified for completion of the Works.”

“Item	Description	Unit
-------	-------------	------

PC1.3.2 Contract sign boards

No

The unit of measurement for item PC1.3.2 is the total number of the approved contract sign boards provided and erected by the Contractor in the positions on site indicated by the Engineer. The contract rate for item C1.3.2 shall include full compensation for all costs associated with providing, erecting and for the later removal of the contract signboards as soon as the Works have been completed.”

SECTION 1.4: FACILITIES FOR THE ENGINEER

PART A: SPECIFICATIONS

PA1.4.3 GENERAL

In the first sentence of the 7th paragraph delete: “permanent Works” and replace with: “services relocation period”

In the last sentence of the 7th paragraph delete: “not later than six weeks after the Contract commencement date” and replace with: “not later than the end of the Mobilisation period as defined in sub-clause 5,2,1 of the General Conditions of Contract (2015)”.

PA1.4.7.1 OFFICES AND LABORATORIES

b) Offices

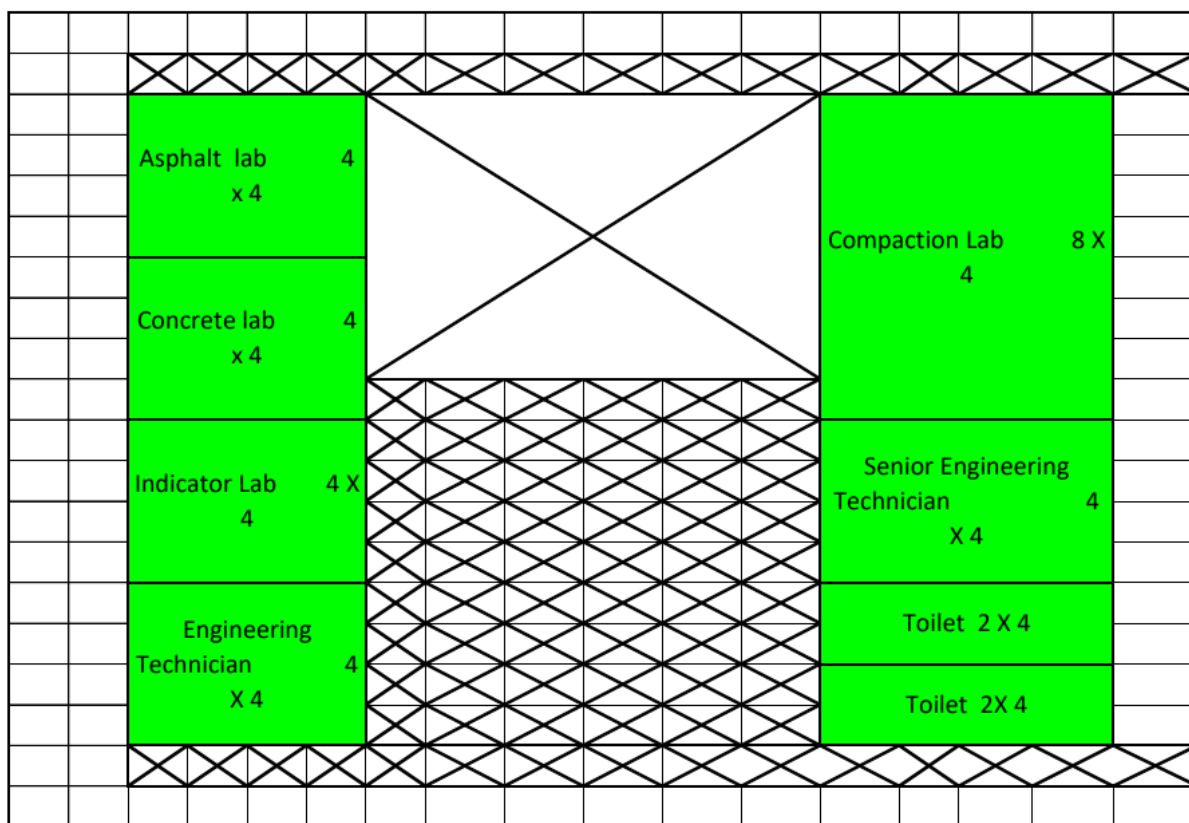
Remove the first sentence in the 17th bullet point and replace with:

“The Contractor shall provide and install air-conditioning units and heaters to all Engineer’s offices”.

c) Laboratories

Remove the second paragraph and replace with:

“The actual sizes (in meters) and proposed layout of the individual laboratory types are provided below:



Other details will be provided by the Engineer".

 = FSM's
 = open walkways

PA1.4.7.2 HOUSING

d) Rented Accommodation

Add the following paragraph:

"The rented accommodation shall be fully furnished and to the approval of the Engineer's Representative and to include fixed and running costs. Invoices for the services rendered need be provided to the Employer's Agent when claiming for these items. Only the amount spent and approved by the Employer's Agent may be claimed."

PA1.4.7.8 FENCING FOR THE ENGINEERS CAMP

The contractor shall supply and install the Engineers camp fencing with a 1.8 m high welded razor mesh wire standard density , diamond shape aperture size 150 mm x 300 mm, Including a 10 m x 1.8 m high double leaf gates including supports posts planted in 400 mm X 600 mm concrete bases

PART C MEASUREMENT AND PAYMENT

C 1.4.4 Prime cost items

Add the following pay items:

"Item	Description	Unit
PC1.4.4.17	The provision of digital cameras	
PC1.4.4.18	Handling costs and profit in respect of item PC1.4.4.17	
PC1.4.4.19	Computer hardware and software facilities for the supervisory staff	
PC1.4.4.20	Handling costs and profit in respect of item PC1.4.4.19"	

C1.4.8 Site security measures for the Engineer's facilities

Add the following pay items:

"Item	Description	Unit
"PC1.4.8.7	Provision and erection of security fencing (Including gate)	m

The unit of measurement shall be the metre of the complete security fence supplied and installed as indicated on the drawings and/or ordered by the Employer's Agent. The tendered rate shall include full compensation for procuring, erection, maintenance for the duration of the contract and removal thereafter."

SECTION 1.5: ACCOMMODATION OF TRAFFIC

PART C MEASUREMENT AND PAYMENT

Add the following pay items:

"Item	Description	Unit
PC1.5.4/C3.2.28	Eventual removal of prefabricated culverts	metre (m)

The unit of measurement shall be the metre of existing pipe or prefabricated portal culvert removed and disposed off site as spoil. The tendered rate shall include full compensation for excavation, lifting, loading, transporting for a haul distance within 5,0 km without additional payment and off loading at the spoil site."

"Item	Description	Unit
PC 1.5.4.2	Transnet rail crossings precast slabs	

PC 1.5.4.2.1	Precast concrete slabs to Transnet detail	No
--------------	---	----

The unit of measurement shall be the number of rail crossings over the 10m road width to Transnet specifications. The tendered rate shall include full compensation for acquisition, all transportation, lifting and placement, maintenance and eventual removal including disposal."

"Item	Description	Unit
--------------	--------------------	-------------

PC 1.5.7.10	Temporary traffic control signals as specified or shown on the drawings.	Set
-------------	--	-----

The tendered rate shall include full compensation to provide all equipment per construction area (Work zone) , namely two solar powered traffic signal lights on 2,5m high steel poles complete with all electrical

wiring, 3m2 all-weather shelter complete with solar lighting, portable chemical latrines, and standby back up equipment to provide power to traffic signals and floodlights, 2x400w metal halide floodlights mounted onto a 9m winched fibreglass pole bolted to a 1,5m buried galvanized stem complete with electrical wiring, and the necessary personnel and flagmen approved by Employer's Agent to operate these traffic signals in accordance with the SARTSM."

"Item	Description	Unit
PC1.5.11.3	Provision of safety gear for Engineer's staff	No
The unit of measurement for item PC1.5.11.3 shall be the number of safety gear sets provided, each comprising of a reflective safety vest, a pair of safety boots and a hard hat as specified, and approved by the Engineer. The contract rates for the various safety gear shall include full compensation for provision thereof and maintenance in good working order throughout the contract."		

"Item	Description	Unit
PC1.5.11.4	Provision of amber flashing LED light/light bar for Engineer's site vehicle	No
The unit of measurement for item PC1.5.11.4 shall be the number of amber flashing LED lighted vehicle rooftop sets and "Construction Vehicles" stickers/warning boards proved per Engineer's vehicle. The contract rates for the amber flashing lights and stickers shall include full compensation for provision thereof, Engineer's approval and maintenance in good working order throughout the contract."		

COTO CHAPTER 2: SERVICES

A2.1.4 DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS

PA2.1.4.3 Designs

Add the following before the first paragraph:

“The Contractor will be responsible for the liaison with external service providers and the subsequent designs and approvals for the relocation and protection of their respective permanent utility services to be undertaken by the Contractor.”

Add the following sub section:

“PA2.2.5.8 Transnet SOC Ltd Materials

All materials required for the road over rail bridge crossing, temporary at grade road over rail crossing and any other service requirements with their servitude shall comply to Transnet SOC Ltd standards and requirements.

PA2.3 WET SERVICES

PA 2.3.3 GENERAL

Add the following to this section:

“Provisional sums are included for the complete relocation and protection of existing sewer and water reticulation services to include provision of all materials, excavation, chamber construction, pipe laying, bedding and backfill”.

PART C MEASUREMENT AND PAYMENT

Item	Description	Unit
-------------	--------------------	-------------

Amend the following:

PC2.1.1.2	Permanent services relocation or protection work by others	lump sum
-----------	--	----------

The lump sum item PC2.1.1.2 shall be the Contractor's remuneration for specialist works designed and undertaken by others in accordance with the provisions of the conditions of contract for work, liabilities and costs of the Contractor and the profit in connection with providing the specified service as ordered or agreed by the Engineer

PC2.1.1.4 "LI"	Permanent services relocation or protection work by the Contractor	lump sum
----------------	--	----------

The lump sum under item PC2.1.1.4 “LI” shall be the Contractor's remuneration for work done by the Contractor in accordance with the provisions of the conditions of contract for the design, liabilities, costs and work undertaken as ordered or agreed by the Engineer.

PC 2.1.2.3	Survey to verify existing service positions	lump sum
------------	---	----------

The lump sum item PC2.1.2.3 shall be the Contractor's full remuneration in accordance with the provisions of the conditions of contract to cover the costs of any and all survey services used to determine, fix and record the positions of existing services after they have been located. The use of any survey service providers shall be approved by the Engineer prior to their appointment.”

Add the following pay item:

“PC2.3.37 Construction of water services

a) Provisional sum for the complete installation of water services outside relocations
Prov Sum

b) Handling costs and profit in respect of item PC 2.3.37 a) %

The provisional sum is allocated for the construction of water alignments and structures outside the relocations identified and compensated for in C2.1.1.4 "LI". The tendered amount shall include full compensation for procuring, furnishing and laying the pipes complete with couplings, including handling, inspecting, transporting, laying, jointing, bedding, cutting and testing the pipes as specified, including excavation, provision of bedding material and backfilling.”

COTO CHAPTER 3: DRAINAGE

SECTION 3.1 DRAINS

PART C: MEASUREMENT AND PAYMENT

Replace payment item C3.1.6.1 Banks and dykes using conventional methods with PC3.1.6.1 Banks and dykes using conventional methods (specify)

SECTION 3.2 CULVERTS

PART C: MEASUREMENT AND PAYMENT

Add the following pay items

"Item	Description	Unit
-------	-------------	------

PC3.2.3 Concrete pipe culverts

Add the following pay item:

"Item	Description	Unit
-------	-------------	------

PC3.2.3.6	Waterproofing of prefabricated culvert joints with two 500 mm wide layers of filter fabric strips impregnated with bitumen emulsion	metre (m)
-----------	---	-----------

The unit of measurement is the metre of two 500 mm wide layers of filter fabric strips, impregnated with bitumen emulsion or an approved equivalent material glued over the joints. Any material narrower than 500 mm shall have a 150 mm overlap which will not be measured and paid for separately. The tendered rate shall include full compensation for procuring, furnishing, and installing, as specified."

Remove C3.2.7.2 and replace with:

"Item	Description	Unit
-------	-------------	------

PC3.2.7.2	In complete in situ floor slabs for rectangular culverts, manholes and catchpits including formwork, joints and Class U2 surface finish Class 30/19 concrete	
-----------	--	--

(i)	Installed at a standard depth of 1.0m	cubic metre (m ³)
(ii)	Installed at depths between 1.0 and 2.0m	cubic metre (m ³)
(iii)	Installed at depths between 2.0 and 3.0m	cubic metre (m ³)

Remove C3.2.12 and replace with:

"Item	Description	Unit
-------	-------------	------

PC3.2.12 Demolition of concrete members or elements:

PC3.2.12.1	Storm water inlet, outlet and chamber structures	cubic metre (m ³)
PC3.2.12.2	Water and sewer chamber structures	cubic metre (m ³)

The unit of measurement shall be the cubic metre of existing plain or steel reinforced concrete removed according to authorised dimensions. The tendered rates shall include full compensation for all demolition as specified in item C14.3.1 of Chapter 14."

Remove C3.2.15 - Manholes and catch pits, with prefabricated elements and replace with:

"Item	Description	Unit
PC 3.2.15	Manholes, catch pits and kerb inlets complete as shown on drawings	
	PC3.2.15.1 a) Manholes and catch pit chambers to accommodate maximum pipe and portal sizes within the following depth ranges (1-1.5 m)	
	i) 450mm span	Number (No)
	ii) 600mm span	Number (No)
	(iii) 750mm span	Number (No)
	(iv) 1200mm span	Number (No)
	v) 1800mm span	Number (No)
	b) 3m kerb inlet with precast cover slab complete as shown on the drawing to accommodate pipes within the following depth ranges (Standard depth 1 -1.5m)	
	i) 450mm diameter	Number (No)
	ii) 600mm diameter	Number (No)
	iii) 750mm diameter	Number (No)
	PC3.2.15.4 Extra over item PC3.2.15.1 for variation in depth of all types of storm water chambers with brickwork walls deeper than 1.5 m designated for tendering purposes	metre (m)
	The unit of measurement for item PC 3.2.15.1 and PC 3.2.15.2 shall be the number of complete manholes, catch pits and kerb inlets including covers, frames, grids and any other accessories installed as shown on the drawings	
	The tendered rates shall include full compensation for the supply and installation of the complete storm water chambers required to complete the manholes, catchpits and kerb inlets, The tendered rate shall also include full compensation for connecting up to and building any conduits into the walls of the various structures. The unit of measurement in the case of item PC 3.2.15.3 above shall be the metre of increased depth of each chamber measured once only per chamber in relation to the standard depth furnished for tendering purposes over items PC 3.2.15.1 and PC 3.2.15.2 as applicable. The tendered rates per metre, deeper than 1,5 m, shall be an adjustment to the compensation for the standard item, payable as an increased compensation to the Contractor in relation to the standard depth. The tendered rate shall include for costs for the increase in compensation for all additional costs arising for working to greater or depths, but excluding any additional excavation, backfill, in situ concrete, brickwork or plaster.	
	Excavation shall be measured and paid under item C3.2.1, and backfilling under item C3.2.2."	

Item	Description	Unit
------	-------------	------

Amend the description of item C3.2.22 as follows:

"Item	Description	Unit
-------	-------------	------

"PC3.2.22 Cutting of concrete pipe culverts:

Amend the description of item C3.2.22 as follows:

PC3.2.22.1 Pipe culverts

a) 450mm diameter	Number (No)
b) 600mm diameter	Number (No)
c) 750mm diameter	Number (No)

Replace the first paragraph with the following:

"The unit of measurement shall be the number of pipe culverts that have been cut on the instruction of the Engineer."

Replace the second paragraph with the following:

"As indicated in Clause A3.2.5.3, the cutting of skewed ends for pipe culverts shall not be allowed. Skew end for pipe culverts shall be precast and shall be measured and paid for under Item C3.2.21. The cutting of skewed ends for rectangular culverts shall also not be allowed but shall be constructed in situ and measured and paid for under Item C3.2.7.5."

Add the following third paragraph:

"The tendered rate shall include full compensation for the cutting, by mean of mechanical saw (angle grinder) and finishing off the pipes. The tendered rate shall also include full compensation for the removal of the redundant material, including all haul."

**SECTION 3.3 CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES,
DOWNPIPES, AS WELL AS CONCRETE STONE PITCHED AND GABION LININGS
FOR OPEN DRAINS**

PART A: SPECIFICATIONS

A3.3.7 EXECUTION OF THE WORKS

PA3.3.7.2 Inlet and outlet structures and transition section

In the third paragraph replace "C20/25-20" with "C25/30-20".

PART C: MEASUREMENT AND PAYMENT

Add the following new pay items:

"Item	Description	Unit
PC3.3.18	Removal of unsuitable material and replacement with 'selected' quality material in excavations for concrete-lined drains	cubic metre (m³)

The unit of measurement shall be the cubic metre of material in place after compaction. The quantity shall be calculated from the leading dimensions of the backfilling as specified or as authorised by the Engineer.

If excavations were carried out in excess of the dimensions authorised by the Engineer, the quantity of backfilling will nevertheless be based on the authorised dimensions.

The tendered rates shall include full compensation for the excavation and removal of the unsuitable material including a free-haul distance of 1,0 km and replaced with 'selected' quality material including full compensation for the supply and compaction of the material from approved sources including a free haul of 1,0 km."

COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

PART A: SPECIFICATION

PA4.1 BORROW MATERIALS

Add the following paragraph at the end of (i) Preamble:

“Any and all viable and available borrow sources in the project vicinity will be availed to the Contractor upon instruction from the Engineer. The provisional sum available will be applied to the C4.1 pay items that are indicated as “Rate Only” for the purposes of borrow source exploitation when instructed.”

A4.1.5 MATERIALS

A4.1.5.6 Requirements for types G7 to G9 materials for the pavement layers

In Table A4.1.5-3 in the MAXIMUM PARTICLE SIZE row in the G7 material column amend point (ii) to read as follows:

“(ii) Crushed material: 75mm.”

A4.1.5.7 Requirements for types G4 to G6 materials for the pavement layers

In Table A4.1.5-4 in the MAXIMUM PARTICLE SIZE row under the G5B and G6 material columns add a new point (4) as follows:

“(4) In a crushed G6 material: 75mm.”

In Table A4.1.5-4 in the GRADING MODULUS (GM) row under the G5B and G6 material columns replace “1,75 (base) / 1,5 (subbase) – 2,5” with the following:

- | | | |
|-----|---------------------|------------|
| (1) | G5B and G6 base | 1,75 – 2,5 |
| (2) | G5B and G6 subbase | 1,50 – 2,5 |
| (3) | G5B and G6 selected | 1,20 – 2,6 |

CHAPTER 5: EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION

PART A: SPECIFICATION

A5.3.8 WORKMANSHIP

A5.3.8.5 Surface regularity

Add the following to the 1st paragraph:

“The surface regularity shall be assessed on the final prepared layer after all excess fines have been swept off the surface.”

c) By using a rolling straight-edge

In the paragraph following Table A3.5.8-6, delete the following: " for payment items *** _____ ", and replace with the following: "for payment items as specified in the Contract Documentation".

CHAPTER 9: ASPHALT LAYERS

PART A: SPECIFICATION

A9.1.3 GENERAL

A9.1.3.4 Weather limitations

In the first paragraph of this clause which reads “Asphalt may be mixed and placed....”:

Replace “6°C” with “10°C in the first bullet point.

Replace “10°C” with “14°C” in the second bullet point. Replace “10°C” with “14°C” in the third bullet point.

In the second paragraph of this clause which reads “With falling air temperature....” replace “6°C” with “10°C”.

Insert the following new paragraph under the second paragraph:

“No bituminous material or asphalt shall be placed when the road temperature, immediately prior to commencing with the application of bituminous materials, is below, or in the opinion of the Engineer, is likely to fall below 15 °C.”

CHAPTER 11: ANCILLARY ROAD WORKS

SECTION 11.8: LANDSCAPING AND PLANTING PLANTS

PART C: MEASUREMENT AND PAYMENT

Add the following new payment subitem:

"Item	Description	Unit
C11.8.3 Preparing the areas for grassing:		
PC11.8.3.5 Providing and applying chemical fertilisers and/or soil-improvement material:		
(g)	Provisional sum for providing approved chemical fertilisers and / or soil-improvement material	(Prov Sum).
C11.8.4 Grassing:		
PC11.8.4.3 Hydroseeding:		
(d)	Providing an approved indigenous grass seed mixture	(Prov Sum).

SECTION 11.9: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

PART C: MEASUREMENT AND PAYMENT

Amend payment subitem C11.9.1.2 to:

Item	Description	Unit
PC11.9.1.2	Single carriageway road	kilometre (km)

Amend payment subitem C11.9.2.1 to:

Item	Description	Unit
------	-------------	------

PC11.9.2.1	Conventional construction methods	kilometre (km)
------------	---	----------------

SECTION PA11.10: ELECTRICAL WORKS

PART A: SPECIFICATIONS

PA11.9.1 SCOPE

This Section covers the installation of electrical works associated to the project. These works include street lighting and traffic signals.

PA11.9.5 MATERIALS

PA11.9.5.1 General material specifications

The general materials specifications are to comply to the Emalahleni Local Municipality electrical requirements.

PART C: MEASUREMENT AND PAYMENT

Add the following payment items

Item	Description	Unit
------	-------------	------

PC11.10.1 Prime cost sum for electrical works

PC11.10.1.1	Street lighting	Prime cost
-------------	-----------------	------------

PC11.10.1.2	Traffic signals	Prime cost
-------------	-----------------	------------

PC11.10.1.3	Contractor's handling costs, profit and all other charges in respect of items PC11.10.1.1 and PC11.10.1.2	percentage (%)
-------------	--	----------------

CHAPTER 12: GEOTECHNICAL APPLICATIONS

PART A: SPECIFICATION

PA12.1.3.3 General Aspects

Add the following after the last paragraph:

"A lump sum is provided to cater for the eventuality of concrete piling requirements covering all design and construction costs to be undertaken by the Contractor for both bridge structures if adverse ground conditions are experienced on site during construction."

PART C: MEASUREMENT AND PAYMENT

Item	Description	Unit
------	-------------	------

Add the following items:

PC12.1 32	"Lump sum being costs for concrete piles along abutment walls as per geotechnical investigations and to specialist requirements"	lump sum
-----------	---	-----------------

The tendered lump sum shall include full compensation for the Contractor's piling design as per the requirements in A12.1.3.5 and A12.1.4 for complete construction including establishment and subsequent removal of all special construction plant and equipment for piling as designed, structural platforms, rafts as may be required, general levelling of the sites and for carrying out operations, the cost of which does not vary with actual amount of piling undertaken on the indicated locations on the project.

The tendered rate shall include full compensation for all costs involved in the moving and setting up of equipment, test piles, the augered or bored holes for permanent piles with the designed diameter through materials situated within the design depth ranges through identified and unidentified materials.

The tendered lump sum shall also cover pile holes through obstructions."

C12.6.12	Cruciform facing, rectangular interlocking 150mm thick
----------	---

Add the following pay item:

PC12.6.12.4	Precast coping units 240mm wide and 610mm deep	(metre) m
-------------	--	-----------

A12.11.5 MATERIALS

Add the following Clauses:

"A12.11.5.4 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:

- woven
- non-woven, mechanically bonded (continuous fibre spunbonded, needle-punched)
- non-woven, chemically bonded
- combination of woven and non-woven.

The synthetic 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.

A12.11.5.5 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 (10 mm to 20 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, e.g. 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, e.g. 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, e.g. 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, e.g. 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.

Grade 7: As for Grade 6 but where maximum strength is required, for example in reinforcement of earth fills and reinforcement for Mechanically Stabilized Earth (MSE) retaining walls.

SECTION 12.11: GEOSYNTHETICS

The minimum requirements for each grade are listed below in Table A12.11.5-1. 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 Pricing Schedules as required by the Engineer.

A12.11.5.6 Properties

The various grades of geotextile as classified above shall comply with the general requirements as listed below in Table A12.11.5-1.

TABLE A12.11.5-1: GRADES OF GEOTEXTILES

PROPERTIES	LIMITING VALUES*							Test Method
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	
Thickness	As specified by the manufacturer							
Mass per unit area (nominal) g/m ²	100	140	200	240	300	500	750	SANS 9864
Tensile strength (minimum) kN/m	6	9	13	18	25	30	50	SANS 1525
Puncture resistance (minimum) kN (Static puncture (CBR) test)	1	1,5	2,5	3	4	5	7	SANS 12236
Penetration resistance (maximum) mm (Dynamic perforation (cone drop) test)	35	30	25	18	16	10	7	SANS 13433
Normal throughflow (minimum) lire/s/m ² (Cross plane permeability test, normal to plane, without load, constant 50 mm head)	170	120	90	80	60	40	20	SANS 11058

Note: *The values given in the table shall apply to all geotextiles, irrespective of the type of material used.

A12.11.5.7 Testing

The tests to be carried out on geotextiles, as indicated in Table A12.11.5-1, 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 will be required, at the request of the Engineer, to submit a certificate by an approved laboratory to prove compliance with the specified qualities without additional cost to the Employer."

COTO CHAPTER 13: STRUCTURES

SECTION 13.4: CONCRETE

A13.4.7 EXECUTION OF THE WORKS

A13.4.7.12 Placing and Compaction

b) Placing

Delete the 3rd sentence of the 1st paragraph and replace with the following:

“The Contractor shall not be permitted to pour unless the specific method statement for that pour has been accepted by the Engineer.”

SECTION 13.8: ANCILLARY STRUCTURAL ELEMENTS

PART A: SPECIFICATION

A13.8.7 EXECUTION OF THE WORKS

A13.8.7.2 Drainage for structures

d) Crushed stone in drainage strips behind walls

Delete “19 mm nominal size” and replace with “20 mm nominal size”.

COTO CHAPTER 20: QUALITY ASSURANCE

SECTION 20.1: TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP

PART A: SPECIFICATION

A20.1.2 DEFINITIONS

Independent site laboratory

In the definition of "Independent site laboratory", add the following:

"Independent Site laboratory in COTO is equivalent to the combined laboratory in the Employer's documentation"

Engineer's laboratory

In the definition of "Engineer's laboratory", replace with the following

"This type of laboratory refers generally to the Independent Site Laboratory run under the authority of the Employer's Agent and operated jointly with the Employer and Contractor. The Contractor's contribution to the joint laboratory is to be negotiated, agreed and accepted by all parties prior to laboratory establishment"

A20.1.3 TESTING METHODS

A20.1.3.6 Classifying the tests for costing and payment purposes

b) Special test

Replace the first sentence of this subclause with the following:

"Special tests that have to be conducted by the Contractor only at the specific request of the Engineer for acceptance control purposes include the following:"

Add the following paragraph at the end of this subclause:

"Special acceptance control tests shall include any tests that cannot be carried out by the Independent site laboratory as procured by the Employer for use by the Employer's Agent and Contractor for the Contract. The special acceptance control tests shall include, but not be limited to, the tests indicated in Clause A20.1.6. Special acceptance control tests that have to be conducted by the Contractor at the specific request of the Engineer shall be carried out in

accordance with the test methods and at the approved laboratory or testing authority as agreed by the Engineer at a specific independent commercial laboratory nominated for certain tests.”

A20.1.4 PUBLISHED TEST METHODS

A20.1.4.7 Testing of bituminous binders

Replace: “SABITA PG1 –Series on modified binders “ with:

“SABITA TG1 –Series on modified binders “.

A20.1.7 ACCEPTANCE CONTROL BY STATISTICAL JUDGEMENT PRINCIPLES

Minimum samples per lot

Add the following new paragraph:

“The Engineer may specify additional numbers of samples. The Number of samples must be sufficient to meet the requirements of TMH5.”

B2: SPECIFICATION DATA

Notes to tenderer:

- 1. In certain clauses, the Standard Specifications allow a choice to be specified in the Contract Documentation or Project Specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this Section: Specification Data.**
- 2. The number of each clause and each payment item in this part of the project specifications follows the numbering format of the COTO standard specifications.**

COTO CHAPTER 1: GENERAL

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
1			GENERAL	
	A1.1		GENERAL PREAMBLE	
		A1.1.2	DEFINITIONS	
			Conditions of Contract	The General Conditions of Contract for Construction Works (3 rd Edition, 2015) as published by the South African Institution of Civil Engineering.
			Site / Site of the Works	The limits of construction is provided in Part C4: Project Information in clause C4.1.1 and on the Layout Plan drawings.
	A1.2		GENERAL REQUIREMENTS AND PROVISIONS	
		A1.2.3	GENERAL	
			A1.2.3.23 Work in restricted areas	The Contractor shall take due cognizance of the following restrictive conditions, as follows: a) Fill behind abutments and ramp walls b) Excavations next to existing roads c) Protection of existing bulk water lines. d) Construction work over railway alignments For this contract all rates include the additional cost for working in restricted areas except for section 13 where payment will be made for construction of fill in restricted areas.
			A1.2.3.3 Environmental management	The requirements of the Environmental Officer is indicated in Section C.

			A1.2.3.4 Extension of time for delays caused by rainfall	
			c) Method 2 (Critical path method with consequential delays)	Method 2 (Critical path method with consequential delays) is specified. The value of "N" is 28 (days annually). In calculations of payment for approved extensions of time granted for delays caused by rainfall, payment will be made utilising the applicable payment items for which the unit of measurement is "month" but excluding payment items with negative rates and non-applicable payment items such as pay item C1.3.1.4.
			A1.2.3.5 Handing-over of the Site of the Works	The conditions for handing-over of the Site of the Works are as follows: a) Sequence The whole road reserve for the section o P100 which is to be upgraded and All municipal road sections within the limits of construction that are required for traffic accommodation purposes (erection of signs etc) will be handed over on the date of access to site. Refer to Part C4: Project Information in clause C4.1.2 for the proposed sequence of construction. b) Temporary deviations Significant lengths of temporary deviation will be required. c) Half or partial width sections Significant section lengths of half or partial width construction will be required.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				d) Unrestricted sections One-way traffic on two lanes is to be maintained at all times over the full length of the Contract. Also refer to Section 1.5 in this regard. e) Restricted sections One-way alternate direction traffic on one lane is to be maintained over the railway

				crossings. Also refer to Section 1.5 in this regard.									
			A1.2.3.10 Notices, signs and advertisements	Details of the contract sign board is provided on the drawings.									
			A1.2.3.12 Ownership of assets and disposal of non-usable assets	The Non-usable assets to be disposed by the Contractor is listed in the following disposal plan: Disposal plan: <table><tr><td>Asset description</td><td>Estimated quantity</td><td>Disposal requirement</td></tr><tr><td>Road Signs</td><td>25 No.</td><td>Disposal by Contractor</td></tr><tr><td>Culverts</td><td>200 m</td><td>Disposal by Contractor</td></tr></table>	Asset description	Estimated quantity	Disposal requirement	Road Signs	25 No.	Disposal by Contractor	Culverts	200 m	Disposal by Contractor
Asset description	Estimated quantity	Disposal requirement											
Road Signs	25 No.	Disposal by Contractor											
Culverts	200 m	Disposal by Contractor											
			A1.2.3.13 Prevention of damage to nearby properties and services	No structures that could be affected by excessive ground vibrations have been identified. Refer to Chapter 2 Section 2.1 clause A2.1.3 regarding the proximity of services to the works.									
			A1.2.3.22	The Contractor shall be responsible for applying									

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			Wayleaves/Agreements and Permits	for the following wayleaves from the following known service owners: -Sasol gas -Telkom/Openserve - Afrox gas - Transnet

				- Emalahleni Local Municipality
		A1.2.4	DESIGN BY CONTRACTOR	
			A1.2.4.1 Designs and drawings for the permanent Works provided by the Contractor	Time frames for submission and resubmission are as follows: a) 30 calendar days from commencement date b) Comments on submission to be provided within 10 working days by Engineer. Service provider approvals, specific products, materials, permanent works designs to be submitted 30 days before planned construction requirement.
			A1.2.4.2 Designs and drawings for temporary works provided by the Contractor	Time frames for submission and resubmission are as follows: i. Designs including mix designs: 30 calendar days from commencement date ii. Comments on submission to be provided within 10 working days by Engineer. Specific products, materials, temporary works design to be submitted 30 days before planned construction requirement.
		A1.2.5	MATERIALS	
			A1.2.5.1 General	a) Change seven calendar days to ten working days. b) All manufactured articles or materials supplied by the Contractor for the permanent Works shall be new and unused.
		A1.2.7	EXECUTION OF THE WORKS	
			A1.2.7.1 Programme of work	

			a) General	A scheme 2 programme shall apply. A 3 month lead in period is required for the relocation/protection of existing services. No embargo period is applicable to the construction of asphalt layers. The requirements of the specification regarding temperature and other weather limitations shall however apply to such work.
			b) Scheme 2	The programme shall be drawn up or be compatible with Microsoft Project. No additional schedules, other than required in terms of Conditions of Contract Clause 5.6, are required.
			A1.2.7.4 Work on, over, under or adjacent to utilities	Refer to Chapter 2 Section 2.1 clause A2.1.3 regarding services adjacent to, or affected by, the works.
	A1.3		CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS	
		A1.3.3	GENERAL	
			A1.3.3.1 Construction camps	Areas for camp establishment etc to be identified by the Contractor.
	A1.4		FACILITIES FOR THE ENGINEER	
		A1.4.7	EXECUTION OF THE WORKS	
			A1.4.7.1 Offices and laboratories	
			a) General	The joint site laboratory shall be supplied with three phase electricity.
			b) Offices	Requirements as per details in BOQ.
			c) Laboratories	Requirements as per details in BOQ.
			A1.4.7.3 Services	

			b) Water, electricity and gas	UPS / Voltage stabiliser/s are to be provided with minimum capacity of 1kVA. Payment shall be under pay item C1.4.3.28. A back-up generator or generators shall be provided to ensure that, particularly during critical test periods, there is a continuous supply to the offices and laboratory to ensure the proper functioning of all equipment. Payment shall be under pay items C1.4.4.9 and C1.4.4.11.
			A1.4.7.5 Office staff	There is no requirement for an office secretary/receptionist.
			A1.4.7.6 Site inspection transport	There is no requirement for a site inspection vehicle.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
	A1.5		ACCOMMODATION OF TRAFFIC	
		A1.5.6	CONSTRUCTION EQUIPMENT	
			A1.5.6.1 Traffic control facilities	
			a) Barriers	Vehicle restraining systems shall comply with the requirements of the European Specification EN 1317 with containment level H2.
			A1.5.6.2 Illuminated traffic signs and safety devices	
			d) Sign mounted flashing lights	Flashing lights shall be in accordance with the latest SARTSM specification.
		A1.5.7	EXECUTION OF THE WORKS	

			A1.5.7.3 Accommodation of traffic where the road is constructed in half or partial widths	The length of the half or partial width construction sections where the traffic can only pass in one direction at a time shall not exceed _____0.1_____ km. The number of one-ways sections under construction at any one time shall not exceed _____1_____. No STOP / GO one-way traffic sections shall be in operation and two-way traffic shall be accommodated safely within the contract limits during the following additional periods: December and January or during any other shutdown periods.
	A1.7		LOADING AND HAULING	
		A1.7.7	EXECUTION OF THE WORKS	The Contractor must provide the Engineer with the certified carrying capacity of each vehicle before any construction materials can be transported.

COTO CHAPTER 2: SERVICES

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
2			SERVICES	
	A2.1		GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES	
		A2.1.3	GENERAL	
			A2.1.3.1 Installation of new services	The details and positions of the known existing services and the relocation of services required are provided in Part C4: Project Information in clause C4.1.1(b) and Appendix 2. The positions of the known existing services and the proposed service relocations are shown on the drawings in Volume 4.

			A2.1.3.2 Location, identification, protection and relocation of existing services	
			a) Existing as-built records	The details and positions of the known existing services are provided in Part C4: Project Information in clause C4.1.2.1(b). The positions of the known existing services are shown on the drawings in Volume 4.
			d) Protection of services	
			<i>(i) Service owners</i>	(1) Emalahleni Local Municipality Overhead 22kVa and 11kVa electricity lines to be relocated – notice/lead time of six (6) months prior to construction. Underground 300mmØ, 400mm and 700mmØ AC bulk water lines to be protected or abandoned.
				(2) Telkom/Openserve Underground line to be relocated – notice/lead time of six (6) months prior to construction. (3) Sasol Underground gas pipeline to be protected and relocated in certain areas (4) Afrox Underground pipelines to be protected and relocated in certain areas (5) Transnet SOC Ltd Existing infrastructure
			<i>(iv) Relocation</i>	(1) ELM Commencement date of electricity lines to be confirmed. (2) Telkom/Openserve Commencement date to be confirmed.
		A2.1.4	DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS	

			A2.1.4.3 Designs	
			<i>(i) Service owners</i>	(1) Emalahleni Local Municipality Design of overhead 22kVa and 11kVa electricity lines to be relocated Underground 300mmØ, 400mmØ and 700mmØ AC bulk water lines to be protected or abandoned.
				(2) Telkom/Openserve Underground line to be relocated (3) Sasol Underground gas pipeline to be relocated in certain areas (4) Afrox Underground pipelines to be relocated in certain areas
		A2.1.5	MATERIALS	
			A2.1.5.2 Soil cement and stabilised trench backfill material	
			b) Cement stabilised backfill	G7 quality material shall be used for cement stabilized backfill.
		A2.1.6	CONSTRUCTION EQUIPMENT	

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
		A2.1.7	EXECUTION OF THE WORKS	
			A2.1.7.6 Ownership, removal and disposal of existing service materials	The Contractor shall become the owner of specific recovered service materials and shall be responsible for the disposal of the materials and for providing the Engineer with a full record of the disposal of the materials for control purposes.
		A2.1.8	WORKMANSHIP	
			A2.1.8.2 Compaction	

			c) DCP compaction control	DCP compaction control shall not be applicable to this Contract.
	C2.1		GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES PART C: MEASUREMENT AND PAYMENT	
		C2.1.17	Removal and disposal of spoil material from trench excavations:	Spoil material from trench excavations shall be disposed of at the nearest borrow pit.
	A2.2		DRY SERVICES	
		A2.2.1	SCOPE	
			A2.2.1.1 General note	In certain SANS documents referred to in this Section the term “specified in the scope of work” is used. For the purposes of this specification the term shall be deemed to mean “specified in the Contract Documentation”.
		A2.2.5	MATERIALS	U-PVC 160mm diameter ducts shall be used except where HDPE is absolutely necessary.
			A2.2.5.1 Ducts and sleeves	
			g) End caps or plugs	The ends of ducts shall be sealed with a concrete cap as shown on the drawings.
			h) Draw wires and marker tapes	Two draw wires of 2.5mm galvanized steel wire shall be provided through each duct as shown on the drawings. Safety marker tapes are not required where ducts are encased in concrete.
			A2.2.5.5 Concrete	Class 25/19 concrete shall be used for the installation of ducts.

		A2.2.7	EXECUTION OF THE WORKS	
			A2.2.7.2 Duct installation by methods other than by micro or mini trenching	
			d) Concrete bedding and encasement	

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			<i>(ii) Concrete encasement</i>	Where instructed by the Engineer ducts shall be encased in Class 25/19 concrete in accordance with the dimensions shown on the drawings.
			A2.2.7.4 Duct markers	
			c) Road crossing markers	Duct markers shall be provided as shown on the drawings.

COTO CHAPTER 3: DRAINAGE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
3			DRAINAGE	
	A3.1		DRAINS	
		A3.1.7	EXECUTION OF THE WORKS	
			A3.1.7.4 Subsoil drainage a) Construction of subsoil drainage systems	
			(ii) <i>With polymer film lining to trenches for subsoil drainage systems</i>	Refer to DWG No. MS1717-DWG- 033-00 for details.
			A3.1.7.5 Manholes, outlet structures and cleaning eyes	Refer to DWG No. MS1717-DWG- 033-00 for details.
	A3.3		CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS	
		A3.3.5	MATERIALS	
			A3.3.5.2 Drainage structure materials	

			d) Joint sealant	Refer to DWG No. MS1717-DWG- 033-00 for details.
	B3.3		CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS	
	D3.3		CONCRETE KERBING AND CHANNELING, AS WELL AS CONCRETE PITCHED AND GABION LININGS FOR OPEN DRAINS PART D: GUARANTEES AND COMPLIANCE	Refer to DWG No. MSW-1717-DWG- 033-00 for details.
CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			CERTIFICATES	

COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
4			EARTHWORKS AND PAVEMENT LAYERS: MATERIALS	
	A4.1		BORROW MATERIALS	
		A4.1.3	GENERAL	
			A4.1.3.1 Employer identified borrow pits and quarries	No borrow sources have been identified as at the time of tender. Borrow sources identified at the time of contract award will be communicated to the Contractor via instructions.
		A4.1.5	MATERIALS	
			A4.1.5.4 Sand, normal and coarse fill material in the earthworks layers (<i>Table A4.1.5-2</i>)	The material depth requirements in Table A4.1.5-2 for Class 1 / Category B roads shall apply to this Contract. The CBR for depth more than 10m shall be at least 10% at 93% MDD. Swell shall be ≤ 1.8 % at 100 % of MDD.
			A4.1.5.5 Rock fill material in the earthworks layers	Highly weathered (brown coloured) tillite, mudrocks and soft or weathered shales or rock types that decompose or deteriorate rapidly on exposure to air and moisture shall not be used.
		A4.1.7	EXECUTION OF WORKS	

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			I) Use of the borrow material	The results of laboratory tests, trial pits and borehole drilling of materials carried out during the design stage will be available upon request upon Contract award.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			k) Selection and the use of the cut material	The results of laboratory tests, trial pits and drilling on cut materials carried out during the design stage are not included in Volume 6 of the Contract Documentation.
	A4.3		EXISTING ROAD MATERIALS	
		A4.3.3	GENERAL	
			A4.3.3.1 Employer identified existing road materials	The results of laboratory tests and trial pits for the existing road materials carried out during the design stage are not included in Section C4.2 Contract Documentation. They will be provided to the Contractor upon award.
		A4.3.5	MATERIALS	
			A4.3.5.3 Bituminous Seal surfacings	Milled existing bituminous surfacing material is to be mixed in with base material for reuse.
		A4.3.7	EXECUTION OF THE WORKS	
	A4.4		COMMERCIAL MATERIALS	
		A4.4.3	GENERAL	
			A4.4.3.1 Employer identified commercial materials	
			a) Materials from commercial suppliers	The possible commercial sources of material are indicated in Section C4.2.
			c) Materials from the Employer's own sources	No material is available from the Employer's own sources.

COTO CHAPTER 5: EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
5			EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION	
	A5.1		ROADBED	
		A5.1.2	DEFINITIONS	
			Batter	
		A5.1.3	GENERAL	
			A5.1.3.1 Roadbed material Investigation	The results of site investigations including the excavation of test pits and/or drilling, and laboratory tests conducted by or on behalf of the Employer during the design stage will be provided to the appointed Contractor upon award of tender.
		A5.1.5	MATERIALS	
			A5.1.5.2 Topsoil	Topsoil shall only be obtained from within the road prism.
		A5.1.7	EXECUTION OF WORKS	
			A5.1.7.1 Clearing and grubbing	Material obtained from clearing and grubbing shall be stockpiled, or disposed of, at the sites as agreed by the Engineer.
			A5.1.7.3 Normal roadbed treatment	
			a) Construction overview	The method of compacting the roadbed and fill material as part of normal roadbed treatment shall be either compaction to 93% of MDD or roller-pass compaction as instructed by the Engineer in advance..
			b) Removal of unsuitable roadbed material	Unsuitable roadbed material shall be disposed of at the nearest borrow pit unless otherwise instructed by the Engineer.

			c) Percentage of Max Dry density (MDD)	Roadbed material that is classified as being suitable for use in-situ shall be compacted to a minimum of 93% of MDD.
			g) Inactive clay and normal clay	
			<i>(iii) Removal of material</i>	Inactive clays and normal clays in the roadbed that heave or settle during a three roller-pass trial compaction shall be treated by the removal of the clay material to a depth of 1200mm below the final road surface finish level and replacement

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				with approved G7 quality fill material compacted to 93% of MDD.
			A5.1.7.4 Special drainage measures, dewatering	Subsoil drains shall be installed as specified in Chapter 3 and as shown on the drawings in Volume 4.
		A5.1.8	WORKMANSHIP	
			A5.1.8.2 Compaction requirements	The locations of all in-situ density tests for roadbed treatment or a levelling layer shall be according to a stratified random sampling method as specified in Chapter 20.
	A5.2		FILL	
		A5.2.3	GENERAL	
			A5.2.3.2 Fill adjacent to existing fill	.
			A5.2.3.3 Fill layer thickness	Fill thicknesses shall be in accordance with subclauses a) to d) of this clause A5.2.3.3.
			A5.2.3.4 Fill compaction classification	
			a) MDD compaction	

			(ii) Normal fill and Coarse Fill	Normal fill and coarse fill shall be compacted to 93% of MDD.
		A5.2.7	EXECUTION OF THE WORKS	
			A5.2.7.3 Benching for fill construction	Method A shall apply to benching in the roadbed for fill construction.
			A5.2.7.4 Widening of fills	Unsuitable material derived from cutting benches shall be disposed of at the nearest borrow pit unless otherwise instructed by the Engineer.
		A5.2.8	WORKMANSHIP	
			A5.2.8.2 Materials Quality and compaction requirements	
			Table A5.2.8-1	Normal fill shall be compacted to 93% of MDD. Coarse fill shall be compacted to 93% of MDD. The locations of all in-situ density tests for fill layers shall be according to a stratified random sampling method as specified in Chapter 20.
	A5.3		ROAD PAVEMENT LAYERS	
		A5.3.3	GENERAL	
			A5.3.3.3 Requirements prior to the construction of any pavement layer	Where the in-situ material properties prove to be compliant with those for the upper selected layer, the Engineer may specify that the in-situ material shall be processed and constructed as per the requirements for a selected layer without any prior roadbed preparation being required.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA

			A5.3.3.4 Compaction of pavement layer material	The pavement layer thicknesses, levels, shapes and cross-sections shall be as indicated in Part C4 clause C4.1.2 and as shown on the drawings. The pavement layer densities shall be as indicated in clause C5.3.5.2.
			A5.3.3.7 Joints between pavement layers	
			a) Location of joints	The final position, dimensions and details of any joints required shall be as agreed by the Engineer.
		A5.3.5	MATERIALS	
			A5.3.5.1 Material information	The material properties for each pavement layer shall be as indicated in Part C4 clause C4.1.2 and as shown on the drawings. Where instructed by the Engineer the subbase layers on the existing carriageway shall be mechanically modified to mix existing pavement layer material with imported G5A material or with milled existing bituminous surfacing material.
			A5.3.5.2 Pavement Layer thickness and compaction requirements	
			a) Pavement layer thickness requirements	The pavement layer thicknesses shall be as indicated in Part C4 clause C4.1.2 and as shown on the drawings.
			b) Gravel and soil pavement layer compaction requirements (G4B to G9 material)	The pavement layer compaction densities shall be amended as follows for this Contract: • Selected layer - 93% of MDD (unless sand is used) • Subbase layer - 97 % of MDD for chemically stabilised layers • Base layer - 88 % of AD
		A5.3.7	EXECUTION OF WORKS	

			A5.3.7.3 Construction of gravel pavement layers	
			d) With grader and specialised equipment	To ensure thorough mixing in a transverse direction when using a recycler, cross-mixing of the material shall be required on this

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				Contract unless otherwise agreed by the Engineer. This requirement shall be applicable to gravel or crushed stone materials.
		A5.3.8	WORKMANSHIP	
			A5.3.8.5 Surface regularity	Surface regularity, or riding quality of the base layer, shall be assessed by using a rolling straight edge.
			c) By using a rolling straight edge	Adjustment to the payment for the base will be calculated by multiplying the full payment value for each 100m section, for payment items C4.4.1.1a) and C5.3.2.1(aa), by the payment adjustment factor derived from Table A5.3.8-6.
	A5.4		STABILISATION	
		A5.4.5	MATERIALS	
			A5.4.5.3 Cementitious stabilising agents	The stabilising agent for the C3 subbase layer will be class CEM II / B-L 32.5 N cement. The nominal stabiliser content is 2.5%.
		A5.4.7	EXECUTION OF THE WORKS	
			A5.4.7.2 Mechanical modification of pavement layer material	Where instructed by the Engineer the base layers on the existing carriageways shall be mechanically modified to mix existing pavement layer material with imported G5 material or with milled existing bituminous surfacing material.

			A5.4.7.3 Chemical pretreatment and stabilization	
			b) Applying the cementitious agent by hand	The spreading of the cementitious agent shall be done by hand on this Contract.
			e) Applying and mixing in the cementitious agent using a recycler	Mixing in the cementitious binder for the subbase layers shall be done by using a recycler on this Contract. The full width of top of the subbase layers shall be mixed by the recycler.
			A5.4.7.7: Protection and curing of chemically stabilised layers	
			b) Damp protective layer curing	The damp protective layer curing method shall apply to this Contract.
	A5.5		RECONSTRUCTION OF PAVEMENT LAYERS	
			Uniform pavement sections	The full length of the existing carriageway shall be considered to be a single uniform section for pavement construction purposes.
		A5.5.3	GENERAL	
			A5.5.3.2 Material selection	The utilisation of material from existing pavements shall be as indicated in Part C4

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				clause C4.1.2. The maximum size and grading requirements for a C3/G5 subbase layer shall apply to existing pavement material used in the stabilized subbase.
			A5.5.3.4 Existing bituminous seal and/or asphalt layers	Milled existing bituminous seal surfacing material (25mm to 50mm thick) is to be mixed in with base material.

		A5.5.5	MATERIALS	
			A5.5.5.1 Existing crushed stone pavement materials	The utilisation of crushed stone pavement materials from existing pavements shall be as indicated in Part C4 clause C4.1.2. The base layer shall be compacted to a minimum of 100% of MDD. The subbase layer shall be compacted to a minimum of 97% of MDD.
			A5.5.5.5 Materials shortfall and make-up material	The details of the materials to make up for any shortfalls are indicated in Part C4 clause C4.1.2 and C 4.2
		A.5.5.7	EXECUTION OF THE WORKS	
			A5.5.7.4 In situ pavement layer reconstruction preparation	
			b) Establishing construction levels – significant level changes	The existing carriageway shall be constructed in accordance with the dimensions and levels shown on the drawings in Volume 4 of the Contract Documentation.
			c) Pre-milling the seal or asphalt surfacing	All the existing bituminous surfacing material (25mm to 50mm thick) is milled off and mixed in with base material.
			e) Pre-pulverising existing pavement layer material	No pre-pulverisation of existing pavement layer material is required.
			A5.5.7.5 In situ pavement layer reconstruction	
	C5.5		RECONSTRUCTION OF PAVEMENT LAYERS PART C: MEASUREMENT AND PAYMENT	*

		C5.5.5	Construction of a trial section using a recycler	The trial section shall be carried out across the full width and depth of the subbase layer as indicated in Part C4 clause C4.1.2 and as shown on the drawings in Volume 4.
CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
		C5.5.13	Cross mixing of material	Cross mixing shall be carried out across the full width and depth of the subbase layer as indicated in Part C4 clause C4.1.2 and as shown on the drawings in Volume 4.
		C5.5.20	Material shortfall or make-up material	The quantity of make-up material required on the instruction of the Engineer will be determined by way of cross-sections unless the Engineer agrees that the quantity shall be taken as 70 % of the loose volume measured in the haulage trucks.

COTO CHAPTER 8: PRETREATMENT AND REPAIR OF EXISTING LAYERS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
8			PRETREATMENT AND REPAIR OF EXISTING LAYERS	
	A8.1		PRIME COAT	
		A8.1.5	MATERIALS	
			A8.1.5.1 Bituminous material	The priming material shall be one of the following as specified in Part C: Measurement and Payment: MC-10 cut-back bitumen MC-30 cut-back bitumen Conventional bitumen emulsion prime (quick drying) TSP 1

COTO CHAPTER 9: ASPHALT LAYERS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
9			ASPHALT LAYERS	
	A9.1		ASPHALT LAYERS	
		A9.1.2	DEFINITIONS	
			Asphalt mix types	The asphalt wearing course shall be a continuously graded asphalt (SABITA Manual 35) sand skeletal mix with a 14mm NMPS. A class A-E2 binder shall be used in the wearing course mix.
			Asphalt mixes	Hot mix asphalt (HMA) shall be used for the wearing course on this contract. No reclaimed/recycled asphalt shall be used in the wearing course mix.
			Aggregate	The aggregate grading class for the wearing course mix shall be Grading Class 2.
		A9.1.3	GENERAL	
			A9.1.3.1 Nominal mix proportions and application rates	
			Table A9.1.3-2: Nominal Mix Proportions of Sand Skeletal Mixes for Tender Purposes Bitumen (type and grade according to Contract Documentation) (%)	A class A-E2 binder shall be used in the wearing course mix.

			A9.1.3.4 Weather limitations	The following wind and temperature conditions shall be applicable to this Contract: The following wind and temperature conditions shall be applicable: • 10°C and temperatures are rising with an allowable wind velocity of less than 25 km/h • 14 °C with an allowable wind velocity of less than 55 km/h for layers paved > 30 mm thick With falling air temperature, paving shall cease when the air temperature reaches 10 °C regardless of the wind velocity and may not be restarted before the temperature is definitely rising. No bituminous material or asphalt shall be placed when the road temperature, immediately prior to commencing with the
--	--	--	-------------------------------------	--

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				application of bituminous materials, is below, or in the opinion of the Engineer, is likely to fall below 15 °C.
		A9.1.5	MATERIALS	
			A9.1.5.2 Bituminous binders for asphalt mixes	A class A-E2 binder shall be used in the wearing course mix. The homogeneous modified class A-E2 binder shall be manufactured according to the guidelines contained in the latest version of the SABITA Technical Guideline: The Use of Modified Bituminous Binders in Road Construction (TG 1). The base bitumen shall conform to SANS 4001-BT1:2016, or a blend of SANS 4001-BT1:2016 grades.

			A9.1.5.4 Aggregates	
			a) Aggregate Properties	Rapid degradation of aggregate The Ethylene Glycol Durability Index for the coarse aggregate, tested according to SANS 3001-AG14 shall be < 3.
			A9.1.5.5 Fillers	For tender purposes the active filler shall be hydrated lime.
			A9.1.5.8 Mix properties	The wearing course asphalt mix designs, in accordance with Sabita Manual 35, shall be Level II (2) for very heavy traffic > 3 to 30 million E80s and Level Ib (1) for moderate traffic < 10 million E80s
		A9.1.6	CONSTRUCTION EQUIPMENT	
			A9.1.6.5 Rollers	Only oscillating type vibratory compaction equipment may be used on bridge decks.
		A9.1.7	EXECUTION OF THE WORKS	
			A9.1.7.11 Surfacing of bridge decks	The nominal thickness of the wearing course on bridge decks is 65mm.
		A9.1.8	WORKMANSHIP	
			A9.1.8.8 Sampling	
			b) Coring of completed layers	The Contractor shall provide suitable coring machines capable of cutting 100mm or 150mm diameter cores from the completed asphalt layers.

COTO CHAPTER 11: ANCILLARY ROAD WORKS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
-----------	------------	-----------	-------------------	---------------------------

11			ANCILLARY ROAD WORKS	
	A11.1		PITCHING, STONework, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION	
		A11.1.5	MATERIALS	
			A11.1.5.6 Geotextiles	Grade 3 Geotextile shall be used.
	A11.2		NON-STRUCTURAL GABIONS	
		A11.2.7	EXECUTION OF WORKS	
			A11.2.7.2 Constructing gabion boxes and mattresses	
			g) Assembly	Prior to assembly the gabion material shall be opened out flat on the ground and stretched to remove all kinks and bends. The gabion boxes shall then be assembled individually by raising the sides, ends and diaphragms, ensuring that all creases are in the correct position and that the tops of all four (4) sides are even. The four (4) corners of the gabion boxes shall be laced first, followed by the edges of the internal diaphragms to the sides. Lacing shall commence at the top of the box by twisting the end of the lacing wire around the selvedge. It shall then be passed round the two (2) edges being joined, through each mesh in turn and securely tied off at the bottom. The ends of all lacing wire shall be turned to the inside of the box on completion of each lacing operation.
	A11.4		ROAD RESTRAINT SYSTEMS	
		A11.4.5	MATERIALS	

			A11.4.5.2 Materials	
			c) Guardrail posts	Timber posts and spacer blocks shall be treated in accordance with SANS 10005 with creosote that complies with SANS 616.
	A11.5		FENCING	
		A11.5.5	MATERIALS	
			A11.5.5.2 Straining posts, stays, standards and droppers	Timber posts, stays, standards and droppers shall be treated in accordance with SANS 10005 with creosote that complies with SANS 616. Steel posts, stays, standards and droppers shall be fully galvanized in accordance with

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				SANS 121.
	A11.6		ROAD SIGNS	
		A11.6.7	EXECUTION OF THE WORKS	
			A11.6.7.5 Erecting road signs	
			a) Position	The positions of the road signs are indicated on the drawings in Volume 4.
	A11.7		ROAD MARKINGS AND ROAD STUDS	
		A11.7.5	MATERIALS	
			A11.7.5.2 Materials	
			a) Marking materials	
			(ii) Retro-reflective road marking	Road marking paint shall be Type 1 as per SANS 731-1 for solvent borne paint.
			b) Road studs	Permanent road studs compliant with SANS 1463 (Class RSA-1), bi-

				directional as per pay item C11.7.7.2.
	A11.8		LANDSCAPING AND PLANTING PLANTS	
		A11.8.7	EXECUTION OF THE WORKS	
			A11.8.7.2 Preparing the areas for grassing	
			e) Soil improvement	Sub item PA11.8.7.2 (e) included for providing and applying chemical fertilisers and/or soil-improvement material. Methodology and the application rates to be confirmed for construction.
			A11.8.7.3 Grassing	
			c) Hydroseeding	Sub item PA11.8.5.2 (d) included for providing an approved indigenous grass seed mixture as a provisional sum. Types and mixtures of seeds to be used and the application rate to be confirmed for construction.
	A11.10		ELECTRICAL WORKS	
		PA11.10.1	SCOPE	This Section covers the electrical installation requirements covering new street lighting and the introduction of traffic signals.
		PA11.10.2	DEFINITIONS	No specific definitions are applicable.
		PA11.10.3	GENERAL	The electrical works shall be designed and carried out by a qualified and applicably certified electrical engineer appointed by the Contractor. The Engineer shall liaise with the local municipality and provide the actual locations of the street lighting

				fixtures for the purposes of sleeves and electrical reticulation. The Engineer shall liaise with the local municipality
		PA11.10.4	DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS	Performance based electrical fittings provided by the Contractor shall be required as specified by their appointed electrical engineer and shall conform to the product class specification criteria and: a) Street lighting SANS 10098 – 1: Public Lighting Part 1: The Lighting of public thoroughfares. The council of the South African Bureau of Standards. b) Traffic Signals SARTSMA adherence to the relevant national regulations and standards for Road Traffic Safety products.
		PA11.10.5	MATERIALS	It is the Contractor's responsibility to ensure that the materials delivered to site shall meet these specified requirements
		PA11.10.6	CONSTRUCTION EQUIPMENT	The Contractor shall submit his plant and equipment list for excavation and installation as part of his method statement to perform the different elements of the Electrical Works.
		PA11.10.7	EXECUTION OF THE WORKS	
			PA11.9.107.1 Faulty workmanship or materials Existing services	The trenching for new electrical cables will follow the existing street lighting alignments and connect to the existing power source.

			PA11.10.7.2 Setting out	Street lighting and traffic signals setting out will be marked out on the Contractor's drawings and shall be approved by the Engineer before they are fixed in position.
		PA11.10.8	WORKMANSHIP	
			PA11.10.8.1 Faulty workmanship or materials	If any material which does not comply with the requirements is delivered to the site, or is used in the works, or if any work of an unacceptable quality is carried out, such material or work shall be removed, replaced or repaired as specified by the Engineer at the Contractor's own cost.
	PB11.10		ELECTRICAL WORKS	
		PB11.10.1 to PB11.10.5 & PB11.10.8		The provisions of Part A, shall apply.
		PB11.10.6	CONSTRUCTION EQUIPMENT	the Engineer may authorise labour enhanced works on sections of the scope of works
		PB11.10.7	EXECUTION OF THE WORKS	The Contractor may select the type of excavations earmarked for hand excavations, backfill and installations.

COTO CHAPTER 12: GEOTECHNICAL APPLICATIONS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
12			GEOTECHNICAL APPLICATIONS	

	A12.6		MECHANICALLY STABILISED FILL AND GABIONS	
		A12.6.3	GENERAL	
			A12.6.3.1 Design of Mechanically Stabilised Earth (MSE)	<i>Design of Precast Concrete Panel system as per SANS 8006</i>
			A12. 6. 3. 2 Method Statements A12. 6. 3. 3 Materials and Materials design Approvals	The Contractor shall supply the Engineer with the design and method statements for each facet of the work at least 21 days before the intended start of construction. No part of the permanent works shall commence without the Engineer's approval.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
12			GEOTECHNICAL APPLICATIONS	
	A12.11		GEOSYNTHETICS	
		A12.11.3	GENERAL	
			A12.11.3.1 Use of geosynthetics	
			d) Filtration	The geotextiles used for subsoil drains on this Contract shall be Grade 2 or 3 (depending on the grade specified in the drawings) and shall satisfy the criteria for this grade of geotextile as given in Table A12.11.5-1.

COTO CHAPTER 13: STRUCTURES

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
13			STRUCTURES	
	A13.1		FOUNDATIONS	
		A13.1.3	GENERAL	
			A13.1.3.2 Channel preservation	
			a) Work on, over, in or adjacent to watercourses	
			(i) General	Flow of stream may be disrupted at the point of crossing subject to conditions in the Environmental Management Programme.
			(iv) Water quality requirements	No water quality measurements are required unless required in terms of the Environmental Management Programme.
			A13.1.3.4 Method Statements	No part of the permanent works can commence without approval of the Engineer.
			A13.1.3.5 Hold points	Approval of the applicable method statements.
		A13.1.7	EXECUTION OF THE WORKS	
			A13.1.7.1 Work access and drainage	
			a)General	There are no additional requirements for the method statements to be submitted by the Contractor.
			A13.1.7.2 Excavation	

			g) The safety and protection of excavations	The safety and protection of excavations shall comply with the provisions of the Health and Safety Act, the Construction Regulations and the Contractor's contract specific Health and Safety Plan.
			A13.1.7.6 Foundation fill	Concrete to be used for foundation fill and blinding shall be class C12/15-20.
	A13.2		FALSEWORK, FORMWORK AND CONCRETE FINISH	
		A13.2.3	GENERAL	
			A13.2.3.1 Method Statements	The Contractor shall supply the Engineer with method statements for each facet of the work at least 21 days before the intended start of construction. No part of the permanent works shall commence without the Engineer's approval.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			A13.2.3.2 Hold points and approvals	Approval of the applicable method statements.
		A13.2.7	EXECUTION OF THE WORKS	
			A13.2.7.2 Formwork	
			b) Formed surfaces: Classes of finish	
			A13.2.7.3 Removing the Falsework and Formwork	
			<i>(i) General</i> 3. Class F3 surface	If steel forms are used to form class F3 surface finish, they shall be in an as-new condition acceptable to the Engineer.

			finish	
			b) Technical criteria for falsework and formwork removal	Formwork can be removed once the concrete has reached a minimum strength of 80% of the specified cube strength.
	A13.3		STEEL REINFORCEMENT	
		A13.3.3	GENERAL	
			A13.3.3.1 Method Statements	The Contractor shall supply the Engineer with method statements for each facet of the work at least 21 days before the intended start of construction. No part of the permanent works shall commence without the Engineer's approval.
			A13.3.3.2 Hold points and approvals	Approval of the applicable method statements.
		D13.3.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.3.3.2 Performance specifications	Contractor to submit guarantees and compliance certificates for steel reinforcement to the Engineer for approval.
		A13.3.8	WORKMANSHIP	
			A13.3.8.2 Welding	No welding of reinforcement will be permitted.
	A13.4		CONCRETE	
		A13.4.3	GENERAL	

			A13.4.3.1 Method Statements	The Contractor shall supply the Engineer with method statements for each facet of the work at least 21 days before the intended start of construction. No part of the permanent works shall commence without the Engineer's approval.
			A13.4.3.2 Hold points and approvals	Approval of the applicable method statements.
		A13.4.5	MATERIALS	
			A13.4.5.2 Aggregates	
			a) Coarse aggregates	The specified requirement for the 10% FACT value shall be used for quality control of coarse aggregate.
		A13.4.7	EXECUTION OF THE WORKS	
			A13.4.7.12 Placing and Compaction	
			a) Placing	
			h) Curing and surface protection	The minimum curing times shall be according to Table A13.4.7-18.
			A13.4.8.2 Criteria for compliance with the requirements	For this Contract compressive strength acceptance control for all structural concrete will be in carried out using 150mm cube

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				strengths with the results evaluated in terms of Chapter 20.
	A13.7		JOINTS	
		A13.7.3	GENERAL	

			A13.7.3.1 Method Statements	The Contractor shall supply the Engineer with method statements for each facet of the work at least 21 days before the intended start of construction. No part of the permanent works shall commence without the Engineer's approval.
			A13.7.3.2 Hold points and approvals	No part of the permanent works shall commence without the Engineer's approval.
	A13.8		ANCILLARY STRUCTURAL ELEMENTS	
		A13.8.7	EXECUTION OF THE WORKS	
			A13.8.7.1 Barriers, parapets, railings and sidewalks	
			A13.8.7.2 Drainage for structures	
			c) Synthetic filter fabric	The synthetic-fibre filter fabric to be used for drainage behind structures shall be Grade 3 according to Table A12.11.5-1 in Section A2 of this specification.

COTO CHAPTER 20: QUALITY ASSURANCE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
20			QUALITY ASSURANCE	
	A20.1		TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP	
		A20.1.3	TESTING METHODS	

			A20.1.3.3 The Costs of Testing	
			a) Material and workmanship for quality control	Testing will be undertaken by a joint site laboratory procured by the Employer and managed by the Contractor and Employer's Agent.
		A20.1.5	UNPUBLISHED TEST METHODS	
			A20.1.5.1 Testing hardened and sprayed concrete	
			h) Testing the cover over reinforcement	
			<i>(ii) Apparatus and cover meter devices</i>	For this Contract the cover meter device and calibration block shall be provided and maintained by the joint site laboratory procured by the Employer and managed by the Contractor and Employer's Agent..
			A20.1.7.5 Assessment Methods	
			d) Application of Judgement Plan B	
			<i>(vii) Asphalt base or surfacing: Specification limits for –</i>	
			1. Relative compaction	The following shall apply to the compaction of the wearing course asphalt on this Contract: The compaction shall be measured using the maximum voidless density as determined by SANS 3001-AS11 (maximum voidless density (MVD) or Rice's density). The lower (Ls) and upper (L's) specification limits shall be as follows: Ls = 93.5% of maximum voidless density (MVD)

				L's = 96 % of maximum voidless density (MVD)
--	--	--	--	--

DPWRT STANDARD SPECIFICATION SECTIONS

SECTION	CL	SUB-CLAUSE	SPECIFICATION DATA
SECTION C		ENVIRONMENTAL MANAGEMENT PLAN	
	C1004	ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS	
		(d) The Designated/Dedicated Environmental Officer (DEO)	DEO means: Designated Environmental Officer. A full-time Dedicated Environmental Officer is not required on this contract.
	C1008	AREAS OF SPECIFIC IMPORTANCE	See clause C1008 and the project specific conditions provided in Volume 3 .
	C1012	PROJECT SPECIFIC CONDITIONS	The project specific conditions for this Contract are provided in Volume 3 .
SECTION E		REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS	
	E1018	PROJECT SPECIFIC CONSTRUCTION REQUIREMENTS	As per clause E1018 in Part C3 Section E.

**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

***THE REHABILITATION AND UPGRADING OF ROAD D2571 FROM R37 INTERSECTION
TO P171/1 INTERSECTION (LYDENBURG PASS) IN THE THABA CHWEU LOCAL
MUNICIPALITY IN THE ENHLANZENI REGION OF THE MPUMALANGA PROVINCE
TENDER No. PWRT/2581/24/MP***

C3.3. PARTICULAR SPECIFICATIONS

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION AND PLAN	C90
PART D: DAYWORKS	C111
PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION.....	C113
PART F: LABOUR INTENSIVE SPECIFICATIONS	C129

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION AND PLAN

C.1 General

2. General Objectives and Purpose of the EMP

The objective of the Environmental Management Plan (EMP) is to provide measures for the mitigation and management of potential negative impacts and the optimisation of potential positive impacts that may be associated with the proposed project during the construction, operational and potential de-commissioning phases.

This ensures that the basis on which any environmental decision is taken is accurate and that the impacts on the surrounding environment are minimised.

This EMP serves as a stand-alone document to be disseminated to and used by the contractor/s during the construction phase, as well as during operational phase. By its very nature, the EMP is a dynamic document and updating should occur as and when required.

The purpose of this EMP is to:

- Outline responsibilities and environmental management commitments for the site during construction and operation;
- Ensure adherence to all relevant environmental, health and safety legislation;
- Act as a performance standard that activities can be audited against; and
- Ensure that appropriate monitoring is undertaken.

Department of Public Works Road and Transport, through Environmental Sub-consultant, is responsible for ensuring adherence to the conditions detailed in the EMP and the Environmental Authorisation (EA) to be issued by the Department of Agriculture, Rural Development, Land and Environmental Affairs, Economic Development & Tourism (DARDLEA). (assuming a positive EA is issued). The project manager, contractor(s) etc., must all be bound by the EMP and must use this documentation as a guide to avoid, minimize and manage environmental impacts.

3. Legislative Requirements

3.1 Legislative requirements for the EMP

Section 33 of the Environmental Impact Assessment (EIA) Regulations, promulgated in terms of the National Environmental Management Act No. 107 of 1998 (NEMA), sets out the minimum requirements for the development of an EMP. This EMP has been developed in fulfilment of these requirements for the construction and operational phases of the proposed project.

The implementation of an EMP for the proposed activity is a requirement of the NEMA EIA Regulations and will be a condition of the EA, should such be issued by the DARDLEA. As such, failure to comply with this EMP will constitute an offence and the proponent and/or their Contractor may be liable for

penalties and/or legal action. Therefore, it is important for all the responsible parties to understand their duties and undertake them with duty and care.

This EMP, which should form an integral part of the contract documents, informs the Contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction and operational activities associated with the project. The Contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation.

It is expected that the Contractor is conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

All prospective contractors must sign the declaration of acceptance of the EMP, included at the end of this document.

3.2 Other Applicable Environmental Legislation

Various environmental legislation relating to the proposed activities, include:

- Constitution of the Republic of South Africa, Act 108 of 1996;
- National Environmental Management Act No. 107 of 1998;
- National Environmental Management Biodiversity Act No. 10 of 2004;
- National Water Act, 1998 Act No. 36 of 1998;
- National Heritage Resources Act No. 25 of 1999;

4 Roles and Responsibilities

The successful implementation of this EMP requires co-operation between Department of Public Works Road and Transport, the appointed Engineers, Contractor and the appointed Environmental Control Officer (ECO).

Roles and responsibilities have been outlined in Table 4-1 below and the project team will be required to comply with the conditions defined herein.

In terms of employment of labour, contractors will be expected to maximise the employment of individuals with the required skills residing in the study area. The main Contractor should also make use of local construction companies as far as possible. Contractors outside of the area should only be used to provide skills not readily available in the area.

Table 4-1: Roles and Responsibilities

Responsible Agent	Role / Responsibility
Mpumalanga DPWRT	• Ensure compliance with the contract and legislative environmental requirements; • Maintain overall responsibility for ensuring that the functions defined in the EMP are carried out effectively; • Ensure that all environmental protection procedures defined in this EMP are being adhered to; • Ensure adherence to DARDLEA conditions of authorisation and any other laws and standards relevant to the decommissioning of the facility; • Appoint appropriately qualified contractors to co-ordinate, supervise and expedite different tasks; • Ensure all staff, Sub-contractors, suppliers, etc. are familiar with and understand the EMP (including revisions), EA and all agreed Method Statements; • Maintain overall responsibility and accountability for the site during the all phases of the project.
MSW	• Appoint an independent ECO to monitor implementation of the EMP, during decommissioning; • Ensure that a copy of the EMP, EA and all agreed Method Statements and a layout plan are available on-site; • Ensure all personnel are fully aware of all environmental issues relating to decommissioning activities being undertaken on site and the related precautions that need to be taken; • Ensure all mitigation measures outlined in this EMP are properly and competently directed, guided and executed; • Ensure adherence to environmental laws and standards relevant to the decommissioning of the facility; • Ensure that the activities comply with this EMP. • Liaise with DARDLEA and Interested and Affected Parties (IAPs), if required; and • Ensure all staff, Sub-contractors, suppliers, etc. are familiar with and understand the EMP (including revisions), EA and all agreed Method Statements.

Environmental Control Officer (ECO) – still to be appointed	• Ensure contractors have copies of the EMP (including revisions), EA and all agreed Method Statements; • Undertake weekly site visits, (or as per conditions of EA), and record key findings. This includes monitoring of the site and an evaluation of the implementation, effectiveness and level of compliance of on-site decommissioning activities with this EMP and associated plans and procedures; • Record and provide written documentation of non-conformances with this EMP that require Contractor/s to implement corrective action; • Review preventative and corrective actions to ensure implementation of recommendations made from audits and site inspections; • Order the Contractor to suspend part or all of the works if the Contractor and/or any sub-contractors, suppliers, etc. fail to comply with any aspect of either this EMP or EA; • Advise the Project Manager on actions or issues impacting on the environment and provide appropriate recommendations to address and rectify these matters; • Identify possible areas of improvement in the execution of the contract from an environmental perspective Assess the suitability and/or effectiveness of this EMP on an on-going basis, in liaison with the Contractor/s and the Project Manager. Make recommendations accordingly; • Submission of monthly audit reports to DARDLEA, if required (or as per conditions of EA); • Monitor the processing of public complaints relating to the activities; and • Ensure that revisions to this EMP (as necessary) are communicated to the engineers' representative and the contractor and that they understand the requirements.
--	---

Responsible Agent	Role / Responsibility
	• Review preventative and corrective actions to ensure implementation of recommendations made from audits and site inspections; • Order the Contractor to suspend part or all of the works if the Contractor and/or any sub-contractors, suppliers, etc. fail to comply with any aspect of either this EMP or EA; • Advise the Project Manager on actions or issues impacting on the environment and provide appropriate recommendations to address and rectify these matters; • Identify possible areas of improvement in the execution of the contract from an environmental perspective; • Assess the suitability and/or effectiveness of this EMP on an on-going basis, in liaison with the Contractor/s and the Project Manager. Make recommendations accordingly; • Submission of monthly audit reports to DARDLEA, if required (or as per conditions of EA); • Monitor the processing of public complaints relating to the activities; and • Ensure that revisions to this EMP (as necessary) are communicated to the engineers' representative and the contractor and that they understand the requirements.

5 Construction EMP

The EMP presented in this document details the potential impacts and mitigation measures identified for the project and delegates responsibilities for implementation of the mitigation activities. The establishment of the necessary infrastructure and machinery on site will be done by the Contractor who will be responsible for implementing the majority of the activities, under the management of the PM.

All activities to be managed, mitigation and management measures to be implemented, and the responsible individuals/organisations who should implement these measures, are detailed in subsections which follow. This information is the core of this EMP and should be adhered to at all times. The subsections which follow may be updated as necessary.

Table 5.1: Mitigation and management measures relating to impacts caused by project activities during the construction phase in all areas

5.1 Construction initiation	Implementation	Monitoring
a) An upfront training session must be held to ensure all decommissioning personnel are aware of the provisions contained in the EMP and environmental authorisation. b) The working area must be clearly demarcated and no work may be done outside of the demarcated area unless discussed and agreed upon by the ECO. c) No construction activities may commence in an area until the procedure to identify affected graves has been completed to the area proposed for construction.	Contractor	ECO

5.2 Worker conduct on-site	Implementation	Monitoring
A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules: a) No alcohol / drugs are permitted on-site; b) No firearms allowed on-site; c) Under no circumstance may firewood or medicinal plants be harvested. d) No fires allowed on-site; d) No unsocial behaviour; and e) Trespassing on private properties adjoining the site is forbidden.	Contractor	ECO

5.3 Ablution and break facilities	Implementation	Monitoring
a) Ablution facilities (mobile toilets) must be available for all on-site staff. Toilet facilities shall be provided at a minimum ratio of 1 toilet per 25 workers (preferred 1:15).	Contractor	ECO
b) Workers will use a specified area within the construction camp eat during breaks	Contractor	ECO

h) Mechanical plant and bowzers must not be re-fuelled or serviced within or directly adjacent to any watercourse (including river, streams and wetlands).	Contractor	ECO
i) No stockpiling may take place within a watercourse, including wetlands and the riparian area of streams/rivers.	Contractor	ECO
j) Any cement batching activities must occur outside of wetlands/rivers. Cement batching boards should be used. Cement products/wash not to be disposed of into the natural environment.	Contractor	ECO
k) Any concrete structures required (e.g. piers for pipe bridge structures) should be properly cured before being exposed to flow in rivers/wetlands.	Contractor	ECO

5.5	Soil erosion and sedimentation	Implementation	Monitoring
a)	Any clearing must be done immediately before construction, rather than leaving soils exposed for months (phased approach).	Contractor	ECO
b)	Construction on steep slopes will need to be such that adequate slope protection is provided and runoff must be diverted away from all construction works.	Contractor	ECO
c)	Sediment barriers and other erosion control structures must be used where necessary and are to be regularly maintained and cleared so as to ensure effective drainage. These must be designed according to sound engineering principles using appropriate material. Structures must be monitored, modified and repaired as found to be necessary by the ECO. Erosion control must be implemented as soon as possible after detection of the need for such control.	Contractor	ECO
d)	Dewater, where necessary, any excavations (either on or off the construction right of way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing downslope. Any runoff from dewatering must be controlled in containment facilities or stable channels / slopes until it reaches stable areas in the natural environment.	Contractor	ECO
e)	If sandbags are used to temporarily divert water then these bags should be in good condition.	Contractor	ECO
f)	Excavated and imported material should be stockpiled/stored away from areas of concentrated flow to limit the risk of sediment wash to downstream areas.	Contractor	ECO
g)	All soil stockpiles must be placed in an up-slope direction from the pipeline trench so that that any surface wash is directed into the trench and not further downslope. Such stockpiles must be protected from erosion, stored on flat areas where possible, and be surrounded by appropriate berms.	Contractor	ECO
h)	Where possible, construction in rivers/wetlands should proceed during the dry winter months (low or zero flow periods) in order to limit the potential for erosion linked to high runoff rates.	Contractor	ECO
i)	If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.	Contractor	ECO

j)	ECO should perform periodic visual inspections of on-site water quality, identifying the source of any rapid increases in turbidity of surface waters and remedying this where necessary.	Contractor	ECO
k)	Install sediment barriers (e.g. silt fences, sandbags, hay bales, earthen filter berms, retaining walls and check dams) across the entire construction right of way at all wetland crossings where necessary to contain spoil and prevent sediment flow into wetlands and rivers.	Contractor	ECO
l)	Sandbags should be placed across the trench, before pipeline installation and backfilling, before it enters the wetland in order to trap sediment flowing down from the surrounding area.	Contractor	ECO
m)	Soil required for construction purposes must not be derived from the wetlands.	Contractor	ECO
n)	Any topsoil removed from wetlands must be stockpiled separately from other soil material. It must not be buried, mixed with other material or subjected to compaction.	Contractor	ECO
o)	Exposed soils must be rehabilitated as soon as practically possible to limit the risk of erosion. The channel embankments must be rehabilitated to ensure both longitudinal and cross sectional stability against summer floods. Depending on the circumstances, this may necessitate stabilizing structures such as gabions or reno mattresses as well as careful attention to construction.	Contractor	ECO

5.6 Destruction and loss of vegetation & habitat		Implementation	Monitoring
a)	Ensure that clearing occurs in parallel with the construction progress where practically possible (i.e. phased construction).	Contractor	ECO
b)	Where possible, cut vegetation to ground-level rather than removing it completely, leaving root systems intact to ensure rapid re- colonization.	Contractor	ECO
c)	No open fires to be permitted on construction sites. Fires may only be made within the construction camp and only in areas and for purposes approved by the ECO.	Contractor	ECO
d)	Ensure that no refuse wastes are burnt on the site or on surrounding premises.	Contractor	ECO
e)	Ensure that all workers on site know the proper procedure in case of a fire occurring on site. f) Ensure adequate firefighting equipment is available and train workers on how to use it.	Contractor	ECO

5.7 Potential loss of species of conservation concern	Implementation	Monitoring
a) Indigenous trees not to be damaged/removed without appropriate licence. b) No wild animal may under any circumstance be hunted, snared, captured, injured, killed, harmed in any way or removed from the site. This includes animals perceived to be vermin. c) Fauna that are found within the construction corridor and are likely to be significantly disturbed should be moved to the closest point of natural or semi-natural vegetation outside the construction corridor. A specialist may need to be used for dangerous/venomous species such as snakes d) Inform site staff that under no circumstance may firewood or medicinal plants be harvested and implement measures to ensure that this is enforced.	Contractor	ECO

5.8 Noise disturbance	Implementation	Monitoring
a) Construction shall only occur from Mondays to Fridays between the hours of 8:00 am and 5:00 pm.	Contractor	ECO
b) People from adjacent areas must be kept informed of the need and extent of noisy disruptive processes;	Contractor	ECO
c) The use of radios, television sets and other such equipment by workers must be controlled and noise levels kept to a level that does not disturb the neighbouring residences, businesses/industries.	Contractor	ECO
d) Equipment that is fitted with noise reduction facilities will be used as per operating instructions and maintained properly during site operations.	Contractor	ECO

5.9 Disturbance of channel banks, aquatic vegetation and soils	Implementation	Monitoring
a) Construction across wetlands/rivers should be restricted to low flow period (dry winter season).	Contractor	ECO
b) Ensure that construction activities are carefully monitored and appropriate action taken if indicated as being necessary by the monitoring, to limit unnecessary impacts to wetlands/riparian areas (particularly in-stream habitat).	Contractor	ECO

5.10 Waste management	Implementation	Monitoring
a) All waste generated (hazardous or general, solid or effluent) during the decommissioning must be appropriately stored and then recycled and/or reused where possible b) Recycling should be encouraged. c) Proof of safe disposal (certificates / waybills) must be maintained for auditing purposes and will be attached to monthly audit reports to be submitted to the DARDLEA. d) No waste may be burned on site e) Littering on-site is forbidden. f) Designated storage must be provided for hazardous waste in accordance with the Material Safety Data sheets. Where waste has been mixed all the waste will be considered to have the properties of the most hazardous waste.	- Contractor - Contractor - Contractor - Contractor - Contractor - Contractor	- ECO - ECO - ECO - ECO - ECO - ECO

5.11 Heritage resources – traditional grave sites	Implementation	Monitoring
a) No traditional burial places may be altered in any way without the permission of the next-of-kin and a permit from the relevant heritage authority. b) A minimum distance of 10-15 metres should be maintained between construction areas and any ancestral graves. If the distance between a grave and a construction area is 10-15 metres, the grave requires clear demarcation with barrier tape or similar material for the duration of construction c) If the distance between a grave and a construction area is 5-10 metres, the grave requires permanent fencing as described below, at the cost of the developer, prior to the start of any construction activities. i. Preferred fencing materials are metal corner and straining posts and fencing wire, to a minimum height of 1.2 metres. ii. The fence must be located at a minimum distance of 2 metres from the nearest grave and have an access gate. iii. No construction may occur within a minimum distance of 3 metres from the edge of the fence. iv. If graves are located close to one another, they should be fenced as a group rather than individually. d) No construction activities may take place within 5m of a grave. e) Should it not be possible to avoid a grave resulting in the need to undertake construction within 5m of a grave the grave should be exhumed and re-interred. Refer to the Heritage Impact Assessment in Appendix B for the procedure for exhumation and re-interment.	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO

5.12 Rehabilitation of non-sensitive areas	Implementation	Monitoring
All areas disturbed by construction activities must be rehabilitated to their former state (or better) once construction activities have ceased or as soon as practically possible and should be monitored afterwards.	Contractor	ECO
STEP 1: Fix any erosion points created a) Any erosion features created during the construction process need to be stabilized and filled. b) Earthen berms or plugs, rock packs or gabions may be used for the rehabilitation of erosion gullies. c) For earthen structures, the soil used needs to be properly compacted to ensure this is not vulnerable to erosion.	Contractor	ECO
STEP 2: Reinstate topsoil and prepare planting area d) Stockpiled soils from trench excavations (this would have already been identified during construction, appropriately removed and stockpiled for use in rehabilitation) shall be placed in the reverse order as to which it was removed (subsoil first followed by topsoil). e) Reinstated topsoil is not to be compacted too heavily, as this will prevent water saturation and proper plant growth during rehabilitation. Where significant soil compaction has occurred, the soil may need to be ripped in order to reduce the bulk density of the soil such that vegetation can become established at the site. f) For seeding the soil needs to be prepared to optimise germination. Such preparation is typically undertaken by hand hoeing. The soil in the seedbed should be loosened but firmed to facilitate good contact between the seeds and the soil. g) An average depth of 30-50cm topsoil should be maintained across the disturbed area where possible to provide sufficient depth for rooting of vegetation.	Contractor	ECO
STEP 3: Remove any waste products from the site h) All waste products (spoil, construction materials, fencing, hazardous substances and general litter) need to be removed from the working area and disposed of in proper local waste facilities. i) Temporary sediment barriers/screens to be removed.	Contractor	ECO
STEP 4: Reinstate vegetation j) Once the soil and topography of the disturbed terrestrial surface has been returned to its pre-construction state, and waste products removed, re-vegetation of the area should be allowed to proceed naturally or be re-instated through a suitable replanting / re-vegetation programme.	Contractor	ECO

k) The success of natural regeneration should then be monitored (See Step 5 below). In areas flagged as requiring further intervention, a suitable replanting / re-vegetation programme should be implemented. This should comprise a mix of rapidly germinating indigenous grasses, shrubs and trees naturally occurring in the affected habitat and adapted to stabilizing areas. Locally occurring, indigenous runner grasses are typically most useful for rehabilitation purposes. These should ideally be sourced locally (areas within a 50 km radius). If this is not feasible, then a sterile variety of Couch Grass (<i>Cynodondactylon</i>) can be commercially sourced and planted to provide suitable indigenous cover to bind the soil the prevent erosion. l) Alien species (such as <i>Pennisetum clanicum</i>, Kikuyu grass), must not be used in re-vegetation, particularly those with invasive potential (Category 3 and above – Conservation of Agricultural Resources Act/CARA). m) When sourcing plants from nurseries, it is important to consider the genetic origin of the plants. It is considered best to use small regional nurseries that breed plants from the region, instead of large commercial nurseries that are likely to obtain stock from large regional suppliers. STEP 5: Monitor re-vegetation progress and administer alien plant control n) Recovery of disturbed areas should be assessed by the ECO for the first 6 months after construction has ceased to assess the success of rehabilitation actions. Any areas that are not progressing satisfactorily must be identified (e.g. on a map) and action must be taken to actively re-vegetate these areas to an acceptable natural cover. If natural recovery is progressing well, no further intervention may be required. o) Implement IAP control for the first 12 months post-construction to ensure that alien plants are actively managed and eradicated from the site, with adequate monitoring and follow-up measures. This will need to include any disturbed areas created during construction (recommended that this take place within ~10m either side of the pipeline). p) Although best-practice would recommend IAP control be extended into the operational phase, the reality is that unless broader areas is adjacent to the impacted area if there is clearing of alien vegetation and these areas will eventually become invaded. It is highly unlikely that will be prioritising of low sensitivity/transformed areas for clearing, meaning that the risk that cleared areas will eventually become infested with alien will remain an issue. Monitoring efforts should focus rather on the more intact/sensitive areas in the project area (i.e. intact/semi-natural grassland/forest areas).	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO
	Contractor	ECO

Table 5-2: Mitigation and management measures relating to impacts caused by project activities during the construction phase in sensitive areas(refer to Appendix A for a map of sensitive areas)

5.13 Pollution of soils, water and habitat	Implementation	Monitoring
a) Storage of potentially hazardous materials (e.g. fuel, oil, cement, bitumen, paint, etc.) should be outside of sensitive areas, or as specified by the ECO. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas.	Contractor	ECO
b) All construction camps, lay down areas, batching plants, maintenance and refuelling areas and any stores in general should be located outside of sensitive grassland/forest areas.	Contractor	ECO
c) Toilets are not to be located within sensitive areas. No stockpiling should take place within sensitive natural habitats.	Contractor	ECO
d) Any cement batching activities should occur outside of forest/grassland areas. Cement batching boards should be used. Cement products/wash not to be disposed of into the natural environment.	Contractor	ECO

5.14 Destruction and loss of vegetation & habitat	Implementation	Monitoring
a) Wherever possible, blading new tracks with a grader must be avoided, and a new vehicle track, not more than 10m wide is to be created by simply driving over the ground cover without removing grass cover/topsoil.	Contractor	ECO
b) Access to sensitive areas must be managed to minimise disturbance.	Contractor	ECO
c) The contractor has a responsibility to inform staff to be vigilant against any practice that will have a harmful effect on vegetation.	Contractor	ECO
d) Natural vegetation encountered in the site is to be conserved and left at good condition as possible.	Contractor	ECO
e) The relevant permits must be obtained from the environmental authorities prior to the disturbance or removal of protected species.	Contractor	ECO

guidelines provided below may be refined through such input l) Once the soil and topography has been returned to its pre-construction state, and waste products removed, vegetation is to be reinstated as soon as weather conditions allow for plant growth. m) A suitable replanting and re-vegetation program is needed to rehabilitate sensitive areas post-construction. n) It would be advisable to plant at the onset of the wet season (early spring – August to October) so that watering requirements are minimal. o) Do not use fertilizer, lime, or mulch unless required. p) Re-instate the area affected with suitable indigenous vegetation occurring naturally at the site. Indigenous species not occurring at the site (e.g. pioneer species and species that could out-compete existing native vegetation) should not be used in re-vegetation q) Mono-specific planting should be avoided, as diversity is the key to robustness, which will assist in retaining sediment and preventing erosion. r) The three main methods of re-vegetating wetland areas include: seeding, cuttings and the transplanting of whole plants: i.) Transplanting of entire plants requires a systematic approach. The timing of transplanting is best done shortly before or at the ii.) beginning of the growing season (spring, early summer). When transplanting, it is essential to ensure that plants are dug up with as much of the root ball intact as possible. The plants should be replanted as quickly as possible following removal. If they need to be stored then they must be kept in the shade in damp sacks or newspaper. The spacing between plantings will vary according to their type (woody stemmed or herbaceous), but as a general rule it should mimic that found under natural conditions. When planting the material, dig a hole deep enough to ensure that the roots do not bend upwards. The soils around the newly placed plant should be firmly compacted. iii.) The planting of propagules (such as rhizomes, stolons or truncheons) should be done at a depth of around 50mm below the wetland surface. Soil around propagules should be lightly compacted to ensure good contact between soil and plant matter. iv.) Thatching is a method of seeding that can be used with grasses or sedges that use ripened seeds as they are still attached to the stems, which are cut from the plants. Stems with mature inflorescences should be collected and deposited on the rehabilitation site. s) Alien plant species are not to be used for re-vegetation, particularly those with invasive potential (Category 3 and above – Conservation of Agricultural Resources Act/CARA).	Contractor Contractor Contractor Contractor Contractor Contractor Contractor Contractor Contractor Contractor Contractor	ECO ECO ECO ECO ECO ECO ECO ECO ECO ECO ECO
--	---	--

t) When sourcing plants from nurseries, it is important to consider the genetic origin of the plants. It is considered best to use small regional nurseries that breed plants from the region, instead of large commercial nurseries that are likely to obtain stock from large regional suppliers.	Contractor	ECO
STEP 5: Monitor re-vegetation progress and administer alien plant control		
u) Monitoring should focus on priority natural/semi-natural areas (high sensitivity/intact grassland forest and grassland habitat).	Contractor	ECO
v) Recovery of disturbed areas should be assessed by the EO for the first 6 months after construction has ceased to assess the success of rehabilitation actions. Any areas that are not progressing satisfactorily must be identified (e.g. on a map) and action must be taken to actively re-vegetate these areas. If natural recovery is progressing well, no further intervention may be required.	Contractor	ECO
w) Implement IAP control for the first 12 months post-construction to ensure that alien plants are actively managed and eradicated from the site, with adequate monitoring and follow-up measures. This will need to include any disturbed areas created during construction (recommended that this take place within ~10m either side of the pipeline).	Contractor	ECO
x) The ECO should assess the need / desirability for further monitoring and control after the first 12 months and include any recommendations for further action to the relevant environmental authority (DARDLEA).		
y) The use of herbicides in IAP control will require an investigation into the necessity, type to be used, effectiveness and impacts of the agent on aquatic biota.	Contractor	ECO
z) Any soil erosion in rehabilitated areas must also be addressed through appropriate actions.	Contractor	ECO
5.16 Accommodation of traffic		
a) Adequate traffic accommodation must be implemented and upgrading works along existing section of the road. Traffic accommodation measures must be implemented prior to the commencement of any construction works.		
b) In the event that construction activities are required to be carried out heavy traffic conditions, the contractor shall ensure that all construction personnel and vehicles are clearly visible.	Contractor	ECO
c) Safety of both workers on site and road users is to be ensured at all times. In the presence of dust the must be dust suppression done.		
	Contractor	ECO

6. General conduct:

Each individual shall attend a project orientation prior to commencing work on the site. The orientation shall include discussion on environmental matters of concern to this project.

- Only authorized personnel must be allowed on-site
- General rubbish such as food wrapping, garbage and sanitary waste shall be confined to the working site and collected daily for appropriation disposal at an approved municipal location. Construction waste such as rubble shall be gathered up for disposal at an approved location. Waste shall not be disposed of on the site.
- Construction personnel and equipment shall be required to confine their activities within the approved work site.
- Any burning of waste materials shall have the prior approval by the ECO.

7. Establishment of Project Steering Committee (PSC):

The PSC should be established and will essentially be the link between the Project team and the local community. The PSC will be responsible for appointing a Community Liaison Officer (CLO) who will be on the ground and basically do the day-to-day monitoring of labour in conjunction with the Site Agent.

The PSC together with the CLO will be responsible for the development of a labour pool. It is with this labour pool where local labour will be recruited.

8.Rehabilitation:

The camp site and workers accommodation area will require rehabilitation at the end of the contract. The area will require ripping and re-spreading of topsoil to generate vegetation. All construction material, including concrete slabs and brail areas are to be removed from the site on completion of the contract. After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated/deposited during construction shall remain on the site areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the Contractor cost until clearance from the ECO is received.

Material milled from proposed site that is temporarily stockpiled in areas approved by the ECO shall be subject to the same condition as other stockpiled materials. Excess material form windrows, in situ milling or detritus material from residential construction activities may be swept site.

9. Recommendations

It is recommended that care should be taken during construction to avoid damages and impact on the environment to be site to be developed.

10. Conclusion

The impact of the proposed Construction of the P100 Verena Overhead Railway Crossing Interchange in Emalahleni in Ehlanzeni Region of the Mpumalanga Province.

The area where the Bridge crossing is to be constructed is considered to be low affected, particularly as the proposed site is sitting in a zone already established as a developed road.

A general survey of vegetation was undertaken along the road and road reserve in order to identify plant species of conservation importance, protected under the National Forest Act (NFA). No species of importance were identified on site.

Impact of the development on the fauna and flora was considered to be low, due to the low impact nature of the development and minimal implications it would have on altering habitat. Impact on flora was also considered to be minimal and there would be no relocation or re-planting of conserved or endangered plant species. The nature of the agreement between the applicant and the community has positive and significant benefits to the community, in terms of income, employment and training.

A number of potential environmental impacts have been identified. However, the effective and professional implementation of the Environmental Impact Management Plan, can mitigate these impacts.

PART D: DAYWORKS

This part of the Project Specifications deals with the provision for Dayworks in the Schedule of Quantities. Rates for Dayworks shall be entered in Section 1800 of the Schedule of Quantities in accordance with the following specifications.

D.1 Scope

According to clause 6.5.1 of the general conditions of contract for construction works (GCC) 2015 edition, certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a daywork basis is included in the schedule of quantities. The quantities used in the schedule are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.4 of the General Conditions of Contract 2015 edition.

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

D.2 Type or Work

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

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Engineer. Dayworks will only be used in exceptional circumstances.

D.3 Materials

Materials for use in works carried out under Daywork shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section 1800 for Daywork materials. The Contractor shall enter a tendered percentage in the schedule to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in the Pricing Data. No contract price adjustment will be applicable to materials.

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

D.4 Construction Plant Hire

Where daywork is ordered, the tendered rates for plant hire in Section 1800 shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.2.3 of the General Conditions of Contract 2015 edition will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs

and profit, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the dayworks.

D.5 Salaries and Wages of Workmen

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in Section 1800. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the dayworks.

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

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

D.6 Measurement and Payment

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

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

The Contractor's attention is drawn to the requirements of Sub-clauses 6.5.3 and 6.5.4 of the General Condition of Contract 2010 edition with regard to the submission of Dayworks claims.

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

E.1 Introduction

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

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

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works. Principal Contractor shall be responsible for the Health and Safety Policies as it is stated under Occupational Health and Safety Act 85 of 1993, Section 7.

1.1. Background to the health and safety Specification

This Health and safety specification is governed by the Occupational Health and Safety Act 85 of 1993 and its Regulations. Notwithstanding this, recognizance should be taken of the fact that no single Act or its set Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a document specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Condition of Employment Act be considered as part of the legal compliance system.

With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

The following are possible risks associated with this project:

- Working high above the ground on top and below the bridge, most of the time in a restricted environment with limited landings (working platforms)
- Working above a continuously flowing river and in an flood plain environment subject to flooding
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds
- Steep and restricted access to the lower flood plain below the bridge
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, buried and overhead
- Deep excavations in soils requiring shoring or reducing of slopes
- Blasting of hard rock or demolition of concrete

- High pressure during testing of new rising mains, which could result in potentially dangerous situations in the event of the pipeline or fittings failing
- Potentially harmful gasses when tying into the existing sewer mains
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Falling debris, tools and materials from bridge
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site
- Additional risks may arise from specific methods of construction selected by the Contractor which are not necessarily covered in the above.

1.2. Purpose of the health and safety Specification

Due to the wide scope and definition of construction work, every construction activity and site will be different, circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the health and safety plan based on these Health and Safety Specifications. Prior to drafting the health and safety plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify, determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

The purpose of this specification document is to provide the relevant Principal Contractor with any information other than the standard conditions pertaining to construction site which might affect the health and safety of persons at work and in connection with the use of plant and machinery, and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work.

1.3. Implementation of the health and safety Specification

Principal Contractor is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these health and safety specifications.

E2. Occupational health and safety management system

The health and safety specification pertaining to Construction of Road P36/2, cover the subject containing the index and is intended to outline the normal as well as any special requirements of the Principal Contractor pertaining to the health and safety matters (including the environment) applicable to the project in question. These specifications should be read in conjunction with the Act, Construction Regulations and all other Regulations and safety standards. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any

stipulation of the Act Regulations and Safety Standards which are promulgated under, or incorporated into the Act

2.1. Scope and Description of Project

The total duration of the project is **24 months**, of which the works are:

The works comprises of the following construction activities, but are not limited to these descriptions:

- Site establishment, providing for engineers and contractors camps.
- Identify and relocate existing services where needed.
- Accommodation of Traffic
- Drainage
- Installation of Prefabricated Culverts
- Earthworks
- Construction of 2 bridges
- Construction of bridge approach ramps
- Construction of Pavement Layers
- Erosion protection works by means of gabions at the inlet and outlet.
- Provide stone pitching and gabions
- Installation of Road Signs and Traffic Signals
- Installation of street lighting
- Finishing-off road reserves and de-establish site camps.

The total number of road alignments to be introduced is 8 with a total length of roads to be constructed being 2.55 kilometres

The scope of work is comprised of three sections i.e.:

- a) Standard Specifications
- b) Project Specifications
- c) Particular Specifications

2.2. Interpretation

2.2.1. Application

This specification document is a legal compliance document compiled in terms of the OHS Act and Construction Regulations 2014 and it is therefore binding. The document must be read in conjunction with other relevant legislation.

2.2.2. Definition

The definition as listed in the OHS Act 85 of 1993 and Construction Regulations 2014 shall apply.

2.3. Minimum Administrative requirement

2.3.1. Application for Construction work permit.

Client who intends to have construction work carried out, must at least 30 days before that work is to be carried out apply to the Provincial Director in writing for a Construction work permit to perform construction work if the works contract is of a value exceeding One Hundred and Thirty Million Rand or Construction Industry development Board [CIDB] grading level 9

2.3.2. Notification of intention to commence Construction work

Principal Contractor must notify the Provincial Director of the Department of Labour in writing at least 7 days before construction work commences. A copy of this notification must be held in the Principal contractor's health and safety file on site. Proof will only accept when the Department of Labour appear on the document.

2.3.3. Duties of the Principal Contractor and Contractors

Principal Contractor must:-

2.3.1. Provide and demonstrate to the client a suitable, sufficiently documented and, coherent site specific health and safety plan, based on the client's documented health and safety specification,

2.3.2. Ensure that potential contractors submitting tenders have made sufficient provisions for health and safety measures during the construction process

2.3.3. Ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intend to appoint, has the necessary competencies and resources to perform the construction work safely;

2.3.4. Appoint each contractor in writing for the part of the project on the construction site

2.3.5. Ensure that the periodic site audits and document verifications are conducted at interval mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days

2.3.6. stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractors health and safety plan for the site or which poses a threat to the health and safety of persons

2.3.6. Ensure that all his or her employees have a valid medical fitness specific to the construction work to be performed and issued by an Occupational Health Practitioner. The medical fitness certificates must be submitted to the Client.

2.3.8. No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

NOTE; all documentation must be done according to Construction Regulations 2014 and its Act (Act no.85 of 1993) and Compensation for Occupational Injuries and Diseases Act 130 of 1993

2.3.4. Competence of Principal contractor's and Contractors responsible person

The Principal Contractor and Contractors' competent persons must fulfil the criteria as stipulated in terms of the definition 'Competent' in accordance with the Construction Regulations 2014

2.3.5. Compensation for Occupational injuries and Diseases Act [COIDA] 130 of 1993

The Principal Contractor and Contractors must hold a proof of workman's compensation assurance registration in the form of a letter of Good standing before they commence with the work on site. They must be in good standing at all times while carrying out work on site.

2.3.6. Health and Safety Organogram

The organogram is a diagram that shows how an organization is structured, and how the positions in the organization are related to each other. In case where appointments have not yet been made, the organogram shall reflect the intended positions.

The organogram must be updated when there are changes in the Site Management Structure, and dated accordingly. The organogram serves as a quick reference to who is responsible for what in which area.

2.3.7. Preliminary Hazard Identification and Risk Assessment, Progress Hazard Identification and Risk Assessment Review

A contractor must, before the commencement of any construction work and during such construction work, have risk assessment performed by a competent person appointed in writing, which risk assessment form part of the health and safety plan to be applied on the site, and must include:

2.3.7.1. The identification of the risk and hazards to which persons may be exposed to;

2.3.7.2. An analysis and evaluation of the risks and hazards identified based on a documented method;

2.3.7.3. A monitoring plan

2.3.7.4. A review plan

A contractor must ensure that copies of the risk assessment of the relevant site are available on site for inspection.

2.3.8. General record keeping

The Principal contractor and Contractors must keep and maintain all the necessary Health and Safety records to demonstrate compliance with these specifications, the OHS Act 85 of 1993, and Construction Regulations 2014. They must also ensure that all records of incidents / injuries, emergency procedures, training, planned maintenance inspections, monthly contractor audits are kept in the health and safety file(s) held in the site office. Principal Contractor must ensure that every contractor

keeps its own health and safety file, maintains the file and make it available on request (the file must include the Contractor's health and safety plan and all relevant records). Such Contractor safety file must be audited by the Principal Contractor on a monthly basis with audit reports kept as proof.

2.3.9. Accident or Incident reporting and Investigation

2.3.9.1. The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

2.3.9.2. As it is stated under Occupational health and Safety Act 85 of 1993, Section 24. Thus read:-

2.3.9.2.1. Each incident occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequences of which any person dies, become unconscious, suffer the loss of a limb, or is otherwise injured or become ill to such a degree that he likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed, shall within the prescribed period and in the prescribed manner, be reported to an inspector by the employer or the user of the plant or machinery concerned, as the case may be.

2.3.9.2. The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

2.3.9.2.1. Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

2.3.9.3. Complying with this Health and Safety Specification only does not mean complete compliance to the site health and Safety on site, the specification serves as a guide to help the Principal Contractor and Contractor to comply. The Contractor has an Obligation to comply with all other legislations relevant to be complied with including the Occupational Health and Safety Act 1993.

2.3.9.4. The contractor shall provide adequate first aid facilities as may be required or permitted by Client, Agent or Inspectors.

Key personnel are to be trained first aiders and have a current training certificate. Trained first aiders should be clearly identifiable. First Aid stations should be clearly marked and regularly checked by the contractor. Where the treatment of an injured or sick person requires the use of a first aid room the facilities provided by the Contractor may be used. The above first aid facilities are to be made available to all persons working on or visiting the site.

2.3.9.5. The contractor shall report all accidents to the Department of Labour and Client. All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions. The contractor shall give a copy of all reports to the Client, such

records has to be appropriately recorded and kept by the Employer for inspection by the Inspector .

2.3.10. Legal Appointments

Legal Appointment	
CEO	OHS Act 85 of 1993, S-16(1)
Assistance CEO	OHS Act 85 of 1993, S-16(2)
Health and Safety Representatives	OHS Act 85 of 1993, S-17
Health and Safety Committees	OHS Act 85 of 1993, S-19
Mandatory Agreement	OHS Act 85 of 1993, S-37(2)
Contractor appointment	CR 2014, R-7(c) (v)
Construction Manager	CR 2014, R-8(1)
Construction health and Safety officer	CR 2014, R-8(5)
Construction Supervisor	CR 2014, R-8(7)
Assistant Construction Supervisor	CR 2014, R-8(8)
Risk Assessor	CR 2014, R-9(1)
Fall protection developer	CR 2014, R-10(1)(a)
Excavation Supervisor	CR 2014, R-13(1)(a)
Demolition work supervisor	CR 2014, R-14(1)
Material hoist	CR 2014, R-19(8)(a)
Construction Vehicle and mobile plant operators	CR 2014, R-23(d)
Temporary electrical installer	CR 2014, R-24(c)

Stacking and storage Supervisor	CR 2014, R-28(a)
Fire equipment inspector	CR 2014, R-29(h)
First Aider	GSR , R-3

2.4. Site Operational Requirements

2.4.1. Health and Safety Representative

The principal contractor and all contractors must ensure that Health and Safety Representative(s) are appointed under consultation with the employees. The health and safety representatives must be competent to carry out their functions. The appointments must be in writing. The health and safety representatives could carry out monthly inspections keep records of the inspection and report all findings to the responsible person or safety officer forthwith and at monthly health and safety committee meetings. At least one health and safety representative is required by all employers on site.

2.4.2. Health and Safety Committees

The Principal contractor must ensure that project health and safety committee meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor's responsible person. All contractors' responsible persons and health and safety representatives must attend the Principal Contractors monthly health and safety committee meetings. The following topics must be tabled at meetings:

- 2.4.2.1. Management appointment
- 2.4.2.2. Risk management
- 2.4.2.3. Sub-contractors legal compliance issues
- 2.4.2.4. Injuries and Incidents
- 2.4.2.5. Hazards and risk assessment
- 2.4.2.6. Safety procedures
- 2.4.2.7. Method statement

2.4.3. Health and Safety Education and Training

2.4.3.1. Induction training

The Principal contractor must ensure that all site personnel including all sub-contractors undergo the agreed health and safety induction training session held and managed by the Principal contractors before any employee/ worker start work on the project. A record of attendance must be signed and kept in the health and safety file.

2.4.3.2. Awareness

The Principal Contractor must ensure that, on site, periodic toolbox health and safety talks take place at least twice in a week. All site personnel including sub-contractors must attend safety talks at such intervals and keep proof thereof. These talks should deal with risks relevant to the construction work at hand; they should be based on the job-specific risk assessment and safe working procedures. Records of attendance must be kept in the Principal Contractors health and safety file. All contractors' employees must attend safety awareness, toolbox talks carried out by their supervisors, the attendance registers must be copied to the Principal Contractor together with information on the information discussed at the session.

2.4.3.3. Competence

All competent person must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control and / or carry out. This must be assessed on a regular basis. E.g. training, evaluation and periodic audits by the Client. The Principal Contractor is responsible to ensure that Competent Contractors are appointed to carry out construction work on site.

2.4.4. Emergency procedure

Principal contractor must advise the Client in writing of any emergency situations, together with a record of action taken / action to be taken. A contact list of all service providers [Fire department, Medical and Hospital, Ambulance, Police] must be maintained and made available to site personnel. The emergency plan will need to be reviewed from time to time as conditions/ environment changes.

2.4.5. First aid boxes and First aid equipment

Where more than five employees are employed at a workplace, the employer shall provide a first aid box near the workplace which shall be available and accessible for the treatment of injured at that workplace. At least one person must be readily available during working hours, who is in possession of a valid certificate of competency in First aid, issued by a person or organisation approved by the chief inspector for this purpose.

2.4.6. Personal Protective Equipment [PPE]

SUBJECT	REQUIREMENT
PPE needs analysis	Need for PPE identified and prescribed in writing PPE remain property of Employer
Head Protection	All persons on site wearing Safety Helmets including Sub-contractors and Visitors (where prescribed)
Foot Protection	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. -Visitors to wear same upon request or where prescribed
Eye and Face Protection	<u>Eye and Face (also Hand and Body) Protection</u> (Goggles, Face Shields, Welding Helmets etc.) used when operating the following: • Jack/ Kango Hammers • Angle / Bench Grinders • Electric Drills (Overhead work into concrete / cement / bricks • Explosive Powered tools • Concrete Vibrators / Pokers • Hammers & Chisels • Cutting / Welding Torches • Cutting Tools and Equipment • Skill / Bench Saws • Spray Painting Equipment etc.
Hearing Protection	<u>Hearing Protectors</u> (Muffs, Plugs, etc.) used when operating the following: • Jack / Kango Hammers • Explosive Powered Tools • Wood/Aluminium Working Machines e.g. saws, planers, routers
Hand Protection	<u>Protective Gloves</u> worn by employees handling / using: • Cement / Bricks / Steel / Chemicals • Welding Equipment • Hammers & Chisels • Jack / Kango Hammers etc.

Respiratory Protection	Suitable/efficient prescribed <u>Respirators</u> worn correctly by employees handling / using: • Dry cement • Dusty areas • Hazardous chemicals • Angle Grinders • Spray Painting etc.
Protective Clothing	All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn
PPE Issue & Control	• Identified Equipment issued free of charge. • All PPE maintained in good condition. (Regular checks). • Workers instructed in the proper use & maintenance of PPE. • Commitment obtained from wearer accepting conditions and to wear the PPE. • Record of PPE issued kept on H&S File. • PPE remain property of Employer,

2.4.7. Occupation Health and Safety Signage's

Notices and signs must be erected on the entrance

2.4.7.1. No un-authorised entry

2.4.7.2. Visitors to report to the site office

2.4.7.3. General warning signs

2.4.7.4. Construction signage with PPE images i.e. Helmets, Work suites, Gloves, Goggles, Dust mask / Respirator, Safety Boots, NO Fire arms.

Site Safeguarding Nets, Canopies, fence to protect members of the public from entering the site.

2.4.7.5. signals and roadworks

2.4.7.5.1. Temporary traffic signals may be provided at roadwork construction sites for the following purposes:

To successively give right of way to two-way traffic approaching from opposite directions, along a single traffic lane, in place of a manually operated STOP – GO sign;

To control the movement of traffic, including site vehicles, where a public road enters or crosses a road that is under construction;

As an interim measure to control traffic where a permanent traffic signal is to be provided, altered or placed as part of a roadwork's project

2.4.7.5.1. Temporary traffic signals should be installed and operated only where warranted as follows:

Where there is undue delay or danger to public traffic at the junction of a public road and road under construction as a results of construction operations,

provided that the overall disbenefit to public traffic does not exceed the benefit to construction traffic

Where it would be to exercise manual control by means of a STOP –GO sign during hours of darkness

2.4.7.5.2. Temporary traffic signals should preferably not be operated for longer periods than 6 months. If required for longer than 6 months, the installation of permanent signals should be considered

2.4.7.5.3. The principles of traffic signal control at permanent installation apply equally to temporary installations. This means that the numbers and locations of signal faces, the compulsory provision of background screen (backboards), sight distances, etc. also apply to temporary traffic signals. The speed limit at the traffic signals shall also not exceed a maximum of 80 km/h

2.4.7.5.4. It is recommended that three yellow retro-reflective strips to be provided on the signal posts and that white retro reflective borders be used on backboards. Temporary traffic signals are often used in locations with poor background lighting and where they may be more subject to failure than permanent signals.

2.4.8. Public and Site Visitor health and safety

Public walk ways and roadways must be kept clean and free of construction material to prevent any negative impact on the public. Public roadways and walkways will have to be cleaned on a regular basis, daily inspections to be conducted by the principal contractor with action to be taken without delay. Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to control these hazards. The Construction Regulations require that a record of these 'inductions' be kept on site.

Where loading / offloading of equipment / Plant/ rubbles or other material takes place adjacent to public roadways or walkways, flagmen will be required to direct vehicles and pedestrians away from the loading / offloading area. Traffic cones will also be required demarcating that zone.

2.4.9. Access to site

It is advised that a visitor book with site rules leaflet be kept at the site office and all visitors to be directed to such point where they must read through the site safety information and sign the visitor book. It will be the Principal Contractors prerogative to decide whether site visitor require supervision while on site. Visitor hard hats must be kept in the site office.

Security measures – Access control, with a register book on the gate.

During weekend.

They must have access to telephone or other means of communication

2.4.10. Night work

After hours, there must be sufficient lighting.

No night work will be allowed within the hazardous zone on this project.

2.4.11. Transport of workers

The Principal Contractor and Contractors may not transport persons together with good or tools unless there is an appropriate area or section to store the tools or equipment.

Contractor must adhere to the National Road Traffic Act

2.4.12. Construction health and safety officer

A full time construction health and safety officer will be required on this project. And he or she must be registered with SACPCMP.

2.4.13. Health and Safety audits, Monitoring and Reporting

The Principal Contractor is obligated to conduct monthly audits on all contractors appointed and keep audit reports in their health and safety file. The Client / Agent will conduct monthly audits on the Principal Contractors safety management plan, ad-hoc health and safety audits, Coordinating and monitoring of all Occupational health and safety attributes of the project for the implementation all shall be done with the client / Agent as per their schedule. Reporting shall be done on each site progress meeting.

2.5. Plant, Machinery and Equipment

2.5.1. Construction Vehicle and Mobile Plant

The contractor shall ensure that employees are trained, competent and authorised to drive or operate any plant or equipment that they may use, whether regularly or on an occasional basis. Training records should be maintained and may be requested by the client or client's representative Agent and Inspectors.

Document evidence of such authorisation shall be provided as required. Only training which is specific to the actual plant or equipment to be used will be considered acceptable. All equipment provided shall be in good order and suitable for the use for which it is intended for. The contractor shall ensure that site plant and equipment are inspected and thoroughly examined at regular interval by person(s) who are appropriately skilled and authorised to do so and records of such inspection / examinations are maintained in a register which may be available for examination by the Client or Client's representative Agent and Inspectors upon request. When selecting equipment the contractor shall take into account the working conditions and potential site hazards. All construction plant shall be maintained in such a manner that smoke is not emitted.

Reverse alarm must be installed on construction vehicles

2.5.2. Hired plant and Machinery

The Principal contractor must ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislation requirements. The necessary requirement as stipulated by the OHS Act, Construction Regulations 2014 and Driven Machinery Regulations 2015 shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that competency and medical certificates are kept on site in the health and safety file.

2.5.3. Traffic Control

The principal contractor shall ensure that a fulltime traffic safety officer be appointed in writing, upon the commencement of construction activities. The Traffic safety officer shall be tasked with regular inspections and movement of road traffic signs as per the approved traffic accommodation plans and will report to the safety officer.

This document must indicate the potential risk to the public or environment posed by all vehicles travelling to and from the areas of construction for the purpose of the construction work, and purposes methods to minimise these risks, such a plan must include the following:

- 2.5.3.1. Design of traffic Management Plan
- 2.5.3.2. Site Specific base line risk assessment
- 2.5.3.3. Protection of pedestrians
- 2.5.3.4. Specific signage and distances applicable
- 2.5.3.5. Applicable training
- 2.5.3.6. Appointment of road safety officers
- 2.5.3.7. Management after hours / weekend/ adverse weather conditions
- 2.5.3.8. Setup and clearing of signage.

2.5.4. General Machinery

The principal contractor and contractors must ensure that compliance with the Driven machinery regulations, which includes carrying out risk assessments on the machines, inspecting machinery regularly is appointed.

2.5.5. Vessels under Pressure [VuP] and Gas Bottles

All such cylinders must be supported at all times. Only trained authorised personnel may use compressed gas.

Flammable gases and oxidising gases must be kept strictly separate.

2.6. Physical Requirements

2.6.1. Earthworks [Including trenching and bulk excavation]

Principal Contractor must ensure that when earthworks are being conducted that particular area must be barricaded to ensure that no unauthorised person do enter this area.

All employees working in that particular area must wear reflective vest and this would include all visitors to the earthworks site.

Before any earthworks may start the Principal Contractor must familiarise himself of any services in the direct earthworks area.

2.6.2. Edge protection and penetration

The principal contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The principal contractor must use hard barricading when contemplating the protection of openings.

2.6.3. Fire Extinguishers and Fire Fighting equipment's

The Principal Contractor and relevant contractors shall provide adequate, regularly serviced fire fighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted as required. A minimum of four 9kg dry chemical powder fire extinguishers must be available in and around the site office establishment and stores. Fire extinguishers must be placed at all work zones/ areas, in strategic locations. Wherever "hot work" is taking place, additional fire extinguishers must be on hand.

2.6.4. Deliveries, Waste removal, stacking and Storage of material

The Principal contractor and other relevant contractors must ensure that there is an stacking and storage supervisor who is appointed in writing, to ensure that all equipment is stacked and stored safely on level compacted ground. Waste must be kept within designated construction zone. The principal contractor will be responsible for ordination and managing this function.

Housekeeping must be done on a daily basis.

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2003.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2003, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Unnecessary downtime, flooding, electrical shock, enviromental contamination and interruption of services
- Slip and fall causing injuries to staff
- Occupational illness such as eyes irritation and injury
- Collision of plant in close formation
- Obstruction of public traffic during haulage and tipping
- Fatalities and injury of people in vicinity of plant
- Overloading which can cause damage to trucks, accidents due to unsfae vehicles.
- Damage to public property and injuries to public from loose material falling off trucks
- Pedestrian accident, injury or fatality of people on haulage routes
- Impairment of visibility due to dust which can lead plant to fall into excavations

- Working high above the ground on top and below the bridge, most of the time in a restricted environment with limited landings (working platforms)
- Working above a continuously flowing river and in an flood plain environment subject to flooding
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, buried and overhead
- Blasting of hard rock or demolition of concrete
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site
- Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

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

E.3 Measurement and Payment

3.1. Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

3.2. Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

3.3. Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PART F: LABOUR INTENSIVE SPECIFICATIONS

F.1 Scope

This specification covers the Labour Intensive Construction specifications to be met by the Contractor to ensure compliance with the Expanded Public Works Programme requirements. The Employer's objective is to deliver public infrastructure using labour intensive methods in accordance to EPWP Guidelines.

This specification shall be read with the Guidelines for the Implementation of Labour Intensive Infrastructure Projects under the Expanded Works Programme 2nd Edition.

Works and/or portions of work are to be carried out using labour intensive methods and this contract falls under the Expanded Public Works Projects. Where the whole of the works is not so restricted, the portion, or portions of the Works which are required to be carried out using labour intensive methods have been identified in the Bill of Quantities and are marked LI.

F.2 Labour-intensive works

Labour intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work.

F.3 Applicable labour laws

The current applicable labour laws under Labour Intensive Construction are;

- a) Current Ministerial Determination
- b) Code of Good Practice for Employment and Conditions of Work for the Expanded Public Works Programme; issued in terms of the Basic Conditions of Employment Act

F.4 Payment

The works, or parts of the works so designated as LI are to be constructed using labour intensive methods **ONLY** else there will be no payment even if work is accepted.

F.5 Labour issues

After award of the contract, the Contractor shall,

- a) use local labour which shall mean that workers for the project will be sourced from the targeted areas. Refer to Clause 11.1 of C1.2.2. Local community members shall mean South African citizens who reside and render services within those particular targeted areas.
- b) comply with recruitment procedures that falls in line with the Project Steering Committee Policy Document which is subject to amendments and reviews if necessary. This shall be read in conjunction with the standard EPWP recruitment procedures which shall take precedence over the recruitment procedures.
- c) provide accredited training of participants where deemed necessary
- d) consider targeted labour
- e) provide appropriate hand tools
- f) not default in payment to labourers and employees

F.6 Labour information

The contractor shall submit all labour information in a format and timeframe specified by the Employer. If the information is inadequate the Engineer shall not submit the payment certificate to the Employer for payment of the relevant outputs.

F.7 Minimum wage rate

The standard minimum wage rate should be as per the department of labour rate, shall apply as minimum pay based on the Project Steering Committee Policy Document which is subject to amendments and reviews if deemed necessary.

F.8 Labour-intensive competencies of supervisory and management staff

Contractors shall only engage supervisory and management staff in labour intensive works that have completed the skills programme including Foreman/Supervisors at NQF Level 4 “National Certificate: Supervision of Civil Engineering Construction Processes” and Site Agent/Manager at NQF Level 5 “Manage Labour Intensive Construction Processes” or equivalent QCTO qualifications,

**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

**THE REHABILITATION AND UPGRADING OF ROAD D2571 FROM R37 INTERSECTION
TO P171/1 INTERSECTION (LYDENBURG PASS) IN THE THABA CHWEU LOCAL
MUNICIPALITY IN THE ENHLANZENI REGION OF THE MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

C4. SITE INFORMATION

Contents

C4. Site Information	131
C4.1. Locality Plan, Project Description, Description Of Site And Access	132
C4.2. Conditions on Site: Geotechnical Report	143
C4.3. Traffic Count Results	147
C4.4. Drawings (Bounded separately)	149

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

**THE REHABILITATION AND UPGRADING OF ROAD D2571 FROM R37 INTERSECTION
TO P171/1 INTERSECTION (LYDENBURG PASS) IN THE THABA CHWEU LOCAL
MUNICIPALITY IN THE ENHLANZENI REGION OF THE MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

Information Only

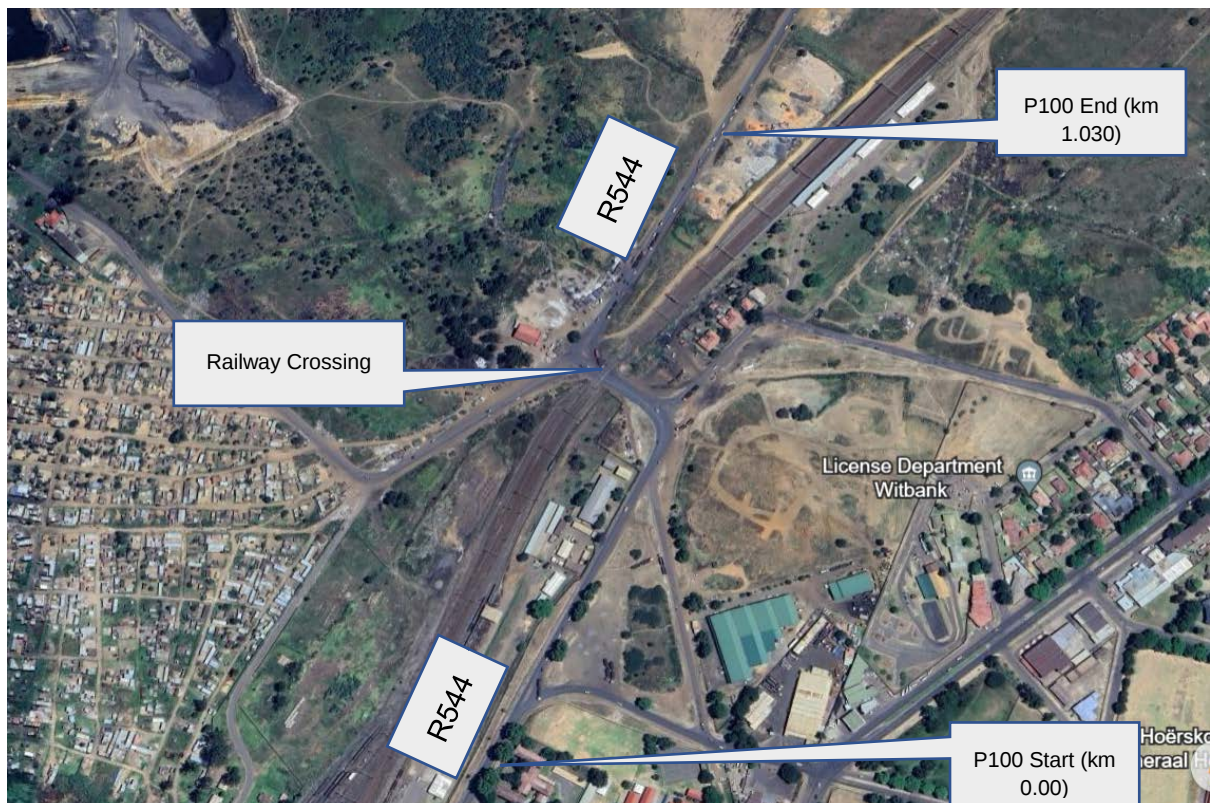
All data and descriptions contained in this section of the contract documents are given for information purposes only and cannot be interpreted as prescriptive or as an instruction despite the fact that the text may give the opposite perspective. If any conflict arises between the content of this section and other sections of the contract documents, the latter take precedence.

C4.1. DESCRIPTION OF THE WORKS

The description of the works shall inter alia contain the following particulars regarding the work to be constructed and maintained under the contract.

C4.1.1 Location of project

The project area is situated due north west of the Emalahleni CBD and the road P100 being the main thoroughfare experiences very heavy traffic conditions during peak hours and when marshalling of Transnet freight trains occurs at the road over rail crossing.



Project locality plan (Source: Google Earth)

The road, P100 (R544), is located within the The Emalahleni Local Municipality in the Ehlanzeni Region of the Mpumalanga Province. The project has four municipal roads associated with the P100 which will also be upgraded totalling 2.6km and incorporating two bridge structures.

The roads traverses flat terrain through residential, commercial and open farmlands. The land use can be described as mixed but predominantly urban due to the presence of formal and informal settlements and future residential developments.

C4.1.2 DESCRIPTION OF THE WORKS

C4.1.2.1 ROADWORKS

(a) General

The main objective of the project is to provide free flow through traffic from all destinations that presently access the intersections on both approaches to the railway crossing by introducing interchanges and bridges which will enable efficient mobility of the transported goods, and ultimately benefit the economic activity within Emalahleni Local Municipality. The increased heavy vehicle traffic has accelerated the decrease in the levels of service of roads associated with and including the P100 to an unacceptable level.

The current single-carriageway P100 road will be upgraded to a dual carriageway over two bridge structures with off ramps to local municipal roads. The typical cross sections are indicated on the drawings (Volume 4 – Road works).

The descriptions and lengths of the road alignments to be upgraded are as follows:

1. Road P100	1,030m
2. Road M1	240m
3. Road M2	600m
4. Road M3	300m
5. Road M4	120m
6. Elizabeth Street	100m
7. Slip 1	100m
8. Slip 2	60m
TOTAL	2,550m

The road works included in this Contract include of the following:

- Clearing and grubbing.
- The extension or replacement of minor culverts.
- Installation of new minor culverts.
- Rehabilitation of the existing road pavement layers where required.
- Installation of subsoil drains in all ramps.
- Construction of concrete-lined side drains.
- Erosion protection works.

- Gabion works.
- Concrete kerbing and concrete block paving at median islands and walkways.
- Installation of new guardrails.
- Removal of existing road signs and replacing with new signs.
- Painting new road markings.
- Installation of road studs.
- Demolishing and removal of certain portions of existing drainage structures.
- Finishing-off the road and road reserve.
- Landscaping and grassing.

(b) Services

Services in the areas of proposed roads and bridges construction include ELM (overhead and underground power lines, storm water, sewer and water pipelines), Telkom (overhead lines), Openserve (optic fibre underground), Afrox gas (underground pipes), Sasol (underground pipe) and Transnet (rail lines, electric and communication cables). Details regarding services that will be affected are indicated on the Layout drawings.

(i) Emalahleni Local Municipality

Due to the upgrades it was identified that the relocation of the existing high, (22kVa) medium (11kVa) and low voltage lines running parallel to the railway alignment would be required. Relocation of these services will be under the appointed Contractor with the direction of the service owner. The removal of existing street lighting infrastructure will be the responsibility of the Contractor

The relocation of the storm water, water and sewer services will be done by the Contractor.

The installation of service ducts for street lighting and traffic signals in addition to other generic ducts will be the responsibility of the Contractor.

(ii) Telkom

The proposed design indicates that existing Telkom lines may be affected by the upgrade of Road M2. The affected Telkom lines are shown on layout plans and may require relocation.

(iii) Fibre-Optic

The proposed design indicates that existing Openserve underground fibre cables may be affected by the upgrade of Roads M2/M4. The affected Openserve lines are shown on layout plans.

(iv) Sasol Gas

The proposed design indicates that existing Sasol underground pipeline may be affected by the upgrade of Roads P100 and M4. The affected gas line that is 360mmØ and between 1.7 – 2.7m deep are shown on layout plans.

(v) Afrox Gas

The proposed design indicates that existing Afrox underground 2 x pipelines may be affected by the upgrade of Roads P100, M2, M3 and Bridge 2. The affected gas lines that are 200mmØ and between 2 – 3 m deep are shown on layout plans.

(vi) Relocation and/or Protection of Services: Programming of Works

The relocation and protection of services under the design responsibility of the Contractor in liaison with the respective service owner/provider is the prelude to the actual roads and bridge works. The contractor is to allow a minimum of three (3) months in the programme of works from the date of site hand over for the relocation and protection of services encountered within the project scope.

(c) Roadworks ancillaries

The design and positioning of the road signs shall be in accordance with the SADC Road Traffic Regulations, the SADC Road Traffic Signs Manual and other policy guidelines specified by the Employer. The road signs to be installed are shown on the layout drawings. Road marking will be done in accordance with the relevant drawings and will involve the initial use of retroreflective paint. Thereafter, thermoplastic road marking material shall be applied as specified in the Contract Documentation.

The positions of the new guardrails are shown on the layout drawings. Guardrails are required at the approaches to bridges and other major drainage culverts where the installation of the appropriate flared terminal sections are specified on the drawings. Flared and buried terminal sections are specified for the approach ends of all guardrail sections. Guardrails specified will have the flared terminal sections for the approach and departure ends of all guardrail sections as specified for single carriageway roads.

The road reserve in most sections is unmarked with only a fence along the Transnet property boundary. No new fencing will be installed along the P100 road reserve on either side.

(d) Accommodation of traffic

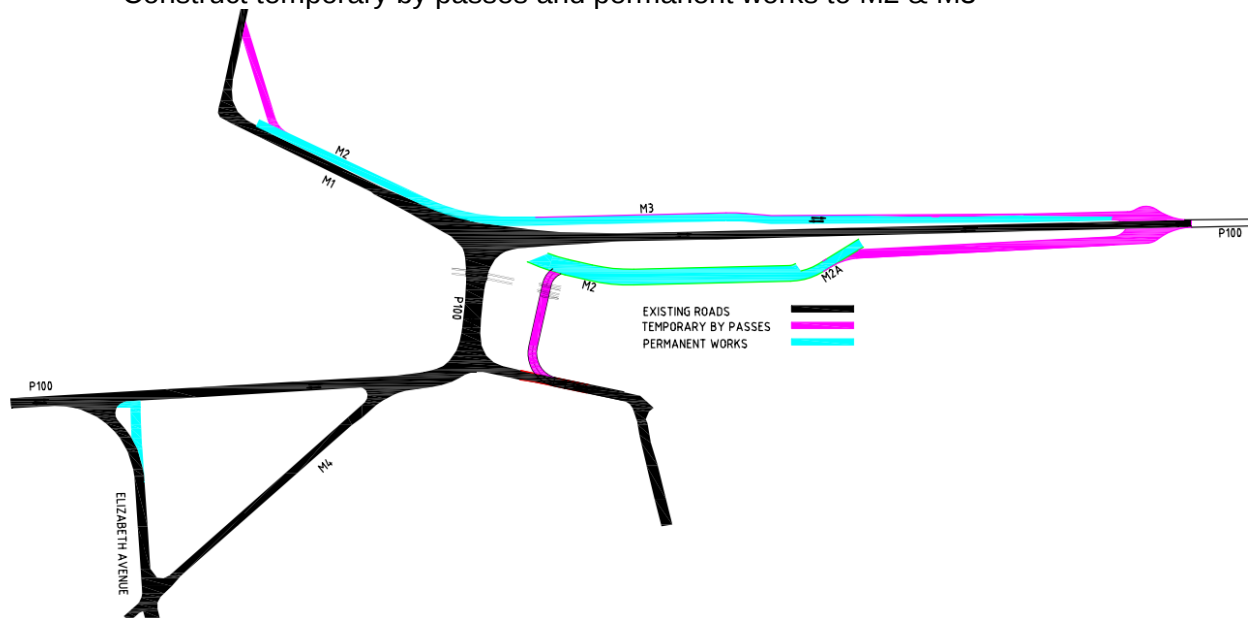
During the construction works, special attention will have to be given to the following:

- Providing two-way traffic flow for main through traffic.

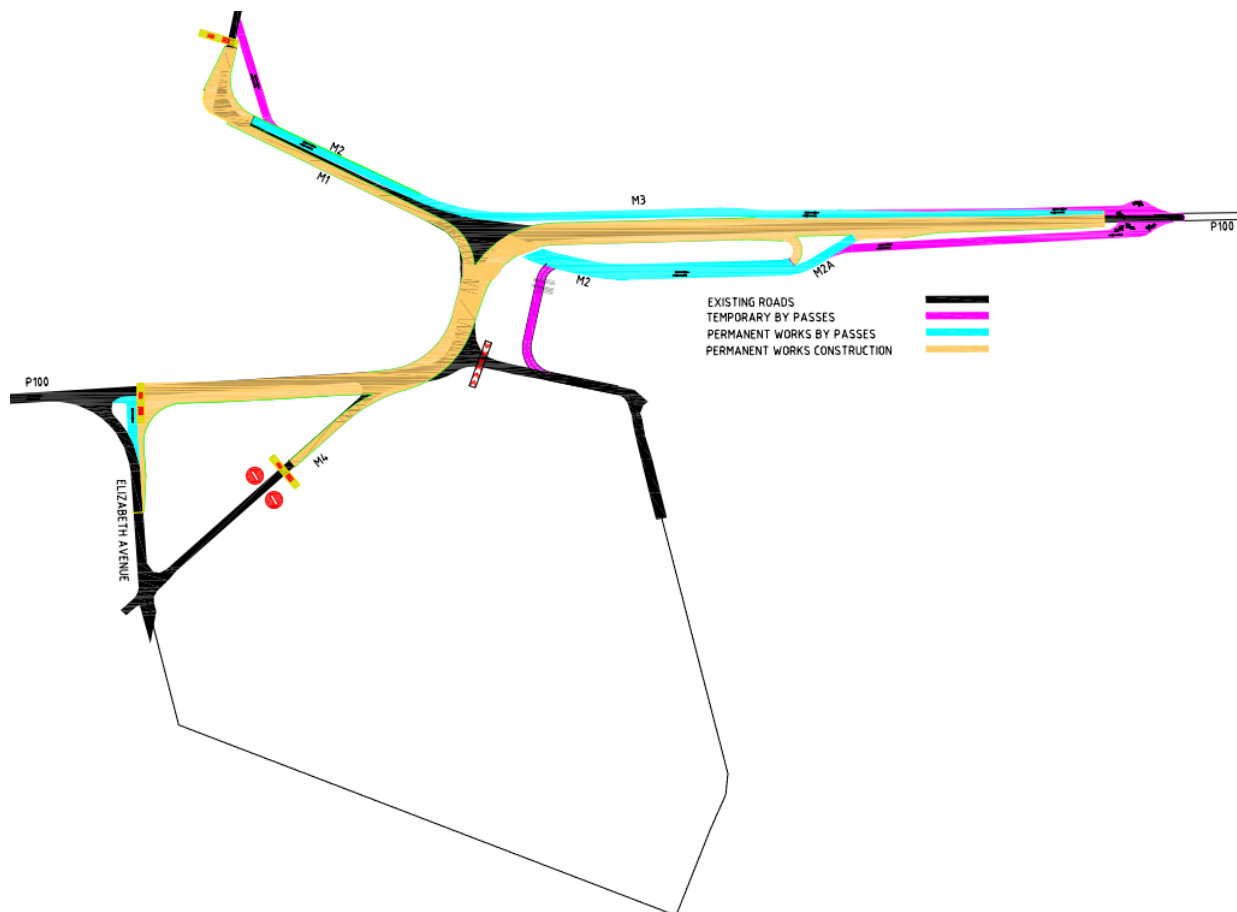
- Providing uninterrupted access for the municipal roads. This will entail the construction of temporary and permanent works surfaced roads, which the Contractor will be required to programme as part of his initial works.
- The merging of construction vehicles in and out of the flow of through traffic is to be kept to an absolute minimum and should be avoided at all costs.
- During construction, construction vehicles will pose a threat to all other road users. It is expected that strict controls will be in place to access the active work zones.

The proposed traffic accommodation sequence can generally adhere to or be an adaptation/amendment of the 4 phases as briefly outlined below:

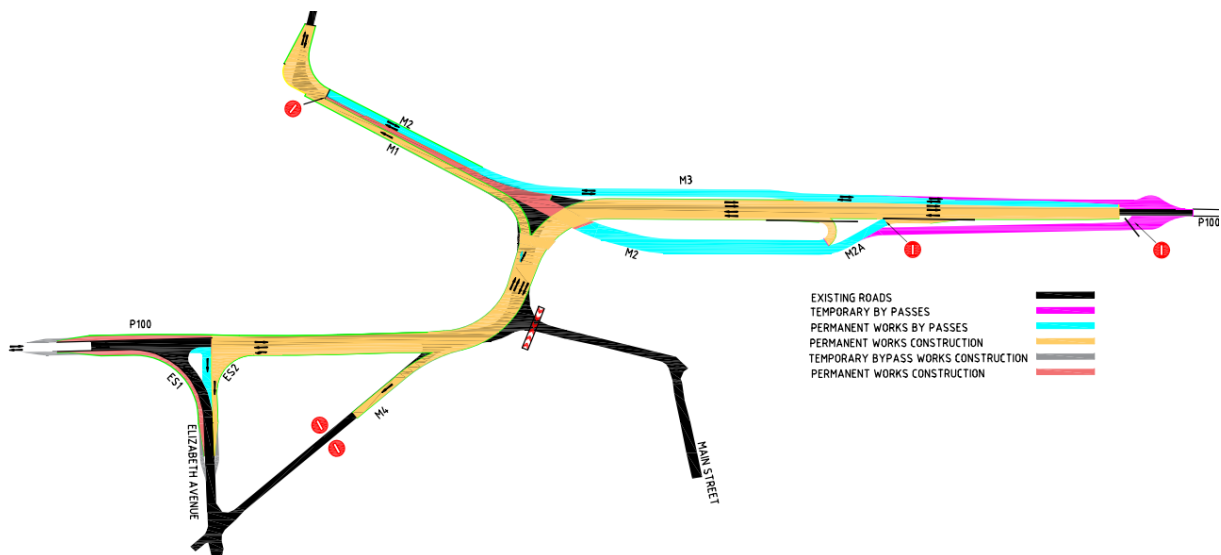
- Phase 1
Construct temporary by passes and permanent works to M2 & M3



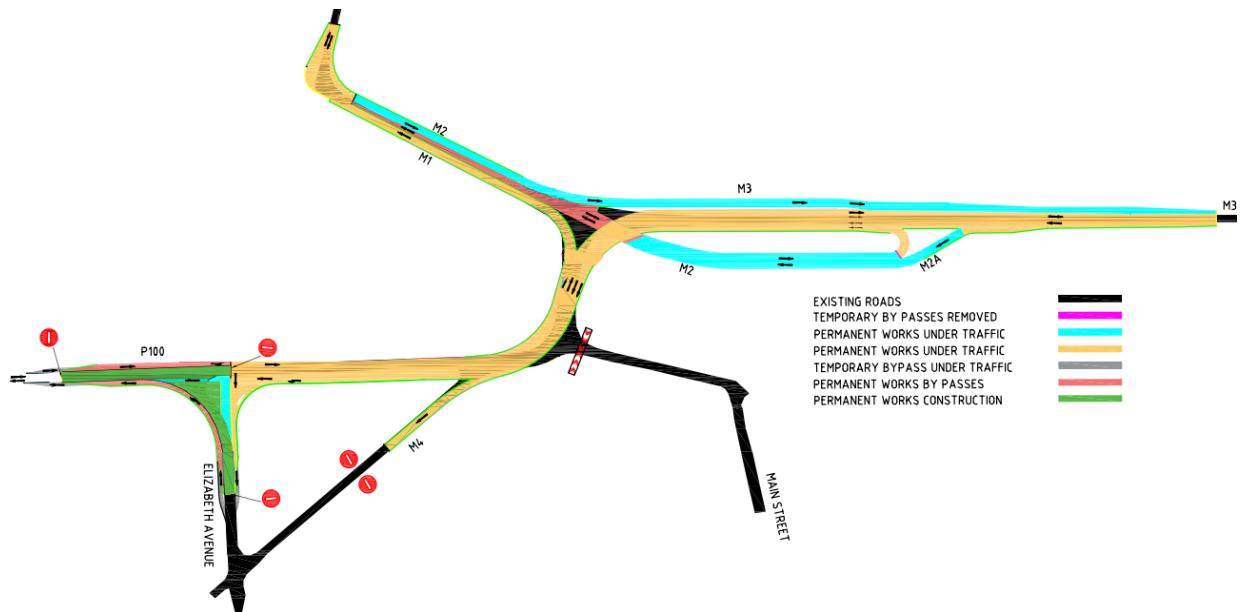
- Phase 2
 - o Open temporary by passes and M2 & M3 permanent works to traffic.
 - o Construct permanent works to P100, M1, M2 & M4.



- Phase 3
 - o Open permanent works to P100, M1, M2 & M4 that are complete and permit traffic.
 - o Construct remainder P100, remainder M2 & ES1



- Phase 4
 - o Open P100 temporary by passes and permanent works sections
 - o Construct final sections of P100 and Elizabeth Street



C4.1.3 Pavement Design

Type of surfacing

The proposed pavement designs for all roads will consist of a flexible pavement. The P100 and Elizabeth Street surfacing will consist of 50mm Continuously Graded Asphalt SABITA Manual 35 sand skeletal continuously graded mix with a 14mm NMPS and a AE-2 modified binder. The other roads will be 30mm thick with the same grading and binder.

Type of base

The base layers for all the roads upgrades for the existing and new pavements will consist of a 150 mm G1 crushed stone layer, constructed with material from commercial sources.

Type of subbase

The subbase layer for the roads upgrades for the existing and new road P100 pavements will consist of a 400mm C3 in two equal layers. The remaining roads will consist on one 200mm C3 sub base layer. All constructed with material from commercial sources.

Type of selected layer

The selected layer for all the roads upgrades for the existing and new road P100 pavements will consist of a 150mm G6 layer, constructed with material from commercial sources.

C4.1.4 Structural Works

(a) Bridges

The following bridges will be constructed:

Bridge 1

This is a precast beams bridge at chainage 480m on P100 over the Transnet railway lines. The bridge spans 18.7 m sitting on insitu cast concrete abutment walls as indicated in the book of drawings.

Bridge 2

This is a smaller precast beams bridge at chainage 520m on P100 over the proposed new road M2 with a 14.7 m span on skew as per the book of drawings.

(b) Ramps

Mechanically Stabilised Earth walls shall support construction of ramps to the bridges, up to a height of 8m, with a total length of 1072m and an area of 5,859m². The walls are split into 6 sections, namely RE wall A up to RE Wall F as per MSE Walls layout drawing. A 150mmX300mm thick unreinforced concrete levelling pad shall support the wall and a 280mm wide coping will top up the wall. The founding depth shall be a minimum of 750mm below finished ground level. The MSE Wall panels shall have a minimum thickness of 140mm, shall be interlocking and made up of reinforced concrete. Panel joints shall be covered with 305mm wide geotextile. Underdrain system shall be designed based on site conditions and shall slope to drain to an outlet leading to adjacent drainage structures. 1200mm high handrails shall be fixed on the coping. 810mm high traffic barriers will separate the pedestrian walkway from the road.

The Contractor shall prepare detailed method statements for each facet of the work describing key aspects such as construction methodology, key plant, materials, personnel as well as any programme constraints of the envisaged construction process according to Chapter 12.6 (Mechanically Stabilised Earth and Gabions) of the Standard Specifications for Road and Bridge works for South African Road Authorities (2020)

(c) Other structures

(i) Storm Water

Other structures will be the construction of the drainage culverts include pre-cast or cast-insitu, culvert headwalls & wingwalls, side drains, catchpits with grid inlets, etc.

(ii) Water

Additional structures will be the construction of protection with accesses of existing 700mm Ø and 300mm Ø water pipes under the P100 ramp and Bridge 2 as part of the permanent services relocation or protection work by the Contractor.

C4.1.5 Ancillary and Other Works

Ancillary works will include the installation of street lighting infrastructure, traffic signals and landscaping. Other works such as the construction of service ducts for existing and future services which include mainly, electricity, street lighting, water mains, sewer lines and underground telecom cables is to be implemented.

C4.2 DRAWINGS

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

The contractor will be supplied with one set of paper prints plus a CD containing all the construction documentation.

Only figured dimensions may be used and drawings may not be scaled unless so instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.

The levels given on bridge drawings are subject to confirmation on site, and the contractor shall submit all levels to the engineer for confirmation before he commences any structural construction work. It is the contractor's responsibility to check all clearances given on the drawings and to inform the engineer of any discrepancies.

C4.3 CAMP ESTABLISHMENT, POWER SUPPLY AND OTHER SERVICES

The contractor is to make his own arrangements concerning the supply of electrical power and all other services. No direct payment will be made for the provision of electrical and other services. The cost thereof is deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

C4.4 MANAGEMENT OF THE ENVIRONMENT

The contractor will be responsible for construction according to an environmental management plan in terms of Section C1000 Scope of Works.

The contractor must take the utmost care to minimise the impact of his establishment and other construction activities on the environment and must adhere to the requirements as set out in Section C of the Scope of Works. Where the contractor fails to adhere to these requirements the specifications in Section C of the Scope of Works provide the methodology and cost liability of remedy.

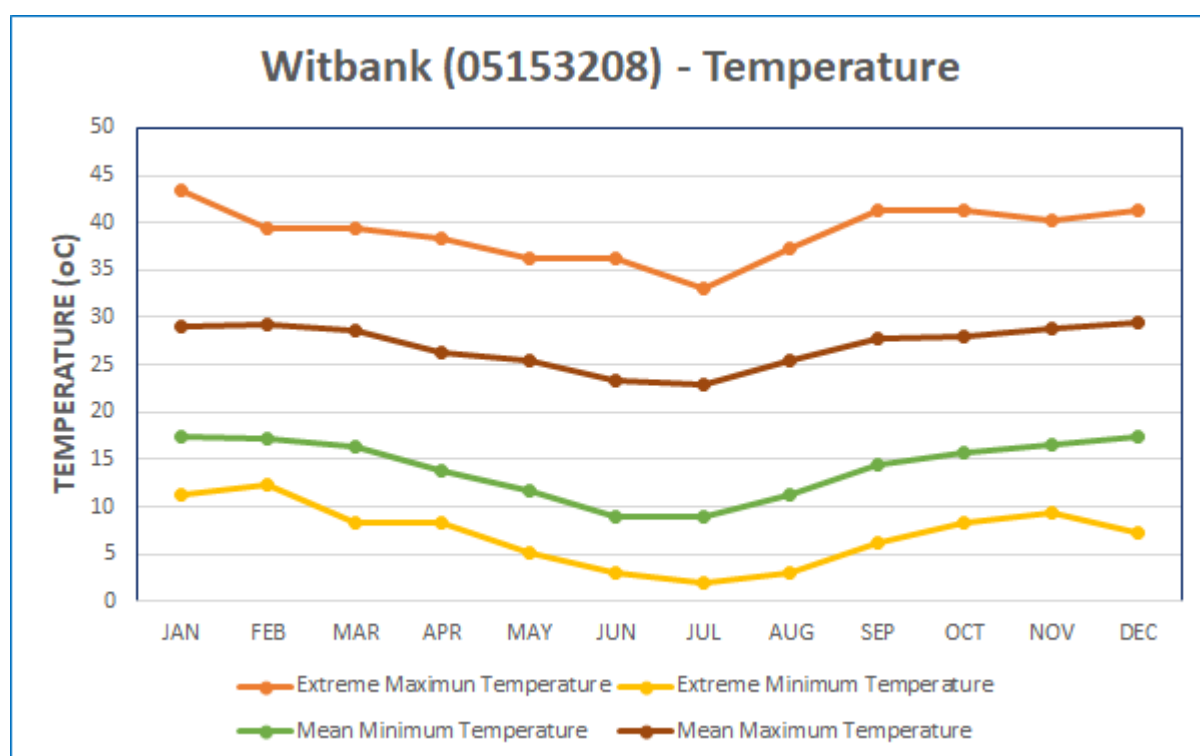
C4.5 CLIMATE

Temperature

Historic weather data for the area was obtained from the South African Weather Services. The closest weather station is Witbank with station number 05153208, located approximately 1 km from the project site.

The monthly temperature trends for Witbank weather station are shown on the temperature chart below. In Witbank, the summers are long, warm, and partly cloudy and the winters are short, cold, dry, and clear. Over the course of the year, the temperature typically varies from 2°C to 26°C and is rarely below 0°C or above 29°C.

Based on the tourism score, the best times of year to visit Witbank for warm-weather activities are from late August to early November and from mid December to late April.

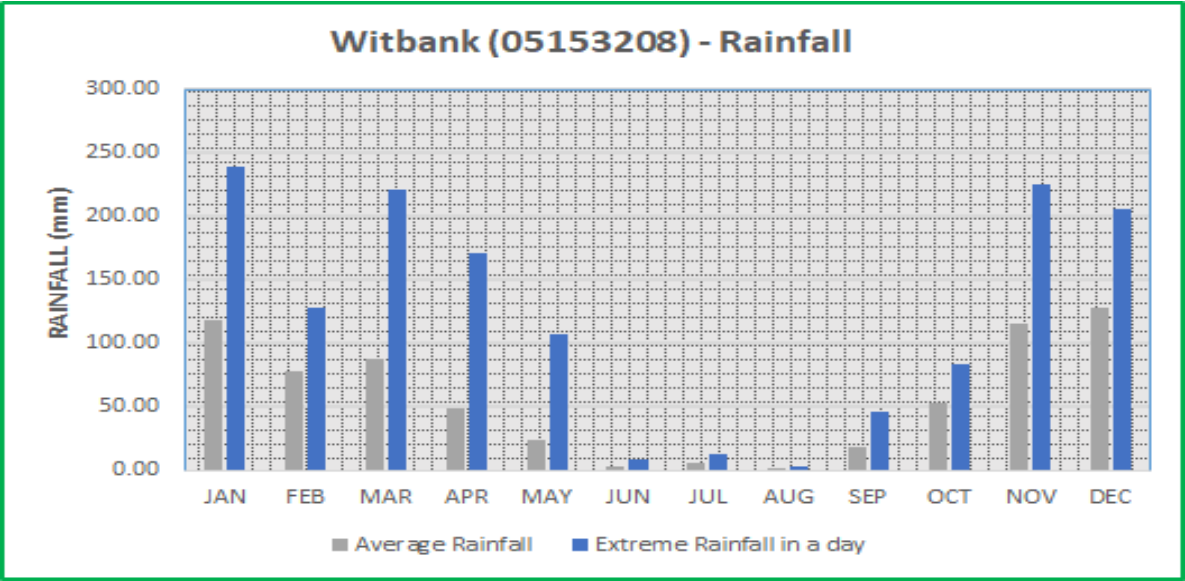


Monthly temperature trends for Witbank weather station

Rainfall

Monthly rainfall data for Witbank weather station is summarised on the rainfall chart below. The mean annual precipitation (MAP) is 685 mm, with approximately 85% of the rainfall received between October and March. During the rainy period, the monthly average rainfall

ranges between 54 mm to 128 mm and during the dry months (April to Sept) the average rainfall ranges between 1 mm to 48 mm.



Summary of rainfall data for the Witbank weather station

C4.6 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS 2014

Refer to Section E of the Scope of Works for general requirements in terms of the OH&S requirements.

**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

THE REHABILITATION AND UPGRADING OF ROAD D2571 FROM R37 INTERSECTION TO P171/1 INTERSECTION (LYDENBURG PASS) IN THE THABA CHWEU LOCAL MUNICIPALITY IN THE ENHLANZENI REGION OF THE MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

C4.2. CONDITIONS ON SITE: PAVEMENT AND MATERIALS REPORT

1.1 INTRODUCTION

The geotechnical materials investigation report will be provided to the appointed contractor upon award of tender.

2 MATERIAL SOURCES

2.1 INTRODUCTION

The sources of construction materials for this project have been identified through a desktop study, engagements with the Local Municipality and the Department of Public Works Mpumalanga. .

2.2 BORROW PITS

No potential borrow sources have been identified.

2.3 COMMERCIAL SOURCES

Potential commercial suppliers of construction materials for this project were identified through a desktop study which involved the study of maps, aerial photographs, and internet search.

2.3.1 Aggregate

Two sources of aggregate were identified.

Additional sources not provided on the SA quarry map were identified from ASPASA website and their details are provided in Table 1.

Table 1: Commercial aggregate suppliers

COMPANY NAME	CITY/ TOWN	DISTANCE FROM LYDENBURG	CONTACT DETAILS	AVAILABLE MATERIAL
B&E International	Emalahleni	15 km	082 607 4339	G1, G5, G6 and G7 selected material
Rietspruit crushers	Ermelo	105 km	017 801 1912	G1 to G7 and selected materials

2.3.2 Asphalt and Bituminous Products

Sources of asphalt identified closest to the project area are indicated in Table 2.

Table 2-1: Sources of asphalt closest to the project area

COMPANY NAME	CITY/ TOWN	DISTANCE FROM EMALAHLENI	CONTACT DETAILS	AVAILABLE MATERIAL
Much Asphalt	Emalahleni	6.3 km	Yolandi 0673313473	Hot Mix Asphalt Cold Mix Asphalt Bitumen: 50/70 pen grade and A-E2 modified binder

2.3.3 Ready Mix Concrete

Sources have not been identified as bona fide suppliers

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

C4.3. TRAFFIC COUNT RESULTS

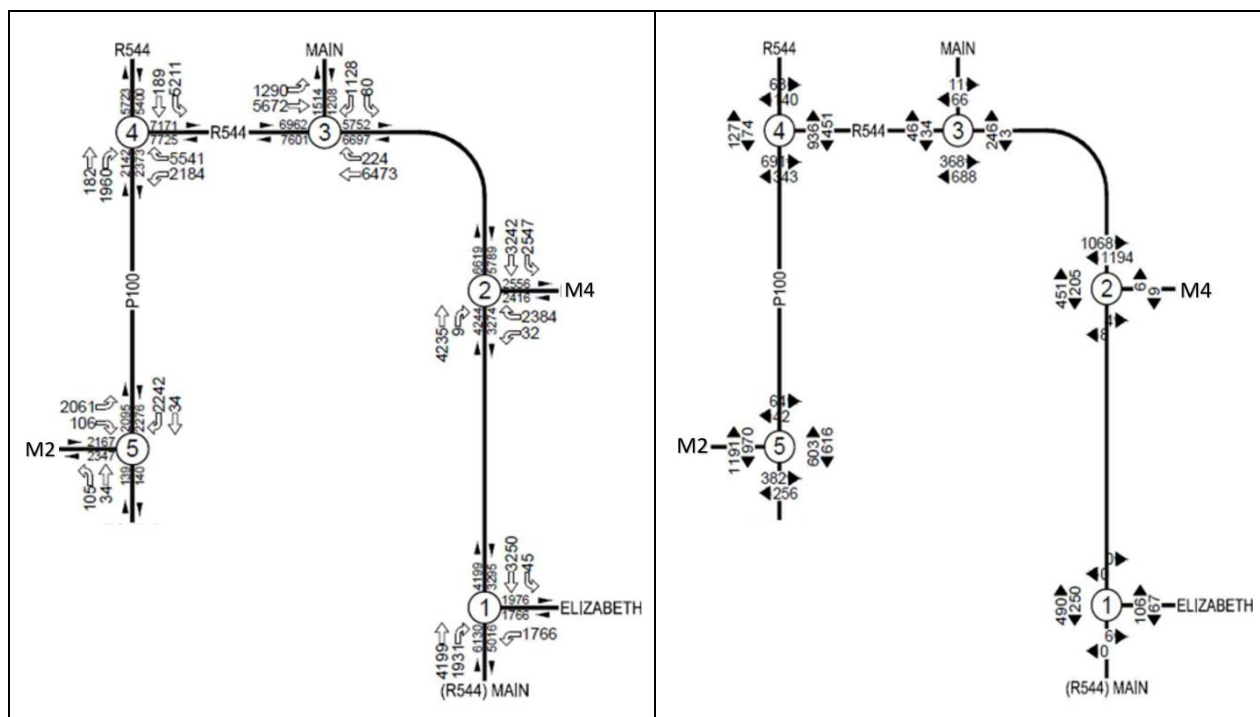


Location of Manual and Electronic Traffic Counts

Traffic counts undertaken in 2023 on the provincial road P100 (R544) and relevant intersections are presented in **Table 4-1** and **Table 4-2**.

Table 4-1: Summary of electronic traffic counts

SITE IDENTIFIER	ROAD NAME	COUNT DATE	ADT		ADTT		%HEAVY	
			N_Bound	S_Bound	N_Bound	S_Bound	N_Bound	S_Bound
E1 - P1723	R544	06/2023	5 499	5 451	767	737	14.0%	13.5%
E2 – P1733	R544	06/2023	8 671	8 655	754	768	8.7%	8.9%
E23 – P1734	P100	06/2023	2 675	2 771	268	269	10%	9.7%



12 Hr Manual Vehicle Count Data

12 Hr Pedestrian Count Data

Table 4-2: Summary of Traffic Count Volumes

Intersection No.	Main Road	Intersecting Road	AM Peak	PM Peak	Total
01	R544/P100	Elizabeth Street	1 080	1 190	11 191
02	R544/P100	M4	1 269	1 486	12 449
03	R544/P100	Main Street	1 662	1 849	14 867
04	R544/P100	P100	1 718	1 889	15 267
05	P100	M2	413	488	4 582

MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT

**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

C4.4. DRAWINGS (ISSUED SEPARATELY ON CD)

CIVIL WORKS	STRUCTURES
MSW-1717-DWG-001 ROADS LAYOUT	MSW-1717-DWG-200 BRIDGE 1 AND 2 GENERAL LAYOUT
MSW-1717-DWG-002 STORM WATER LAYOUT	MSW-1717-DWG-201 BRIDGE 1 LAYOUT AND SECTION
MSW-1717-DWG-003 PROPOSED ROADS & EXISTING SURVEY LAYOUT	MSW-1717-DWG-202 BRIDGE 1 AND 2 ELEVATION AND DETAILS
MSW-1717-DWG-004 EXISTING SERVICES LAYOUT	MSW-1717-DWG-203 BRIDGE 1 AND 2 HANDRAIL DETAILS
MSW-1717-DWG-005 ROAD P100 LONG SECTION	MSW-1717-DWG-204 BRIDGE 1 ABUTMENT WALL A
MSW-1717-DWG-006 ROAD M2 LONG SECTION	MSW-1717-DWG-205 BRIDGE 1 ABUTMENT WALL B
MSW-1717-DWG-007 ROAD M3 AND M2A SLIP LONG SECTIONS	MSW-1717-DWG-206 BRIDGE 1 AND RAIL CROSS SECTION
MSW-1717-DWG-008 ROADS M1 & M4 LONG SECTIONS	MSW-1717-DWG-207 BRIDGE 2 LAYOUT AND SECTION
MSW-1717-DWG-009 ELIZABETH STREET, ES1 & ES2 SLIPS LONG SECTIONS	MSW-1717-DWG-208 BRIDGE 2 ABUTMENT A
MSW-1717-DWG-010 ROADS P100 & M3 PAVEMENT DETAILS	MSW-1717-DWG-209 BRIDGE 2 ABUTMENT B
MSW-1717-DWG-011 ROADS M1, M2 & M4 PAVEMENT DETAILS	MSW-1717-DWG-100 FINAL LAYOUT
MSW-1717-DWG-012 ROADS SLIPS ES1, ES2 & M2A CIRCLE PAVEMENT DETAILS	MSW-1717-DWG-101 MSE WALL DETAILS
MSW-1717-DWG-013-021 ROAD P100 CROSS SECTIONS	MSW-1717-DWG-102 MSE WALL ELEVATION 1
MSW-1717-DWG-022-23 ROAD1 M1 CROSS SECTIONS	MSW-1717-DWG-103 MSE WALL ELEVATION 2
MSW-1717-DWG-024 ROAD1 M4 CROSS SECTIONS	MSW-1717-DWG-104 MSE WALL HORIZONTAL LAYOUT
MSW-1717-DWG-025-029 ROAD M2 CROSS SECTIONS	MSW-1717-DWG-105 TYPICAL DUAL CARRIAGE WAY ROAD SECTIONS ON EMBANKMENT
MSW-1717-DWG-030-031 ELIZABETH STREET & SLIPS CROSS SECTIONS	MSW-1717-DWG-400 BRIDGE 1 ABUTMENT A REINFORCEMENT DETAILS
MSW-1717-DWG-032 STORM WATER DETAILS – KERB INLETS	MSW-1717-DWG-401 BRIDGE 1 ABUTMENT B REINFORCEMENT DETAILS
MSW-1717-DWG-033 STORM WATER DRAINAGE DETAILS – OPEN DRAINS, PIPES AND CHAMBERS	MSW-1717-DWG-402 BRIDGE 1 BEAM 01 REINFORCEMENT DETAILS
MSW-1717-DWG-034 CULVERT DETAILS	MSW-1717-DWG-403 BRIDGE 1 BEAM 02 REINFORCEMENT DETAILS
MSW-1717-DWG-035 CONTRACT SIGN BOARD	MSW-1717-DWG-404 BRIDGE 1 BEAM 03 REINFORCEMENT DETAILS
MSW-1717-DWG-036-037 GUIDE RAIL DETAILS	MSW-1717-DWG-405 BRIDGE 1 BEAM 04, 05 & 06 REINFORCEMENT DETAILS
MSW-1717-DWG-038-039 ROAD SIGNS AND MARKINGS	MSW-1717-DWG-406 BRIDGE 1 BEAM 07 & 08 REINFORCEMENT DETAILS

	MSW-1717-DWG-407 BRIDGE 1 PRECAST SLAB LAYOUT & REINFORCEMENT DETAILS
	MSW-1717-DWG-408 BRIDGE 1 CAST INSITU SLAB LAYOUT & REINFORCEMENT DETAILS
	MSW-1717-DWG-409 BRIDGE 2 ABUTMENT A REINFORCEMENT DETAILS
	MSW-1717-DWG-410 BRIDGE 2 ABUTMENT B REINFORCEMENT DETAILS
	MSW-1717-DWG-411 BRIDGE 2 BEAM 01 REINFORCEMENT DETAILS
	MSW-1717-DWG-412 BRIDGE 2 BEAM 02 REINFORCEMENT DETAILS
	MSW-1717-DWG-413 BRIDGE 2 DECK REINFORCEMENT DETAILS
	MSW-1717-DWG-414 BRIDGE 2 TRANSVERSE DEAMS REINFORCEMENT DETAILS

**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

C5. EPWP GUIDELINES

Contents

C5. Epwp Guidelines	151
C5.1. Guidelines For The Implementation Of Labour Intensive Infrastructure Projects Under The Expanded Public Works Programme 3 rd Edition 2015 (Attachment On Cd).	152
C5.2. Participants Information (National, Provincial And Municipal) Template	154

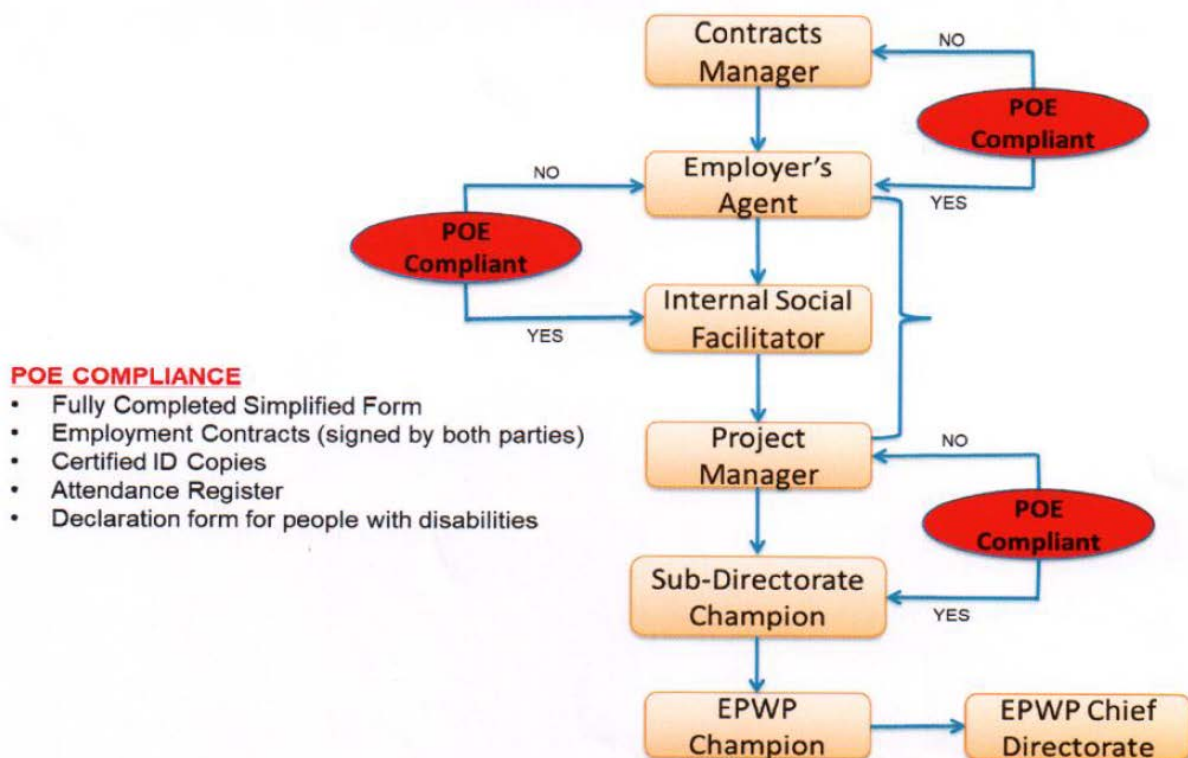
**MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT**

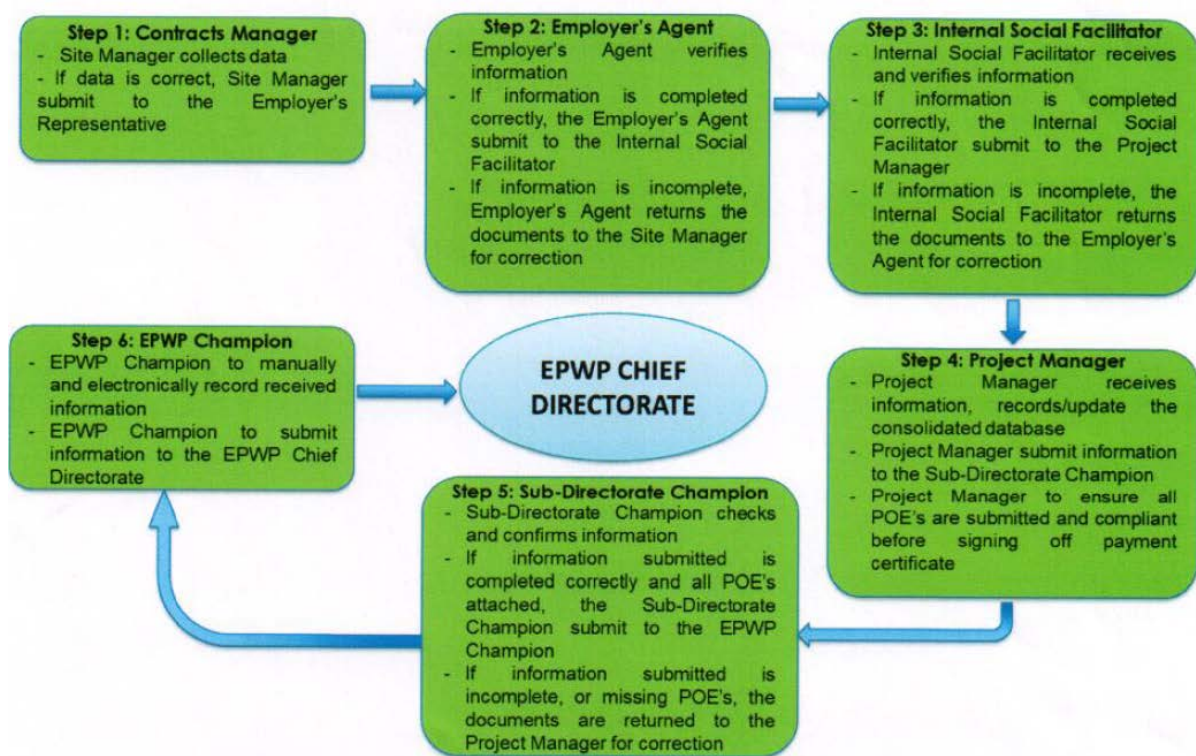
**THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE**

TENDER No. PWRT/2581/24/MP

**C5.1. GUIDELINES FOR THE IMPLEMENTATION OF LABOUR INTENSIVE
INFRASTRUCTURE PROJECTS UNDER THE EXPANDED PUBLIC WORKS
PROGRAMME 3rd EDITION 2015 (TO BE BOUGHT AT SAICE OFFICE)**

C5.1.1 EPWP DATA PROCESS FLOW – ROADS INFRASTRUCTURE





MPUMALANGA PROVINCIAL GOVERNMENT
DEPARTMENT OF PUBLIC WORKS, ROADS AND TRANSPORT
THE CONSTRUCTION OF A NEW OVERHEAD RAILWAY CROSSING BRIDGE
INTERCHANGE ON THE EMALAHLENI TO VERENA PROVINCIAL ROAD P100 IN THE
EMALAHLENI LOCAL MUNICIPALITY IN THE NKANGALA REGION OF THE
MPUMALANGA PROVINCE

TENDER No. PWRT/2581/24/MP

**C5.2. PARTICIPANTS INFORMATION (NATIONAL, PROVINCIAL AND
MUNICIPAL) TEMPLATE**

PARTICIPANTS INFORMATION FORM

Please provide participants information on this sheet for each month of the year

Month of report:	
Contractor Name:	
CIPRO company registration number:	
Type of contractor:	
Project Name:	
Project Type:	
Source of Funding:	
Province:	

Physical outputs for month:	
Project number:	
Total Project Expenditure for month:	
Contract Number:	
Invoice Number:	
Project Start Date:	
Project End Date:	
Certified by Project Manager:	
Date of certification:	

MONTH

C155

First Name	Initials	Last Name	I.D Number	DOB	Gender	Has disability	Education level	Start date	Number of labour days for the month	Daily wage rate for the month	Total wages paid for the month	Total number of training days for the month
				dd/mm/yyyy	M or F	Y or N	See codes at bottom of list	dd/mm/yyyy			DO NOT ENTER DATA IN THIS COLUMN	
											0	
											0	
TOTALS (DO NOT ENTER DATA IN THIS LINE)									0		0	0

Education levels-use the codes(1,2,3) on the excel spreadsheet

- (1) Unknown
- (2) No schooling
- (3) Grade 1-3 (Sub A-Std 1)
- (4) Grade 4 (Std 2) ABET 1
- (5) Grade 5-6 (Std 3-4) ABET 2
- (6) Grade 7-8 (Std 5-6) ABET 3
- (7) Grade 9 (Std 7) ABET 4
- (8) Grade 10-11 (Std 8-9)
- (9) Grade 12 (Std 10)
- (10) Post Matric