

CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

PART C2: PRICING DATA

PART C3: SCOPE OF WORK

PART C4: SITE INFORMATION

CONTRACT

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PART C1: AGREEMENTS AND CONTRACT DATA

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.1.1: OFFER

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

CONTRACT NO. ZNB00188/00000/00/HOD/INF/20/T – WELA: CONSTRUCTION OF THE WELA RIVER BRIDGE NO. 3490 ON ROAD P451 AT KM 16.340 IN KZ276 BIG 5 HLABISA LOCAL MUNICIPALITY IN THE EMPANGENI REGION

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 authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

The offered total of the prices inclusive of Value Added Tax is:

Amount 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: (of person authorised to sign the tender)

Name: (of signatory in capitals)

Capacity: (of signatory)

Name of Tenderer: (organisation)

Address:

.....

Telephone number: **E-mail:**

Witness:

Signature:

Name: (in capitals)

Date:

[Failure of a Tenderer to sign this form will invalidate the tender]

This form is to be completed by the Employer only

C1.1.2: ACCEPTANCE

By signing this part of the 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 the schedules, forms, drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

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

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

Name: *(in capitals)*

Capacity:

Name of Employer: *(organisation)*

Address:
.....

Witness: Signature: **Name:** *(in capitals)*

Date:

This form is to be completed by the Employer and the successful tenderer only, upon acceptance of the successful tenderer's offer

C1.1.3: SCHEDULE OF DEVIATIONS

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 Tender Data and the Conditions of Tender.

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 agreement reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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.

Any change or addition to the tender documents arising from the above agreement 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 change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue 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:

Signature:

Name:

Capacity:

Tenderer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER:

Signature:

Name:

Capacity:

Employer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:

C1.2: CONTRACT DATA

C1.2.1: CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

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

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

C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT

C1.2.1.2.1 GENERAL

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

The clauses of the Special Conditions of Contract hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the GCC 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 GCC 2015, and an appropriate heading.

C1.2.1.2.2 AMENDMENTS TO THE GCC 2015

SCC 1.1 Definitions

SCC 1.1.1.14: *delete* "Commencement Date" *in the definition and substitute* "date of commencement of the Works".

Add the following to the end of Clause 1.1:

"SCC 1.1.1.35 "Construction Manager" means the person approved of in writing by the Employer's Agent, as the Contractor's representative on Site.

SCC 1.1.1.36 "Targeted Enterprise" means an enterprise as defined in Part F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work.

SCC 1.1.1.37 "Targeted Labour" means labour as defined in Part F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work."

SCC 4.1.1 Extent of Contractor's obligations

Add the following new paragraphs to the end of Clause 4.1.1:

"If the Contractor fails to achieve the monetary value of the contract participation goal stated in the Contract Data for local labour content in terms of Part E: Expanded Public Works Programme of section C3.3 Particular Specifications in Part C3: Scope of Work, the Contractor shall be liable to the Employer for a sum calculated in accordance with the Contract Data and the aforementioned Scope of Work as a penalty for such underachievement.

If the Contractor fails to achieve the monetary value of the contract participation goal stated in the Contract Data for contract participation by Targeted Enterprises in terms of Part F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work, the Contractor shall be liable to the Employer for a sum calculated in accordance with the Contract Data and the aforementioned Scope of Work as a penalty for such underachievement."

SCC 4.4.2 Subcontractor to be approved

Add the following to Clause 4.4.2:

“The Contractor shall comply with the subcontracting restrictions stated in the Contract Data.”

SCC 4.10.1 Engagement of employees

Add the following to Clause 4.10.1:

“The contractor shall pay rates and wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out, as stated in the Contract Data.”

SCC 5.3.1 Commencement of the Works

Delete the first sentence of Clause 5.3.1 and substitute the following:

“The Employer’s Agent shall give the Contractor not less than 7 days’ notice of the date of commencement of the Works on which date the Contractor is instructed to commence carrying out the Works, save as may be otherwise provided in the Contract, or be legally or physically impossible. The date of commencement of the Works shall be within the period after the Commencement Date stated in the Contract Data.”

SCC 5.3.3 Time to instruct commencement of the Works

Delete Clause 5.3.3.

SCC 5.14.4 Certification of Completion

Insert the following in the first sentence after the words “has been duly completed,”:

“and the Contractor has submitted the information stated in the Contract Data,”.

SCC 5.14.6 Occupation by the Employer

Add the following to Clause 5.14.6:

“The use of any completed roadway or parts of the Works, whether for unhindered use by the public or for accommodation of traffic, while other parts are being constructed, shall not constitute occupation of the Works by the Employer.”

SCC 6.2.1 Delivery of security

In the last two lines of Clause 6.2.1, delete the words “the type of security for the due performance of the Contract, as selected in the Contract Data” and replace them with the words “a fixed performance guarantee as security for the due performance of the Contract in accordance with the Contract Data Part A: Data Provided by the Employer”.

Delete the entirety of Clause 6.2.2 and replace it with the following:

“SCC 6.2.2 Contractor failing to provide security

If the Contractor fails to provide the required fixed performance guarantee within the time period stated in the Contract Data, or if the performance guarantee shall differ substantially from the pro forma, it shall legally be deemed that the Contractor has selected a security of ten per cent retention of the value of the Works without limiting the Employer’s right to terminate the Contract in terms of Clause 9.2.”

SCC 6.2.3 Validity of performance guarantee

Delete the entirety of the first sentence of Clause 6.2.3 and replace it with the following:

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

SCC 6.10.4 Delivery, dissatisfaction with and payment of payment certificate

Delete “within 28 days” in the third sentence and substitute “within 30 days”.

SCC 6.10.8 Contractor’s completion statement

Delete “within 28 days” in the third sentence and substitute “within 30 days”.

SCC 6.10.9 Final Payment Certificate

Delete “within 28 days” in the second sentence and substitute “within 30 days”.

SCC 10.1.5 Employer’s Agent’s ruling on Contractor’s Claim

Delete “within 28 days” in the first sentence and in Clause 10.1.5.1, and substitute “within 56 days”.

C1.2.2: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER								
<p>1.</p> <p>1.1.1.13</p> <p>SCC 1.1.1.14</p> <p>1.1.1.26</p> <p>1.1.1.15</p> <p>1.2.1.2</p> <p>1.1.1.16</p> <p>1.2.1.2</p>	<p>GENERAL</p> <p>The Defects Liability Period is 12 months.</p> <p>The time for achieving Practical Completion is <u>12 months</u> from the date of commencement of the Works, including non-working days and special non-working days.</p> <p>Pricing Strategy: The Contract is to be a Re-measurement Contract.</p> <p>Name of Employer: Province of KwaZulu-Natal represented by Head of Department: Department of Transport</p> <p>Address of Employer:</p> <table border="0"> <tr> <td><u>Physical:</u></td> <td><u>Postal:</u></td> </tr> <tr> <td>172 Burger Street Pietermaritzburg 3201</td> <td>Private Bag X9043 Pietermaritzburg 3200</td> </tr> </table> <p>E-mail: thokozani.sangweni@kzntransport.gov.za</p> <p>Telephone No: 033 562 0261 Fax No: 033 562 0017</p> <p>Name of Employer's Agent: Brava Engineers (Pty) Ltd</p> <p>Address of Employer's Agent:</p> <table border="0"> <tr> <td><u>Physical:</u></td> <td><u>Postal:</u></td> </tr> <tr> <td>Torino Court 4 Crooked Lane 3650</td> <td>P.O. Box 29165 Hillcrest 3650</td> </tr> </table> <p>E-mail: Muzi@brava.co.za</p> <p>Telephone No: 031 765 2941 Fax No: 031 765 1451</p>	<u>Physical:</u>	<u>Postal:</u>	172 Burger Street Pietermaritzburg 3201	Private Bag X9043 Pietermaritzburg 3200	<u>Physical:</u>	<u>Postal:</u>	Torino Court 4 Crooked Lane 3650	P.O. Box 29165 Hillcrest 3650
<u>Physical:</u>	<u>Postal:</u>								
172 Burger Street Pietermaritzburg 3201	Private Bag X9043 Pietermaritzburg 3200								
<u>Physical:</u>	<u>Postal:</u>								
Torino Court 4 Crooked Lane 3650	P.O. Box 29165 Hillcrest 3650								
<p>3.</p> <p>3.2.3</p>	<p>EMPLOYER'S AGENT</p> <p>The Employer's Agent is required to obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses:</p> <p>SCC 5.3.1: Give the Contractor notice of the commencement date of the Works.</p> <p>6.3.1: Order any work as a Variation Order.</p> <p>6.3.1: Order any work which requires the utilisation of the provision for contingencies in the Contract Sum.</p> <p>6.3.1: Order any work which requires the Contract Price to exceed the Contract Sum.</p> <p>10.1.5: Ruling on a Contractor's claim.</p>								

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
<p>4.</p> <p>SCC 4.1.1</p> <p>SCC 4.4.2</p> <p>SCC 4.10.1</p>	<p>CONTRACTOR’S GENERAL OBLIGATIONS</p> <p>The contract participation goal for local labour content is <u>6%</u>.</p> <p>The penalty for failing to achieve the monetary value of the above target set by the Employer for local labour content in terms of Part E: Expanded Public Works Programme of section C3.3 Particular Specifications in Part C3: Scope of Work, is 5% of the monetary value by which the achieved monetary value falls short of the target monetary value.</p> <p>The contract participation goal for Targeted Enterprises is <u>27.5%</u>.</p> <p>The penalty for failing to achieve the monetary value of the above target set by the Employer for contract participation by Targeted Enterprises in terms of Part F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work, is 5% of the monetary value by which the achieved monetary value falls short of the target monetary value.</p> <p>In accordance with regulation 12.(3) of the Preferential Procurement Regulations, 2017, the Contractor may not subcontract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level of contributor than the Contractor, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.</p> <p>The Contractor and his subcontractors shall be registered with the Bargaining Council for the Civil Engineering Industry, and comply with the wage rates and conditions of labour agreed by the Bargaining Council for the Civil Engineering Industry, except where a specific industry publishes its own wage rates and conditions of labour.</p> <p>The wage rates and conditions of labour employed under the Expanded Public Works Programme, shall comply with the Ministerial Determination 4, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R347 of 4 May 2012.</p>
<p>5.</p> <p>SCC 5.3.1 and 5.3.2</p>	<p>TIME AND RELATED MATTERS</p> <p>The date of commencement of the Works shall be within 28 days, or 56 days if a construction work permit is required, after the Commencement Date.</p> <p>The following documentation shall be submitted within <u>14 days</u> of the Commencement Date by the Contractor before commencing to carry out the Works:</p> <ul style="list-style-type: none"> (i) Health and Safety Plan (refer to Clause 4.3); (ii) Form C1.4 ‘Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993’ to be signed by the Contractor and the Employer (refer to Clause 4.3); (iii) Proof of registration and good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993) (refer to Clause 4.3); (iv) Initial Programme (refer to Clause 5.6); (v) Security (refer to Clause 6.2); and (vi) Insurance (refer to Clause 8.6); <p>and if the Employer is required to apply for a construction work permit to perform construction work in terms of regulation 3(1) of the Construction Regulations 2014, the following documentation shall also be submitted:</p>

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
<p>5.8.1</p> <p>5.13.1</p> <p>5.14.1</p> <p>SCC 5.14.4</p> <p>5.16.3</p>	<p>(vii) Temporary works designer's appointment duties in terms of Regulation 6(2) as have been agreed upon plus proof of registration with ECSA [CR 3(5)(b)(iii) read with CR 5(1)(e) and CR 6(2)];</p> <p>(viii) Evidence that the Principal contractor has made adequate provision for the cost of Health and Safety, i.e., bill of quantities [CR 3(5)(b)(iii) read with CR 5(1)(g)]; and</p> <p>(ix) Evidence that the Principal contractor has the necessary competencies to carry out construction work safely, namely, schedule of activities, relevant appointments and proofs of competency [CR 5(1)(h)].</p> <p>The non-working days are Sundays.</p> <p>The special non-working days are:</p> <p>(i) the statutory public holidays in terms of the Public Holidays Act;</p> <p>(ii) the foreseeable election days declared as a statutory public holiday; and</p> <p>(iii) the annual year-end shutdown period as recommended by the Bargaining Council for the Civil Engineering Industry.</p> <p>The penalty for failing to complete the Works is 0,05% of the Contract Sum per day, up to a maximum limit of twenty-five thousand rand per day (R25 000,00 per day).</p> <p>The requirements for achieving Practical Completion are as stated in General Conditions of Contract 2015.</p> <p>The Contractor shall submit the following:</p> <p>(i) evidence that the local labour has been paid, and that the Targeted Enterprise subcontractors have received all amounts due in terms of their respective subcontract agreements; and</p> <p>(ii) the survey and materials information which the Employer's Agent requires to complete the as-built drawings and records.</p> <p>The latent defects period is 10 years.</p>
<p>6.</p> <p>SCC 6.2.1</p> <p>6.5.1.2.3</p> <p>6.8.2</p>	<p>PAYMENT AND RELATED MATTERS</p> <p>The security to be provided by the Contractor shall be:</p> <p style="padding-left: 40px;">Fixed Performance Guarantee of 8% of the first One Million Rand plus 3,5% of the balance of the Contract Sum.</p> <p>The percentage allowance to cover overhead charges is 10%.</p> <p>The value of payment certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following data.</p> <p>The values of the coefficients for calculating the Contract Price Adjustment Factor are:</p> <p style="padding-left: 40px;">Road works – upgrade (Schedules A, D, F and G):</p> <p style="padding-left: 80px;">a = 0,2 b = 0,4 c = 0,25 d = 0,15</p> <p style="padding-left: 40px;">Structures (Schedule B):</p> <p style="padding-left: 80px;">a = 0,15 b = 0,2 c = 0,55 d = 0,1</p>

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
<p>6.8.3</p> <p>6.10.1.5</p> <p>6.10.3</p>	<p>“L”, “P”, “M” and “F” are defined as follows:</p> <p>“L” is the “Labour Index” and shall be the Consumer Price Index for “Geographic Indices > CPI per province > KwaZulu-Natal” as published in Table A of the Statistical Release P0141 of Statistics South Africa.</p> <p>“P” is the “Construction Equipment Index” and shall be the Construction Materials Price Index for “Plant and equipment” as published in Table 4 of the Statistical Release P0151.1 of Statistics South Africa.</p> <p>“M” is the “Materials Index” and shall be the Construction Materials Price Index as published in Table 6 of the Statistical Release P0151.1 of Statistics South Africa for:</p> <p style="padding-left: 40px;">Road works (Schedules A, D, F and G): “Civil engineering material – roads, general (excluding bitumen)”</p> <p style="padding-left: 40px;">Structures (Schedule B): “Civil engineering material – structures (excluding bitumen)”</p> <p>“F” is the “Fuel Index” and shall be the Producer Price Index for “Coke, petroleum, chemical, rubber and plastic products > Coal and petroleum products > Diesel” as published in Table 1 of the Statistical Release P0142.1 of Statistics South Africa.</p> <p>The base month is the month preceding the month of tender closure.</p> <p>Any index calculated by means of a linking factor between an old and new index, shall be rounded to one decimal place.</p> <p>Price adjustments for variations in the cost of bitumen as a special material are allowed.</p> <p>Only the net bitumen content of asphalt and bituminous products shall be subject to variations in cost, and no account shall be taken of transport, emulsifiers, diluents or modifiers that may be supplied ex refinery or added later.</p> <p>The percentage advance on Plant and materials not yet built into the Permanent Works is 80%.</p> <p>The percentage retention on the amounts due to the Contractor is 10%.</p> <p>The limit of retention money is 5% of the first One Million Rand plus 1,6% of the balance of the Contract Sum excluding contingencies, contract price adjustment, and VAT.</p> <p>A retention guarantee in lieu of a cash retention is permitted.</p>
<p>8.</p> <p>8.6.1.1.2</p> <p>8.6.1.1.3</p> <p>8.6.1.2</p> <p>8.6.1.3</p>	<p>RISKS AND RELATED MATTERS</p> <p>The value of Plant and materials supplied by the Employer to be included in the insurance sum is <u>nil</u>.</p> <p>The amount to cover professional fees for repairing or reinstatement of damage to the Works to be included in the insurance sum is <u>nil</u>.</p> <p>Special Risks Insurance issued by SASRIA is required.</p> <p>The limit of indemnity for liability insurance is <u>R10 000 000,00 (ten million Rand only)</u> for any single liability claim. Liability insurance shall include spread of fire risk.</p>

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
10.	CLAIMS AND DISPUTES
10.5.2	Disputes shall be referred to ad-hoc adjudication.
10.5.3	The number of Adjudication Board members to be appointed shall be one.
10.8.1	Unresolved disputes shall be determined by court proceedings.
	DATA WITH REFERENCE TO C3.3 PARTICULAR SPECIFICATIONS
PART G	SMALL CONTRACTOR DEVELOPMENT
G2.9	The target area for local labour is the Big 5 Hlabisa Local Municipality. The target area for Targeted Enterprises is the Big 5 Hlabisa Local Municipality.

C1.2.3: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR										
<p>1.</p> <p>1.1.1.9</p> <p>1.2.1.2</p>	<p>GENERAL</p> <p>Name of Contractor:</p> <p>Address of Contractor:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;"><u>Physical:</u></td> <td style="text-align: center; width: 50%;"><u>Postal:</u></td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> </tr> </table>	<u>Physical:</u>	<u>Postal:</u>
<u>Physical:</u>	<u>Postal:</u>										
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<p>6.</p> <p>6.8.3</p>	<p>PAYMENT AND RELATED MATTERS</p> <p>The tenderer shall complete the table below with respect to each of the special materials listed. This information shall be used to calculate the variation in cost of the special materials.</p> <p>The rates and prices for the special materials for the base month which is the month preceding the month of tender closure, shall exclude VAT but shall include all other obligatory taxes and levies.</p> <p>The tenderer shall append to this page a letter from the supplier confirming the supply price for the net bitumen content of asphalt and bituminous products.</p> <p>A change of supplier due to circumstances beyond the control of the Contractor may be considered, subject to the submission of supporting documentation to the Employer's Agent for valuation to calculate the difference between the rate or price of the special material entered in the table below and the equivalent rate or price actually paid by the Contractor, and for approval.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">SPECIAL MATERIALS</th> <th style="text-align: center;">UNIT</th> <th style="text-align: center;">RATE OR PRICE FOR THE BASE MONTH</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">35/50 penetration grade bitumen</td> <td style="text-align: center;">ton</td> <td style="text-align: center;">.....</td> </tr> </tbody> </table> <p>Signed on behalf of the Tenderer:</p>	SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH	35/50 penetration grade bitumen	ton				
SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH									
35/50 penetration grade bitumen	ton									

C1.3: PERFORMANCE GUARANTEE

PRO FORMA

PERFORMANCE GUARANTEE

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

1. GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical address:

“Employer” means:

“Contractor” means:

“Employer’s Agent” means:

“Works” means:

“Site” means:

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

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

Amount in words:

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

Amount in words:

“Expiry Date” means: or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

2. CONTRACT DETAILS

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

3. GUARANTOR’S LIABILITY

- 3.1 The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.
- 3.2 The Guarantor’s period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer’s Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.
- 3.3 The Employer’s Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

4. CONDITIONS APPLICABLE TO THIS PERFORMANCE GUARANTEE

4.1 The Guarantor hereby acknowledges that:

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

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

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

4.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2.2;

4.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.2.1 and the sum certified has still not been paid;

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

4.3 Subject to the Guarantor's maximum liability referred to in 3.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:

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

4.3.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 4.3; and

4.3.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

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

4.5 Where the Guarantor has made payment in terms of 4.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

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

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

4.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

- 4.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 4.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 3.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 4.11 This Performance Guarantee, with the required demand notices in terms of 4.2 or 4.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 4.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993

THIS AGREEMENT is made between The Province of KwaZulu-Natal represented by Head of Department: Department of 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 Mandatary of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of:

CONTRACT NO. ZNB00188/00000/00/HOD/INF/20/T – WELA: CONSTRUCTION OF THE WELA RIVER BRIDGE NO. 3490 ON ROAD P451 AT KM 16.340 IN KZ276 BIG 5 HLABISA LOCAL MUNICIPALITY IN THE EMPANGENI REGION

for the construction, completion and maintenance of the works;

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

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the EMPLOYER'S AGENT from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps the EMPLOYER may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

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

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C1.5: RETENTION MONEY GUARANTEE

PRO FORMA

RETENTION MONEY GUARANTEE

THE HEAD: TRANSPORT
PROVINCE OF KWAZULU-NATAL
PRIVATE BAG X9043
PIETERMARITZBURG
3200

CONTRACT NO. _____ FOR _____

ISSUED TO: the **PROVINCE OF KWAZULU-NATAL**, represented by **HEAD: TRANSPORT** (hereinafter referred to as "the Employer")

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

In connection with

CONTRACT NO. ZNT (hereinafter referred to as "the Contract")

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

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

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

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

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

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

(i) does not exceed the amount of retention monies which, but for this guarantee, would have been retained by the Employer in terms of the Contract at the date of the certificate, less the aggregate of the amounts of retention money actually retained by the Employer and the amounts previously paid by us to the Employer in terms hereof, and

(ii) does not exceed a genuine estimate of the cost to the Employer of having the breach referred to in paragraph (b) remedied less the aggregate of any amounts withheld by the Employer from payments due the Contractor in terms of the Contract by reason of the breach referred to, and any amount in retention money actually held by the Employer save to the extent that the same had been deducted from any previous demand in terms hereof.

3. We shall within 28 days after our receipt of a demand complying with the provisions of Clauses 1 and 2 make payment to the Employer of the amount demanded at 172 Burger Street, Pietermaritzburg or at such other address as the Employer shall in writing notify us.

4. Subject to compliance with the provisions thereof, our liability to make the payments herein referred to shall be unconditional and shall not be affected nor diminished by any disputes, claims or counterclaims between the Employer and the Contractor.

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

Signed in the presence of the witnesses named hereunder:

At for and on behalf of

on this day of

Signature:

Capacity:

Address:

As Witnesses:

1. Name in Block Letters

2. Name in Block Letters

C1.6: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY

(To be completed during construction by successful Tenderer only)

Claim for Plant and 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 Plant and materials, 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 the said Plant and 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 Plant and materials.

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 Plant and materials as Plant and materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all Plant and materials 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 Plant and materials as listed in the following table.

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

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

Witnessed by:

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 Plant and materials on site in terms of Clause 6.10.1.5 of the General Conditions of Contract 2015.

PART C2: PRICING DATA

C2.1 PRICING ASSUMPTIONS

1. GENERAL

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

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Bill of Quantities has been drawn up generally in accordance with the relevant provisions of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

The short descriptions of the items in the Bill of Quantities are for identification purposes only and the measurement and payment clause of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. and the Particular Specifications, read together with the relevant clauses of the amendments and additions contained in the Project Specifications and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

The item numbers appearing in the Bill of Quantities refer to the corresponding item numbers in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. Item numbers prefixed by the letter PS refer to items of payment described in Part B Amendments to the Standard Specifications.

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

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

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

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

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

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

3. QUANTITIES REFLECTED IN THE BILL OF QUANTITIES

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

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, the Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste. The validity of the

contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

4. PROVISIONAL SUMS

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

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

5. PRICING OF THE BILL OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based. The rates and lump sums shall be comprehensive in accordance with Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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

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

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

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

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Amount" column. The provisions of subclause C1.1.3.6 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 shall apply to rate only items. "Rate Only" items have been included where:

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

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

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

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

6. CORRECTION OF ENTRIES

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

7. INTERIM PAYMENTS

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

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

Attention is directed to the provisions of Clause C1.1.2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 regarding the measurement of quantities for payment. Except where specified otherwise, the nett measurements or mass of the finished work in place shall be taken for payment, but any quantity of work in excess of that prescribed shall be excluded.

8. ITEMS SCHEDULED FOR CONSTRUCTION USING LABOUR ENHANCED METHODS

Those parts of the Works to be constructed using labour enhanced methods are numbered with the specific COTO, Draft Standard (DS), October 2020 Specifications items in the Bill of Quantities.

9. UNITS OF MEASUREMENT

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

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

10. CONSISTENCY OF RATES

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

A tender will be considered out of balance if:

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

C1.3.1 The contractor's general obligations:

C1.3.1.1	Fixed obligations
C1.3.1.2	Value-related obligations
C1.3.1.3	Time-related obligations

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

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

Any such out of balance tender may be rejected if, after three (3) working days of having been given written notice by the Employer to adjust those rates or lump sums which are unreasonable or out of balance, the Tenderer fails to make the necessary satisfactory adjustments. These adjustments in rectification will be such that increases are balanced by decreases, leaving the tender offer unchanged.

C2.2 BILL OF QUANTITIES

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CHAPTER C1.2

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C1.2	GENERAL REQUIREMENTS AND PROVISIONS					
C1.2.1	Environmental Management					
C1.2.1.1	Monitoring of compliance with and reporting on the EMP	month	12.0			
C1.2.1.2	Dedicated environmental officer	month	12.0			
C1.2.5	Safety					
C1.2.5.1	Health and safety plan	Lump sum	1.0			
C1.2.5.2	Implementation of health and safety plan	month	12.0			
C1.2.8	Dayworks					
C1.2.8.1	Personnel					
(a)	Unskilled labourer	hour	300.0			
(b)	Semi-skilled labourer	hour	50.0			
(c)	Skilled labourer	hour	50.0			
(d)	Gang leader	hour	30.0			
(e)	Foreman	hour	30.0			
(f)	Skilled Artisan	hour	30.0			
C1.2.8.2	Construction equipment					
(b)	Pedestrian vibratory roller (Bomag 90 or similar)	hour	32.0			
(e)	Tractor loader backhoe, (4x4 - 50kW)	hour	48.0			
(f)	Excavator (20 ton)	hour	72.0			
(g)	Compressor (250 cfm capacity complete with normal ancillary equipment)	hour	48.0			
(h)	Rammer (Wacker or similar)	hour	50.0			
(i)	Concrete mixer (up to 0.6m ³ dry capacity)	hour	48.0			
(j)	Self propelled vibratory roller (9 ton)	hour	32.0			
C1.2.8.3	Vehicles					
(a)	Light delivery vehicle (1 ton)	km	2 000.0			
(b)	Flatbed truck with crane (7 ton)	km	1 000.0			
(d)	Tip truck (6m ³ capacity)	hour	50.0			
(e)	Tip truck (10m ³ capacity)	hour	50.0			
Total Carried Forward						

CHAPTER C1.2

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
PSC1.2.10	Community Participation					
(a)	Cost of community participation (PLC and CLO)	PC sum	1.0			
(b)	Handling costs and profit in respect of sub-item PSC1.2.10(a) above	%	130 000.0			
Total Carried Forward To Summary						

CHAPTER C1.3

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS					
C1.3.1	The Contractor's general obligations					
C1.3.1.1	Fixed obligations	Lump sum	1.0			
C1.3.1.3	Time-related obligations	month	12.0			
PSC1.3.2	Contract sign boards	No	2.0			
Total Carried Forward To Summary						

CHAPTER C1.4

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C1.4	FACILITIES FOR THE ENGINEER					
PSC1.4.1	Site accommodation					
PSC1.4.1.1	Offices and conference room: The provision of accommodation as specified, including roof, external and internal walls, windows complete with glazing, doors with locks and fittings, burglar proofing, painting, floor, fencing, the provision of 220/250 volt electrical installation with wiring, switchboards, etc. water and sewerage installation, and stores complete in accordance with the drawings and specifications, except for items scheduled elsewhere	m ²	36.0			
PSC1.4.1.3	Open concrete working floors and verandas (150mm thick)	m ²	36.0			
C1.4.1.4	Roofs over open concrete working floors and verandas	m ²	36.0			
C1.4.1.6	Car ports	No	4.0			
C1.4.1.7	Ablution unit (equipment as specified)	No	9.0			
C1.4.1.9	Kitchen unit (equipment as specified)	No	9.0			
C1.4.2	Items measured by area					
C1.4.2.6	Roller blinds, opaque type	m ²	10.0			
C1.4.2.9	White boards	m ²	8.0			
PSC1.4.3	Items measured by number					
C1.4.3.2	Office chair	No	15.0			
C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No	2.0			
C1.4.3.7	Drawing table	No	2.0			
PSC1.4.3.8	Conference table (fold up heavy duty plastic moulded trestle tables, 1.8m x 0.76m each)	No	5.0			
PSC1.4.3.10	Steel filing cabinets with drawers	No	4.0			
C1.4.3.11	General purpose steel cabinet with shelves	No	2.0			
C1.4.3.13	220/250 volt power outlet plug point	No	8.0			
C1.4.3.14	400/231 volt 2-phase power outlet plug point	No	1.0			
PSC1.4.3.19	Wash-hand basin complete with taps and drains	No	2.0			
PSC1.4.3.23	Fire extinguisher 9,0 kg, all purpose dry powder type, mounted on wall with brackets	No	2.0			
Total Carried Forward						

CHAPTER C1.4

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
PSC1.4.3.24	Air-conditioning unit with 2.2kW minimum capacity, mounted and with own power connection	No	2.0			
PSC1.4.3.39	Floodlights complete with poles and 500-watt maximum globes	No	4.0			
PSC1.4.3.40	Double 80-watt fluorescent light fittings complete with ballast and tubes	No	6.0			
C1.4.4	Prime cost items					
C1.4.4.1	Cell phones costs, including pro-rate rentals, for calls made in connection with contract administration	PC sum	1.0			
C1.4.4.2	Handling cost and profit in respect of item C1.4.4.1	%	18 000.0			
C1.4.4.5	The provision of internet connectivity and WIFI data for Engineer's site staff	PC sum	1.0			
C1.4.4.6	Handling cost and profit in respect of item C1.4.4.5	%	25 000.0			
C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	PC sum	1.0			
C1.4.4.8	Handling cost and profit in respect of item C1.4.4.7	%	5 000.0			
C1.4.5	Services at site offices, laboratories and site accommodation					
C1.4.5.1	Fixed costs	Lump sum	1.0			
C1.4.5.2	Running costs	month	12.0			
C1.4.8	Site security measures for the Engineer's facilities					
C1.4.8.2	Provision of security guards / watchmen and an armed response service at the Engineer's site offices and laboratories	month	12.0			
PSC1.4.9	Provision for office equipment					
PSC1.4.9.1	Provision for printer/copier/scanner	Prov sum	1.0			
PSC1.4.9.2	Handling costs and profit in respect of PSC1.4.9.1	%	35 000.0			
PSC1.4.10	Provision for stationery					
PSC1.4.10.1	Stationery	Prov sum	1.0			
PSC4.1.10.2	Handling costs and profit in respect of PSC1.4.10.1	%	2 750.0			
Total Carried Forward To Summary						

CHAPTER C1.5

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C1.5	ACCOMMODATION OF TRAFFIC					
C1.5.2	Accommodation of vehicular traffic	month	6.00			
PSC1.5.4	Construction of temporary deviations:					
PSC1.5.4.2	Cut and borrow to fill	m ³	100.0			
PSC1.5.4.3	Cut to spoil	m ³	100.0			
C1.5.5	Maintenance of temporary deviation					
C1.5.5.9	Grading of temporary deviations and existing roads used as detours	km	1.0			
C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl	400.0			
C1.5.5.11	Other road maintenance work ordered by the Engineer	Prov sum	1.0			
C1.5.5.12	Handling cost, profit and all other charges in respect of item C1.5.5.11	%	100 000.0			
C1.5.7	Temporary traffic-control facilities:					
C1.5.7.1	Delineators including mounting bases and ballast:					
	(a) Single sided, reversible left or right (size indicated)	No	20.0			
	(b) Double sided, reversible left or right (size indicated)	No	10.0			
C1.5.7.2	Traffic cones minimum height 750mm	No	50.0			
C1.5.7.3	Flagmen	man-day	720.0			
PSC1.5.7.10	Provision of temporary Traffic control facilities:					
PSC1.5.7.10.1	R & TR series (diameter indicated) (900mm diameter)	No	10.0			
PSC1.5.7.10.2	TW series, (1200mm sides)	No	10.0			
PSC1.5.7.10.3	Mobile variable message sign					
	(iv) TIN 11-4 (End/Thank you)	No	2.0			
	(v) Portable STOP and GO-RY signs	No	4.0			
PSC1.5.7.10.4	Road signs, STW-, DTG-, TGS- AND TG-series (excluding delineators and barricades)	m ²	2.0			
PSC1.5.7.10.5	Movable barricade/road sign combination (8m wide chevron and road closed types)	No	2.0			
PSC1.5.8	Traffic safety officer, complete with vehicle, Cell phone, labour and any required equipment	month	6.0			
Total Carried Forward						

CHAPTER C1.5

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
PSC1.5.13	Penalties:					
	(a) Fixed penalty for non compliance for traffic safety requirements per occurrence	No			Rate Only	
	(b) Time related penalty for PSC1.5.13(a)	hour			Rate Only	
PSC1.5.14	The provision and maintenance of safety equipment for use by the Employer's Agent:					
	(a) Rotating amber flashing lights magnetically attached to vehicles	No	3.0			
	(b) High visibility reflective safety vests	No	6.0			
PSC1.5.15	Provision and laying of temporary prefabricated pipe culverts					
PSC1.5.15.1	On class C bedding					
	(a) Class 100D Spigot and Socket 900mm dia.	m	10.0			
	(b) Class 100D Spigot and Socket 1200mm dia.	m	30.0			
	(c) Eventual removal of prefabricated culverts	m	30.0			
Total Carried Forward To Summary						

CHAPTER C2.1

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES					
PSC2.1.1	Location, identification, protection and relocation of existing services					
PSC2.1.1.5	Provisional sum for existing services to be relocated and/or protected during construction	Prov sum	50 000.0			
PSC2.1.1.6	Handling costs and profit in respect of sub-item PSC2.1.1.5 above	%	50 000.0			
PSC2.1.1.7	Installation of new survey beacons and protection of existing beacons:					
PSC2.1.1.7.1	Provisional sum for new survey beacons to be installed, relocated and/or relocated during construction	Prov sum	50 000.0			
PSC2.1.1.7.2	Handling costs and profit in respect of sub-item PSC2.1.1.7.1 above	%	50 000.0			
Total Carried Forward To Summary						

CHAPTER C13.1

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.1	FOUNDATIONS					
C13.1.2	Additional foundation investigations:					
C13.1.2.1	Provisional sum allowed for additional foundation investigations	Prov sum	1.0			
C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	%	30 000.0			
C13.1.3	Excavation:					
C13.1.3.1	Excavating soft material situated within the following successive depth ranges:					
(a)	0 m up to 1,5 m	m ³	600.0			
(b)	> 1,5 m and < 3,0 m	m ³	490.0			
(c)	> 3,0 m and < 4.5 m	m ³	100.0			
(d)	> 4,5 m and < 6 m	m ³	70.0			
C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	m ³	50.0			
C13.1.4	Excavation by labour enhanced methods:					
C13.1.4.1	Excavate in soft material situated within the following successive depth ranges:					
(a)	0 m up to 1,5 m	m ³	0.0			
PSC13.1.6	Access and drainage:					
PSC13.1.6.1	Access	Lump sum	1.0			
C13.1.7	Backfill to excavations utilising:					
C13.1.7.1	Material from excavation	m ³	107.0			
C13.1.7.2	Imported material	m ³	107.0			
C13.1.9	Fill within a restricted area (extra over item C5.2.2)	m ³	595.0			
C13.1.10	Haul in excess of 1,0 km on excavated material and on material imported for backfill, foundation fill and fill for caissons	m ³ -km	15 000.0			
PSC13.1.14	Foundation fill consisting of:					
PSC13.1.14.4	Mass concrete (Class15/19)	m ³	170.0			
PSC13.1.14.5	Concrete blinding (75mm thick, Class15/19)	m ³	20.0			
C13.1.16	Establishment on site for drilling of holes and grouting of rock fissures (rotary core drilling):	Lump sum	1.0			
C13.1.17	Moving to and setting up equipment at each hole to be drilled for grouting:	No	102.0			
Total Carried Forward						

CHAPTER C13.1

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
C13.1.18	Drilling of holes for grouting (48mm diameter by rotary core drilling):	m	255.0			
C13.1.19	Grouting of rock fissures (type of grout and for which purpose it is required indicated):	kg	0.0			
C13.1.20	Dowel bars:					
C13.1.20.2	Supply and installation of dowel bars:					
(a)	Y25 galvanised 3.35m long and grouted in with an approved non-shrinkage grout at piers	kg	387.0			
(b)	Y25 galvanised 3.15m long and grouted in with an approved non-shrinkage grout at abutments	kg	874.0			
PSC13.1.23	Lateral support for excavations:					
PSC13.1.23.1	Excavation or fill adjacent to half width road accommodation					
(c)	0 to 5 m depth	Lump sum	1.0			
(d)	5 m to 10 m depth	Lump sum	1.0			
Total Carried Forward To Summary						

CHAPTER C13.2

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH					
C13.2.2	Vertical formwork to provide:					
C13.2.2.1	Class F1 surface finish to:					
(a)	Abutment and wingwall foundations	m ²	160.0			
(b)	Abutment walls	m ²	164.0			
(c)	Earwings	m ²	60.0			
(d)	Wingwalls and return walls	m ²	161.0			
(e)	Pier foundations	m ²	56.0			
(f)	Approach slabs	m ²	10.0			
(g)	Edges & ends of deck	m ²	26.0			
C13.2.2.2	Class F2 surface finish to:					
(a)	Abutment walls	m ²	164.0			
(b)	Wingwalls and return walls	m ²	161.0			
(c)	Piers	m ²	229.0			
(d)	Deck	m ²	35.0			
C13.2.3	Horizontal formwork to provide:					
C13.2.3.1	Class F2 surface finish to:					
(a)	Deck soffit	m ²	527.0			
C13.2.4	Inclined formwork to provide:					
C13.2.4.1	Class F2 surface finish to:					
(a)	Abutments	m ²	8.0			
(b)	Sides of deck	m ²	61.0			
C13.2.5	Permanent formwork					
C13.2.5.1	To form voids of 600 mm diameter in deck slab	m ²	663.0			
C13.2.6	Formwork to form open joints between:					
(a)	Wingwalls and abutment walls	m ²	21.0			
(b)	Deck and abutment walls	m ²	26.0			
Total Carried Forward						

CHAPTER C13.2

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
PSC13.2.11	<p>Contractor's Health and Safety obligations with regard to falsework and formwork</p> <p>Note:</p> <p>The design of the entire falsework infrastructure used to temporarily support the bridge structure, shall be carried out by a specialist professionally registered engineer in the design of falsework and formwork. Therefore, the tenderer must allow for the design, inspection and approval of the staging.</p>	Lump sum	1.0			
Total Carried Forward To Summary						

CHAPTER C13.3

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.3	STEEL REINFORCEMENT					
C13.3.1	Reinforcement for:					
C13.3.1.1	Abutments					
(a)	Mild-steel bars	t	0.5			
(b)	High-yield-stress-steel bars	t	20.8			
C13.3.1.2	Piers					
(a)	Mild-steel bars	t	0.2			
(b)	High-yield-stress-steel bars	t	14.1			
C13.3.1.3	Deck (incl. Approach slabs)					
(a)	Mild-steel bars	t	0.2			
(b)	High-yield-stress-steel bars	t	58.4			
C13.3.1.4	Wingwalls and Earwings					
(a)	Mild-steel bars	t	0.1			
(b)	High-yield-stress-steel bars	t	14.4			
C13.3.1.5	Parapets and Endblocks					
(a)	Mild-steel bars	t	0.7			
(b)	High-yield-stress-steel bars	t	5.4			
Total Carried Forward To Summary						

CHAPTER C13.4

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.4	CONCRETE					
C13.4.1	Cast in situ concrete (Class of concrete and use or position in structure stated):					
C13.4.1.1	Strength concrete (class C):					
(a)	Class 30/19 in abutments, earwings and wingwalls	m ³	430.0			
(b)	Class 40/19 in deck	m ³	325.0			
(c)	Class 30/19 in piers	m ³	120.0			
C13.4.5	Curing and surface protection of cast in situ concrete, as and where specifically required:					
C13.4.5.1	Substructure, abutment walls, earwings, wingwalls, return walls and deck sides using an engineer approved curing compound	m ²	1 045.0			
C13.4.5.2	Deck top surface using moisture curing	m ²	602.0			
C13.4.5.3	Approach slabs using moisture curing	m ²	58.0			
C13.4.13	Complete demolition and disposal of existing structural concrete elements or parts existing structures:					
PSC13.4.13.1	Reinforced concrete in existing structure	m ³	325.0			
Total Carried Forward To Summary						

CHAPTER C13.6

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.6	BEARINGS					
C13.6.1	Bearings:					
C13.6.1.1	300x200x3(10) laminated elastometric bearing pads, total thickness 35 mm and Shore hardness 60	No	14.0			
Total Carried Forward To Summary						

CHAPTER C13.7

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.7	JOINTS					
PSC13.7.1	Expansion joints:					
PSC13.7.1.1	Buried joint materials at each end of the deck, complete as shown in the drawings (incl. drainage and compressible elements)	m	20.0			
C13.7.2	Filled joints:					
C13.7.2.1	25mm wide movement joints between abutment walls and wingwalls as shown in the drawings	m ²	16.0			
PSC13.7.8	Additional water tests for joints ordered by the Engineer	No	1.0			
Total Carried Forward To Summary						

CHAPTER C13.8

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C13.8	ANCILLARY STRUCTURAL ELEMENTS					
PSC13.8.1	Concrete barriers and parapets (refer to drawings)					
PSC13.8.1.2	Parapets	m	100.0			
PSC13.8.2	End blocks (4.7 m length)	No	4.0			
C13.8.7	Numbers for structures: (refer to drawings)					
C13.8.7.3	Numbers formed in concrete	No	2.0			
C13.8.10	Drainage pipes and weep holes:					
C13.8.10.1	Drainage pipes:					
(a)	75mm diameter uPVC scuppers	m	80.0			
C13.8.10.2	Weep holes:					
(a)	50mm diameter uPVC pipes	m	40.0			
C13.8.12	Synthetic-fibre filter fabric (Grade 2 or similar approved)	m ²	250.0			
C13.8.15	Drainage strips - 325mm wide DN1 Netlon drainage strips covered with filter fabric Grade 2	m	180.0			
C13.8.16	Perforated drainage pipes:					
C13.8.16.1	Drainage cores, M65 Netlon pipe wrapped in filter fabric Grade 2	m	50.0			
Total Carried Forward To Summary						

CHAPTER C1.7

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP					
PSC20.1.1	Special tests on elastomeric bearings (150 % vertical load and 150 % shear distortion)	No	14.0			
PSC20.1.2	Special tests requested by the Engineer					
PSC20.1.2.2	Employer's contribution to other special tests					
(a)	Acceptance control testing	Prov sum	1.0			
(b)	Handling costs and profit in respect of item PSC20.1.2.2(a)	%	50 000.0			
Total Carried Forward To Summary						

EXPANDED PUBLIC WORKS PROGRAM

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
PART E	EXPANDED PUBLIC WORKS PROGRAMME (EPWP)					
E6.01	Provision of training venue facility, including the cost of transport the learners to and from this facility	Lump sum	1.0			
E6.02	Training of learners employed by the contractor or by the Targeted Enterprise subcontractors:					
(a)	Generic Skills:					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem E6.02(a)(i) above.	%	90 000.0			
(b)	Entrepreneurial skills:					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem E6.02(b)(i) above.	%	90 000.0			
(c)	Construction skills:					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem E6.02(c)(i) above.	%	90 000.0			
(d)	Transportation and accommodation costs of selected learners only, while receiving off-site training:					
(i)	Transportation and accommodation costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem E6.02(d)(i) above.	%	15 000.0			
E6.03	Payments associated with the NYS programme:					
(a)	Employment of NYS workers	Prov sum	1.0			
(b)	Provision of tools and apparel for the NYS workers	Prov sum	1.0			
(c)	Handling cost and profit in respect of subitem E6.03(a) and (b) above	%	240 000.0			
(d)	Training of NYS workers:					
(i)	Provision of training for NYS workers	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem subitem E6.03(d)(i) above	%	120 000.0			
Total Carried Forward						

EXPANDED PUBLIC WORKS PROGRAM

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
(e)	Liaison with the Employer's project manager and the training service provider:					
(i)	Liaison conducted by the construction manager	hour	10.0			
(ii)	Liaison conducted by senior site foreman	hour	10.0			
Total Carried Forward To Summary						

SMALL CONTRACTOR DEVELOPMENT

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
PART F	SMALL CONTRACTOR DEVELOPMENT					
F10.1	Procurement of Targeted Enterprises:					
(a)	Management and execution of Targeted Enterprise procurement process:					
(i)	Procurement process for the appointment of CIDB contractor grading designation 2 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)	No	1.0			
(ii)	Procurement process for the appointment of CIDB contractor grading designation 3 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)	No	1.0			
(iii)	Procurement process for the appointment of CIDB contractor grading designation 4 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)	No	1.0			
F10.2	Construction Works for Targeted Enterprise subcontractors:					
(a)	Payments associated with the construction Works carried out by Targeted Enterprise subcontractors	Prov sum	1.0			
(b)	Handling costs and profit in respect of subitem F10.02(a)	%	5 296 612.1			
(c)	Supply of materials and small construction equipment to assist Targeted Enterprise subcontractors	Prov sum	1.0			
(d)	Handling costs and profit in respect of subitem F10.02(c)	%	588 512.5			
(e)	Management of the Targeted Enterprise subcontractors	month	12.0			
F10.03	Training of Targeted Enterprise subcontractors:					
(a)	Generic Skills					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem F10.03(a)(i)	%	75 000.0			
(b)	Entrepreneurial skills:					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem F10.03(b)(i)	%	75 000.0			
Total Carried Forward						

SMALL CONTRACTOR DEVELOPMENT

Item	Description	Unit	Quantity	Rate	Amount	
					R	c
Brought Forward						
(c)	Construction skills:					
(i)	Training costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem F10.03(c)(i)	%	75 000.0			
(d)	Transportation and accommodation costs of selected learners only, while receiving off-site training:					
(i)	Transportation and accommodation costs	Prov sum	1.0			
(ii)	Handling costs and profit in respect of subitem F10.03(d)(i)	%	40 000.0			
Total Carried Forward To Summary						

**PROVINCE OF KWAZULU-NATAL
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SCHEDULE A: ROADWORKS

SUMMARY OF SECTIONS

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C1.2	GENERAL REQUIREMENTS AND PROVISIONS		R
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS		R
C1.4	FACILITIES FOR THE ENGINEER		R
C1.5	ACCOMMODATION OF TRAFFIC		R
C2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES		R
C4.2	CUT MATERIALS		R
C4.3	EXISTING ROAD MATERIALS		R
	TOTAL CARRIED FORWARD TO TENDER SUMMARY		R

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SCHEDULE B: STRUCTURES

SUMMARY OF SECTIONS

CHAPTER	DESCRIPTION	FROM PAGE	AMOUNT
C13.1	FOUNDATIONS		R
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH		R
C13.3	STEEL REINFORCEMENT		R
C13.4	CONCRETE		R
C13.6	BEARINGS		R
C13.7	JOINTS		R
C13.8	ANCILLARY STRUCTURAL ELEMENTS		R
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP		R
	TOTAL CARRIED FORWARD TO TENDER SUMMARY		R

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SCHEDULE E: EXPANDED PUBLIC WORKS PROGRAMME

SUMMARY OF SECTIONS

CHAPTER	DESCRIPTION	FROM PAGE	AMOUNT
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	TOTAL CARRIED FORWARD TO TENDER SUMMARY		R

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SCHEDULE F: SMALL CONTRACTOR DEVELOPMENT

SUMMARY OF SECTIONS

CHAPTER	DESCRIPTION	FROM PAGE	AMOUNT
PART E	SMALL CONTRACTOR DEVELOPMENT		R
	TOTAL CARRIED FORWARD TO TENDER SUMMARY		R

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TENDER SUMMARY

DESCRIPTION	AMOUNT
Totals of Bill of Quantities brought forward:	
Schedule A: Roadworks (b/f from page C51)	R
Schedule B: Structures (b/f from page C52)	R
Schedule E: Expanded Public Works Programme (b/f from page C53)	R
Schedule F: Small Contractor Development (b/f from page C54)	R
SUBTOTAL 1	R
<u>Add:</u> Contingencies (10% of SUBTOTAL 1)	R
SUBTOTAL 2	R
<u>Add:</u> Contract Price Adjustment (8% of SUBTOTAL 2)	R
SUBTOTAL 3	R
<u>Add:</u> VAT (15% of SUBTOTAL 3)	R
TOTAL CARRIED FORWARD TO FORM OF OFFER C1.1.1	R

Signed on behalf of the Tenderer: (Signature)

Date:

Tenderer's Name: (Company Name)

PART C3: SCOPE OF WORK

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C3.1: STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the '**Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020**'.

C3.2: PROJECT SPECIFICATIONS

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

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

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

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specifications, the Project Specifications shall take precedence. In the event of a discrepancy between the Specifications (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Employer's Agent 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.

C3.2: PROJECT SPECIFICATIONS

PART A: GENERAL

1. DESCRIPTION OF THE WORKS

1.1 Employer's objectives

The construction of the Wela River Bridge will provide improved road infrastructure and facilitate improved accessibility and traffic flow for the **Matshamnyama/ Mpembeni/ Mdletshe** villages under **Hlabisa** Local Municipality.

The contract is located in a region of KwaZulu-Natal that has been historically impoverished by a lack of infrastructure access. It is therefore mandatory that the Contractor shall interact with the community via proactive project liaison with and project participation by its leaders and constituted organisations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

The Employer's objectives in delivering public infrastructure and services for this project include the provision of temporary work opportunities to the local community through the application of labour-intensive methods to the maximum extent feasible, in accordance with the Expanded Public Works Programme Guidelines.

The Contractor shall be required to attend meetings of the local Project Liaison Committee (PLC) from time to time. The requirements of the Expanded Public Works Programme (EPWP) are contained in Part E of section C3.3 Particular Specifications. These EPWP requirements also include provisions for the National Youth Service programme where applicable. The requirements in terms of Government's initiatives for broad-based black economic empowerment with respect to small contractor development are contained in Part F of section C3.3 Particular Specifications.

1.2 Location of the Works

The project is located as shown on the locality plan bound into this document in Section C4.1 of the Site information on page **C201**.

1.3 Overview of the Works

The project comprises of the construction of the Wela River Bridge on Road P451. The bridge consists of a three-span reinforced concrete voided deck with reinforced concrete piers and abutments.

The deck is approximately 10 m wide and consists of an 8.5 m wide roadway and a 1.5 m wide raised pedestrian sidewalk. The deck will be integral with the piers and will rest on bearings at the abutments.

The substructure comprises of two reinforced concrete abutments and two reinforced concrete piers founded on spread footings dowelled into competent bedrock. Embankment protection aids will consist of gabions and reno mattresses.

1.4 Extent of the Works

The work to be carried-out for the construction of the bridge includes:

- (a) Establishment on site
- (b) Clearing and grubbing
- (c) Provision of traffic accommodation facilities
- (d) Survey requirements
- (e) Excavation through boulders and into bedrock
- (f) Establishment of drilling equipment, installation of Y25 anchor bars at each pier footing and subsequent de-establishment of equipment
- (g) Removal of water from excavations

- (h) Anchoring of dowels into the bedrock
- (i) Construction of foundations and substructure
- (j) Backfilling of excavations
- (k) Construction of the bridge superstructure
- (l) Installation of guardrails tying into the structure's end blocks
- (m) Construction of earthworks, layerworks and surfacing at bridge approaches
- (n) Construction of erosion protection measures (gabions, stone pitching, etc.)
- (o) Continuous quality control over materials and works, and compliance with the Particular Specifications with regard to environmental management and occupational health and safety, during all the above construction activities
- (p) De-establishment after all construction activities and 12-month defects liability period.

1.5 Detailed description of the Works

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

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

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

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

1.5.1 Access to the Site

The coordinates to the bridge site are given as follows:

28° 03' 31.2" S
31° 57' 00.0" E

1.5.2 Demolition work

The existing river crossing and temporary roads must be demolished.

1.5.3 Spoiling of surplus material

Surplus material shall be spoiled in designated areas approved by the Employer's Agent. The spoil material shall be disposed of in accordance with subclause A4.1.7.2(l) of the COTO Standard Specifications.

1.5.4 Quantities

The approximate leading quantities for the permanent Works to be constructed are as follows:

Description	Source	Approximate quantity
Reinforcement	Commercial	115 tonnes
Structural concrete	Commercial	1 238 m ³
Cut and borrow to fill	Borrow Pit/ Commercial	3 500 m ³
Layerworks (selected subgrade, subbase and base)	Commercial	490 m ³

1.5.5 Material investigations

Materials information is not available for this project.

1.5.6 Material sources, spoil and stockpile areas

The contractor is to source material from borrow pits as instructed by the Engineer.

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

1.5.7 Accommodation of traffic

The Contractor shall be required to accommodate traffic both vehicular and pedestrian traffic. This will include the construction of traffic deviations to the engineers stipulated standards and maintenance of the deviations for the durations of the contract and eventual removal at the end of the contract. The contractor is to employ suitable measures to ensure that the temporary deviations are protected from bad weather and reconstruct deviations at his cost if necessary. The contractor shall provide flagmen to direct and control traffic and provide signs and barriers. The contractor will be required to submit a traffic accommodation and temporary deviation plan to the engineer for comment and approval prior to commencement with the works.

1.5.8 Accommodation of other contractors

The main contractor will be required to accommodate the subcontractors which form part of Part G: Small Contractor Development portion of this contract.

1.5.9 Existing services

The following major services are expected to be encountered during the construction of the Works: NIL

It is also expected that unknown domestic services crossings requiring relocation or protection may be encountered along the route as the work proceeds. The Contractor shall make every effort to establish the location of these services in any area prior to excavations commencing in that area. Such efforts shall include diligent enquiry and discussions with adjacent landowners, visual surface inspection and exploratory trenching investigation as necessary.

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.

1.5.10 Employer's Agent's site offices and laboratory

The Contractor shall be required to provide furnished site office facilities, laboratory facilities, ablution facilities, and carpools for the Employer's Agent at a site located in close proximity to the Contractor's office establishment and to the Works. A possible area for such site establishment shall be indicated at the Site Clarification Meeting.

1.5.11 Climate

The road is located in a high summer rainfall region with a 30 mean annual precipitation of 830 mm.

1.5.12 Environment

The Contractor's attention is called to clause A1.2.3.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and to the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.

1.5.13 Labour

A Project Liaison Committee (PLC) has been established and is a vital means of communication between all parties involved with the project. The composition of the PLC comprises representatives of the Employer, the Employer's Agent and formal structures within the community.

The Contractor shall make use of these communication channels and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PLC, and this representative will be also required to attend the monthly PLC meetings.

It is mandatory that the Contractor shall interact with the community via proactive project liaison and project participation by its leaders and constituted organisations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

Local labour is to be used and the employment of such labour is to be done in conjunction with the PLC. The PLC has formed 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 Amakhosi in the area.

1.5.14 Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion of local labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, where local labour is the primary resource, supported by plant for activities that cannot be carried out feasibly by labour only.

Labour-intensive construction activities are to be planned as task-based work as a general rule. A task means a fixed quantity of work, to be performed to a clearly defined quality. Task based work means work in which a worker is paid a fixed rate for performing a task, which is clearly defined in terms of quantity and quality. Typically, a particular task can be completed within a working day.

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

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

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

Subject to considerations of occupational health and safety, and subject to the nature of the in situ materials being such that they can be excavated efficiently by hand, the portions of the Works to be carried out under supervision using labour-intensive construction methods, designated as LI items in the bill of quantities, include, but are not limited to, the following:

- Flagmen for temporary traffic control;
- Clearing and grubbing of the site;
- Excavation in soft material up to 1,5m deep;
- Excavation for sub-soil drainage;
- Backfilling of trenches;
- Hauling of material located within 150m;
- Excavation and compaction of gabion backfill;
- Cleaning and tidying up of the site;
- Stone pitching against erosion;
- Installation of gabion baskets and gabion mattresses;
- Trimming of areas, spreading of topsoil, grass sodding, planting of plants;
- Erection of road signs guardrails; and
- Mixing and placing of minor concrete work;

In respect of those portions of the Works which are not listed above, the construction methods adopted and the equipment utilized shall be at the discretion of the Contractor, provided always that the construction methods adopted and the equipment utilized by the Contractor are appropriate in respect of the nature of the Works to be executed and the standards to be achieved in terms of the Contract.

1.6 Temporary Works

The Temporary Works required under this Contract shall include the traffic accommodation measures implemented, the provision of drainage control, falsework and formwork during the construction of the minor/major drainage structures, and the provision of any scaffolding or temporary propping used during the erection of the road signs. It will be the contractor's responsibility to maintain all temporary works as required for the completion of the contract.

All Temporary Works shall be removed from the Site on completion of the Contract.

1.7 Maintenance of the Works during the construction period

The Contractor shall take note of the various requirements of the General Conditions of Contract 2015 and the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 with respect to the care and protection of the Works.

The handing-over of the road reserve for this contract is described in clause A1.2.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. The Contractor shall be responsible for maintaining this portion of the road from the date of hand-over until the issue of the Certificate of Practical Completion.

1.8 Testing of materials

A prime cost sum has been allowed in chapter 20 of the Bill of Quantities for all acceptance control testing laboratory work to be carried out by the Employer's Agent using the laboratory facilities which may include and/or commercial laboratory facilities.

The Contractor shall carry out at his own cost the required process control testing as specified in terms of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

1.9 Power supply and other services

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.

1.10 Construction in confined areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant. However, the Contractor shall note that, unless otherwise provided for in terms of the scheduled payment items in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

1.11 Contractor's campsite (Project Specific)

Possible locations for a campsite shall be pointed out at the clarification meeting. (Project Specific Clarification meetings)

The Contractor shall make his own arrangements for the provision of his campsite and housing for construction personnel but the chosen site shall be subject to the approval of the Employer's Agent, the local authorities and, where applicable, the Project Liaison Committee (PLC) associated with the project.

The standard of the Contractor's camp, offices, accommodation, ablution, and other facilities must comply with the requirements of all local authority, environmental and industrial regulations concerned. In establishing and maintaining his campsite, due cognisance is to be taken of the requirements of clause A1.3.3 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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

The Contractor shall particularly note that there is a high risk of theft, vandalism and damage to property in this area and strict security will be required for all plant, establishment, temporary works and partially completed works. The Contractor shall be responsible for providing security for all plant, establishment, temporary works and partially completed works. No separate payment shall be made for the provision of such security since full compensation for these costs shall be deemed to be included in the amount tendered for item C1.3.1.3 (The contractor's general obligations: Time-related obligations).

1.12 Additional requirements for construction activities

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

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

1.13 Construction programme

The Contractor shall submit a detailed time programme in accordance with clause 5.6.2 of the General Conditions of Contract 2015, clause A1.2.7 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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

- (a) The whole of the Works (and the portions of the Works if completion in portions is required) shall be completed within the time period(s) stated (refer to the Contract Data in section C1.2.2).
- (b) Working days lost due to abnormal rainfall shall be treated as set out in clause A1.2.3.4 (b)
- (c) Allowance shall be made for non-working days and special non-working days (refer to the Contract Data in section C1.2.2).
- (d) Construction activities must comply with all the specified environmental requirements including clause A1.2.3.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (e) Construction activities must comply with all the specified health and safety obligations including the requirements of Part D: OHS 1993 Health and Safety Specification contained in section C3.3 Particular Specifications.

- (f) Strict control of access to and from local public roads shall be required when construction vehicles, plant or equipment leave or enter the site.
- (g) Throughout the contract period traffic must be accommodated through the site and all other contractors engaged on the construction of identified roads must be accommodated.
- (h) The Contractor's programme of work shall take due cognisance of risks by limiting the duration of the exposure of the various construction elements to natural phenomena.

PRELIMINARY CONSTRUCTION PROGRAMME

Activity	Duration (Weeks)	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
1	Site Establishment												
2	CPG Tender Process												
3	Clear and Grub												
4	Demolition of Existing Structure												
5	Access												
6	River Diversion												
7	Traffic Accommodation												
8	Survey and Setting Out												
9	Excavation												
10	Access and Drainage												
11	Establishment for Core Drilling												
12	Installation of Dowels												
13	Foundations Screed												
14	Foundations Steel Fixing												
15	Foundations Shuttering												
16	Foundations Concrete Pour												
17	Pier Falsework												
18	Pier Steel Fixing												
19	Pier Shuttering												
20	Pier Concrete Pour												
21	Abutment 1 Falsework												
22	Abutment 1 Steel Fixing												
23	Abutment 1 Shuttering												
24	Abutment 1 Concrete Pour												
25	Abutment 2 Falsework												
26	Abutment 2 Steel Fixing												
27	Abutment 2 Shuttering												
28	Abutment 2 Concrete Pour												

Activity		Duration (Weeks)	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				Month 9				Month 10				Month 11				Month 12			
29	Falswork/ Staging for Deck																																																	
30	Deck Steel Fixing																																																	
31	Deck Shuttering																																																	
32	Deck Concrete Pour																																																	
33	Balustrade Steel Fixing																																																	
34	Balustrade Shuttering																																																	
35	Balustrade Concrete Pour																																																	
36	Installation of Gabion Protection																																																	
37	Approach Slab Construction																																																	
38	Roadworks:																																																	
39	Earthworks																																																	
40	Kerb and Channeling																																																	
41	Base																																																	
42	Subbase																																																	
43	Upper Selected																																																	
44	Lower Selected																																																	
45	Prime Coat																																																	
46	Asphalt																																																	
47	Installation of Guardrails																																																	
48	Road signs and Road Markings																																																	
49	De-establishment																																																	
EXPECTED CASH FLOW		(In Rands)																																																

2. DRAWINGS

The drawings that form part of the Tender documents are issued on a CD and shall be used for Tender purposes only.

The Contractor will be supplied with three complete sets of A0 paper print drawings, and one set of drawings on a CD. These A0 paper prints and CD are issued free of charge and the Contractor shall make any additional copies he may require at his own cost.

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

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

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

3. PROCUREMENT

The contractor shall procure goods and services under provisional sums and prime cost sums according to the Employer's standards.

4. CONSTRUCTION

4.1 Applicable SANS 2001 standards for construction work

All construction work must conform with the relevant SABS or SANS specifications referred to in the 'Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020', or in Section C3.2 Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.2 Applicable national and international standards

All construction work must be undertaken in accordance with the 'Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and as amended in Section C3.2 Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.3 Particular / generic specifications

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

- Part C: Environmental Management Specification
- Part D: OHS Act 1993 Health and Safety Specification
- Part E: Expanded Public Works Programme
- Part F: Small Contractor Development

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

4.4 Certification by recognized bodies

No certification of items included in the Works is required.

4.5 Plant and materials provided by the Employer

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

4.6 Services and facilities provided by the Employer

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

5. MANAGEMENT

5.1 Applicable SANS 1921 standards

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

5.1.1 SANS 1921-1 Part 1: General engineering and construction works

Specification data associated with SANS 1921-1	
Clause No.	Essential data
4.1.7	There are no requirements for drawings, information and calculations for which the Contractor is responsible.
4.2.1	The responsibility strategy assigned to the Contractor for the works is 'A'.
4.3.1	The programme must conform to clause A1.2.7.1 (Scheme 1) 'Programme of Work' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and clause 5.6 'Programme' of the 'General Conditions of Contract 2015'.
4.3.3	The Contractor must give 24 hours' notice for inspection of work that is to be covered up.
4.7.3	Where applicable, the Contractor is afforded the opportunity of pricing an item to cover costs of unavoidable over-break.
4.12.2	The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the Employer/Employer's Agent are to be as described in clause A1.2.8 'Workmanship and Quality Control' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and clause 7 'Quality and Related Matters' of the 'General Conditions of Contract 2015'.
4.12.2	The fabrication drawings that the Contractor is to provide to the Employer are none.
4.14.5	The Contractor is to provide latrine and ablution facilities as described in Part C 'Environmental Management Plan' in Section C3.3 Particular Specifications of these Project Specifications.
4.14.6	The requirements for the provision and erection of signboards are as described in clause A1.2.3.10 'Notices, Signs and Advertisements' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, and as detailed in the 'Example of Contract Signboard Details' in Section C4: Site Information of these Project Specifications.
4.17.1	The requirements for the termination, diversion or maintenance of existing services are described in clause A1.2.7.3 and Chapter 2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.
4.17.3	Services that are known to exist on the site are described in clause A1.2.7.3 and Chapter 2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.
4.17.4	The requirements for detection apparatus for locating underground services are none.
4.18	The additional health and safety requirements are described in Part D 'OHS 1993 Health and Safety Specification' in Section C3.3 Particular Specifications of these Project Specifications.

5.1.1.1 Additional clauses:

(a) Site meetings and procedures

Site meetings shall be convened as described in clause A1.2.3.16 'Monthly Site Meetings' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. The Contractor shall keep on site a set of minutes of all site meetings, daily records of resources (people and equipment employed), a site memoranda book, a complete set of contract working drawings and a copy of the procurement document, and shall make these available at all reasonable times to all persons concerned with the contract.

(b) Water and electricity

The Contractor is to provide water and electricity as described in clauses A1.2.3.21 'Water' and A1.4.7.3 'Services' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

5.1.2 SANS 1921-6 Part 6: HIV/AIDS awareness

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

5.1.2.1 Additional clauses:

(a) Workshops

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

5.2 Recording of weather

The Contractor shall erect a rain gauge and record the rainfall as described in clause A1.2.3.4 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. This information together with other details of the prevailing weather conditions shall be recorded in the daily site diary.

5.3 Unauthorised persons

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

5.4 Management meetings

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

5.5 Forms for contract administration

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

5.6 Electronic payments

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

5.7 Daily records

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

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

5.8 Payment certificates

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

5.9 Permits

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

5.10 Proof of compliance with the law

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

5.11 Submission of reports

The contractor shall submit monthly reports in accordance with the specifications in Part E: Expanded Public Works Programme and Part F: Small Contractor Development.

C3.2: PROJECT SPECIFICATIONS

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

In certain clauses in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, allowance is made for a choice to be specified in the Project Specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this Contract are contained in this part of the Project Specifications. It also contains the necessary additional specifications required for this Contract.

The clauses and payment items dealt with in this part of the Project Specifications are numbered 'PS' with a number corresponding to the relevant clause or item number in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

New clauses and payment items not covered by clauses or items in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 have been included here and have also been designated with the prefix 'PS'. Such clauses and items have been given a new number following upon the last number used in the particular chapter referred to in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

CHAPTER 1.2 GENERAL REQUIREMENTS AND PROVISIONS

PART A: SPECIFICATION

PSA1.2.3 GENERAL

PSA1.2.3.4 Extension of time delays caused by rainfall

Add the following after the fourth paragraph of Clause A1.2.3.4:

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

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

Add the following to the end of Method (2):

"The value of “n” working days expected delay caused by normal rainy weather for each respective calendar month of any year, is given in table PSA1.2.3.4/1 below:

Table PSA1.2.3.4/1
EXPECTED DELAY OF WORKING DAYS DUE TO NORMAL RAINY WEATHER

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

* The values in brackets are the expected delays to allow for the annual year-end shutdown period.

The contractor shall make provision in the approved programme of work, and all subsequent adjusted programmes of work, for an expected delay of “n” equal to 30 working days due to normal rainy weather during the contract period, including any approved extension of time, for which the contractor will not receive an extension of time. This provision shall be shown as a float in the programme, and distributed amongst the calendar months.

Delays on programmed and actually planned working days only, shall be taken into account for an extension of time. If a delay due to wet conditions is caused by, or exacerbated by, the lack of adequate temporary drainage measures, such a delay shall not be taken into account in the calculation of any extension of time. Any delay due to rainfall shall only be recognized and granted to the extent that the delay could not be mitigated by changing work sequences.

Each day, or part of a day so agreed by the engineer, will accrue as “m” working days delay due to normal rainy weather. The summary of accrued “m” working days delay shall be recorded at each site meeting.

A claim for an extension of time will only be considered if the approved accumulative “m” working days delayed due to normal rainy weather, exceeds the contract provision of “n” working days during the contract period up to the due completion date, including any approved extension of time.

Note:

(1) Any surplus of the contract provision of “n” working days not claimed as rain days during the original contract period, shall not affect the original due completion date.

(2) For any approved extension of time period, any surplus of the contract provision of “n” working days not claimed as rain days during the original contract period, shall then be carried forward as a provision for an expected delay on working days due to normal rainy weather during the approved extension of time period.”

PSA1.2.3.5 Handing-over of the Site of the Works

Add the following paragraph to the end of Clause A1.2.3.5:

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

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

PSA1.2.3.11 Ordering of Dayworks

Replace Clause A1.2.3.11 with the following:

PSA1.2.3.11 Dayworks

a. Scope

Rates for daywork shall be entered in the under item C1.2.8.1 in accordance with the following specifications.

b. Daywork Rates

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

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

c. Type of Work

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

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

d. 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 C1.2.8 of the Bill of Quantities for daywork materials. The Contractor shall enter a tendered percentage in the Bill of Quantities to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

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

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

e. Construction Equipment

Where daywork is ordered, the tendered rates for construction equipment in C1.2.8 of the Bill of Quantities shall be used in calculating the payment due for any construction equipment required to execute the daywork. If no rate is included in the Bill of Quantities for a particular item of construction equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the General Conditions of Contract 2015 will be used.

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

f. Salaries and Wages of Workmen

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

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

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

g. Measurement and Payment

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

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

The Contractor's attention is drawn to the requirements of Clauses 6.5.3 and 6.5.4 of the General Conditions of Contract 2015 with regard to the submission of lists and statements of personnel, materials and construction equipment used for daywork.

The payment items under C1.2.8 in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 will be applicable.

PSA1.2.3.18 Stakeholder liaison

Add the following to Clause A1.2.3.18:

a. Project Liaison Committee

The process of implementing infrastructure projects will be undertaken by means of structured engagement between those responsible for the delivery of the project and the community.

A Project Liaison Committee (PLC) is a vital means of communication between the parties involved with the project. A PLC may be formed if the project is such that a specific community can be identified.

The PLC comprises representatives of the employer, the engineer and formal structures within the community. The contractor shall make use of these communication channels and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PLC, and this representative shall also attend the monthly PLC meetings when so requested.

The PLC shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

The PLC deals with local labour on the project, and is tasked with:

- assisting with community liaison and the resolution of community disputes;
- devising fair and transparent procedures that will assist the contractor in the engagement of labour;
- advising on and monitoring labour issues; and
- assisting in the resolution of labour disputes.

All labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

A new pay item is included in Chapter 1.2 of the schedule of quantities relating to the payment of the PLC on a provisional sum basis. Payment under this item shall be made only for the period for which the duties of the PLC are required, and not necessarily for the full duration of the contract.

b. Community Liaison Officer (CLO)

The contractor, after consultation with the Project Liaison Committee (PLC), shall appoint a competent local person as a Community Liaison Officer (CLO). The contractor shall appoint the CLO as part of his site personnel and shall direct all his liaison efforts with the local community through the appointed CLO.

The period of employment and the remuneration of the CLO shall be determined jointly by the contractor, the engineer and the employer.

The CLO shall:

- i. represent the community and assist the contractor, the engineer and the employer with communication between them and the community;
- ii. work an 8-hour day with a total of 40 hours worked per week, and shall be present on site each day except when performing off-site community liaison activities;
- iii. communicate daily with the contractor on labour related issues such as numbers and skill;
- iv. assist in the identification and screening of local labourers from the community in accordance with the contractor's requirements;
- v. inform local labour of their conditions of employment, including their period of employment;
- vi. attend disciplinary proceedings involving local labour, and ensure that hearings are fair and reasonable;
- vii. attend all meetings at which the community and/or local labour are present or are required to be represented;
- viii. attend monthly site meetings to report on community and local labour matters;

- ix. keep a daily written record of interviews and community liaison;
- x. submit monthly returns regarding community liaison; and
- xi. carry out all such other duties as agreed upon between all parties concerned.

A new pay item is included in Chapter 1.2 of the schedule of quantities relating to the payment of the CLO on a provisional sum basis. Payment under this item shall be made only for the period for which the duties of the CLO are required, and not necessarily for the full duration of the contract.

PSA1.2.3.21 Water

Add the following at the end of the first paragraph of Clause A1.2.3.21:

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

Add the following new Clause A1.2.3.24:

PSA1.2.3.24 Compliance with the Road Traffic Act

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

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

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

PSA1.2.7 EXECUTION OF THE WORKS

PSA1.2.7.1 Programme of work

Add the following paragraph to the end of clause:

“(c) Additional requirements

The Contractor in compiling the construction programme, shall show and take into account the following:

- (i) Allowance shall be made for non-working days and special non-working days
- (ii) Provision of an expected delay of “n” working days due to normal rainy weather during the contract period, including any approved extension of time, to be shown as a float in the programme, and distributed amongst the calendar months.
- (iii) Construction activities must comply with all the specified environmental requirements and the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (iv) Construction activities must comply with all the specified health and safety obligations including the requirements of Part E: OHS 1993 Health and Safety Specification contained in section C3.3 Particular Specifications.
- (v) The tender process for the procurement of Targeted Enterprise subcontractors in accordance with the requirements of Part G: Small Contractor Development.

- (vi) Public traffic, utility service providers and authorised contractors must be accommodated through the site.
- (vii) The provision of embargo days on which work is prohibited as detailed in table below:

WORK PROHIBITED DURING EMBARGO PERIOD

Clause number	Description of work prohibited	Embargo period
N/A	N/A	N/A

PSA1.2.7.2 Setting out of the Works and the protection of beacons

Add the following to Clause A1.2.7.2:

"The contractor shall comply with all legal provisions in regard to surveying and setting out work. It may become necessary to construct, level and coordinate new survey beacons during the course of the contract, or to protect existing survey beacons. A provisional sum is included in the schedule of quantities to cover the costs of such work."

PSA1.2.8 WORKMANSHIP

Add the following to Clause A1.2.8:

"Testing for quality control shall be conducted in accordance with the requirements of Chapter 20 Quality Assurance, Clause A 20.1.7.5 Assessment Methods." Judgement plan B.

Add the following to Clause A1.2.8:

"Dual laboratory facilities for the engineer and the contractor may be substituted with the combined laboratory facilities for process and acceptance control testing subject to the following requirements laid down by the Employer.

The following is required from the contractor:

- (a) A formal application
- (b) A clear indication of the type(s) of laboratory that will be included in the combined effort.
- (c) An undertaking that he will accept the test results of the combined laboratory. Should there be any doubts with regard to certain test results, this will be settled by an independent laboratory mutually agreed upon. The cost in such cases will be to the account of the party at fault.
- (d) An undertaking that the engineer will be in charge of the combined laboratory and the staff and equipment supplied by the contractor will be under the sole control of the engineer.
- (e) A monetary contribution that can be made up with respect to one or part of the following:
 - Qualified laboratory staff
 - Laboratory buildings
 - Laboratory equipment
 - Transport for field testing and sampling
 - Monetary

For the combined laboratory option, the contractor will be required to contribute 40% towards the costs of the laboratory. The total monthly cost of the laboratory has been estimated at R200 000 (excl. VAT).

However, the costs to undertake all specialized testing i.e. Air permeability, MLLS, Modified Lottman and Gyratory testing (where required) shall be made under pay item C 20.1.2"

Insert the following paragraph at the end:

“Where reference is made to TMH test methods in this specification or the standard specifications, it shall be replaced with the relevant current published SANS test method.”

Add the following new payment item:

PSC1.2 MEASUREMENT AND PAYMENT

Item	Unit
PSC1.2.10 Community Participation	
(a) Cost for community participation (PLC and CLO)	Prime Cost Sum
(b) Handling costs and profit in respect of sub-item PSC1.2.10(a) above	%

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

The tendered percentage is a percentage of the amount of expenditure approved by the Employer’s Agent under sub-item PSC1.2.10(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the provision of a Community Liaison Officer.”

CHAPTER 1.3 CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

PART A: SPECIFICATIONS

PSA1.3.2 DEFINITIONS

Add the following at the end of Clause A1.3.2 which further define the General Obligations:

- "Complying with the requirements and conditions of the additional specifications in Part C: Environmental Management Specification.
- Complying with the requirements and conditions of the additional specifications in Part E: Requirements of the Expanded Public Works Programme (EPWP) to the extent that any costs relating to the requirements of Part F are not covered by the pay items included in that section.
- Complying with the requirements and conditions of the additional specifications in Part F: Small Contractor Development relating to the Government's broad-based black empowerment initiatives to the extent that any costs relating to the requirements of Part F are not covered by the pay items included in that section."

PSA1.3.7 EXECUTION OF THE WORKS

Add the following clause PSA1.3.7.1 Extension of Time:

PSA1.3.7.1 Extension of Time

The amount payable to the contractor for time-related general items arising from an extension of time granted in accordance with clause 5.12.1 and 5.12.2 of the GCC 2015, shall be calculated as follows:

- (i) The contractor shall claim for an extension of time in terms of the number of days delay incurred calculated in accordance with clause 5.1 of the GCC 2015.
- (ii) The contractor shall base his claim for an extension of time in terms of the number of working days delay incurred. Non-working days and special non-working days as defined in the contract data shall not be counted as working days.

The number of working days extension of time granted by the engineer, shall then be added to the original due completion date of the contract, commencing on the first working day after the day of the original due completion date, and ending on a working day which shall then be the extended due completion date.

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

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

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

- (iv) The number of months extension of time granted calculated as in (iii) above shall be the number of additional months measured for payment for time-related obligations under item B13.01(c) and in accordance with clause 5.12.3 of the GCC 2015 as a result of the extension of time granted.

Note: The number of months extension of time granted calculated as in (iii) above shall also be included in the measurement of any other items scheduled under sections 1300, 1400, 1500 or elsewhere in the schedule of quantities, that involve the unit of measurement "month" and that were provided on site for the full duration of the extension of time period. Where such items were provided for a

portion of the extension of time period only, a pro rata payment shall be made, based on the number of calendar days the item was provided on site after the original due completion date divided by the number of calendar days as calculated in (iii) above for the extension of time granted."

Add the following new clause to PART A: SPECIFICATIONS

PSA1.3.9 GENERAL REQUIREMENTS

PSA1.3.9.1 Legal and contractual requirements and responsibility to the public

The contractor shall take all the necessary steps to comply with general conditions of contract, particularly in respect of the insurances and sureties required and his general obligations to the public and the employer. He shall comply with all the regulations of statutory bodies.

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

The contractor's general obligations shall also include the training of temporary labour, the management of labour enhanced work, the application of the Compensation for Occupational Injuries and Diseases Act, 1993, and compliance with the requirements of Part C: Environmental Management Specification, Part E: OHS 1993 Health and Safety Specification, Part F: Expanded Public Works Programme and Part G: Small Contractor Development contained in section C3.3 Particular Specifications.

Part C: Environmental Management Specification contains the environmental management specification for this project. Its provisions regulate the contractor's construction methods so as to ensure responsible conduct with respect to the environment and responsible treatment of the environment relevant to the project. A new pay item B13.02 is included in section 1300 to allow the contractor to make separate provision for the cost of environmental management obligations during the construction process.

Part E: OHS 1993 Health and Safety Specification contains the specifications that regulate the Contractor's construction methods so as to ensure the health and safety of his employees and the public. A new pay item B13.03 is included in section 1300 to allow the contractor to make separate provision for the cost of health and safety obligations during the construction process.

Part F: Expanded Public Works Programme contains requirements for employment and training in terms of the National Youth Service programme (where applicable – refer to Part F). Various pay items related to these requirements are included in Part F. However, to the extent that any costs relating to the requirements of Part F are not covered by the pay items in that section, the contractor shall include for such costs in the existing pay item B13.01 in section 1300. The contractor shall note that non-compliance with the provisions of Part F may lead to the imposition of penalties as described in clause F2.11.

Part G: Small Contractor Development contains provisions that regulate the contractor's construction processes for compliance with Government's initiatives towards broad-based black economic empowerment. Various pay items related to these requirements are included in Part G. However, to the extent that any costs relating to the requirements of Part G are not covered by the pay items in that section, the contractor shall include for such costs in the existing pay item B13.01 in section 1300. The contractor shall note that non-compliance with the provisions of Part G may lead to the imposition of penalties as described in clause G3.3.4."

PART C: MEASUREMENT AND PAYMENT

Amend the following payment item:

Item	Unit
PSC1.3.2 Contract sign boards	No

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

The tendered rate shall include full compensation for providing and erecting each contract signboard complete (refer to the typical signboard face detail shown in Section C4.2), including for timber poles and fixings, excavation and backfill, and for dismantling and removing the signboard structures and reinstating the signboard area on completion.”

CHAPTER 1.4 FACILITIES FOR THE ENGINEER

PART A: SPECIFICATIONS

PSA1.4.7 EXECUTION OF THE WORKS

PSA1.4.7.1 Offices and laboratories

Add the following new paragraphs at the end of this sub-clause:

The Engineer and Laboratory offices as measured under item C1.4.1 shall be ready for use within 3 months from the contract commencement date. Should the contractor not complete the construction of the offices within the 3 months period a penalty of R5 000 per day shall be imposed.

The ownership of all offices, laboratories, housing, sanitary facilities, laboratory equipment and other items provided by the contractor shall, when they are no longer required by the engineer, revert to the employer upon written advice by the engineer.

Prior to the handing over, the contractor shall inspect the buildings to ensure that the facilities are free of any defects and undertake any additional upgrades to the buildings, on written instruction from the engineer, to ensure compliance for its intended purpose.

PSA1.4.7.3 Services

b) Water, electricity and gas

Add the following sentence at the end of the 4th paragraph of Clause A1.4.7.3 (b):

“Payment for the voltage regulator shall be deemed to be included in the rates tendered for the supply of power.”

PART C: MEASUREMENT AND PAYMENT

Amend the descriptions on the following payment items:

Item		Unit
PSC1.4.1	Site Accommodation	
PSC1.4.1.1	Offices and conference room: The provision of accommodation as specified, including roof, external and internal walls, windows complete with glazing, doors with locks and fittings, burglar proofing, painting, floors, fencing, the provision of 220/250 volt electrical installation with wiring, switchboards, etc. water and sewerage installation, and stores, complete, in accordance with the drawings and specifications, except for items scheduled elsewhere	m ²
PSC1.4.1.3	Open concrete working floors and verandas (150mm thick)	m ²
PSC1.4.3	Items measured by number	
PSC1.4.3.8	Conference table (fold up heavy duty plastic moulded trestle tables, 1.8m x 0.76m each)	No
PSC1.4.3.10	Steel filling cabinets with drawers	No
PSC1.4.3.19	Wash-hand basin complete with taps and drains	No
PSC1.4.3.23	Fire extinguisher 9,0 kg, all purpose dry powder type, mounted on wall with brackets	No
PSC1.4.3.24	Air-conditioning unit with 2.2kW minimum capacity, mounted and with own power connection	No

Add the following new payment items:

Item		Unit
PSC1.4.3	Items measured by number	
PSC1.4.3.39	Floodlights complete with poles and 500-watt maximum globes	No
PSC1.4.3.40	Double 80-watt fluorescent light fittings complete with ballast and tubes	No

“The unit of measurement shall be the number of each item supplied and installed as specified.

The tendered rate shall include for the full compensation of these Engineer’s facilities all complete in accordance with the specifications given, together with all minor fittings, brackets, connections, mountings etc.”

Item		Unit
PSC1.4.9	Provision for office equipment	
PSC1.4.9.1	Provision for printer/copier/scanner	Prov Sum
PSC1.4.9.2	Handling costs and profit in respect of PSC1.4.9.1	%

“The unit of measurement for item PSC1.4.9.1 is the provisional sum. The provisional sum shall include for the full compensation for the provision of a printer, copier, scanner required at the Engineer’s site office.

The tendered percentage for item PSC1.4.9.2 is the percentage of the amount actually spent under item PSC1.4.9.1 which shall include full compensation for the handling costs of the Contractor, plus the profit and all other incidentals.”

Item		Unit
PSC1.4.10	Provision for stationery	
PSC1.4.10.1	Stationery	Prov Sum
PSC1.4.10.2	Handling costs and profit in respect of PSC1.4.10.1	%

“The unit of measurement for item PSC1.4.10.1 is the provisional sum. The provisional sum shall include for the full compensation for the provision of stationery required at the Engineer’s site office.

The tendered percentage for item PSC1.4.10.2 is the percentage of the amount actually spent under item PSC1.4.10.1 which shall include full compensation for the handling costs of the Contractor, plus the profit and all other incidentals.”

CHAPTER 1.5 ACCOMMODATION OF TRAFFIC

PART A: SPECIFICATIONS

PSA1.5.1 SCOPE

Add the following at the end of this clause:

The scope of this section shall also include the preparation and submission to the Engineer for approval of traffic management plans. The traffic management plans shall demonstrate how the Contractor intends accommodating and controlling traffic through the site. The plans must incorporate all the requirements of the specifications in respect of the accommodation of traffic, including the traffic control devices and the personnel involved. A traffic safety officer shall be specifically named in the Plan together with 24-hour contact details. Copies of the plans shall be made available to the Engineer, the Employer, Local Authorities, the Police and Emergency Services.

The accommodation of traffic shall generally be undertaken in the following manner:

- (a) Via gravel diversions, where practical in terms of space and the terrain.
- (b) By dealing with traffic under construction where no diversions are possible.
- (c) By diverting traffic along the existing road where the route is being realigned

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

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

PSA1.5.3 GENERAL

PSA1.5.3.3 Lane width

Add the following under Clause A1.5.3.3 Lane width

The contractor shall be prohibited from accommodating traffic by means of a lane closure during an embargo period due to peak traffic conditions as detailed in table below:

LANE CLOSURE EMBARGO PERIOD

Description of work prohibited	Embargo period
N/A	N/A

The contractor shall programme the works in order to ensure that there shall be no lane closures during an embargo period and shall make provision for the embargo period as specified in clause B1204 Programme of Work”.

PSA1.5.3.9 Right of way

Add the following under Clause A1.5.3.9 Right of way

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

PSA1.5.6 CONSTRUCTION EQUIPMENT

PSA1.5.7.11 Temporary traffic control facilities

Add the following under Clause A1.5.7.11 (a) General

"The contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control facilities) in accordance with these project specifications and as shown on the drawings and in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing, and shall remove them when no longer required.

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

"The type of construction, spacing and placement of traffic-control facilities shall be in accordance with the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing, these project specifications, and the drawings.

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

Add the following under Clause A1.5.7.11 (b) Channelization devices

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

Delineators shall:

- (i) comply with the requirements of SANS 1555;
- (ii) comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as scheduled;
- (iii) have smooth round edges and shall be mounted on a post and base. All components shall be of durable plastic material;
- (iv) have the lower edge of the reflective part of the delineator mounted not lower than 250 mm above the road surface;
- (v) be capable of withstanding the movement of passing vehicles and gusting winds up to 60 km/h in typical working conditions without falling over. To achieve this, the area of the base shall be at least 0,18 m² and shall be ballasted by sandbags with sand;
- (vi) together with their mountings be designed such that they will collapse in a safe manner under traffic impact.

Traffic cones shall be manufactured from fluorescent orange, red-orange or red plastic material, and shall be used only at short term lane deviations during daylight hours. All traffic cones used on deviations shall be 750 mm high. Cones shall not be used on their own but shall be interspersed with delineators at a ratio not exceeding 3 cones: 1 delineator. Lane closures which continue into the night time shall be demarcated by delineators only.

The use of steel drums as channelization devices shall not be allowed on this Contract. Channelization shall be effected by the use of delineators or cones as detailed in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing."

Add the following under Clause A1.5.7.11 (g) Temporary road signs

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

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

The traffic-control devices, temporary signs and devices required in the contract are those designated in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing.

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

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

The engineer may instruct the contractor to provide any other road sign and reflective tape. not measured in the standard pay items. Such other road signs and reflective tape shall conform to the requirements of the Southern African Development Community Road Traffic Signs Manual and any other specification provided by the engineer.

Add the following new Clause A1.5.7.11 (j) Warning devices

All construction vehicles and plant used on the works shall be equipped with 200 mm diameter rotating amber flashing lights and with "CONSTRUCTION VEHICLE" warning signs. All vehicles and plant shall obtain a clearance permit from the engineer before being allowed onto the site.

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

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

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

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

Add the following under Clause A1.5.7.11 (i) Traffic control measures

"The reduction of the road width to a single lane carrying one-way traffic and controlled by "STOP / GO" boards shall be allowed only during daylight hours in clear weather conditions when work is actively taking

place on the road, and such reduction of the road width shall always be accompanied by sufficient on-going watering to keep the dust down at all times on any trafficked gravel surfaces in order to maintain good visibility along the deviation. At least two lanes carrying two-way traffic shall be provided at all other times."

PART C: MEASUREMENT AND PAYMENT

Amend the following payment item.

PSC1.5 MEASUREMENT AND PAYMENT

Item		Unit
PSC1.5.4	Construction of temporary deviations	
PSC1.5.4.2	Cut and borrow to fill	m ³
PSC1.5.4.3	Cut to spoil	m ³

The unit of measurement for each item shall be as specified in the relevant payment item given in the applicable section of the pricing schedule. The contract rates for these items shall include full compensation for the construction of temporary deviations or the repair / upgrading of detours as specified in the relevant section of these Specifications.

Add the following new payment item.

Item		Unit
PSC1.5.7.10	Provision of temporary Traffic control facilities:	
PSC1.5.7.10.1	R & TR series (diameter indicated) (900mm diameter)	No
PSC1.5.7.10.2	TW series, (1200mm sides)	No
PSC1.5.7.10.3	Mobile variable message sign	
	(iv) TIN 11-4 (End/Thank you)	No.
	(v) Portable STOP and GO-RY signs	No.
PSC1.5.7.10.4	Road signs, STW-, DTG-, TGS- AND TG-series (excluding delineators and barricades)	No.
PSC1.5.7.10.5	Movable barricade/road sign combination (8m wide chevron and road closed types)	No.

The unit of measurement shall be the number of each sign provided, and, as may be applicable, completely erected.

The tendered rates shall include full compensation for providing and where applicable erecting each sign complete. In case of subitem (e).5 it shall also include moving the sign as may be necessary

Amend the following payment item:

Item	Unit
PSC1.5.8 Traffic safety officer, complete with vehicle, Cell phone, labour and any required equipment:	month

The unit of measurement shall be the period in months that the approved safety officer is employed on the site.

The tendered rate for item PSC1.5.8 shall include full compensation for the provision of a traffic safety officer complete with vehicle, cell phone, labour and any required equipment.

Item	Unit
PSC1.5.13 Penalties:	
(a) Fixed penalty for non-compliance with Traffic Safety requirements per occurrence	No
(b) Time related penalty for PSC1.5.13(a)	Hour

Failure or refusal on the part of the contractor to take the necessary steps to ensure the safety and convenience of the travelling public, accommodation of traffic, plant and personnel in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause for the engineer to apply penalties as follows:

(a) In sub item PSC1.5.1(a) a fixed penalty of R5 000,00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

(b) In sub item PSC1.5.13(b) a time-related penalty of R 500,00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given."

Add the following payment items:

Item	Unit
PSC1.5.14 The provision and maintenance of safety equipment for use by the Resident Engineer:	
(a) Rotating amber flashing lights magnetically attached to vehicles	No
(b) High visibility reflective safety vests	No

The unit of measurement for sub-item PSC1.5.14(a) and (b) shall be the number of rotating amber flashing lights and high visibility reflective safety vests provided.

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

Add the following payment items:

Item	Unit
PSC1.5.15 Provision and laying of temporary prefabricated pipe culverts	
PSC1.5.15.1 On class C bedding	
(a) Class 100D Spigot and Socket 900mm dia.	m
(b) Class 100D Spigot and Socket 1200mm dia.	m
(c) Eventual removal of prefabricated culverts	m

The unit of measurement for concrete pipe culverts shall be the metre of culvert laid as shown on the drawings or ordered by the Engineer. The length shall be measured along the soffit centre of the culvert or along each barrel for multiple barrel units. The unit of measurement for the skew ends of culverts shall be the number of skew end units provided; in- and outlets and multiple barrels shall be measured separately. The tendered rate shall include for all costs to provide the skew end unit from the manufacturer to the specified length and skew including all wastage.

The tendered rates shall include full compensation for providing, testing, loading, transporting and unloading the culverts, for providing and placing all specified bedding but excluding concrete bedding, and for the installation, laying and jointing of the culverts, as specified.

Where a half-length pipe unit is required, i.e. a pipe unit of which the length is equal to half the standard length, and provided that such half-length pipe units are normally supplied by the manufacturers, the actual length of such half-length pipe unit will be measured for payment, and no additional compensation will be paid in respect of such half-length pipe unit.

For the purposes of payment, differentiation shall be made between the various types and sizes of culverts and between the culverts placed on A, B, C and D Classes of bedding as well as the different size skew ends requirements.

The tendered rate shall also include for the removal of the temporary detour, including all associated earthworks and the rehabilitation of the river channel. Payment shall be regarded as included in the rates tendered for the applicable items for the above-mentioned work.

CHAPTER 1.6 CLEARING AND GRUBBING

PART C: MEASUREMENT AND PAYMENT

Amend the following payment items:

Item	Unit
PSC1.6.7 Re-clearing of surfaces (on the written instructions of the Engineer only)	ha

The unit of measurement for item PSC1.6.7 shall be the hectare. The quantity shall be taken as the area in hectares (to the nearest 0,01 ha) agreed to by the Engineer for re-clearing in accordance with these specifications.

The contract rate shall include full compensation for all work necessary for the clearing of the surface, grubbing if necessary, backfilling of holes and for loading the material, all as described in this section. Hauling of the re-cleared material to a designated spoil area will be measured from the point of loading to the centroid of the designated spoil area following the shortest practical route. Payment for haulage will be made under item C1.7.2

(Re-clearing required because the Contractor cleared and grubbed an area too soon, as well as keeping cleared areas free from weeds and alien vegetation, is the Contractor's responsibility and will not be measured and paid for under this item.)

Add the following payment items:

Item	Unit
PSC1.6.11 Clearing and grubbing at inlets and outlets of hydraulic structures	m²

"Local labour shall be utilised in the following tasks; sawing off branches, backfilling holes and the removal of materials. Compaction of the backfilled areas shall be undertaken using a hand-held compaction tool (where possible)."

Item	Unit
PSC1.6.12 Cleaning out of hydraulic structures:	
(a) Pipes with an internal diameter up to and including 750 mm	m ³

Local labour shall be utilised in the removal of all undesirable materials from structures."

CHAPTER 1.7 LOADING AND HAULING

PART A: SPECIFICATIONS

PSA1.7.2 DEFINITIONS

Add the following at the end of Clause 1.7.2 Hauling:

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

PSA1.7.7 EXECUTION OF THE WORKS

Add the following to Clause 1.7.7:

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

CHAPTER 2.1 GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES

PART A: SPECIFICATIONS

PSA2.1.4.2 Alternative designs

Add the following at the end of Clause A2.1.4.2:

“The provision of contact price adjustment in the original tender summary must not under any circumstances be altered in an alternative tender.”

PART C: MEASUREMENT AND PAYMENT

Add the following new payment items:

Item		Unit
PSC2.1.1	Location, identification, protection and relocation of existing services	
PSC2.1.1.5	Provisional sum for existing services to be relocated and/or protected during construction	Prov Sum
PSC2.1.1.6	Handling costs and profit in respect of subitem PSC2.1.1.5 above	%

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

The tendered percentage is a percentage of the amount of expenditure approved by the engineer under subitem PSC2.1.1.5, and shall include full compensation for the handling costs of the contractor and the profit in connection with the protection, relocation, realignment, removal or replacement of the relevant services.”

Item		Unit
PSC2.1.1.7	Installation of new survey beacons and protection of existing beacons:	
PSC2.1.1.7.1	Provisional sum for new survey beacons to be installed, relocated and/or relocated during construction	Prov Sum
PSC2.1.1.7.2	Handling costs and profit in respect of subitem PSC2.1.1.7.1 above	%

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

The tendered percentage is a percentage of the amount of expenditure approved by the engineer under subitem PSC2.1.1.7.1, and shall include full compensation for the handling costs of the contractor and the profit in connection with the construction of new survey beacons or the protection of existing survey beacons.”

CHAPTER 3.2 CULVERTS

PART A: SPECIFICATIONS

PSA3.2.7.2 Excavation for construction by trench method

Add the following to Clause A3.2.7.2 (d) Excavation by hand:

Hand excavatable material is material:

a) granular materials:

- i. whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
- ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) cohesive materials:

- i. whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note:

- 1) A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm; and
- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Trench excavation:

All hand excavatable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

PSA3.2.7.7 Laying and bedding of prefabricated culverts

Add the following to Clause A3.2.7.7:

(v) General

Pipe culverts have been designed to the positions, lengths and elevations shown on the drawings. However, site conditions may dictate that changes are necessary. Any such changes will be agreed with the Engineer and recorded in writing.

PSA3.2.7.10 Backfilling of culverts

Add the following to Clause A3.2.7.10: Backfilling of culverts

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm.

Each layer shall be compacted using hand stampers;

- a) to 90% Mod AASHTO;
- b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders; or
- c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Where backfilling is done in the upper layers of the road formation, the quality and strength of the backfill material shall at least match that of the surrounding layers.

CHAPTER 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

PSA3.3.5 MATERIALS

Add the following to Clause A3.3.5.2(c) Joint sealant

Shrinkage joints for cast in-situ concrete work.

Unless shown otherwise on the drawings, cast in situ channels shall be provided with shrinkage joints spaced a maximum of 2m apart. Shrinkage joints shall be constructed so that shrinkage cracks are generated at the joints. Sections of channel which have cracked between shrinkage joints shall be removed and replaced by the contractor at his own cost.

PSA3.3.7 EXECUTION OF THE WORKS

Add the following to Clause A3.3.7(e) Cast in situ kerbs and channels:

Kerbing of radius 1m and less shall be cast in situ in accordance with Clause A3.3.5.2 and as shown on the drawings. All kerbs shall be provided with continuous in-situ concrete backing (haunching), the cost of which shall be included in the tendered rate. Dimensions of the triangular-shaped (in cross-section) haunching shall be calculated as follows: If the difference in levels between the top of the kerb and the sub-base on which the kerb is laid is (h), then the height of the haunch is $2/3h$ and the width of the haunch is h.

PSA3.3.8 WORKMANSHIP

Add the following to Clause A3.3.8.1(a) Concrete kerbing and channeling

Formwork and finish

All visible edges of cast in-situ channels shall be rounded with a rounding tool.

PART C: MEASUREMENT AND PAYMENT

Item	Unit
PSC3.3.8.2 Class U2 surface finish to cast in situ concrete (Open Drains and Side Walk)	m ²

The unit of measurement for surface finish shall be the square metre of finished surface.

The tendered rate for surface finish shall include full compensation for all labour, plant, material and other additional work and incidentals required.

Item	Unit
PSC3.3.19 Trimming of excavations for concrete-lined open drains:	
(a) In soft material	m ²

The unit of measurement for trimming of excavations for concrete lined open drains shall be the square metre of finished surface.

The tendered rate for surface finish shall include full compensation for all labour, plant, material and other additional work and incidentals required.

Item	Unit
PSC3.3.20 Inlet, outlet, transition and similar structures (typical designs):	
(i) Pipe to open chute including splash walls with 1m transition channels and erosion protection as shown in SD 0704/B	No
(ii) 1000 V-Drain Outlet chute including 5m transition, 2m straight channel and stone pitching erosion protection (As shown on Drawing SD 0603/A)	No

The unit of measurement and payment shall be the number of completed units of each type of structure constructed and the tendered rate shall include full compensation for all formwork, concrete, excavation, trimming and backfilling, including such accessories as grids, etc as may be specified on the typical drawings.

C4.2 CUT MATERIALS

PART A: SPECIFICATIONS

PSA4.2.5 MATERIALS

Add the following to Clause A4.2.5.2 Quality of materials

“The contractor shall make all reasonable endeavours to select diligently materials in the cuts suitable for deployment in the construction of the fills. Any unsuitable material encountered shall be hauled to the designated spoil site. The engineer reserves the right to alter the contractor's programme and method of operation to achieve this objective.”

PSA4.2.7 EXECUTION OF THE WORKS

Add the following to Clause A4.2.7.1 (i) Excavation operations

The Contractor shall note the restricted nature of the earthworks in general, and where the widening of existing cuts and fills are required in particular. No extra over rates for widening of cuts, widening of fills or for working in restricted areas shall be applicable to this Contract.

Add the following to Clause A4.2.7.1 (b) Classes of excavation

Hard Excavation

“Hard excavation shall be classified as that material remaining in cut and borrow which, after every reasonable endeavour has been made to remove it as intermediate material, can only be removed by drilling and blasting.”

Work in restricted areas

“No extra payment shall be made for work in restricted areas. Allowance for all such extra over costs arising from work executed in restricted areas shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section C4.2.”

Excavating material from the pavements and fills of existing roads

No extra payment shall be made in terms of excavation of material from the pavements and fills of existing roads. Allowance for all such extra over costs arising from such excavation shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section C4.2.

Widening of cuts

No extra payment shall be made in terms of widening of cuts. Allowance for all such extra over costs arising from such widening of cuts shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section C4.2.”

Add the following to Clause A4.2.7.1 (f) Spoil material

Free-haul

Cut to spoil shall include a free-haul distance up to 1,0 km of material of all classes

Add the following to Clause A4.2.7.1 (h) Excavation of material in cuttings

Free-haul

Cut and borrow to fill shall include a free-haul distance up to 1,0 km.”

Removal of unsuitable material shall include a free-haul distance up to 1,0 km

PART C: MEASUREMENT AND PAYMENT

Add the following payment items:

Item	Unit
PSC4.2.3 Excavating of materials in cuttings, material obtained from	
PSC4.2.3.6 Intermediate	m ³

The tendered rates for items PSC4.2.3.6 shall include full compensation for breaking down the cut materials in the various classes to the specified maximum particle sizes, for excavating, and loading the material. Should the Contractor choose for designated excavations to temporarily place the excavated material next to the excavation for loading later, it shall not be considered as stockpile of material nor shall the loading be considered as a separate activity for compensation.

Item	Unit
PSC4.2.8 Excavate material to spoil in sites designated by the Employer, material obtained from	
PSC4.2.8.6 Intermediate excavation	m ³

The unit of measurement shall be the cubic metre of material excavated and spoiled. The quantities shall be measured in place in its original position in the cutting, box cut or designated excavation, and shall be computed from topographical surveys. The Engineer may approve that the quantities be measured in the haul vehicles as an alternative when the quantities of the spoil material cannot be calculated accurately prior to excavating, by taking the in situ volume of the material in the case of soft excavation as equal to 70 % of the loose volume of material in the haul vehicles, and in the case of boulder and hard material as equal to 50 % of the loose volume of material in the haul vehicles.

The tendered rates shall include full compensation for breaking down the various classes to sizes required for hauling, excavating and loading, and for off-loading and disposing the material, including shaping and levelling-off any heaps of spoil material.

The excavation of hard material by blasting shall exclude the cost of blasting, which shall be measured and paid for under item C12.10.1 of Chapter 12.

Haul shall be measured from the point where the material is loaded to where it is off-loaded.

C4.4 COMMERCIAL MATERIALS

PART C: MEASUREMENT AND PAYMENT

Amend the following payment items:

Item	Unit
PSC4.4.2.1 Pavement layer material:	
(c) Type G5/G6 base material compacted to 97% of modified AASHTO density (200mm thickness)	m ³
(d) Type G6 material subbase compacted to 95% of modified AASHTO density (150mm thickness)	m ³
(e) Type G8 material Upper selected subgrade compacted to 93% of modified AASHTO density (125mm thickness)	m ³
(f) Type G7 material sidewalk base compacted to 93% of modified AASHTO density (150mm thickness)	m ³
(g) Type G8 material lower selected subgrade compacted to 93% of modified AASHTO density (125mm thickness)	m ³

The tendered rate shall include full compensation for procuring, breaking down, placing and compacting the material, including transporting the material and its removal, disposal and transporting for a distance of 1km and up to 5% of volume of oversize material and the protection and maintenance of the layer and the conducting of tests, all as specified. Overhaul shall not be measured separately for payment of materials obtained from commercial sources, and the rates tendered for such materials shall be fully inclusive of all haul required.

CHAPTER 5.2 FILL

PART A: SPECIFICATIONS

PSA5.2.3 GENERAL

PSA5.2.3.4 Fill compaction classification

Add the following to Clause A5.2.3.4

“The swell at 100% of modified AASHTO density shall not exceed 2%.”

PART C: MEASUREMENT AND PAYMENT

Add the following payment items:

Item	Unit
PSC5.2.12 Widening of fills as specified in subclause A5.2.7.4 extra over:	
(a) Item C4.2.7.2	m ³

“The unit of measurement shall be the cubic meter of material placed in the widening of existing fills.

The tendered rate shall be paid extra over the rates applicable to normal full width construction, and shall include full compensation for all additional transport, equipment, labour, supervision as well as any additional costs for the widening of fills, including the cutting of benches.

The tendered rates shall also include full compensation for widening fills in restricted areas.”

Item	Unit
PSC5.2.13 Extra over item PSC4.2.8 for spoiling material	m ³

“The unit of measurement shall be the cubic meter of material excavated from benches in the widening of existing fills and which is spoiled on the instructions of the engineer.

The quantity shall be calculated in accordance with the authorized dimensions of the benches.

The tendered rate shall be paid extra over the rates applicable to item PSC4.2.8 and shall include full compensation for all additional costs for spoiling the material, including amongst others all additional work, construction equipment, labour and supervision, irrespective of the size and depth of the benches and the class of material.

No extra over payment will be made for work in restricted areas.”

CHAPTER 5.3 ROAD PAVEMENT LAYERS

PART A: SPECIFICATIONS

PSA5.3.3 GENERAL

PSA5.3.3.2 Use of material

Add the following to Clause A5.3.3.2

The pavement for the road shall consist of:

Base	200mm C3 (G5/G6) material, from road prism/stockpile/borrow/commercial
Subbase	150mm G6 material, from road prism/stockpile/borrow/commercial
Upper selected	125mm G8 material, from road prism/stockpile/borrow
Lower selected	125mm G8 material, from road prism/stockpile/borrow

PSA5.3.3.4 Compaction of pavement layer material

Add the following to Clause A5.3.3.4

The compaction requirements of the pavement layers shall be:

Base	97% of modified AASHTO density
Subbase	95% of modified AASHTO density
Upper selected	93% of modified AASHTO density
Lower selected	93% of modified AASHTO density

PART C: MEASUREMENT AND PAYMENT

Add the following payment items:

Item	Unit
PSC5.3.2 Construction of pavement layers	
PSC5.3.2.1 Construction of layers using conventional construction methods:	
(a) Lower selected subgrade layer G8 150mm compacted to 93% of modified AASHTO density	m ³
(c) Upper selected subgrade layer G8 150mm compacted to 93% of modified AASHTO density	m ³
(dd) Type G5/G6 base layer (200mm thickness) compacted to 97% of modified AASHTO density	m ³
(ee) Base layer for concrete sidewalk G7 150mm compacted 93% of modified AASHTO density	m ³
(ff) Type G6 subbase layer (150mm thickness) compacted to 95% of modified AASHTO density	m ³

The unit of measurement shall be the cubic metre of material in the compacted layer, calculated using the layer work dimensions given in the Contract Documentation.

The tendered rates shall include full compensation for spreading the material, for breaking down oversize gravel material using one normal grid rolling operation or an equivalent operation, for removal of up to 5 % of the compacted layer volume of oversize material that cannot be broken down, for adding water for compaction purposes, for mixing, for levelling, for compacting to the specified density, for slush-compaction

of G2 material layers or other layer that may be specified to receive slush-compaction and for finishing the layers in accordance with the specifications and the Contract Documentation. The tendered rates shall also include for the removal of all material in the windrow after the compaction of the layer has been completed.

CHAPTER 5.4 STABILISATION

PART A: SPECIFICATIONS

PSA5.4.3 GENERAL

PSA5.4.3.1 Stabilisation agents

Add the following to Clause A5.4.3.1

Chemical stabilizing agents

"Cement shall comply with the relevant requirements of SANS 50197-1:2000. The use of strength classes greater than 32,5 shall not be permitted."

Add the following to Clause A5.4.7.3

Construction limitations

Cement stabilization shall not be carried out during falling temperatures when the ambient air temperature falls below 7°C or during rising temperatures when the ambient temperature is below 3°C.

The surface temperature of a compacted stabilized layer shall not be allowed to fall below 1°C during the first three (3) days after stabilization. The Contractor shall be responsible for taking all measures necessary in this regard and shall especially refrain from stabilizing when such night temperatures are probable.

All stabilized layers which have been damaged by frost or by the formation of ice in the layer shall be removed and replaced by the Contractor at his expense unless agreed otherwise by the Engineer. The Contractor shall make due allowance for these requirements in his construction programme, and no claims in this regard will be considered

PSA5.4.8 WORKMANSHIP

PSA5.4.8.3 Quality/process control

Add the following to Clause A5.4.8.3

Quality of materials and workmanship

Test results and re-measurements shall be assessed in accordance with the provisions of Section 20.1, Judgement Plan B.

The Contractor shall advise the Engineer at least 24 hours in advance of any stabilization work to enable him to organise and conduct his own control tests.

Where the stabilising agent is to be spread by hand, the pockets of stabilising agent shall be placed on the layer at regular intervals. However, spreading shall not be carried out before the engineer is satisfied that the correct quantity of stabilising agent can be spread.

Stabilised layers shall be covered for curing within 24 hours, as specified. If the stabilised layer is found to have failed, the cover material shall be removed, and the layer rectified if instructed by the engineer. No additional payment shall be made for such removal and remedial work.

PART C: MEASUREMENT AND PAYMENT

Add the following to Clause (i) Preamble:

No extra over payment will be made due to the nature of the site or the size of the work area available. All costs associated with carrying out the works are deemed to be included in the tendered rates for the items in the Bill of Quantities.

CHAPTER 8.1 PRIME COAT

PART A: SPECIFICATIONS

PSA8.1.5 MATERIALS

PSA8.1.5.1 Bituminous material

Add the following to Clause A8.1.5.1

Add to the words “, such as MSP 1 or similar,” to the last of the listed priming materials, that is inverted bitumen emulsion.

“Unless otherwise directed, MC 30 cut-back bitumen or an invert bitumen emulsion manufactured from 70/100 penetration grade bitumen such as MSP/1 or similar, shall be used for priming. If the cut-back bitumen prime does not penetrate adequately, between 5% and 10% by volume of paraffin may be added to and mixed with the cut-back bitumen by sucking it into the binder distributor and then using the circulating system to achieve mixing.”

PSA8.1.7 EXECUTION OF THE WORKS

PSA8.1.7.2 Storage and application of the prime coat

Add the following to Clause A8.1.7.2

The nominal application rate of the prime shall be 0,7l/m². Unless directed otherwise by the engineer or indicated on the drawings, the width of the primed surface shall be 150mm wider than the edges of the surfacing on each side.

Application in areas treated by reworking and construction of a new base shall be primed using a mechanical distributor complying with sub-clause 4103(a). The edges of the previously constructed or existing surfacing shall be adequately protected by approved means to ensure that an overlap of prime not exceeding 50mm is sprayed onto the previously constructed or existing surfacing.”

PSA8.1.7.5 Opening to traffic

Add the following to Clause A8.1.7.5

“Primed layers shall not be opened to traffic prior to the construction of the asphalt wearing course.”

CHAPTER 9.1 ASPHALT LAYERS

PART A: SPECIFICATIONS

PSA9.1.1 SCOPE

Add the following to Clause A9.1.1

All criteria and specifications relating to asphalt work shall be in strict accordance with this specification. This section also covers the supply of asphalt base and surfacing from both a commercial source as well as from an asphalt plant established by the contractor on site.”

PSA9.1.3 GENERAL

Add the following to Clause A9.1.3

Wearing course

The wearing course shall consist of a consolidated layer of continuously graded asphalt laid by an approved spreading and finishing machine. The minimum single layer thickness shall be three (3) times the nominal maximum particle size. A tack coat shall be used between the previous course and the wearing course unless otherwise specified by the Employer’s Agent or Employer’s Agent’s Representative.

References and standard specifications

Reference to the following standard specifications, guideline documents and codes of practice (Table 4201/1) shall be deemed to be references to the latest issues of the relevant documents.

TABLE B4201/1: REFERENCE AND STANDARD SPECIFICATIONS

SANS 9001	Quality management systems – Requirements
SANS 4001-BT1	Penetration grade bitumen
SANS 4001-BT3	Anionic bitumen road emulsions
SANS 4001-BT4	Cationic bitumen road emulsions
SANS 1083	Aggregates from natural sources
SANS 824	Lime for soil stabilization
Act 85 of 1993	Occupational health and safety act
Act 39 of 2004	National environmental management : Air quality act
Sabita Manual 5	Guidelines for the manufacture and construction of hot mix asphalt
Sabita Manual 27	Guidelines for thin hot mix asphalt wearing courses on residential streets
Sabita Manual 32	Best practice guideline for warm mix asphalt
Sabita Manual 35	Design and use of asphalt in road pavements
Sabita Manual 36 / TRH 21	Hot mix recycled asphalt
TG1	The use of modified bituminous binder in road construction

PSA9.1.3 MATERIALS

PSA9.1.3.5 Surface requirements

Add the following to Clause A9.1.3.2

Moisture content

The moisture content of aggregates, sampled from the cold feed belt, shall not exceed the following limits at the time that it is introduced into the mix:

- Coarse aggregate: 2%
- Fine aggregate: 4%

PSA9.1.5 MATERIALS

PSA9.1.5.2 Bituminous binders for asphalt mixes

Add the following to Clause A9.1.5.2

Conventional binders

“The binder to be used shall be as follows:

Straight run conventional bituminous binders shall conform to SANS 4001-BT1 and shall be penetration grade 35/50.”

PSA9.1.5.4 Aggregates

a) Aggregate properties

“Asphalt mixes shall be manufactured using different individual single size coarse aggregates fractions and crushed fine aggregates blended to conform to the specified grading requirements. The use of natural sands shall only be permitted if approved by the engineer and shall be limited to a maximum of 5% for continuously graded mixes. All aggregate in excess of 5mm shall consist of individual nominal single sized aggregate.

The Contractor shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional on-site screening. No additional payment shall be made for screening aggregate. The use of run of crusher type materials shall not be permitted.”

“The grading control points for the combined aggregate grading for the asphalt surfacing shall be as specified in Sabita Manual 35 Table 12.

b) Coarse aggregate grading

Coarse aggregate shall comprise single sized, clean, unweathered material and shall be free from organic matter and other deleterious substances. The aggregate shall conform to the requirements of Table B4202/16 “Aggregates for Asphalt Manufacture”. The grading and dust content of the aggregate shall comply with the requirements of SANS 1083 Table.

Grading Class

Grading unless otherwise specifically permitted, the coarse aggregate components of any asphalt mix shall comply with the grading limits tabled in Table B4202/7a below for the relevant grading class and NMPS as listed. The grading class applicable to the relevant mix type shall be as follows:

Grading class 2:

- Continuously graded: sand skeletal

TABLE B4202/7a: Grading limits for nominal single size coarse aggregate

Grading class	Nominal maximum particle size (NMPS) (mm)											
	28,0		20,0		14,0		10,0		7,1		5,0	
Sieve size (mm)	1	2	1	2	1	2	1	2	1	2	1	2
	Percentage passing sieve size by mass											
37,5	100	100	-	-	-	-	-	-	-	-	-	-
28,0	85-100	85-100	100	100	-	-	-	-	-	-	-	-
20,0	0-20	0-30	85-100	85-100	100	100	-	-	-	-	-	-
14,0	0-5	0-5	0-20	0-30	85-100	85-100	100	100				
10,0			0-5	0-5	0-20	0-30	85-100	85-100	100	100		
7,1					0-5	0-5	0-20	0-30	85-100	85-100	100	100
5,0								0-5	0-20	0-30	85-100	85-100
2,36									0-5	0-10	0-5	0-10

a) Fine aggregate grading

Fine aggregate shall consist of the mineral matter passing the 5,00 mm sieve and retained on the 0,075 mm sieve and shall consist predominantly of freshly crushed aggregate or clean, natural hard sand. Fine aggregate shall conform to the requirements of Table B4202/16 "Aggregates for Asphalt Manufacture". The grading and dust content of "natural sand" shall comply with the requirements of SANS 1083 Table 1 (Column 2 or 3 as applicable). The use of natural sands is limited or prohibited in certain asphalt mixes. These limitations are quantified

TABLE B4202/16: AGGREGATE QUALITY REQUIREMENTS

Aggregate Property		Coarse Aggregate	Fine Aggregate (Crushed Rock)	Fine Aggregate (Natural Sand) ¹	Combined Total Fine Aggregate	Inert Filler	Active Filler
Parent Material		Clean unweathered crushed rock	Clean unweathered crushed rock	Clean natural fines not obtained from crushed parent rock	-	Unweathered rock dust	Approved commercial non-plastic material
		Sand Skeleton Mixes (Sa)					
Grading		COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998) Table 4302/8	Well graded between 5.0mm and 0.075mm sieves	SANS 1083 Table 1 (Column 2)	Passing 5.0mm sieve	P0.075 > 75%	P0.075 > 75%
ACV (%) (max.)		25	25 (Parent rock)	-	-	-	-
10% FACT (Dry) (Min.)		160 kN	-	-	-	-	-
10%FACT (Wet) (Min.)		75% of 10% FACT (Dry) Value	-	-	-	-	-
Flakiness Index (Max.)	20mm & 14mm Aggregate	25	-	-	-	-	-
	10mm & 7.1mm Aggregate	30	-	-	-	-	-
	SMA Mixes	20	-	-	-	-	-
Polished Stone Value (Min.)		50	-	-	-	-	-
Water Absorption (%) (Max.)		1.0	1.5	1.5	1.5	-	-
Sand Equivalent (%) (Min.)		-	40	River	Pit	50	-
				80	50		
Methylene Blue Adsorption Value (Max.)		-	0.7	0.7	0.7	-	-
Permissible Content (% by Mass of Mix Aggregates)		-	-	0 - 10	-	-	0 – 2

PART C: MEASUREMENT AND PAYMENT

Add the following payment items:

Item	Unit
PSC9.1.17 Penalty deduction for overloading	
(a) Penalty deduction with respect to item C9.1.5.1	t

The unit of measurement for the calculation of the penalty deduction shall be the ton of asphalt mix transported in excess of the legal load.

The magnitude of the tendered per ton penalty rate applied shall be calculated as twice the contractor's tendered rate for placing the asphalt surfacing mix under item 42.02 (duly converted to a "per ton" rate), or under item 42.09 per ton, multiplied by minus one:

Rate tendered for subitem PSC9.1.17(a) per ton

$$= [(2 \times \text{rate tendered per m}^2 \text{ for item C9.1.1.2 (duly converted to a "per ton" rate)}) \times (-1)]$$

Rate tendered for subitem PSC9.1.17(b) per ton

$$= [(2 \times \text{rate tendered per ton}) \times (-1)]$$

CHAPTER 11.2 NON-STRUCTURAL GABIONS

PART A: SPECIFICATIONS

PSA11.2.5 MATERIALS

PSA11.2.5.2 Materials

f) Geotextile behind and below the gabions

Add the following to Clause A11.2.5.2 f) Geotextile behind and below the gabions

"In the case of the filter fabric used to line the earth faces of the gabion mattresses, the following minimum properties shall apply:

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

PSA11.2.8 WORKMANSHIP

PSA11.2.8.1 General

Add the following to Clause A11.2.8.1

PATENT RIGHTS AND DESIGN OF GABION RETAINING WALL

The license holder shall be responsible for the design by a Professionally Registered Engineer (ECSA), manufacture and supply of the gabion earth retaining wall and for providing technical assistance during construction.

The contractor shall negotiate directly with the patent holders or licensees in connection with royalties payable for the use of the patented systems. The contractor shall arrange for technical assistance by the patent holders or licensees before and during construction.

The patent holders or licensees shall design each wall, and full details shall be submitted to the Engineer for scrutiny and approval not later than (20) days prior to the commencement of construction of any part of the wall(s). No construction work shall be carried out in accordance with any drawings if the official approval of the licence holder has not been clearly indicated on it.

PART C: MEASUREMENT AND PAYMENT

Amend the following payment items:

Item	Unit
PSC11.2.1 Foundation trench excavation	
PSC11.2.1.1 In all other classes of materials	m ³

The unit of measurement shall be the cubic metre of material excavated within the specified widths over the lengths and depths authorised by the Engineer in each case, measured in place before excavation. Excavation in excess of the widths specified or authorised by the Engineer shall not be measured for payment.

Excavation shall be done using conventional construction methods and/or labour enhanced construction methods as specified and measured.

The tendered rates shall include full compensation for the excavation of the material to the required dimensions, lines, levels and grades, temporary timbering, shoring and strutting, including unavoidable

overbreak, the trimming of the trenches and compacting the trench inverts, backfilling of over excavation and compacting the backfill, keeping excavations safe, dealing with any surface or subsurface water and the loading and disposal of the excess material as directed. The tendered rates shall also include full compensation for any other operations necessary for completing the work as specified but excluding surface preparation for bedding the gabions.

Loading and hauling, where applicable, including a haul of 1,0 km, shall be measured and paid as specified in Section C1.7 of Chapter 1. Where the excavation of material is specified by means of labour enhanced construction methods, the tendered rates shall include loading and transport by wheelbarrow if the material is disposed of or utilised within a radius of 50 m, alternatively loading by hand onto transport vehicles for such disposal or utilisation elsewhere, within a haul distance of 1,0 km.

For payment purposes a distinction shall be made between materials as classified under item A11.2.7.2 Classification of Materials of the COTO Standard Specifications for Roads and Bridgeworks

Item	Unit
PSC11.2.3 Gabion boxes and mattresses:	
PSC11.2.3.1 Galvanized gabion boxes, hexagonally woven mesh, 80mm x 100mm, 2.7mm dia. with additional PVC coating, as follows: (c) 2.0 m long x 1.0 m wide x 1.0 m high	m ³
PSC11.2.3.3 Galvanized gabion mattresses, hexagonally woven mesh, 80mm x 100mm, 2.7mm dia. with 1.0m diaphragm spacing: (a) 2.0m wide by 0.3m high by 6.0m long	m ³

The unit of measurement shall be the cubic metre of the rock-filled boxes or mattresses and the quantity shall be calculated from the dimensions of the gabions indicated on the drawings irrespective of any accepted deformation or bulging of the completed gabions. Gabions boxes and mattresses shall be measured to the nearest specified size.

The tendered rates shall include full compensation for supplying all the materials, including rock fill, wire-mesh boxes, galvanizing, PVC-coating, tying and connecting wires, loading, transporting and off-loading, the assembling and filling of the boxes, disposal of waste, and any other work necessary for constructing the gabions. It shall exclude any geotextile fabrics which, if required, shall be measured and paid for under item C11.2.4.

Placing of rock by dumping shall not be allowed and the tendered rates shall also include full compensation for placing rock by means of hand labour.

CHAPTER 11.4 ROAD RESTRAINT SYSTEMS

PART A: SPECIFICATIONS

PSA11.4.5 MATERIALS

PSA11.4.5.2 Materials

a) Steel guardrails for erection on timber posts

Add the following to Clause A11.4.5.2 (a)

All holes in guardrail sections shall be drilled prior to galvanising. The Contractor shall submit SABS test certificates certifying the galvanising complies with the specification.

End treatment will involve the dipping of the last 3 sections of guardrails into the ground as detailed on the drawings.

c) Guardrail posts

a. Timber posts

Add the following to Clause A11.4.5.2(c)(i)

“The tops of all timber guardrail posts and spacer blocks shall be sealed with a coat of 50/70 pen. bitumen. Galvanised gang-nail plates shall then be nailed on top of the guardrail posts.”

PSA11.4.8 WORKMANSHIP

Add the following to Clause A11.4.8

The vertical tolerance to which the completed guardrail shall comply shall be 3 mm. On straights and on curves the completed guard-rail shall not be out of line by more than 10 mm and 15 mm respectively.

CHAPTER 11.7 ROAD MARKINGS AND ROAD STUDS

PART A: SPECIFICATIONS

PSA11.7.5 MATERIALS

PSA11.4.5.2 Materials

a) Marking materials

Add the following to Clause A11.7.5.2(a)

During actual painting the Contractor shall supply sealed samples of the paint to be used to the Engineer together with details of the paint batch numbers and testing carried out on these particular batches by the paint manufacturer to prove compliance with this specification. These samples shall be kept until the end of the defects liability period.

CHAPTER 13.1 FOUNDATIONS

PART A: SPECIFICATIONS

PSA13.1.1 Scope

Add the following sentence to the end of Clause PSA13.1.1:

“This section shall also cover the provision of a temporary access to site.”

PSA13.1.7.1 Work access and drainage

b) Work access

Add the following new Clause PSA13.1.7.1 (b) (iii) Access crossing:

“The Contractor shall be required to provide and maintain an access crossing over the river as specified for the temporary deviation. The Contractor is required to make reference to the Hydrology and Hydraulic report attached to this document and design and construct an access crossing to accommodate the 1 in 2yr return period flows. The Contractor will be required to maintain the access crossing for the duration of the contract and remove the crossing after completion of the contract. The Contractor will be required to submit his proposed access crossing drawings to the Engineer for comment 2 weeks prior to the commencement of works.

The access crossing must be constructed with a minimum 1200mm diameter concrete pipes or concrete portal culverts. The embankments to the access crossing must be protected adequately using grouted reno mattresses and gabions.”

a) Drainage

Add the following after the 3rd paragraph to Clause PSA13.1.7.1 (c)

“The Contractor shall be required to provide and maintain such sumps, pumping equipment and temporary stream diversion works as may be necessary, in order to keep the works dry during the construction period. All works for access and drainage is to fully comply with Part C of the project specifications.

Immediately after concreting has taken place, the Contractor shall continue to keep the excavations dry for a sufficiently long period to ensure that the constituent concrete materials are not washed out from the freshly cast member.”

PSA13.1.7.3 Founding

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

“Where foundation slabs are cast directly against the face of the excavations, the volume of concrete measured for payment shall be the total volume of concrete placed or the volume based on the plan dimensions detailed on the drawings plus a 100mm allowance for over break on each applicable side whichever is the lesser. No formwork to the footing shall be measured when the concrete is cast against the face of the excavations”.

PSA13.1.7.5 Backfill and fill near structures

b) Fill within restricted area

In the second paragraph replace “93%” with “95%.”

Replace the last sentence in paragraph three with the following:

“In narrow widths where it is difficult or impossible for appropriate mechanical compaction equipment to be used, the fill material may be substituted with soilcrete with the approval of the Engineer.”

PSA13.1.7.8 Foundation Dowels

Amend the 4th sentence in the first paragraph to read:

“The holes shall be cleared by water-jetting or compressed air and pre-wetted immediately before the grout is filled from the base as to ensure no air pockets.”

Delete the last sentence of the first paragraph and replace with the following:

“The grout to be used shall be an Engineer approved cementitious grout, mixed and applied in accordance with the manufacturer’s instructions.”

PART C: MEASUREMENT AND PAYMENT

Amend the following payment items:

Item	Unit
PSC13.1.6 Access and drainage:	
PSC13.1.6.1 Access	Lump Sum

Add the following to the end of item PSC13.1.6.1:

“The tendered rate shall include for the provision of access to the site and for the construction of any temporary roads required for the delivery of all materials, structural members and plant for the construction of the works. The rate shall include for the maintenance of the access for the duration of the contract and the subsequent removal thereof on completion of the works. The tendered rate shall also include for the provision of an access crossing and all costs associated with the design, supply of materials, construction, maintenance and eventual removal of an access crossing. The final payment for item C1.3.1.1 will be made once the contractor has completed the removal of the access crossing to the satisfaction of the engineer.”

PSC13.1.14 Foundation fill consisting of:

PSC13.1.14.4 Mass concrete (Class15/19)	m ³
PSC13.1.14.5 Concrete blinding (75mm thick, Class15/19)	m ³

Add the following to the end of item PSC13.1.14:

“Formwork will not be measured for payment for any mass concrete foundation fill, irrespective of depth, or for concrete blinding screed. The cost of forming these items shall therefore be included in the rates tendered for the mass concrete and concrete blinding.”

PSC13.1.23 Lateral support for excavations:

PSC13.1.23.1 Excavation or fill adjacent to half width road accommodation	
(c) 0 to 5 m depth	Lump Sum
(d) 5 m to 10 m depth	Lump Sum

Add the following to the end of the first sentence in the second paragraph:

“for the duration of the structure construction by means of half widths.”

Add the following new paragraph to the end of Clause PSC13.1.23.1

“The work will be paid for by way of a lump sum, 50% of which shall become payable when all equipment

and material is on site and the first element of the lateral support system has been installed. The second instalment of 40% of the lump sum shall become payable after the excavation platform has been completed, and the final 10% of the lump sum shall be paid after the system has been removed from the site per occasion.”

CHAPTER 13.2 FALSEWORK, FORMWORK AND CONCRETE FINISH

PART A: SPECIFICATIONS

PSA13.2.3 General

Delete the last paragraph of Clause A13.2.3 and replace with the following:

“The Contractor shall also comply with his obligations for ensuring the safety of all falsework and formwork in terms of Part D: OHS 1993 Health and Safety Specification in section C3.3 Particular Specifications.

The design of the entire falsework and formwork infrastructure used to access and temporarily support the bridge structure (including the pier columns, the abutment walls and the bridge deck), shall be carried out by specialists in the design of falsework and formwork and signed by a Professionally Registered Engineer with ECSA. The same specialists shall inspect and approve the falsework and formwork as erected.”

PSCA13.2.4.1 General

Add the following to the end of the third paragraph of Clause A13.2.4.1:

“The Contractor shall respond within 72 hours to any queries the Engineer may have with respect to the design and drawings and calculations for the falsework and formwork.”

PSC13.2.7.2 Formwork

g) Permanent Formwork

Add the following new paragraph:

“The Contractor shall submit to the Engineer for consideration and approval, the design of the permanent formwork providing details of:

- a) The type of void former material;
- b) Yield strength of void former material;
- c) The type and construction of the joints;
- d) The thickness of the void former material;
- e) The strength of joints;
- f) The spacing of the bracing, if any;
- g) The geometrical properties of the bracing members, if any;
- h) The end condition of the brace on the inside of the void former;
- i) The spacing, diameter and yield strength of the hold down straps;
- j) The rate of placing the concrete on both sides of the void former; and
- k) The loading (symmetrical and unsymmetrical) on the void former.”

PART C: MEASUREMENT AND PAYMENT

(ii) Notes on measurement and pay items

Add the following under Clause C13.2 Part C (ii)

“The various tendered rates under section 6200 of the Bill of Quantities shall include full compensation for the Contractor’s obligations with regard to ensuring the safety of all falsework and formwork in terms of Part D: OHS 1993 Health and Safety Specification in section C3.3 Particular Specifications.”

Item		Unit
PSC13.2.11	Contractor's Health and Safety obligations with regard to falsework and formwork	Lump Sum

“The unit of measurement shall be the lump sum.

The tendered rate shall include full compensation for the Contractor’s obligations with regard to ensuring the safety of all falsework and formwork in terms of Part D: OHS 1993 Health and Safety Specification in section C3.3 Particular Specifications.

The tendered rate shall also include for the design, preparation of drawings and all inspections by the specialist Professional Engineer (refer to Clause PSA13.2.3 above) of the entire falsework and formwork infrastructure used to access and temporarily support the structure”.

85% of the lump sum will be paid on the successful erection of all falsework and formwork and the second 15% on the complete removal of all the falsework and formwork.”

CHAPTER 13.3 STEEL REINFORCEMENT

PART A: SPECIFICATIONS

PSA13.3.7.1 Storing the materials

Add the following at the end of Clause A13.3.7.1:

“The Contractor shall set aside areas cleared of vegetation for storing reinforcing steel. The reinforcement shall be kept at least 300mm above ground level at all times.”

PSA13.3.7.3 Placing and Fixing

Add the following after the first paragraph:

“Prior to fixing the steel, samples of the proposed spacers shall be submitted to the Engineer along with a written statement for in-situ manufacture, if applicable, for approval.

Overlap of steel reinforcement bars shall be such that the bars lie in a plane parallel to the nearest side of the concrete element and not perpendicular to it.”

PSA13.3.7.4 Cover and Supports

And the following new paragraph after the third paragraph of Clause A13.3.7.4

“Concrete cover blocks shall be made using the same cement and aggregate type as the main concrete with the same water/ cement ratio so that differences in colour, shrinkage, thermal movements and strain are minimised. Cover blocks shall be cured by submersion in water for a minimum of 7 days and thereafter kept submerged in water until immediately before fixing onto reinforcing steel. Where cover blocks, subsequent to fixing, have visually dried out they shall be remoistened by an appropriate method so that they are damp before the placing of concrete.”

PSA13.3.8.1 Surface Condition

Add the following new paragraph to the end of Clause A13.3.8.1

“After placing concrete, the Contractor shall have cleaned off all concrete splatter from the protruding starter bars and clips and any other affected reinforcement, and shall present the resulting product to the Engineer for approval before he will be permitted to commence fixing the shuttering and reinforcement to the next section.”

CHAPTER 13.4 CONCRETE

PART A: SPECIFICATIONS

PSA13.4.5.1 Cementitious binder

a) Cement

Amend the first sentence in the first paragraph of Clause A13.4.5.1 (a) as follows:

After SANS 50197-1 (EN 197-1), add, "and SANS 50197-2 code for cements,"

Add the following new paragraph at the end of Clause A13.4.5.1 (a):

"The type of cement to be used in any concrete element shall take into account the environmental conditions and durability requirements at the location of the site of the Works and shall be selected according to Table PSA13.4.5.1/1.

Table PSA13.4.5.1/1: Selection of Cement Type

Condition of Exposure	Placing Temperature of Concrete	Type of Cement*
1. MODERATE Concrete surfaces above ground level and protected against alternately wet and dry conditions caused by water, rain and sea-water spray	< 20°C	CEM II A – S CEM II B – S
	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
2. SEVERE Concrete surfaces exposed to hard rain and alternatively wet and dry conditions	< 20°C	CEM II A – S CEM II B – S
	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
3. VERY SEVERE Concrete surfaces exposed to aggressive water, sea-water spray or a saline atmosphere	< 20°C	CEM II B – S 42.5 CEM III A CEM II B – V 32.5
	20°C - 30°C	CEM II B – S CEM III A CEM II B – V
4. EXTREME Concrete surfaces exposed to the abrasive action of sea water or very aggressive water	< 20°C	CEM II B – S CEM III A
	20°C - 30°C	CEM II B – S CEM III A

Notes*

- CEM I cements shall only be used in environments where concrete is not prone to chloride attack i.e. in inland drier environments.
- Where a strength class of 42,5 or greater is required, and the placing temperature of concrete is between 20°C to 30°C, a set and hydration retarding admixture shall be used where required so as not to exacerbate bleeding.

Cement types CEMII and III may be blended, provided that the final product conforms to the requirements of SANS 50197-1 for the proportion of extender used and provided that the proportion of extender in the original unblended cement is known.

The Environmental Condition of Exposure for this site is SEVERE.

PSA13.4.5.2 Aggregates

b) Fine aggregates

Add the following new subclauses:

- (iv) The maximum chloride ion content of fine aggregate shall be 0,03% by mass of aggregate as measured by SANS 1083:2002. Where concrete is situated in a chloride environment the value shall be reduced from 0,03% to 0,01%.
- (v) The grading of the fine aggregate shall comply with the following table:

Sieve Size	<u>Cumulative % Passing Sieve</u>
4 750µm	90 – 100
2 360µm	75 – 100
1 180µm	60 – 90
600µm	40 – 60
300µm	20 – 40
150µm	10 – 20
75µm	5 – 10

PSA13.4.5.3 Water

Add the following new paragraph at the end of Clause A13.4.5.3:

“Water shall be clean and free from detrimental concentrations of acids, alkalis, salts, sugar and other organic or chemical substances that could impair the durability and strength of the concrete or the imbedded steel. Water from rivers or from boreholes may only be used if tests conducted by an approved laboratory prove the suitability of the water for concreting purposes. Tests shall be repeated as often as may be deemed expedient by the Engineer. For reinforced and prestressed concrete, the chloride content of the mixing water shall not exceed 500 mg/l when tested in accordance with SANS method 202.”

PSA13.4.5.4 Admixtures

Add the following new paragraphs at the end of Clause A13.4.5.4:

“Admixtures, which have a retarding effect on the rate of hydration of the cement, may not be used when the concrete temperature is below 20° C.

A retarding admixture shall be used if temperatures of concrete mixes using cements of strength class 42.5R or 42.5 are between 20 to 30° C or where the ambient temperature is between 20 to 30° C.”

PSA13.4.6.4 Mixing

Add the following new subclause:

f) Ready-mixed concrete

“Where ready mixed concrete is delivered at the site, the requirements of SANS 878 shall have priority over the requirements specified in this section should inconsistencies occur.

The concrete batching plant is to be inspected by the Engineer for the compliance with latest SANS

tolerances (SANS 878 and SANS 1083) and his approval is to be obtained in writing before commencement of the concrete works.

The maximum delivery period of 90 minutes from the time water is added to the concrete mix to the actual discharge of concrete on site shall be permitted unless an alternative written instruction is obtained from the Engineer. The discharge period (including placing the concrete) shall not exceed 30 minutes.

The concrete slump of every truck shall be measured on delivery and shall comply with SANS 3001-CO1-3 prior to any concrete from that truck is placed. A detailed computer printout of the constituents of the concrete mix from the batching plant is to be handed over to and retained by the Engineer's representative on site on arrival (i.e. truck registration, mix proportions and the time water was added to the mix). The masses of the concrete constituents of each truck shall be checked against that of those submitted on the D2 form with the trial mix, subject to the batching accuracy as specified in SANS 0100-2: 1992. The arrival time of each truck on site and the time that the concrete discharge is completed shall also be recorded by the Engineer's representative.

When required the Contractor shall satisfy the Engineer that acceptable alternative means of supplying concrete have been arranged to be brought into operation in the event of disruption in the supply of concrete. In this connection, the Engineer may require that the alternative means of supply shall commence if the disruption in the supply of ready-mixed concrete has lasted for an elapsed period in time of 1½ hours.

The use of ready-mixed concretes shall in no way relieve the Contractor of any of his responsibilities for providing concrete complying with the specifications. The concrete mixes for the grades of concrete as specified in the Bill of Quantities shall be designed by an approved concrete design laboratory and submitted to the Engineer for approval on a D2 form. At least four weeks before placing any structural concrete on the site, the Contractor shall supply and deliver to the laboratory, at his own cost, samples of the aggregates and the concrete mix design he proposes to use for the works. The Contractor shall include in his tender all fees and charges levied as well as all other costs incurred in designing and testing the required strength concrete mix."

PSA13.4.7.11 Protection of Concrete from Adverse Environmental Conditions

Add the following new subclause:

i) Temperature and hydration of concrete

Site Batched Concrete:

The temperature of concrete at point of delivery shall be within the range 10° C to 30° C. Concrete which has a temperature outside of this range shall not be placed in the structure.

Ready Mix Concrete:

In the case of ready mix concrete the temperature limits at point of delivery shall be as specified in SANS 878 2004 unless the Engineer has specified other limits due to specific design requirements. If slump loss occurs at concrete temperatures of over 30°C and more than two hours after mixing, the concrete shall be rejected. Also, if after the addition of allowed water, the concrete begins to stiffen again such as to place in doubt that full compaction and finishing can be achieved, the concrete shall be rejected.

Care must also be taken not to cast concrete onto hot steel shutters as this might induce cracking.

The rate of hydration of the cement in the concrete shall be such that the concrete can be placed and properly compacted within 2hours after the addition of water to the mix ingredients. The initial set of the concrete shall not be unduly delayed due to inappropriateness of admixtures or cement type, which could promote bleeding.

PSA13.4.7.12 Placing and Compaction

g) Construction joints

Add the following to the end of subclause (i) General:

“No construction joints other than those indicated on the drawings will be permitted without the written approval of the engineer. In all cases the proposed method of forming the joint shall be discussed and agreed with the engineer.”

h) Curing and surface protection

Remove the semi-colon at the end of paragraph 4, subclause (vi) and replace with full stop. Add the following sentence:

“Only a curing compound consisting of an approved water based low viscosity clear wax emulsion applied in accordance with the manufacturer’s instructions may be used; or”

Add the following new paragraphs to the end of clause:

“Where curing by retention of formwork is used as the only method of curing the concrete, it must be left in place for the minimum period specified in **Table A13.2.7-1** but in no instance shall it be less than 7 days.

The materials used for formwork shall take into account properties such as thermal insulation and moisture absorption when assessing the suitability of the material, to the approval of the Engineer.

If impermeable curing membranes are to be used as a curing method, they shall be installed at the same time as formwork is removed and no portion of a concrete surface may be left unprotected for a period in excess of 2hours. If the surface is an unformed finish e.g. top of deck slab, then the surface must be protected immediately by appropriate methods approved by the Engineer after it is finished, without damage to that surface, since it is vulnerable to plastic shrinkage cracking due to high rates of evaporation while the concrete is still in a plastic state. Plastic shrinkage and settlement shall not be permitted on any of the structural elements since it compromises the durability of the concrete.

All concrete shall be cured for the equivalent moist curing periods as shown in table PSA13.4.7-19 below:

**Table PSA13.4.7-19
EQUIVALENT MOIST CURING PERIODS**

Weather	Minimum moist curing Period (Days)
Normal: 18 to 22°C, 65% RH, Low wind speeds	5
Hot: With drying winds	7
Cold: 5 to 12° C	9

Where the application of a curing compound is instructed by the Engineer, the type and nominal application rate thereof shall be as specified in the bill of quantities or to the manufacturer’s nominal specified rates.”

PART C: MEASUREMENT AND PAYMENT

Amend the following payment item:

Item	Unit
PSC13.4.13 Complete demolition and disposal of existing structural concrete elements or parts existing structures:	
PSC13.4.13.1 Reinforced concrete in existing structure	m ³

“The tendered rate shall include full compensation for all labour, plant (including access and craneage) and equipment (including concrete cutters) required to breakdown/demolish the existing concrete (irrespective of

strength). The unit of measurement shall be the cubic metre of concrete broken up into maximum size of 300 mm. All reinforcement shall be separated from the reinforced concrete and cut into suitable lengths.

The tendered rate shall also include for the safe disposal of any materials which, in as far as possible, cannot be used in the works to an approved spoil area within a free-haul distance of 15km and shall include full compensation for any necessary measures to ensure no debris falls into rivers and for any debris that has fallen into rivers to be recovered.

The broken-up concrete may, subject to approval by the Engineer, be considered for reuse in the following applications:

- Used as backfill; and/or
- Used as rockfill; and/or
- Used in internal fill of gabions

Payment shall distinguish between plain and reinforced concrete. For the purposes of this item, reinforced concrete is defined as concrete containing at least 0.2% of steel reinforcement measured by volume.”

CHAPTER 13.7 JOINTS

PART A: SPECIFICATIONS

PSA13.7.5.1 Joints in structures

a) General

Add the following after the last paragraph:

“It is a firm requirement that all contracts have full Agrément certification for bridge deck joints, with the following target dates:

- (1) Current Agrément assessments: 1 September 2004
- (2) New applications for Agrément assessment one year from receipt and acceptance by Agrément South Africa of each application. Proof of original acceptance of application by Agrément is required in such a case.”

c) Sealants

Add the following at the end of the clause:

“The silicone sealants required for sealing movement joints shall be Dow Corning 888 or similar approved.”

PSA13.7.7.4 Proprietary expansion joints

c) Installing the expansion joints

Amend the following in the first paragraph:

“Asphalt plug type joints - 10 years”

Add the following to the first paragraph:

“Joint sealant - 5 years”

Add the following sentence after the third paragraph:

“New applications for Agrément assessment, takes up to one year from receipt to acceptance by Agrément South Africa.”

PART C: MEASUREMENT AND PAYMENT

Item		Unit
PSC13.7.1	Expansion joints:	
PSC13.7.1.1	Buried joint materials at each end of the deck, complete as shown in the drawings (incl. drainage and compressible elements)	m

Amend the second sentence in the second paragraph of Clause C13.7.1:

Change “excluding” to “including.”

Item		Unit
PSC13.7.8	Additional water tests for joints ordered by the Engineer	No

Add the following after the first paragraph of Clause C13.7.8

“The tests shall be executed by ponding water to a minimum depth of 150mm deep above the top of the joint for a period of one hour each. Testing should follow the installation of the various sections of joints to take advantage of the existing traffic accommodation and each test shall cover the length of each joint installed (generally half width of bridge).”

CHAPTER 13.8 ANCILLARY STRUCTURAL ELEMENTS

PART A: SPECIFICATIONS

PSA13.8.7.2 Drainage for structures

c) Synthetic filter fabric

Replace the last paragraph with the following:

Synthetic-fibre filter fabric shall be:

Manufactured from a polymeric material processed into a continuous, permeable, homogeneous, non-woven sheet, which shall be mechanically, heat or chemically bonded; made from polyester, polypropylene or polyethylene.

It shall show no detectable reduction of the specified properties when subjected to chemical and biochemical conditions found in soils or in saline solution, specifically:

1. soil and ground water with a pH in the range 4 to 12 (pH to be determined by Method A20, TMH1)
2. soil (as paste) and ground water containing salts with a conductance of up to 1,0 Siemens per metre (S/m) (conductivity to be determined by Method A20T, TMH1).

It shall not be attractive to rodents or termites, shall be rot-proof, not support the growth of algae and shall maintain at least 80% of the original tensile strength after direct exposure of 1500 hours to sunlight.

Synthetic-fibre fabric shall be classified according to the following:

Grade	Penetration Load (kN)	Elongation At rupture (%)		Permeability (litre/sq.m/s)
		min	max	
	min	min	max	Min
A	4,5	10	50	20
B	3,0	20	50	20
C	2,5	20	--	20
D	2,0	20	--	20
E	1,5	20	--	20

The above properties shall be measured in accordance with the test methods of SANS 0221-1988.

Add the following new sub clause:

e) Synthetic fibre filter fabric backing with Netlon pipes and strips

The drainage shall consist of M65 Netlon drainpipes, DN 1 Netlon drainage strips and Grade B filter fabric placed against the rear faces of the abutments and walls and wrapped around the Netlon pipe as detailed on the drawings.

The filter fabric shall be suitably hung or fixed by approved means to the wall to prevent displacement during backfilling. The drainage pipe shall be placed on a mortar wedge or other impervious material and the bottom of the pipe shall line up with the inverts of the weep holes.

PART C: MEASUREMENT AND PAYMENT

Item	Unit
PSC13.8.1 Concrete barriers and parapets (refer to drawings)	
PSC13.8.1.2 Parapets	m

Add the following to this clause:

“The tendered rate shall also include for the supply and installation of the “jointex” bond breaker located at the deck/abutment joint as shown on the drawings”

Item	Unit
PSC13.8.2 End blocks (4.7 m length)	No

Remove the last two sentences of Clause C13.8.2 and replace with the following:

“The tendered rates shall include for sealing of joints between the end block and parapet as shown on the drawings. The tendered rate shall also include for the supply and installation of the backing and anchor plate inclusive of all fixing elements as specified on the drawings”

CHAPTER 20.1 TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP

PART A: SPECIFICATIONS

PSA20.1.4 PUBLISHED TEST METHODS

PSA20.1.4.1 Testing of aggregates

Add the following to Clause A20.1.4.1

Determination of Ethylene Glycol Durability Index

"The Ethylene Glycol Durability Index shall be determined as follows:

(i) Apparatus

Suitable pans or basins
Ethylene Glycol Solution
Stirring rod

(ii) Method

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

If not already crushed, crush the material in order to obtain sufficient minus 20 mm plus 14 mm sized aggregate in order to totally cover the bottom of the basin or pan with a single layer of stone. Add sufficient ethylene glycol to each basin ensuring that every aggregate particle is completely submerged.

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

(iii) Classification of response

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

DISINTEGRATION CLASS

- Class 1 : No obvious effects, or only very minor spalling of sand sized particles or very small flakes.
- Class 2 : Splitting of rock, accompanied by any other disintegrative effects.
- Class 3 : Fracturing (spheroidal and/or internal) without extensive spalling or distortion.
- Class 4 : Fracturing (spheroidal and/or internal) with extensive spalling or distortion.
- Class 5 : Complete disintegration.

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

TIME CLASS

- Class 4 : 0 - 5 days
- Class 3 : 6 - 15 days
- Class 2 : 16 - 30 days

Class 1 : 31 - 60 days

Class 0 : Over 60 days

(iv) Determination of Glycol Durability Index

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

PSA20.1.4.10 Testing related to chemical stabilization

Add the following to Clause A20.1.4.10

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

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

Apparatus

- (1) A moisture curing room capable of maintaining a relative humidity of 95 to 100 percent and a temperature of 22 to 25°C, or suitable plastic bags capable of holding specimens and carriers in an air tight condition in a water bath as described in (2) below.
- (2) A suitable water bath with thermostatic control capable of maintaining a temperature of 22 to 25°C.
- (3) A balance to weigh up to 10 kg, accurate to 0.5 g.
- (4) A drying oven capable of maintaining temperatures of $71 \pm 3^\circ\text{C}$ and $110 \pm 5^\circ\text{C}$.
- (5) A wire scratch brush made of 50 mm by 1.6 mm flat 26-gauge wire bristles assembled in 50 groups of 10 bristles and mounted to form five longitudinal rows and 10 transverse rows on a 200 by 65 mm wooden block.

(iii) Method

(1) Preparation of specimens

Prepare specimens in accordance with the procedure described in the Appendix to method A19 in the TMH 1 with the following exceptions:

Use the material passing the 37.5 mm sieve and discard the material remaining on the sieve. Use the apparatus and compaction method as described in TMH 1 method A7 (modified AASHTO).

(2) Curing of specimens

Rapid cure the specimens (see (v)(5)). Alternatively, the specimens may be cured for seven days at a relative humidity of 95% to 100% and a temperature of 22°C to 25°C in a suitable curing room or in plastic bags and a suitable water bath.

(3) Wetting, drying and brushing

After curing, remove the specimens from the curing room or plastic bags, allow to cool if necessary, and submerge them in water at room temperature for a period of five hours. Remove the specimens from the water and place them in an oven at 71°C for 42 hours.

Remove the specimens from the oven. Give each specimen two firm strokes on all areas with the wire scratch brush. The brush must be held parallel to the long axis of the specimen or parallel to the ends as required to cover all areas of the specimen. Apply these strokes to the full height and width of each specimen with a firm stroke corresponding to approximately 13.5 kN force (see note (v)(2)).

(4) Determination of soil-cement losses

After 12 cycles, dry the specimens to constant mass at 100°C and determine the oven dry mass of the specimens. The data collected will permit the calculation of the soil-cement losses of the specimens after the prescribed 12 cycle test.

(ii) Calculations

- (1) Calculate the soil-cement loss of the specimens as a percentage of the original oven-dry mass of the specimens as follows:

$$L = \frac{W - M}{W} * 100$$

Where

L = soil-cement loss (%)

W = original calculated oven-dry mass (g) (calculated according to paragraph 3.5 in the Appendix to method A19 in the TMH 1).

N = final oven-dry mass (g).

- (2) The percentage loss shall be calculated and reported to the nearest 0.1 percent. The results are normally required for designing a mix and are reported graphically against relevant cement contents.

(v) Notes

- (1) Mass determination of the specimens before and after brushing are usually made at the end of each cycle during research or special investigations.
- (2) If it not possible to run the cycle continuously because of Sundays or holidays or for any other reason, the specimens should be held in the oven during the lay-over period.
- (3) The test was originally developed to determine wet-dry durability of cement-treated material. It can, however, be used with equal success on material tested with other chemical stabilizers, for example lime, or mixes of lime and milled blast furnace slag, or cement and milled blast furnace slag.
- (4) The pressure is measured as follows:

Clamp a specimen in a vertical position on the edge of a platform scale and zero the scale. Apply vertical brushing strokes to the specimen and note the force necessary to register approximately 1.36 kg.

(5) Rapid curing:

Seal each specimen air tight in a suitable container or plastic bag. Carefully place the briquettes on suitable holders or in pans and place in the oven at the relevant temperature and period given below:

<u>Stabilizing agent</u>	<u>Temp (° C)</u>	<u>Time (Hours)</u>
CEM 11 B-S	70 - 75	24 ± 0.5
CEM 11 1A	70 - 75	24 ± 0.5
Lime	60 ± 2	45 ± 1
Lime/FA	60 ± 2	45 ± 1
Lime/MBFS	60 ± 2	45 ± 1

PSA20.1.7 ACCEPTANCE CONTROL BY STATISTICAL JUDGEMENT PRINCIPLES

PSA20.1.7.1 General requirements

Add the following new paragraphs at the end of subclause (ii) Concrete Strength

“The contractor shall note that, in accordance with subclause A20.1.4.3, the testing of concrete test cubes is carried out in accordance with TMH1 method D1.

In accordance with TMH1 method D1, the average of three individual cube compressive test results is reported as the compressive strength of the test sample.

Referring to Table A20.1.7-10, the “n”-values in the right-hand column must therefore be multiplied by three in order to obtain the minimum number of individual test cubes to be made for a particular lot size. For example, for a lot size in the range 0 – 20 m³ (for which minimum sample size n = 4):

4 samples x 3 individual test cubes per sample = 12 individual test cubes required in total for the lot”

PART C: MEASUREMENT AND PAYMENT

Amend the following payment items:

Item	Unit
PSC20.1.1 Special tests on elastomeric bearings (150% vertical load and 150% shear distortion)	No

Add the following Clause after the third paragraph:

“The approved laboratory must be located within the Kwa-Zulu Natal region. Should the contractor choose a laboratory outside of the Kwa-Zulu Natal region, the contractor will be responsible for the Engineers time-based costs, transportation, accommodation and disbursement costs in order for the Engineer to witness the tests at the chosen laboratory.”

Item	Unit
PSC20.1.2 Special tests requested by the Engineer	
PSC20.1.2.2 Employer’s contribution to other special tests	
(a) Acceptance control testing	Prov Sum
(b) Handling costs and profit in respect of item PSC20.1.2.2(a)	%

“The provisional sum provided to cover the cost of special tests as requested by the Engineer shall be expended in accordance with clause 6.6 of the General Conditions of Contract 2010.

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under the Provisional Sum PSC20.1.2.2(a), and shall include full compensation for the handling costs of the Contractor, and the profit in connection with providing the specified testing service.”

C3.3: PARTICULAR SPECIFICATIONS

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

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION	C134
PART D: OHSA 1993 HEALTH AND SAFETY SPECIFICATION	C140
PART E: EXPANDED PUBLIC WORKS PROGRAMME.....	C151
PART F: SMALL CONTRACTOR DEVELOPMENT.....	C186

3.3 PARTICULAR SPECIFICATIONS

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

C1. SCOPE

The Employer recognises environmental management as a key component of road infrastructure development and as part of its environmental policy has developed this environmental management specification as a tool for continual improvement in environmental performance.

This environmental management specification prescribes the methods by which proper environmental controls are to be implemented by the Contractor. The duration over which the Contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract 2015 as the Defects Notification Period (maintenance period).

C2. ENVIRONMENTAL MANAGEMENT PLAN

Refer to Site Information C4.3 Project Specific Environmental Management Plan. In the event of a contradiction between Part C: Environmental Management Specification and Site Information C4.3 Project Specific Environmental Management Plan, the information contained in Site Information C4.3 Project Specific Environmental Management Plan will take precedence.

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

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

C3. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

The Contractor is responsible for the implementation of this EMP to ensure sound environmental management during the construction phase of a project.

The Contractor shall receive and implement any instruction issued by the Employer's Agent relating to compliance with the EMP including the removal of personnel or equipment.

Compliance with the provisions contained herein or any condition imposed by the environmental approvals, shall become the responsibility of the Contractor through an approved Environmental Officer (EO). The Contractor shall nominate a person from among his site personnel to fulfil this function and submit to the Employer's Agent for his approval the curriculum vitae of the proposed EO. This request for approval shall be given, in writing, at least fourteen days before the commencement of any construction activity clearly setting out reasons for the nomination, and with sufficient detail to enable the Employer's Agent to make a decision.

Once a nominated representative of the Contractor has been approved as the EO, the EO shall be the responsible person for ensuring that the provisions of this EMP are complied with for the duration of the contract. The EO shall submit monthly written reports of compliance with the EMP to the Employer's Agent.

In addition to the compliance duties relating to this EMP, the EO shall also provide full cooperation whenever the Contractor is subjected to regular environmental audits.

C4. TRAINING AND INDUCTION OF EMPLOYEES

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

C5. COMPLAINTS REGISTER AND ENVIRONMENTAL INCIDENT BOOK

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

The following information must be recorded:

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

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

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

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

C6. SITE CLEANLINESS AND NEATNESS

- Location of a construction camp is to be approved by the Employer's Agent and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1,8m Bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

C7. ACCESS

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

C8. BORROW PITS

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Mineral Resources (DMR) in consultation with the Department of Water and Sanitation (DWS).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DMR and DWS.

C9. DUST CONTROL / AIR QUALITY

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

C10. FAUNA

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

C11. FIRE PREVENTION AND CONTROL

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

C12. GRAVE SITES

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

C13. MATERIALS HANDLING AND SPILLS MANAGEMENT

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

C14. NOISE

- Noise generating activities must be restricted to between 07:00 and 17:00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C15. POLLUTION CONTROL

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

C16. RIVERS AND STREAMS

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.

- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

C17. SAFETY

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

C18. SOIL MANAGEMENT

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

C19. WORKER CONDUCT

Code of Conduct for Construction Personnel:

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

C20. TRAFFIC DISTURBANCES AND DIVERSIONS

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

C21. VEGETATION

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be

- implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

C22. WASTE MANAGEMENT

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The Contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, and contaminated wash water) must be stored in leakproof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Employer's Agent.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood and concrete packets) on completion of the day's work.
- Any spill around the container(s) should be treated as per clause C13 and C18.

C23. MEASUREMENT AND PAYMENT

The contractor shall make provision in the various rates and prices for all costs related to the environmental management specification and measures required in terms of legislation. Provision is made in item B13.02 of the Bill of Quantities for the contractor's general obligations, risks and liabilities in accordance with the environmental management specification.

C3.3 PARTICULAR SPECIFICATIONS

PART D: OHS&A 1993 HEALTH AND SAFETY SPECIFICATION

PART D: OHS 1993 HEALTH AND SAFETY SPECIFICATION

D1. SCOPE

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

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

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

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

D2. DEFINITIONS

For the purpose of this contract the following shall apply:

D2.1 "**Construction Health and Safety Agent**" (CHSA) means any competent person who acts as a representative for the Employer in managing health and safety on a construction project for the Employer and who has satisfied the registration criteria of the SACPCMP to perform the required functions.

D2.2 "**Contractor**" where used in the contract documents and in this specification, means the Contractor as defined in the General Conditions of Contract 2015, and it shall have the exact same meaning as "**principal contractor**" as defined in the Construction Regulations 2014. "**Contractor**" and "**principal contractor**" are therefore interchangeable and shall be read in the context of the relevant document.

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

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

D2.3 "**Employer**" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract 2015 and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" are therefore interchangeable and shall be read in the context of the relevant document.

D2.4 "**Employer's Agent**" where used in this specification, means the Employer's Agent as defined in the General Conditions of Contract 2015.

D3. EMPLOYER'S BASELINE RISK ASSESSMENT

D3.1 Risk information

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

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

This information is neither prescriptive nor exhaustive, and is provided as a guideline to Tenderers in

preparing their tender submissions, and to the successful Contractor as a basis for the preparation of the site-specific risk assessments to be performed by the Contractor in terms of Construction Regulation 9.

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

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

D3.2 Baseline risk assessment

The following is a list of risks identified which forms the Baseline Risk Assessment for the project prepared by the Employer in terms of Construction Regulation 5(1)(a).

The methodology used to determine the risk assessments for Hazard Identification and Aspect and Impact Registers can be summarized as follows:

(1) Definition of Exposure	(Frequency of exposure to the hazard)	E
Continuously	Many times a week	10
Frequently	Approximately once daily	6
Occasionally	Once a week to once a month	3
Infrequent	Once a month to once a year	2
Rare	Has been known to occur	1
Very Rare	Not known to have occurred	0.5
(2) Definition of Probability	(Possibility of potential incident)	P
Almost certain	The most likely outcome if the event occurs	10
Likely	Not unusual, perhaps 50 - 50 chance	6
Unusual	Rare but possible: (e.g. 1 in 10)	3
Remotely possible	A possible coincidence (e.g. 1 in 100)	1
Conceivable	Has never happened in years of exposure, but possible (e.g. 1 in 1000)	0.5
Practically impossible	Not to knowledge ever happened anywhere (e.g. 1 in 10,000)	0.1
(3) Definition of Outcomes	(Most probable result of potential incident)	O
Catastrophe	Multiple fatalities, permanent extensive environmental damage	100
Disaster	Fatality, permanent damage to environment	50
Very Serious	Permanent disability / ill health, non-permanent environmental damage	25
Serious	Non-permanent injury or ill health. Adverse effect on environment	15
Important	Medical attention needed, off site emission but no damage	5
Noticeable	No medical attention needed, no off site consequence	1
(4) Risk Score Calculator		
Risk Score = ExPxO		
Risk Score	Risk Rating	
>600	Very High (VH)	
300 – 599	High (H)	
90 – 299	Medium (M)	
<90	Low (L)	

BASELINE RISK REGISTER:

Activity	Associated Risks/Hazards	Raw Risk assessment			Raw Risk Rating	Risk Rating	Controls	Residual Risk
		E	P	O				
Collapse of Structure	Fatality Injuries Damage to equipment	1	1	100	100	L	Contractor to install adequate support on structure to ensure that it is safe from collapse.	L
Scaffolding	Falling from height Death Injury to people below	3	3	50	450	H	Contractor to prepare a fall protection plan and train all employees. Scaffold to be erected in such a manner that there will be access every two metres. All scaffolding shall be designed and signed by a Professionally Registered Engineer appointed by the contractor to declare the scaffolding safe after erection. Daily inspection to be undertaken and recorded in daily diaries Safety harnesses to be used by all employees when working on scaffolding.	M
Deep excavations	Collapse of Excavation Entering of excavations/ trenches.						Contractor to carry out Daily excavation inspections to be done by the appointed responsible excavation supervisor/ inspector. Where necessary, excavation is to be shored/braced/battered (angle of repose.) Contractor to provide safe access in the form of a ladder (minimum of 1 ladder every 12m). Task to be supervised by a competent supervisor. All tripping hazards must be cleared regularly.	
Flooding	Drowning Damage to construction equipment Possible collapse of structure supports	1	1	50	50	L	Contractor to develop fall protection plan Contractor to determine requirement of fall prevention equipment. Contractor to plan for water rescue, resuscitation after event.	L
Concrete	Skin irritation/ burns Dust inhalation	3	3	25	225	M	Training and correct handling requirements Respiratory protection	L
Traffic Management	Knocked by passing vehicles Damage to construction equipment	1	6	50	300	H	Contractor to implement a traffic management plan in line with requirements by the Road Traffic Act.	M
Working In Confined Spaces	Injury or sprains to body	3	6	5	90	M	Contractor to take necessary precautions to ensure that work in confined spaces are conducted with minimal risk of injuries.	L
Dust	Respiratory problems	2	0.5	15	15	L	Contractor that a dust mask will be required to be worn by employees working in the concrete mixing areas. Consultant to inspect to ensure that the correct dust mask is worn during this task.	L

BASELINE RISK REGISTER:

Activity	Associated Risks/Hazards	Raw Risk assessment			Raw Risk Rating	Risk Rating	Controls	Residual Risk
		E	P	O				
Sanitation	Lack of toilets Lack of clean drinking water	2	3	5	30	L	Contractor to supply portable toilets and clean drinking water at all times	L
Hijacking/Robbery/Theft	Injury/ death Loss of machinery/ personal belongings	1	1	50	50	L	Staff to keep vehicles locked while conducting inspection. Staff are required to sign out and provide all information i.e. contact details, arrival time, etc. when leaving the office. If possible, two or more persons are to travel together.	L
Environmental Contamination	Damage to indigenous plants Pollution of river water by concrete and diesel spills Demolished concrete contamination Lead paint contamination	3	3	50	450	H	Contractor to work in accordance to EMP. Contractor not to pollute the surrounding environment Bottom level of scaffolding to be covered with polyethylene 250 microns thick plastic to prevent paint, concrete and rust flakes from contaminating the river. Securing of site with hard barricading covered with 80% shade netting. Placement of safety signs.	M
Pedestrians / Passer-by's	Unauthorised access onto site Exposure to risks surrounding moving vehicles and supported structures	6	6	50	1800	VH	Contractor to monitor access onto site and not to allow any unauthorized access onto site. Contractor to take necessary safety steps to ensure that a safe pathway for passer-by's is created away from high risk areas.	M
Working with unskilled Labour	Unsafe Acts leading to injuries and damage to equipment Poor quality and workmanship	6	6	5	180	M	Contractor to intensify supervision . Consultant to conduct inspections and notify contractor on any poor quality of workmanship which may be visible.	L
Lifting operations	Falling loads Injuries Damage	3	3	50	450	H	Controlling, training, competent users / operators Method statements / rigging and lifting studies For all loads >20 tons and all tandem lifts	M
Handling hazardous chemical substances	Over exposure Health Risk	3	3	15	135	M	PPE, training, MSDS availability and adherence Correct storage and handling	L
Use of Hand tools	Injuries, damage Reynard phenomenon	6	3	15	270	M	PPE, checks, control, training Enforce use of PPE	L
Manual Handling	Injuries	6	3	15	270	M	PPE, First Aiders on hand, good ergonomics practised.	L
Housekeeping	Slips, trips, falls Incorrect disposal	3	3	5	45	L	Enforcing of Health and Safety rules and Control Labelled Dirt bins at hand, Correct storage principals and procedures	L

D3.3 Guidelines for construction and maintenance projects under Covid-19 Lockdown

The Employer has prepared guidelines which set out the key principles and minimum requirements that define responsible, healthy and safe operations for road construction operations under COVID-19 Lockdown conditions, for the Contractor to comply with. In addition, the Contractor shall comply with any new COVID-19 Regulations issued by Government.

The guidelines have been included as Annexure A at the end of this Project Document.

D4. APPLICATION FOR CONSTRUCTION WORK PERMIT

Where the contract meets the requirements of Construction Regulation 3, the Employer must at least 30 days before commencement of the work and in accordance with the requirements of Construction Regulation 3, apply to the Provincial Director of the Department of Labour in writing for a construction work permit to perform construction work. The Employer's application must be done in a form similar to Annexure 1 of the Construction Regulations, and submitted with the required documentation, some of which the Contractor shall provide as stated in the Contract Data.

A copy of the construction work permit must be kept on site in the occupational health and safety file, available for inspection by inspectors, the Employer, the Employer's Agent, the Construction Health and Safety Agent, subcontractors, employees, representative trade unions and any other persons on the site. The Provincial Director will assign a site-specific number for each construction site, which must be conspicuously displayed at the main entrance to the site.

D5. NOTIFICATION OF CONSTRUCTION WORK

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

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

D6. HEALTH AND SAFETY PLAN

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

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

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

D7. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

D7.1 Appointments

The Contractor shall appoint in writing all employees.

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

D7.2 Health and safety induction training

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

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

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

D7.3 Medical certificate of fitness

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

D8. APPOINTMENT OF SAFETY PERSONNEL

D8.1 Construction manager

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

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

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

D8.2 Construction health and safety officer

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

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

D8.3 Construction supervisor

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

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

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

D8.4 Health and safety representatives

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

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

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

D8.5 Health and safety committee

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

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

D8.6 Competent persons

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

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

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

D9. RECORDS AND REGISTERS

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

D10. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatary of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

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

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

D11. MEASUREMENT AND PAYMENT

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

(a) Health and safety plan

The Contractor shall assess the risks associated with the Works when preparing the health and safety plan. In addition, the Contractor shall implement the health and safety plan, including the provision of a dedicated, full time health and safety officer, carrying out all the required site health and safety training and briefings, staff medical evaluations, monitoring and administrating the health and safety plan and for supplying all transport, personal protection safety items, other health and safety equipment, safety notices and any other health and safety related items that are required on site. Provision is made for the costs of preparing and implementing the health and safety plan in item B13.03 of the Bill of Quantities.

(b) Safety appointments

No separate additional payment will be made to cover the costs related to persons appointed as required in terms of the Act and Regulations to fulfil the various health and safety functions. Such persons include the Construction Manager, any assistant construction managers, the construction health and safety officer, the construction supervisor, any assistant construction supervisors, health and safety representatives, health and safety committee members and competent persons, all as referred to in subclauses E8.1 to E8.6 above. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such persons, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

(c) Records and registers

The keeping of records and registers related to health and safety on site as described in clause E9 above shall be regarded as a normal duty of the Contractor for which payment shall be deemed to be included in the Contractor's various tendered rates and prices, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

(d) Medical certificates

No separate additional payment will be made to cover the costs related to obtaining the medical certificates of fitness required for every employee, including subcontractors and their employees, issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such medical certificates, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

ANNEXURE 2

**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(Regulation 4 of the Construction Regulations, 2014)**

NOTIFICATION OF CONSTRUCTION WORK

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

ANNEXURE 2 - Continued

7. Exact physical address of the construction site or site office:

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

8. Nature of the construction work:

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

9. Expected commencement date:

10. Expected completion date:

11. Estimated maximum number of persons on the construction site:

Total: Male: Female:

12. Planned number of contractors on the construction site accountable to principal contractor:

.....

13. Name(s) of contractors already selected:

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

.....
Principal Contractor **Date**

.....
Client's Agent (where applicable) **Date**

.....
Client **Date**

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

C3.3 PARTICULAR SPECIFICATIONS

PART E: EXPANDED PUBLIC WORKS PROGRAMME

PART F: EXPANDED PUBLIC WORKS PROGRAMME

E1. SCOPE

This part provides the specifications with regard to the following:

- (a) The Expanded Public Works Programme (EPWP); and
- (b) The National Youth Service (NYS) programme, which is a government programme implemented by the National Department of Public Works forming part of the Expanded Public Works Programme (EPWP).

The Contractor shall be required to participate in job creation (employment of local labour) by executing various portions of the Works using local labour (unskilled or semi-skilled), recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project). Such local labour shall be the targeted participants in the EPWP and NYS programmes.

Furthermore, in order to avoid duplication of training facilities, the provision of training facilities for all structured training, including for the structured training described in Part F: Small Contractor Development (in those instances where Part F is included in the contract), shall be measured and paid for in terms of the pay items provided in this Part E.

E2. EXPANDED PUBLIC WORKS PROGRAMME (EPWP)

E2.1 Labour-intensive construction, supervision and management for the Expanded Public Works Programme (EPWP)

The Expanded Public Works Programme (EPWP) is a multi-sectoral government initiative to create jobs. In the case of the infrastructure sector, existing government expenditure is realigned using labour-intensive technologies to create job opportunities. This involves the use of both labour and construction equipment, where labour is preferred and construction equipment is used appropriately.

All work undertaken in terms of the Expanded Public Works Programme (EPWP) shall be implemented using labour-intensive construction methods to the extent economically feasible, in accordance with the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) Third Edition 2015".

The aforementioned guidelines can be downloaded from the EPWP website of the Department of Public Works (<http://www.epwp.gov.za/>).

Items scheduled for labour-intensive construction are marked with the letters "LI" in the bill of quantities in the manner described in C2.1 Pricing Assumptions.

Contractors shall note that they shall employ in labour-intensive works only the following supervisory and management staff that have completed the required Skills Programme in terms of Appendix C of the aforementioned guidelines:

- (a) Foremen / Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes";
- (b) Site Agent / Construction Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent Quality Council for Trades and Occupations (QCTO) qualifications at NQF level 5 or 7.

In addition to their normal supervisory and management functions, the aforementioned supervisory and management staff shall also be responsible for setting the workers' daily tasks in accordance with labour-intensive construction principles, and for ensuring that the EPWP job creation reporting data is accurately recorded on a daily basis and compiled and submitted to the Employer each month in accordance with clause E4 of this Part E.

E2.2 Labour laws applicable to the Expanded Public Works Programme (EPWP)

The work to be undertaken on this contract by unskilled or semi-skilled workers under the Expanded Public Works Programme (EPWP) shall be implemented in accordance with:

- (a) the Code of Good Practice for Employment and Conditions of Work for Expanded Public Works Programmes (EPWP), issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. 129 of 18 February 2011 (Government Gazette No. 34032 of 18 February 2011); and
- (b) Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R347 of 4 May 2012.

The aforementioned Government Notice No. R347 contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do not apply to persons employed in the supervision and management of an Expanded Public Works Programme (EPWP).

The above documents can be downloaded from the EPWP website of the Department of Public Works (<http://www.epwp.gov.za/>).

E2.3 Persons to be employed under the Expanded Public Works Programme (EPWP)

All local labour required for the execution of labour-intensive works shall be engaged strictly in accordance with prevailing legislation.

The Contractor shall, through the Project Liaison Committee (PLC) and with the assistance of the Community Liaison Officer (CLO), inform the local community of the labour-intensive works proposed and the employment opportunities thereby presented.

The Contractor shall determine the minimum education level / skills required to undertake the works specified. In consultation with the PLC and the War Room convener for each relevant ward, selection of the local labour shall be made from households on the Operation Sukuma Sakhe (OSS) database profiled through the War Room for each ward. The list obtained from the OSS database must be accompanied by a letter from the War Room convener confirming that all the information provided was sourced from the War Room and that all listed incumbents reside within the relevant ward. The Contractor must maintain records of household profiles as part of the portfolio of evidence for selection. Selection shall be based on the minimum education level / skills required and the most-needy households, as determined by the household profiling. Preference shall be given for at least one person from each household in the community to be employed before further persons are considered for selection.

The Contractor shall endeavour to ensure that the number of temporary jobs using local labour (unskilled or semi-skilled), recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project), shall include for a minimum allocation of:

- (a) 60% women;
- (b) 55% youth who are between the ages of 18 and 35; and
- (c) 2% persons with disabilities.

All labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

The contractor shall comply with the minimum supervisor to worker ratio stated below, required to ensure the effective supervision of the labour-intensive works for all LI activities undertaken on this project:

Minimum supervisor to worker ratio = 1:10

E2.4 Contract of employment with persons employed under the Expanded Public Works Programme (EPWP)

The Contractor shall enter into a formal contract of employment with each person employed under the Expanded Public Works Programme (EPWP), using the pro forma contract of employment attached at the end of this Part F of section 3.3 Particular Specifications.

The Contractor shall note that all such formal contracts of employment entered into with persons employed under the Expanded Public Works Programme (EPWP) shall expire on 31 March each year, and the Contractor shall therefore be required to enter into new contracts with such persons as of 1 April each year.

E2.5 Employment of targeted labour under the Expanded Public Works Programme (EPWP)

The Contractor shall be contractually obliged to:

- (a) brief EPWP workers on the conditions of employment;
- (b) enter into a formal contract of employment with each EPWP worker, which contract will form part of the Employment Agreement;
- (c) keep personnel files for all EPWP workers and make copies available to the Employer if and when requested; and
- (d) ensure that payments to EPWP workers are made in accordance with Government Notice No. R347.

The rate of pay for persons employed under the Expanded Public Works Programme (EPWP) shall be the gazetted rate:

- (i) per task (for task-rated workers); or
- (ii) per day (for time-rated workers).

During those periods when an EPWP worker is engaged in formal classroom training (other than in-service training), the rate of pay shall be equal to the minimum wage rate as set on an annual basis in the Ministerial Determination for the Expanded Public Works Programme.

Tasks set by the Contractor shall be such that:

- (a) the average EPWP worker completes 5 tasks per week in 40 hours or less; and
- (b) the weakest EPWP worker completes 5 tasks per week in 55 hours or less.

The Contractor shall revise the time taken to complete a task whenever it is established that the time taken per week to complete the tasks set does not fall within the limits indicated in (a) and (b) above.

E2.6 Training of persons employed under the Expanded Public Works Programme (EPWP)

The training of persons employed under the Expanded Public Works Programme (EPWP) is described in clause E4 below.

E2.7 Contractor's obligations towards persons employed under the Expanded Public Works Programme (EPWP)

Over and above implementing in accordance with Government Notice Nos. 129 and R347 the EPWP work to be undertaken on this contract, it shall be the responsibility of the Contractor to carry out the following functions with respect to the EPWP workers:

- (a) ensure that all participants are covered by the Compensation for Occupational Injuries and Diseases Act, 1993, for as long as they are contracted to the Contractor, and pay in full to the Compensation Commissioner such amounts as are due in terms of the Act;

- (b) pay in full to the Unemployment Insurance Fund for all participants such UIF contribution amounts as are due in terms of the Unemployment Insurance Act, 2001, as amended, and the Unemployment Insurance Contributions Act, 2002, as amended, and provide proof of such UIF payments upon request;
- (c) ensure that all participants are paid their wages on time through the pre-agreed payment method as stipulated in the participant contract of employment;
- (d) implement health and safety procedures with respect to the participants, ensuring that the health and safety regulations are adhered to;
- (e) ensure that all participants receive induction on site safety prior to commencing with work on site;
- (f) provide all participants with the necessary protective clothing and equipment as required by law for the specific tasks in which the participants are involved, in addition to the branded overalls stipulated for EPWP workers;
- (g) provide safe on-site storage facilities for apparel and tools issued to the participants;
- (h) assist in the assessment of participants with regard to their competencies;
- (i) provide overall supervision and day-to-day management of participants; and
- (j) implement strict quality control to ensure that the work carried out by the participants is of the required standard, and, where necessary, to train and mentor the participants to assist them in achieving the standards required.

E2.8 Apparel and tools for persons employed under the Expanded Public Works Programme (EPWP)

The Contractor shall provide Personal Protective Equipment (PPE) to all EPWP workers in accordance with the requirements arising from Part D: OHS 1993 Health and Safety Specification and the Contractor's site-specific health and safety plan and accompanying risk assessments.

Where indicated below, certain items of the PPE issued by the Contractor to the EPWP workers shall include branded EPWP markings in accordance with the attached branding requirements.

PPE shall comprise the following:

- (a) Compulsory PPE issued to all EPWP workers for use during general work activities:
 - (i) Protective overalls (two sets), green in colour, with EPWP branding;
 - (ii) Lime green reflective safety vest with EPWP branding;
 - (iii) Protective footwear; and
 - (iv) Protective gloves.
- (b) PPE issued to EPWP workers for specific activities where required in terms of the Contractor's site-specific health and safety plan and accompanying risk assessments, such as:
 - (i) Protective headwear, green in colour, with EPWP branding;
 - (ii) Protective eyewear such as spectacles and goggles;
 - (iii) Protective face shields;
 - (iv) Protective earplugs and earmuffs;
 - (v) Respiratory masks;
 - (vi) Disposable safety apparel;
 - (vii) Kidney belts;
 - (viii) Safety harnesses; and
 - (ix) Any other protective equipment identified.

The Contractor shall replace any item of issued PPE that becomes unserviceable.

The Contractor shall not charge any fee to the EPWP workers for the prescribed PPE issued except under the following circumstances:

- (i) where the employee requests the issue of additional PPE in excess of what is prescribed;
- (ii) where the employee has patently abused or neglected the issued PPE leading to early failure; or
- (iii) where the employee has lost the issued PPE.

The Contractor shall instruct and train the EPWP workers in the use of all PPE issued, and shall ensure that they use the prescribed equipment.

EPWP workers shall not have the right to refuse to use or wear the equipment prescribed by the Contractor. If it is not possible for an EPWP worker, through health or any other reason, to use or wear the prescribed PPE issued, such employee shall not be allowed to continue working under the hazardous conditions for which the equipment was prescribed. Under such circumstances an alternative solution shall be found, and this may include relocating or discharging the employee.

The Contractor shall provide each EPWP worker with hand tools of adequate quality and of the type required to carry out the assigned tasks safely and efficiently.

The Contractor shall instruct and train the EPWP workers in the safe and efficient use of all hand tools issued.

The Contractor shall maintain the issued tools in a serviceable and safe working condition.

The EPWP workers shall be responsible for the safe on-site storage of all PPE and tools issued to them, using the storage facilities provided on site by the Contractor.

No separate payment shall be made for providing the EPWP workers with PPE, or for providing relevant items of PPE in the specified colours with branded EPWP markings. Furthermore, no separate payment shall be made for providing the EPWP workers with hand tools or for providing them with safe storage facilities on site for PPE and tools. The Contractor shall therefore make provision for all costs related to providing the PPE, tools and safe storage facilities in the tendered rates and prices for the various items of work scheduled throughout the bill of quantities.

E2.9 EPWP contract signboard

The Contractor will be required to erect a contract signboard displaying the EPWP logo, indicating that this project is part of the Expanded Public Works Programme (EPWP). Provision for the costs related to the provision, erection and subsequent removal of the contract signboard is made in pay item provided in chapter 1.3 of the bill of quantities for this purpose.

E2.10 Payment matters relating to the EPWP work

E2.10.1 General

No separate pay items shall be provided in terms of Part E of the bill of quantities for the construction work activities carried out by EPWP participants. Payment for such work activities shall be made only indirectly, in terms of the pay items scheduled for the work activities in which such persons are engaged.

Furthermore, no direct payment will be made to cover the Contractor's costs associated with implementing the on-site work programme for the EPWP participants, for planning, organising, directing, controlling and administering their day to day activities, including the setting of daily tasks, record keeping and any on-site liaison, training and mentoring required, and for the associated job creation reporting, and such costs shall therefore be built into the rates tendered for the various items of work scheduled throughout the bill of quantities.

E2.10.2 Payment for labour-intensive components of the work

Payment will be made for items which are designated for labour-intensive construction in the bill of quantities only in those instances where such items are constructed using labour-intensive methods.

Any unauthorised use of construction equipment to carry out work which was scheduled to be carried out using labour-intensive methods will not be condoned and any Works so constructed will not be certified for payment. Any non-payment for such Works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

During the course of construction, as a result of unforeseen site conditions or operating conditions

encountered, it may happen that an item designated for labour-intensive construction can no longer be carried out in a safe and economically feasible manner, either in full or in part, using labour-intensive methods. In such instances the Employer's Agent shall, where necessary, order a variation in terms of clause 6.3 of the of the General Conditions of Contract 2015 with respect to that portion of the item quantity that cannot be carried out using labour-intensive methods.

E2.11 Penalty applicable to any shortfall in the local labour content achieved

The amount spent on wages for local labour (excluding VAT) for this project, as certified by the Employer's Agent, shall equal or exceed the specified minimum percentage of the contract amount which is the Contract Price (adjusted to exclude penalties and value added tax).

The Contractor is obliged to commit to or exceed the specified minimum percentage of local labour content stated in section C1.2.2 Data Provided by the Employer.

In the event that the Contractor fails to substantiate that any failure to achieve the minimum required local labour content for this project is due to quantitative underruns, the elimination of items contracted to local labour, or any other reason beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable for a financial penalty as prescribed in clause SCC 4.1.1 of section C1.2.1.2 Special Conditions of Contract. The financial penalty shall be calculated as follows:

$$P = 0,05 \times [(E - E_0)/100] \times C_A$$

where:

- E is the specified minimum percentage for local labour content
- E₀ is the local labour content percentage which the Employer's Agent certifies as being achieved upon completion of the contract
- C_A is the contract amount which is the Contract Price (adjusted to exclude penalties and value added tax)
- P is the monetary value of penalty payable

The penalty shall not apply to shortfalls in the allocations to the individual target groups (i.e., Women/Youth/Disabled as per clause F1.3 above), only to shortfalls in the total local labour content achieved.

The evaluation of the Contractor's achievement of the local labour content percentage shall be undertaken monthly by the Employer's Agent, based on the accumulative achievements in comparison to the programmed utilisation of local labour, as a means of monitoring the Contractor's performance in achieving the Contract Participation Goal.

Failure by the Contractor to achieve the Contract Participation Goal target by the time of Practical Completion, shall result in the financial penalty being applied as prescribed in this clause. The Employer's Agent shall make a final determination of the Contractor's achievement of the Contract Participation Goal based on the value of the Final Payment Certificate.

E3. NATIONAL YOUTH SERVICE (NYS)

The Employer requires the implementation of National Youth Service (NYS) programmes on this project.

E3.1 The National Youth Service (NYS) programme

The National Youth Service (NYS) programme aims to train young people and provide them with practical work experience. The young people will be allocated tasks by the Contractor that will assist the Contractor with the execution of the contract.

E3.2 Applicable labour laws

The work to be undertaken on this contract by unskilled or semi-skilled workers under the National Youth Service (NYS) programme shall be implemented in accordance with the same Code of Good Practice and Ministerial Determination as described in clause F2.2 above for work to be undertaken under the Expanded Public Works Programme (EPWP).

E3.3 Employer's project manager

The Contractor shall be required to liaise closely with the Employer's project manager who is responsible for the recruitment and training of the NYS workers.

E3.4 Persons to be employed under the NYS programme

For purposes of this contract, the Contractor shall be required to employ 10 youths aged between 18 and 35 for a period of 6 months each under the NYS programme.

The Employer's project manager shall provide the Contractor with a list of the 10 youths to be employed and the training that each of these 10 youths have received to date, and only these 10 youths shall be employed by the Contractor under the NYS programme.

E3.5 Contract of employment with persons employed under the NYS programme

The Contractor shall enter into a formal contract of employment with each youth employed under the NYS programme, using the pro forma contract of employment attached at the end of this Part E of section 3.3 Particular Specifications.

E3.6 Employment of NYS workers

The Contractor will be contractually obliged to:

- (a) employ all participants on the list provided by the Employer's project manager;
- (b) brief NYS workers on the conditions of employment;
- (c) enter into a formal contract of employment with each NYS worker, which contract will form part of the Employment Agreement;
- (d) keep personnel files for all NYS workers and make copies available to the Employer's project manager if and when requested; and
- (e) ensure that payments to NYS workers are made in accordance with Government Notice No. R347.

During the period when they are engaged in formal classroom training (other than in-service training), the youths employed under the NYS programme shall be paid the minimum wage rate as set by the Department of Labour on an annual basis in the Ministerial Determination for the Expanded Public Works Programme, and should there be an upward adjustment in the rate the Contractor will be compensated accordingly. During the period when they are engaged in productive work activities required for elements of the Works, they shall be paid in terms of the wage rates stated in clause F2.5 above.

E3.7 Training of youth workers

All NYS workers will be placed on an extensive training programme that will include:

- (a) an induction into NYS and EPWP;
- (b) life skills training;
- (c) technical training focusing on a vocational skill to be used on the project (e.g. painting or carpentry); and
- (d) entrepreneurship and business skills training.

All training will be arranged by the Employer's project manager, with whom the Contractor will be required to work closely to schedule the training sessions so that the timing of the training is aligned with the Contractor's work schedule and his demand for workers with specific skills. The Employer's project manager will make full details of the training programme available to the Contractor.

A compulsory 10-day life skills training must be provided before commencement of classroom training on NYS. This type of training must be provided by a NYDA accredited service provider as per the National Youth Service Framework from the National Department of Public Works.

The Contractor shall maintain comprehensive records of the training received by each NYS worker throughout the course of the contract, and shall submit to the Employer at each monthly site meeting a summary of the accumulated training received by each NYS worker.

The training of the NYS workers shall take place using the same training facility provided for the training of all other EPWP participants (refer to clause E5 below).

E3.8 Contractor's obligations towards persons employed under the NYS programme

Over and above implementing in accordance with Government Notice Nos. 129 and R347 the NYS programme work to be undertaken on this contract, it shall be the responsibility of the Contractor to carry out the following functions with respect to the NYS programme workers:

- (a) ensure that all participants are covered by the Compensation for Occupational Injuries and Diseases Act, 1993, for as long as they are contracted to the Contractor, and pay in full to the Compensation Commissioner such amounts as are due in terms of the Act;
- (b) pay in full to the Unemployment Insurance Fund for all participants such UIF contribution amounts as are due in terms of the Unemployment Insurance Act, 2001, as amended, and the Unemployment Insurance Contributions Act, 2002, as amended, and provide proof of such UIF payments upon request;
- (c) ensure that all participants are paid their wages on time through the pre-agreed payment method as stipulated in the participant contract;
- (d) implement health and safety procedures with respect to the participants, ensuring that the health and safety regulations are adhered to;
- (e) ensure that all participants receive induction on site safety prior to commencing with work on site;
- (f) provide all participants with the necessary protective clothing and equipment as required by law for the specific trades in which the participants are involved, in addition to the branded overalls stipulated for NYS workers;
- (g) provide safe on-site storage facilities for apparel and tools issued to the participants;
- (h) assist in the assessment of participants with regard to their competencies in their respective trades;
- (i) provide overall supervision and day-to-day management of participants; and
- (j) implement strict quality control to ensure that the work carried out by the participants is of the required standard, and, where necessary, to train and mentor the participants to assist them in achieving the standards required.

E3.9 Apparel and tools for NYS workers

The content of clause E2.8 above with regard to apparel and tools for EPWP workers shall apply equally to NYS workers, except that:

- (a) apparel and tools to be issued to NYS workers shall be determined in conjunction with the Employer's project manager;
- (b) the required branding of apparel to be issued to NYS workers shall be determined in conjunction with the Employer's project manager, and shall also include the NYS logo;
- (c) additional PPE may be required depending on the NYS worker's specific trade;
- (d) certain specified apparel and tools issued to the NYS workers will become the property of the NYS workers after the completion of their cycle of work on the project, in order to enable them to continue to practise their trade on future projects. Such apparel and tools shall be specified and authorised by the Employer's Agent; and
- (e) separate payment items have been provided in Part E of the bill of quantities to cover all costs associated with the provision of the necessary tools and apparel, including safety apparel, for the NYS workers, and the facilities for the safe storage thereof, all as authorised by the Employer's Agent.

E3.10 EPWP-NYS contract signboard

Where work takes place under the National Youth Service (NYS) programme, the NYS logo shall also be displayed on the EPWP contract signboard referred to in clause 2.9 above, indicating that this project is part of both the Expanded Public Works Programme (EPWP) and the NYS programme. Provision for the costs related to the provision, erection and subsequent removal of the contract signboard in the pay item provided in chapter 1.3 of the bill of quantities for this purpose.

E3.11 Payment matters relating to the NYS work

No direct payment will be made to cover the Contractor's costs associated with implementing the on-site work programme for the NYS workers, for planning, organising, directing, controlling and administrating their day to day activities, including the setting of daily tasks, record keeping and any on-site liaison, training and mentoring required, and for the associated job creation reporting, and such costs shall therefore be built into the rates tendered for the various items of work scheduled throughout the bill of quantities.

E4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goal of creating EPWP job opportunities, the Contractor must provide the information specified in clause E4.1 below for reporting purposes.

In addition, the Contractor's payment certificates shall be accompanied by the information specified in clause E4.2 below.

E4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting on a monthly basis, using the EPWP Data Collection Tool template (this will be made available to the Contractor in Microsoft Excel format - refer to the pro forma spreadsheets at the end of this Part E of the Particular Specifications).

The data that is required to be kept, maintained and reported on a monthly basis for each project includes:

E4.1.1 Participant (local labour) data

A participant list of the local labour employed must be maintained for every EPWP project. The data required in this participant list is indicated below. This data shall be recorded, checked and signed off by the Contractor, and shall be submitted to the Employer at each monthly site meeting. The participant list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Participant identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book.
- (b) Participant profiles – nationality, gender, age, education level and disability status.
- (c) Work data for participants – daily wage to be received, number of calendar days training attended and number of calendar days worked.
- (d) Records of training – as required in terms of the EPWP Data Collection Tool template.

In addition, the signed contracts of employment between the Contractor and each EPWP participant shall be kept and maintained on site for audit purposes.

E4.1.2 Project work data

The project work data generally seeks to confirm the number of people at work daily on the project. This data shall be recorded, checked and signed off by the Contractor, and shall be submitted to the Employer at each monthly site meeting. The data shall be maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. These records shall be kept by the Contractor for a period of three years after contract completion should they be required for audit purposes.

The data shall include:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis. Refer to pro forma attendance register attached at the end of this Part E of section 3.3.
- (b) Summary of monthly attendance.

E4.1.3 Project payment data

The project payment data generally seeks to confirm what was paid, for how much work and to whom. This data shall be recorded, checked and signed off by the Contractor, and shall be submitted to the Employer at each monthly site meeting.

It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid; or
- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

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

E4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting a progress report detailing production output compared to the programme of works, together with the data necessary to enable the Employer to calculate the following employment output data in accordance with the EPWP Data Collection Tool template:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalent (FTE) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.
- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).
- (f) Training information.

E4.2 Project data to be submitted with the Contractor's payment certificates

The Contractor's payment certificates shall be accompanied by labour returns providing the labour information for the corresponding period in a format specified by the Employer.

Should the Contractor choose to delay submitting payment certificates, the labour returns shall nevertheless still be submitted as per the frequency and timeframes stipulated by the Employer. The Contractor's payment certificates shall not be paid by the Employer until all pending labour information has been submitted.

The following information shall be maintained on site and submitted with each payment certificate in the format specified by the Employer:

- (a) Copies of the signed contracts between the Contractor and any new EPWP participants (the Contractor shall note that all such formal contracts of employment entered into with persons employed under the Expanded Public Works Programme (EPWP) shall expire on 31 March each year, and the Contractor shall therefore be required to enter into new contracts with such persons as of 1 April each year, and shall be required to submit copies of all such new contracts with the first payment certificate thereafter);
- (b) Certified ID copies of all local labour employed as EPWP participants;
- (c) Attendance registers for the EPWP participants;
- (d) Proof of payment of EPWP participants; and
- (e) Information as required in terms of the EPWP Data Collection Tool template.

E5. PROVISION OF STRUCTURED TRAINING

E5.1 Scope of structured training

In order to avoid duplication of training facilities, the training described in Part F: Small Contractor Development (in those instances where Part F is included in the contract), shall be provided utilising the training facility measured and paid for in accordance with the requirements of this Part E: Expanded Public Works Programme (EPWP).

The Employer's objectives include the training of local labour and Targeted Enterprises within a structured programme, in order to equip them with skills that will assist them in gaining future employment, and to facilitate targeted EPWP participants in gaining competencies and unit standard credits towards future full learnership qualifications.

Such training shall contain both theoretical and practical components and shall be conducted in accordance with the various laws and regulations contained in the South African Qualifications Authority (SAQA) statutes.

The following aspects of the structured training to be provided are noted:

- (a) The Employer has no service agreement or memorandum of understanding with any Education and Training Quality Assurance (ETQA) body, and therefore does not function as the employer as defined under any three-party learnership agreement between the learner, the training provider and the employer.
- (b) The structured training programmes implemented on this contract, although comprising several unit standards, are unlikely to total to sufficient credits for a full learnership qualification. Nevertheless, the competencies and credits achieved should contribute to a full learnership through the later acquisition by the learner of the remaining unit standards required for the full learnership.

The Contractor shall be required to provide a training facility on the Site, or in close proximity thereto, and to provide over the duration of the contract the following structured training for EPWP participants:

- (a) Generic skills training;
- (b) Entrepreneurial skills training;
- (c) Construction skills training; and
- (d) In-service training.

Generic skills training and in-service training shall be provided to all EPWP participants.

Entrepreneurial and construction skills training shall be provided to targeted EPWP participants only.

E5.2 Training provider and trainers

The Contractor shall be required to procure the services of a training provider accredited by the Construction Education and Training Authority (CETA).

The training provider shall have in its employ trainers who are registered as assessors with the Construction Education and Training Authority (CETA), and who shall deliver the training.

Proof of the accreditation of the service provider and the registration of the trainers by the CETA shall be submitted to the Employer's Agent. Such accreditation and registration shall be current and valid, and the proof submitted shall include the NQF levels and unit standards for which each trainer is accredited.

E5.3 Skills analysis and selection of targeted EPWP participants

Studying for any learnership requires minimum literacy and numeracy competencies as defined by SAQA. The actual literacy and numeracy levels of the persons employed on the Site shall provide a basis to guide the Contractor and the training provider on how to conduct the selection process.

The Contractor shall therefore conduct a skills analysis of the local labour and Targeted Enterprises employed, in order to determine the formal education qualifications of each employee.

The Contractor, in conjunction with the training provider, shall then identify those persons that display the potential to benefit from such structured entrepreneurial and construction skills training as may be provided for in the contract, and shall make recommendations in this regard to the Employer's Agent.

The final candidates selected for such training shall be decided between the Contractor and the Employer's Agent (or by the Project Management Team (PMT) in the case of training for Targeted Enterprises in terms of Part G: Small Contractor Development, where applicable).

E5.4 Structured training programmes

The Contractor, supported by the training provider, shall plan then implement structured training programmes for generic, entrepreneurial and construction skills training.

Training courses shall commence within four months of the Contractor taking possession of the Site, and shall be completed before the Due Completion Date.

All training shall take place within normal working hours, or as otherwise agreed with the learners.

The training provider shall design, compile and deliver the structured training programmes, based on the information obtained from the skills analysis.

E5.4.1 Generic skills training

The structured training programmes designed by the training provider for the generic skills training shall comprise relevant general courses such as basic hygiene and HIV/AIDS awareness, first aid, road safety, managing personal finance, and other courses that would be useful to workers in the road construction industry or as life skills generally.

E5.4.2 Entrepreneurial skills training

The structured training programmes designed by the training provider for the entrepreneurial skills training shall comprise unit standards that contribute towards one or more of the following full learnership qualifications, as appropriate taking into consideration the skills analysis information for the selected candidates (details of the learnership qualifications and the applicable unit standards may be found on the website www.saga.org.za):

ENTREPRENEURIAL SKILLS TRAINING				
Qualification title	SAQA qualification ID	NQF level	Minimum credits	Purpose of qualification
National Certificate: Supervision of Construction Processes	49053	Level 4	176	Learners found competent against this qualification will be able to execute the supervision of construction processes, with specialisation in a specific context

E5.4.3 Construction skills training

The structured training programmes designed by the training provider for the construction skills training shall comprise unit standards that contribute towards one or more of the following full learnership qualifications, as appropriate taking into consideration the skills analysis information for the selected candidates (details of the learnership qualifications and the applicable unit standards may be found on the website www.saqa.org.za):

CONSTRUCTION SKILLS TRAINING				
Qualification title	SAQA qualification ID	NQF level	Minimum credits	Purpose of qualification
National Certificate: Supervision of Construction Processes	49053	Level 4	176	Learners found competent against this qualification will be able to execute the supervision of construction processes, with specialisation in a specific context
National Certificate: Construction: Roadworks	24173	Level 3	155	This qualification is for persons who work or intend to work within a construction context on a site, and who seek recognition for essential skills in construction operations in roadworks.
National Certificate: Construction: Roadworks	24133	Level 2	120	This qualification is for persons who work or intend to work within a construction context on a site, and who seek recognition for essential skills in construction operations in roadworks.
National Certificate: Occupational Health, Safety and Environment	74269	Level 2	120	This qualification is to equip learners working in any type of workplace with a broad understanding and knowledge of Occupational Health, Safety and Environmental (HSE) concepts and practices with sufficient detail to enable them to function in a safe and healthy way and to deal with health and safety problems and issues.

E5.4.4 Training programme

The Contractor's proposed training programmes shall be subject to the approval of the Employer's Agent (or the approval of the Project Management Team (PMT) in the case of training for Targeted Enterprises in terms of Part F: Small Contractor Development, where applicable), and the Contractor shall, if so instructed by the Employer's Agent or the PMT, alter or amend the programmes and the course content to meet any additional needs identified.

The Contractor shall be responsible for everything necessary for the delivery of the training programmes, including:

- (a) the provision of the trainers;
- (b) the provision of a suitable secure venue, complete with adequate furniture, lighting, air conditioning, power and ablution facilities;
- (c) the provision of all necessary stationery, consumables and study materials;
- (d) the transportation of the learners to and from the training facility;
- (e) the payment of wages to all learners during the classroom training at a rate equal to the minimum wage rate as set on an annual basis in the Ministerial Determination for the Expanded Public Works Programme;
- (f) the provision of any relevant Personal Protective Equipment (PPE) required for the training; and
- (g) additional supervision of the learners during the practical learning stage of the training carried out by constructing relevant elements of the Works (wages for the learners during this stage of the training will be paid through the rates tendered for the relevant scheduled work items for those elements).

At the successful completion of each course, the Contractor's training provider shall, as proof of attendance and completion, issue each learner with a certificate indicating the course content.

The training provider shall also ensure that each unit standard contributing towards a full learnership qualification and successfully completed by the learner is entered onto the national database.

The Contractor shall keep comprehensive records of the training given to each learner and the certificates issued, and shall provide copies of such records to the Employer's Agent when required.

The Contractor shall also complete and submit to the Employer's Agent each month, in a format acceptable to the Employer (using the EPWP Data Collection Tool template), a return detailing the training provided, both for the month and cumulatively for the contract.

E5.5 In-service training

The Contractor shall, from the commencement of the contract, implement an in-service training programme in which the various skills required for the execution and completion of the Works are imparted to the EPWP participants engaged thereon.

Throughout the duration of the contract, the EPWP participants shall be trained progressively through the various stages of each particular type of work in which they are engaged, and their work shall be supervised and monitored and their methods corrected where necessary.

The in-service training programme shall be submitted with the initial Works programme. The Contractor shall record the progress in relation to this programme on a monthly basis, and this progress report shall be incorporated in the monthly site meeting minutes and the payment certificate.

The Contractor shall provide sufficient skilled and competent trainers to train all EPWP participants engaged on the contract in the various skills required to enable them to carry out the required construction activities.

The in-service training of EPWP participants shall take place before commencement of the relevant construction activity, and the Contractor shall take into account in his programme the lead time required for such training. All in-service training shall be deemed to be an element of the relevant construction activity.

All formal in-service training shall be documented in terms of the EPWP Data Collection Tool template, and shall be accompanied by an attendance register of the EPWP participants on the applicable days.

All EPWP participants shall be remunerated at their agreed wage rate in respect of the time spent undergoing in-service training. The cost of the Contractor's in-service training obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities.

On termination of their employment, the Contractor shall provide each EPWP participant engaged on the contract with a certificate of service on which the following information shall be recorded:

- (i) name of the Contractor;
- (ii) name of the project / contract;
- (iii) name of the employee;
- (iv) nature of the work satisfactorily executed by the EPWP participant and the time spent thereon;
- (v) nature and extent of training provided to the EPWP participant; and
- (vi) dates of service.

F5.6 Training venue facility

The training venue facility to be provided by the Contractor shall be constructed, furnished and fully serviced for the duration of the contract in accordance with Chapter 1.4 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

In order to minimise the cost of transporting the learners for training, the facility shall be located in secure premises on the Site, or in close proximity thereto.

This facility shall be used to deliver all training, irrespective of whether it is delivered in terms of Part E or Part F of the Particular Specifications.

The facility shall accommodate a class of up to 10 learners and shall comprise the following:

(a)	Lecture room (interior area)	=	24 m ²
(b)	Ablutions (male)	=	3 m ²
(c)	Ablutions (female)	=	3 m ²
(d)	Chairs for learners (individual chairs, with backs)	=	10 off
(e)	Desk area for 25 learners (500 mm width)	=	7 m ²
(f)	Chairs for trainers and management (individual chairs, with backs)	=	5 off
(g)	Table area for trainers and management	=	3 m ²
(h)	220/250 volt power points	=	4 off
(i)	Double 80 watt fluorescent light fittings complete with ballast and tubes	=	4 off
(j)	Single incandescent light fittings complete with 100 watt globes	=	4 off
(k)	Wash hand basins complete with taps and drains	=	2 off
(l)	Fire extinguishers, 9,0 kg, all-purpose dry powder type, complete, mounted on wall with brackets	=	2 off
(m)	Air conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	=	2 off
(n)	Voltage stabilizers	=	2 off
(o)	Floodlights complete with poles and 500 watt minimum globes and controlled by photocells	=	2 off
(p)	White boards (3 m x 1,5 m)	=	1 off
(q)	Venetian blinds	=	6 m ²

E6. MEASUREMENT AND PAYMENT

Item	Unit
E6.01 Provision of the training venue facility, including the cost of transporting the learners to and from this facility	lump sum (Sum)

The tendered lump sum for subitem E6.01 shall include full compensation for the provision of the training venue facility complete and serviced as specified, including for the provision of power, water, sewerage and cleaning services for the duration of the contract, for lighting, power points and voltage stabilizers, for air conditioning, blinds, fire extinguishers, floodlights, furniture and whiteboards, for the provision of security at the facility, for all other costs necessary to maintain the facility for the duration of the contract, and for the removal of the facility on completion of the contract.

The tendered lump sum shall also include full compensation for transporting the learners on each day of training from their place of work to this training venue facility, and back again after the training for the day has been delivered by the accredited trainers.

Payment of the lump sum shall be made in three instalments as follows:

The first instalment, 50% of the lump sum, shall be paid after the Contractor has met all his obligations regarding the provision of the training venue facility, complete and serviced as specified, and the facility has been successfully commissioned for use.

The second instalment, 35% of the lump sum, shall be paid when 75% of the training courses proposed in accordance with the Contractor's approved structured training programme have been delivered to the learners by the accredited trainers.

The third and final instalment, 15% of the lump sum, shall be paid when all training has been concluded and the facility has been dismantled and removed from the site.

Item	Unit
E6.02 Training of learners employed by the contractor or by the Targeted Enterprise subcontractors:	
(a) Generic skills:	
(i) Training costs.....	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem F6.02(a)(i)	percentage (%)
(b) Entrepreneurial skills:	
(i) Training costs.....	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem F6.02(b)(i)	percentage (%)
(c) Construction skills:	
(i) Training costs.....	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem F6.02(c)(i)	percentage (%)
(d) Transportation and accommodation costs of selected learners only, while receiving off-site training:	
(i) Transportation and accommodation costs	provisional sum (Prov sum)

(ii) Handling costs and profit in respect of subitem F6.02(d)(i) percentage (%)

Expenditure under subitems E6.02(a)(i), (b)(i), (c)(i) and (d)(i) shall be in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum for each of subitems E6.02(a)(i), (b)(i) and (c)(i) is provided to cover the total costs of the required training in generic, entrepreneurial and construction skills respectively, including for the procurement of the services of the accredited trainers and their delivery of the training courses to the learners, the provision of all training materials including all stationery and study materials, the wages of the learners for the duration of the courses including the associated COIDA and UIF payments, and the provision of any tools and PPE that may be required during those courses incorporating practical training modules. The payment of wages to learners in terms of subitems E6.02(a)(i), (b)(i) and (c)(i) will only be made to those learners who attend and successfully complete each course of the approved training programme. Payment shall not be made to learners who, once selected, do not attend or only partially complete structured training courses.

The tendered percentage for each of subitems E6.02(a)(ii), (b)(ii) and (c)(ii) is the percentage of the amount actually spent under each of subitems E6.02(a)(i), (b)(i) and (c)(i) respectively, and shall include full compensation for the handling costs of the Contractor and the profit in connection with the provision of the training in generic, entrepreneurial and construction skills respectively, including for the costs of record keeping and reporting with respect to the training received by each learner.

The provisional sum for subitem E6.02(d)(i) is provided to cover all costs related to the transportation and accommodation costs of selected learners only, while receiving off-site training, where such learners have been specifically selected to receive such off-site training and where such training cannot be delivered using the training venue facility provided by the Contractor in terms of subitem E6.01.

The tendered percentage for subitem E6.02(d)(ii) is the percentage of the amount actually spent under subitem E6.02(d)(i), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the transportation and accommodation costs of selected learners only, while receiving off-site training.

Item	Unit
E6.03 Payments associated with the NYS programme:	
(a) Employment of NYS workers	provisional sum (Prov sum)
(b) Provision of tools and apparel for the NYS workers	provisional sum (Prov sum)
(c) Handling costs and profit in respect of subitems F6.03(a) and (b)	percentage (%)
(d) Training of NYS workers:	
(i) Provision of training for NYS workers	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem F6.03(d)(i)	percentage (%)
(e) Liaison with the Employer's project manager and the training service provider:	
(i) Liaison conducted by the Construction Manager.....	hour (h)
(ii) Liaison conducted by the senior site foreman.....	hour (h)

The provisional sums provided under subitems E6.03(a) and (b) shall be expended in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum under subitem E6.03(a) shall be used to cover the cost of employment payments made

by the Contractor to the NYS workers, including the associated COIDA and UIF payments, all as authorised by the Employer's Agent.

The provisional sum under subitem E6.03(b) shall be used to cover all costs associated with the provision of the necessary tools and apparel, including safety apparel, for the NYS workers, and the facilities for the safe storage thereof, all as authorised by the Employer's Agent.

The tendered percentage under subitem E6.03(c) is a percentage of the total amount of expenditure approved by the Employer's Agent under the provisional sum subitems E6.03(a) and (b), and shall include full compensation for attendance by the Contractor, for the handling costs of the Contractor, and for the profit in connection with payments made by the Contractor with respect to the NYS programme implementation.

The provisional sum provided under subitem E6.03(d)(i) shall be expended in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum under subitem E6.03(d)(i) shall be used to cover all costs associated with the provision of training for the NYS workers, including the cost of procuring the services of the accredited trainers and their delivery of the training courses to the NYS workers, and the provision of all training materials including all stationery and study materials.

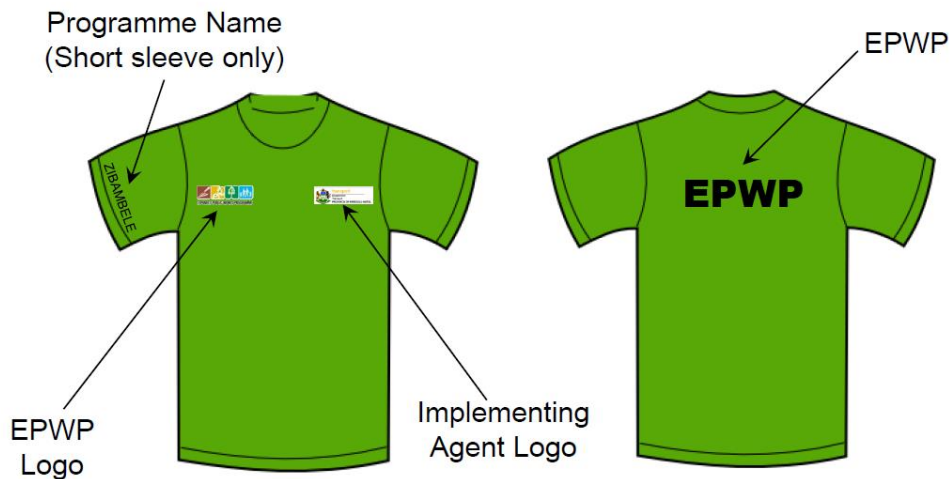
The tendered percentage under subitem E6.03(d)(ii) is a percentage of the total amount of expenditure approved by the Employer's Agent under the provisional sum subitem E6.03(d)(i), and shall include full compensation for attendance by the Contractor, for the handling costs of the Contractor, and for the profit in connection with payments made by the Contractor with respect to the provision of training for the NYS workers, including for the costs of record keeping and reporting with respect to the training received by each NYS worker.

The unit of measurement for subitems E6.03(e)(i) and (ii) shall be the hour. The tendered rates shall include full compensation for all costs related to the Construction Manager and the senior site foreman respectively for time spent at formal liaison meetings authorised and convened by the Employer's Agent for the specific purpose of liaising with the Employer's project manager and / or the training service provider. The payment shall be made only for the time spent in the formal meeting itself. No payment shall be made for time spent during any other on-site liaison, telephonic liaison, e-mail or written correspondence liaison between these parties, or for liaison conducted with the Employer's project manager and / or the training service provider by any other member of the Contractor's site staff or head office personnel, the cost of all of which shall be deemed to be included in the Contractor's time-related obligations under subitem C1.3.1.3

Expanded Public Works Programme: PPE BRANDING For EPWP Projects




T-Shirt/Overall/Safety Vest Branding




Logo Options

Implementing Agent Examples


National Projects



Provincial Department Projects



Municipal Projects



Contains National Coat Of Arms and name

Contains Provincial Coat Of Arms and name


EPWP LOGO



EXPANDED PUBLIC WORKS PROGRAMME

The Logo shall not be disproportionately stretched. A monochrome black logo may be used on approval only.

The above logo is the current logo. Logos with green text below the words EXPANDED PUBLIC WORKS PROGRAMME are old logos and should not be utilised.



PLEASE VERIFY WHICH LOGO NEEDS TO BE USED

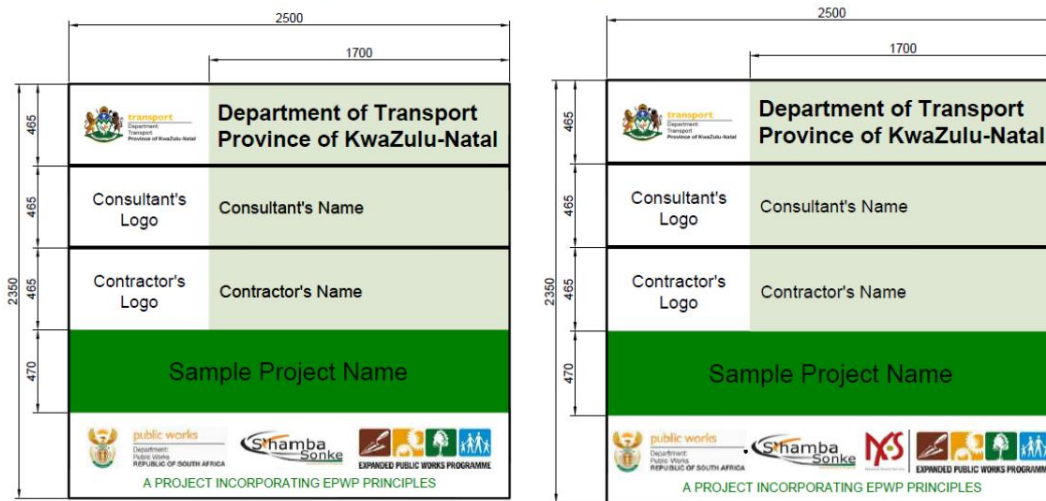
Printing on PPE

PPE (Overalls) shall be Pantone Green with/without reflective tape and shall be branded as follows:

- Implementer's Logo (printed or embroidered) on the left front pocket location ie over the heart position. (full colour)
- EPWP logo on the right front pocket (printed or embroidered) location (full colour)
- The letters EPWP on the back of the PPE in BLACK
- The program name eg Vuk'uphile is to be printed on the right sleeve of short sleeved apparel and need not be placed on long sleeved apparel.
- Where required, lime green safety vests are to be branded with similar specification above. In this instance the Overalls may not necessarily be branded provided that the use of high visibility vests is mandatory.
- All artwork and PPE samples shall be approved and signed off by the consultant prior to printing/embroidering.



Project Signboard



For further information contact:

Petronella Sithebe

Petronella.Sithebe@Kzntransport.gov.za

033-355-8023



PRO FORMA EPWP CONTRACT OF EMPLOYMENT

Contractor's
Logo



EXPANDED PUBLIC WORKS PROGRAMME

This contract must be read in conjunction with the standard terms and conditions of employment on EPWP attached herein.

EPWP CONTRACT OF EMPLOYMENT between

Employer Details

Name	Click or tap here to enter text.	Address	Click or tap here to enter text.
Telephone	Click or tap here to enter text.		
Email	Click or tap here to enter text.		
Contact	Click or tap here to enter text.		

And

Employee Details

Name	Click or tap here to enter text.	Surname	Click or tap here to enter text.
ID:	Click or tap here to enter text.	Cell	Click or tap here to enter text.
Sex (M/F)	Male <input type="checkbox"/> Female <input type="checkbox"/>	Disability	Yes <input type="checkbox"/> No <input type="checkbox"/>
Primary Language	Click or tap here to enter text.	Physical Address	Click or tap here to enter text.
Other Languages	Click or tap here to enter text.		
Highest Education Level Achieved	Click or tap here to enter text.	Local Municipality	Click or tap here to enter text.
Other qualifications	Click or tap here to enter text.	Ward	Click or tap here to enter text.
Grant Received (Y/N)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Grant type:	

Employment Details

Name of project:	Click or tap here to enter text.		
Job Title:	Click or tap here to enter text.		
Duties:	Click or tap here to enter text.		
Contract Start Date	Click or tap here to enter text.	Contract Finish Date	Click or tap here to enter text.
The wage per task/day is:	R Click or tap here to enter text. / Hour/Day/task <i>(Specifier to select correct rate)</i>		

Special Conditions

<p>You must be aware that this employment contract is a limited term contract and not a permanent job. This employment contract may be terminated for any one of the following reasons:</p> <ul style="list-style-type: none"> a) The contractor does not get additional contracts from the EPWP. b) Funding for the programme in your area comes to an end. c) Underperformance: first offence – final written warning. Second offence – dismissal. 	<p>Payment</p> <ul style="list-style-type: none"> a) You will be paid a fixed amount stipulated above for completing a fixed amount of work. b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day. c) You will only be paid for work completed. d) Payment during classroom training shall be R /day
<p>Personal Protective Clothing will be supplied to the employee by the employer depending on the work to be performed, and will remain the property of the employee provided that the employee has worked for at least 3 months.</p>	

Acceptance

Employer Name:	Employer Signature:	Employee Name:	Employee Signature:
Witness 1 Name:	Witness 1 Signature:	Witness 2 Name:	Witness 2 Signature:

APPENDIX E – Conditions of Service

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). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

1.2. In this document –

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

2. Terms of Work

- 2.1. Workers on an EPWP are employed on a temporary basis.
- 2.2. A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.
- 2.3. Employment on an EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3. Normal Hours of Work

- 3.1. An employer may not set tasks or hours of work that require a worker to work–
 - a) more than forty hours in any week
 - i. on more than five days in any week; and
 - ii. for more than eight hours on any day.
- 3.2. 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.
- 3.3. 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.

4. 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.

5. 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.

6. Daily Rest Period

Every worker is entitled to a daily rest period of at least eight 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.

7. Weekly Rest Period

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”).

8. Work on Sundays and Public Holidays

- 8.1. A worker may only work on a Sunday or public holiday to perform emergency or security work.
- 8.2. Work on Sundays is paid at the ordinary rate of pay.
- 8.3. A task-rated worker who works on a public holiday must be paid –
 - a) the worker’s daily task rate, if the worker works for less than four hours;
 - b) double the worker’s daily task rate, if the worker works for more than four hours.
- 8.4. A time-rated worker who works on a public holiday must be paid –
 - a) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;
 - b) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.

9. Sick Leave

- 9.1. Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
- 9.2. 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.
- 9.3. A worker may accumulate a maximum of twelve days’ sick leave in a year.
- 9.4. Accumulated sick-leave may not be transferred from one contract to another contract.
- 9.5. An employer must pay a task-rated worker the worker’s daily task rate for a day’s sick leave.
- 9.6. An employer must pay a time-rated worker the worker’s daily rate of pay for a day’s sick leave.
- 9.7. An employer must pay a worker sick pay on the worker’s usual payday.
- 9.8. 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 –
 - a) absent from work for more than two consecutive days; or
 - b) absent from work on more than two occasions in any eight-week period.
- 9.9. 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.
- 9.10. 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.

Employer	Employee
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10. Maternity Leave

- 10.1. A worker may take up to four consecutive months' unpaid maternity leave.
- 10.2. A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 10.3. A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 10.4. 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.
- 10.5. 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
 - iii. 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.
- 10.6. 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.
- 10.7. A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

11. Family responsibility leave

- 11.1. 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.

12. Statement of Conditions

- 12.1. 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.
- 12.2. An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- 12.3. An employer must supply each worker with a copy of these conditions of employment.

13. Keeping Records

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

14. Payment

- 14.1. An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- 14.2. A task-rated worker will only be paid for tasks that have been completed.
- 14.3. 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.
- 14.4. A time-rated worker will be paid at the end of each month.
- 14.5. Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- 14.6. 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.
- 14.7. 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.
- 14.8. 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
- 14.9. 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.

15. Deductions

- 15.1. An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- 15.2. An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- 15.3. 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.
- 15.4. 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.

16. Health and Safety

- 16.1. Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- 16.2. 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.

17. Compensation for Injuries and Diseases

Employer	Employee
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- 17.1. It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 17.2. A worker must report any work-related injury or occupational disease to their employer or manager.
- 17.3. The employer must report the accident or disease to the Compensation Commissioner.
- 17.4. 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.

18. Termination

- 18.1. The employer may terminate the employment of a worker for good cause after following a fair procedure.
- 18.2. A worker will not receive severance pay on termination.
- 18.3. 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.
- 18.4. 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 available for the balance of the 24-month period.
- 18.5. 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 for the balance of the 24-month period.

19. Certificate of Service

- 19.1. 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.Either party can terminate this agreement with four weeks written notice. In the case where an employee is illiterate notice may be given by that employee verbally.

Employer	Employee
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**EPWP DATA COLLECTION TOOL TEMPLATE
(PRO FORMAS OF MICROSOFT EXCEL SPREADSHEETS)**

EPWP REGISTRATION FORM		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	<i>Generated by the system</i>	
Project Name	<i>The name of the project</i>	
Project Reference Number	<i>Contract number</i>	
Project description	<i>Full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project</i>	
Duration		
Project Start Date	<i>Planned Start date of the particular contract</i>	
Project End Date	<i>Planned End date of the particular contract</i>	
Estimated Budget	<i>Overall Contract budget (excluding professional fees) for Current Financial Year</i>	
Project Location		
Province	<i>In which province is the project implemented?</i>	KZN
District Municipality	<i>Under which District Municipality does this project falls?</i>	
Local Municipality	<i>Under which Local Municipality does this project falls?</i>	
Latitude (in decimal format)	<i>Is generated by the system</i>	
Longitude (in decimal format)	<i>Is generated by the system</i>	
Project Location per site		
Locality name	<i>Where exactly is the project implemented? (Ward name)</i>	
Subplace	<i>Town / Village</i>	
Ward	<i>The project site is located in which ward?</i>	
Government facility	<i>Landmark near the project (Post office/school/clinic/library)</i>	
Spatial Data Type	<i>Geopoint (structure)/ Line (road)/ Polygon(area)</i>	
Site physical address	<i>Physical address of the site office</i>	
Public Body Details		
Public body sphere	<i>In which sphere is the project implemented? (National, Provincial or Municipal)</i>	Provincial
Reporting public body that is the project owner (and will report on the project)	<i>Which Institution or Department that owns / approved this project (Education, Health, City of Tshwane Metro etc.)</i>	KZN Department of Transport
Department in the Public body that is responsible for the project	<i>Which department /unit is responsible for this project? (e.g. Roads & storm water, Education, Community safety etc.)</i>	KZN Department of Transport
Implementing public body type	<i>In which sphere is this project implemented? (Metro,Distr,Mun, National or Provincial Dept.)</i>	Provincial
Public body that will implement the project	<i>Which institution that implements the project?</i>	KZN Department of Transport
Project Implementation		
Is this the project on the municipal IDP	<i>Yes / No</i>	N/A
IDP reference number allocated to the project	<i>The number reflected in your Municipal IDP document</i>	N/A
EPWP Details		
EPWP Sector	<i>The project is implemented in which sector? (Infrastructure, Environment & culture, Non-state or Social)</i>	Infrastructure
EPWP Programme	<i>The project is implemented under which programme?</i>	
EPWP Sub Programme	<i>The project is implemented under which sub-programme?</i>	

EPWP BUSINESS FORM		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	<i>Generated by the system</i>	
Project Name	<i>The name of the project</i>	
Project Reference Number	<i>Contract number</i>	
Project description	<i>Full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project</i>	
Duration		
Project Start Date		
Project End Date		
Estimated Budget	<i>Project Budget</i>	
Project Location		
Province		KZN
District Municipality	<i>Under which District Municipality does this projects falls</i>	
Local Municipality	<i>Under which Local Municipality does this projects falls</i>	
Latitude (in decimal format)	<i>GPS coordinates</i>	
Longitude (in decimal format)		
Public Body Details		
Public body sphere	<i>Such as Municipal or Provincial</i>	Provincial
Reporting public body that is the project owner (and will report on the project)	<i>Which Department approved the project in (education, Health etc.)</i>	KZN Department of Transport
Department / Unit in the Public body that is responsible for the project	<i>Which Department budgeted for the project e.g. Education, Health Directorate</i>	KZN Department of Transport
Implementing public body type	<i>Example(Local Municipality, Distr. Mun or Provincial Dept.</i>	Provincial
Public body that will implement the project	<i>Infrastructure, Environment or Social</i>	KZN Department of Transport
Is this project on the Municipal IDP	<i>Municipal projects</i>	N/A
IDP reference number allocated to the project		N/A

EPWP Details		
EPWP Sector	<i>The project is implemented in which sector? (Infrastructure, Environment & culture, Non-state or Social)</i>	Infrastructure
EPWP programme	<i>The project is implemented under which programme?</i>	
EPWP Sub Programme	<i>The project is implemented under which sub-programme?</i>	
Budget Amount-(Allocations for the project duration)		
Funding Body	<i>Which Dept. is funding the project</i>	KZN Department of Transport
Funding Year	<i>Financial year/s for the project</i>	
Total Budget Amount	<i>(Exclude Professional Fees)</i>	
Incentive Grant(e.g. landcare / EPWP grant)	<i>Grant funding received</i>	
Total wages paid for the duration of the projects	<i>What amount will be spent on wages during the duration of the project</i>	
Wage Rate	<i>Daily Wage rate to be paid during productive work</i>	
Stipend Rate	<i>Daily wage rate to be paid during training</i>	
UIF	<i>The amount being paid to UIF (if applicable)</i>	
COIDA	<i>The amount being paid to COIDA(if applicable)</i>	
Training	<i>What amount will be spent on training</i>	
Administration	<i>The Administration costs</i>	
Equipment and materials	<i>Budget for Materials and Equipment</i>	
Other	<i>If other where chosen describe the other Such as Professional fees)</i>	
Describe other		
Project Outputs and Training		
Planned Primary Output	<i>eg walkways, gabions, kerb * channel, km of road constructed</i>	
Description of Planned Primary Output	<i>Describe the project output (end product and not the milestone) (e.g. kms of tar road constructed) Start with the unit of measure such as number of, kms, ha, sqms etc</i>	
Unit of measure of primary output	<i>Eg. m, m², m³, km, no, ha etc</i>	
Planned primary output quantity	<i>Specify the quantity of output planned</i>	
Number of persons to be trained	<i>How many persons are targeted for on job training</i>	

Contact person		
Title	<i>Person responsible for the Project in the Public Body (Project Manager)</i>	
Initials		
First Name		
Surname		
Email		
Tel (Office)		
Fax Number		
Cell Number		
Physical Address 1		
Physical Address 2		
Physical Address 3		
Physical Address 4		
Postal Address 1		
Postal Address 2		
Postal Address 3		
Postal Address 4		
Position of person		

Participant Training Data													
Course ID	Course Name	Code	Training category (Accredited / non-accredited)	Type of training course (Unit standard, Trade Titles, Short courses, Public body specific)	Start	End (for the entire training duration)	Number of Trainees	Number of Days	Cost (for the entire training course)	Status of training (Not started, In progress, Completed)	Training Provider Name	Training Provider Contact Number	Training Provider Address

EPWP Monthly Progress Form		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	full descripton of what is happening in the project (as per the appointment letter) and the community benefiting from the project	
Project Name	The name of the project	
Project Reference Number	Contract number	
Project description	Full descripton of what is happening in the project (as per the appointment letter) and the community benefiting from the project	
Month		
Reporting Month		April
Budget Expenditure		
Cumulative Expenditure Amount	What is the Overall amount spend on this project?	
Current Expenditure Amount	What is the amount spend including all grants for this month?	
Wages	How much paid on wages for this month only?	
UIF	How much paid on UIF for this month only?	
COIDA	How much paid on COIDA for this month only?	
Stipends for training	Amount paid to participants whilst on training (this month only)	
Amount spent on service providers for training	How much paid to service providers for training for this month only?	
Training	Total Cost of training for this month? (number captured on ERS)	
Administration	How much paid on administration for this month only?	
Equipment and materials	How much paid on equipment and materials for this month only?	
Other	How much paid on other?	
Describe other	Be specific e.g. Consulting fees, Transport etc.	
Project output description	Describe the project output (end product and not the milestone) (e.g. kms of tar road constructed) Start with the unit of measure such as number of, kms, ha, sqms etc	
Unit of measure of primary output	Eg. m, m ² , m ³ , km, no, ha etc	
Cumulative primary output achieved	Since the onset of the project	
Quantity Achieved	enter numeric output for this month only	
Percentage achieved	How much work done / achieved in percentages?	
EPWP Branding		
Branding compliant	Yes / No	
Date that the branding was provided	When was the project branded?	
Has a photo of project branding been provided?	Yes / No	
First name of Official Who Branded Project	Official Name	
Surname of Official Who Branded Project	Official Surname	
Phone number of official who erected branding for the project	Official contact number	
Give the public body reference and name, and organisational details of the person that provided branding.	Public body details (reference & name)	

First Name	Initials	Surname	ID number	Date Of Birth	Wage Rate	Total Paid Days	Amount Paid	Work Days	Training Days Paid	Training Days Non Paid	Total Training Days	Training Course ID	Project Profile ID	Month	Year	Beneficiary Code



The Attendance Register for on-site Workers

Reporting month: _____

Mobile No: _____

Project Name: _____

Contract no: _____

Surname: _____

First Name: _____

IDENTITY NUMBER:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Day	Date	Time In	Signature	Time Out	Signature	Report On Any Formal Training Provided In The Reporting Month
WEEK 1						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 2						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 3						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 4						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 5						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
Total Days worked						

C3.3 PARTICULAR SPECIFICATIONS

PART F: SMALL CONTRACTOR DEVELOPMENT

PART F: SMALL CONTRACTOR DEVELOPMENT

F1. SCOPE

This part provides the procedures that relate to the Contractor implementing the Employer's policies and initiatives, enabling the Employer to realise its social and development objectives through the participation of Targeted Enterprises and Labour in the construction of the Works. The approach adopted enables the delivery of a wide range of social and economic deliverables, including the employment of local resources, employment opportunities for labour intensive works, business opportunities, enterprise support and development programmes, and skills development.

The participation of Targeted Enterprises and Labour, measured in monetary terms, is specified as a contract participation goal by the Employer, for the Contractor to achieve.

F2. DEFINITIONS

Unless inconsistent with the context, in these specifications the following terms, words or expressions shall have the meanings hereby assigned to them:

F2.1 **"Black People"** has the meaning assigned to it in section 1 of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003), and the Broad-Based Black Economic Empowerment Amended Act, 2013 (Act No 46 of 2013).

F2.2 **"Contract Participation"** means a process whereby the Employer sets a target to achieve its social and development objectives through the participation of Targeted Enterprises and Labour in the construction of the Works.

F2.3 **"Contract Participation Goal (CPG)"** means the value of goods, services and works for which the Contractor contracts Targeted Enterprises and Labour exclusive of any value added tax which the law requires the Employer to pay to the Contractor, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax).

F2.4 **"EME"** means an exempted micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003).

F2.5 **"Military Veteran"** has the meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No 18 of 2011).

F2.6 **"people with disabilities"** has the meaning assigned to it in section 1 of the Employment Equity Act, 1998 (Act No 55 of 1998).

F2.7 **"Project Management Team (PMT)"** means a team established at the commencement of the contract, comprising a representative from each of the Employer, the Employer's Agent and the Contractor, that will be responsible for various functions related to the implementation of the Contract Participation process.

F2.8 **"QSE"** means a qualifying small enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003).

F2.9 **"Target Area"** means the geographic area stated in the Contract Data.

F2.10 **"Targeted Enterprise"** means an entity to which the Contractor subcontracts a percentage of the contract value as a condition of contract and which is:

- (i) an EME or QSE which is at least 51% owned by black people;
- (ii) an EME or QSE which is at least 51% owned by black people who are youth;

- (iii) an EME or QSE which is at least 51% owned by black people who are women;
- (iv) an EME or QSE which is at least 51% owned by black people with disabilities; or
- (v) an EME or QSE which is at least 51% owned by black people who are military veterans.

F2.11 **“Targeted Labour”** means individuals, employed by the Contractor and subcontractors in the performance of the contract, who permanently reside in the target area or who are recognised as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area, and excludes any labour employed by suppliers and manufacturers.

F2.12 **“Youth”** means persons between the ages of 18 and 35.

F3. CONTRACT PARTICIPATION

F3.1 Objective

In order for the Employer to realise its social and development objectives, the Contractor is required to provide business and labour opportunities through the participation of Targeted Enterprises and Labour in the construction of the Works. The participation of Targeted Enterprises and Labour, measured in monetary terms, is specified by the Employer as a contract participation goal, for the Contractor to achieve.

F3.2 Contract Participation process

The Contractor shall engage Targeted Enterprises and Labour in the performance of the contract to the extent that the total monetary value of such engagements exclusive of any value added tax, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax), is not less than the Contract Participation Goal specified in the contract.

F3.2.1 Contract Participation plan

The Contractor shall submit to the Employer’s Agent details of his plan to achieve the Contract Participation Goal with his initial programme in terms of which he will carry out the Works. The Contract Participation plan shall be submitted with all subsequent adjusted programmes. The tender process for the procurement of Targeted Enterprise subcontractors shall be indicated on the programme.

The Contract Participation plan shall indicate the expected delivery dates of goods provided by Targeted Enterprises, and the commencement and completion dates of work and services to be performed by all the Targeted Enterprises and Labour engaged on the contract for the purpose of securing credits towards the Contract Participation Goal.

The information contained in the Contract Participation plan facilitates, in the first instance, the monitoring by the Employer’s Agent of the performance of the Contractor in terms of his Contract Participation Goal obligations and, in the second instance, the making of any adjustments by the Contractor to compensate for quantitative underruns, the elimination of items contracted to Targeted Enterprises or Labour, or any other reason beyond the Contractor’s control which may be acceptable to the Employer

F3.2.2 Targeted Enterprises

The Contractor shall engage Targeted Enterprises comprising subcontractors and suppliers directly or indirectly in the performance of the contract. Prior to such Targeted Enterprises being engaged, the Contractor shall submit to the Employer’s Agent documentation in a form approved by the Employer’s Agent, to confirm that the enterprise satisfies the eligibility criteria for recognition as a targeted enterprise.

The Contractor shall enter into written contractual agreements with all the Targeted Enterprises, in a form approved by the Employer’s Agent. Copies of such agreements and the written acceptance thereof shall be submitted to the Employer’s Agent.

In the case of Targeted Enterprise subcontractors, only those subcontractors procured through a tender process as specified in clause G6 Tender Process for Targeted Enterprise Subcontractor Procurement, shall qualify to have their contribution count towards the Contract Participation Goal.

The Contractor may not subcontract more than 25% of the Contract Price to Targeted Enterprises whose B-BBEE status level of contributor is lower than the Contractor's.

F3.2.3 Targeted Labour

The Contractor shall engage Targeted Labour directly or indirectly in the performance of the contract. It is a requirement of the contract that such Targeted Labour be engaged by means of a written contract, in a form approved by the Employer's Agent.

The requirements for the engagement of such Targeted Labour is contained in Part E: Expanded Public Works Programme.

F3.3 Contract Participation Goal

The Contract Participation Goal comprises two targets, namely subcontracting of the Works to Targeted Enterprises, and employment of Targeted Labour. The Contract Participation Goal targets are stated as a percentage unit of measure in the Contract Data, for the Contractor to achieve to the extent that the total monetary value of such subcontracting and employment engagements exclusive of any value added tax, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax), are each not less than the respective Contract Participation Goal target stated in the contract.

F3.3.1 Monthly submission of supporting documentation

The Contractor shall prepare and submit on a monthly basis to the Employer's Agent in a form approved by the Employer's Agent, the following:

- (i) a brief report which describes the commercially useful functions performed by the Targeted Enterprises and Labour in the performance of the contract, both during the interim period and on a cumulative basis;
- (ii) a schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts, and the value of goods provided, and work and services performed over the period for which payment is claimed with respect to each and every Targeted Enterprise; and
- (iii) a schedule which lists the names, identity numbers, gender, trade/occupation, period of employment, employment number and the like, as directed by the Employer's Agent, together with the respective wage rates payable in respect of Targeted Labour, including the monetary value of wages paid both on a cumulative basis and over the period for which payment is claimed.

Should random inspections conducted by the Employer's Agent on Targeted Enterprise and Labour activities indicate that such Targeted Enterprises and Labour are not performing in accordance with the requirements of the contract, the Contractor shall provide, in addition to the monthly reporting requirements, separate weekly resource returns and any other relevant information with respect to such Targeted Enterprises and Labour in a form approved by the Employer's Agent.

F3.3.2 Contract Participation Goal credits

F3.3.2.1 Granting of credits

The Employer's Agent shall certify the value of the credits counted towards the Contract Participation Goal whenever a claim for payment is issued to the Employer, and shall notify the Contractor of the amount. The value of the credits counted shall not include any expenditure on Goods and Labour which forms part of the monetary value of the contributions made by Targeted Enterprise subcontractors.

Credits towards the Contract Participation Goal shall be granted by converting the value of the following (including contract price adjustment and rise/fall on special materials, but excluding value added tax) to a percentage of the Contract Price (adjusted to exclude penalties and value added tax), as relevant:

- (i) subcontracting CPG:
 - the total monetary value of the contributions made by Targeted Enterprise subcontractors in fulfilling contractual obligations; and
 - expenditure on Goods required for the contract, which are obtained from Targeted Enterprise suppliers.
- (ii) employment CPG:
 - the total monetary value of wages paid to Targeted Labour.

F3.3.2.2 Denial of credits

No credits shall be granted should the Contractor make a direct payment to a supplier or manufacturer on behalf of a Targeted Enterprise when such payment is recovered by making deductions from payments to the Targeted Enterprise in connection with the contract; or should the Contractor fail to enter into a written agreement with the relevant Targeted Enterprise.

In addition, credits claimed towards the Contract Participation Goal shall be denied where written contractual agreements contain any of the following:

- (i) a right to set off in favour of the employing Contractor not provided for by law;
- (ii) authoritarian rights given to the employing Contractor or his agent, with no recourse to independent adjudication in the event of a dispute arising;
- (iii) payment procedures based on a pay-when-paid system;
- (iv) a dispute resolution process which does not include inexpensive alternative dispute resolution procedures, such as mediation or adjudication, but which only makes use of formal proceedings such as arbitration or litigation; or
- (v) conditions which are more onerous than those which exist in the main contract.

Credits shall be denied should Targeted Enterprises not adhere to statutory labour practices or fail to perform commercially useful functions.

F3.3.3 Contract Participation Goal evaluation

The Contractor shall, upon completion of each individual Targeted Enterprise's contract, issue a completion certificate and certify the amount paid to such Targeted Enterprises. The Contractor shall submit the certificates, counter-certified by the relevant Targeted Enterprises, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish justification to the Employer's Agent whenever it is not possible to obtain such counter-certification.

The Contractor shall, upon termination of the services of the individuals classed as Targeted Labour engaged in activities relating to the performance of the contract, certify the amount paid to such individuals and submit the certificate, counter-certified by the relevant individual, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish justification to the Employer's Agent whenever it is not possible to obtain such counter-certification.

On completion of the contract, the Employer's Agent shall determine the final credits to be granted towards the Contract Participation Goal targets, by converting the value of credits (including contract price adjustment and rise/fall on special materials, but excluding value added tax) to a percentage of the Contract Price (adjusted to exclude penalties and value added tax)

F3.3.4 Sanctions

In the event that the Contractor fails to substantiate that any failure to achieve any of the Contract Participation Goal targets, is due to quantitative underruns, the elimination of items contracted to Targeted Enterprises, or any other reason beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable for a financial penalty as prescribed in clause SCC 4.1.1 of section C1.2.1.2 Special Conditions of Contract. The subcontracting financial penalty shall be calculated as follows:

$$P = 0,05 \times [(D - D_0)/100] \times C_A$$

where

D is the Contract Participation Goal percentage

D₀ is the Contract Participation Goal percentage which the Employer's Agent certifies, based on the credits passed, as being achieved upon completion of the contract

C_A contract amount which is the Contract Price (adjusted to exclude penalties and value added tax)

P is the monetary value of penalty payable

The evaluation of the Contractor's achievement of the Contract Participation Goal for the subcontracting of the Works to Targeted Enterprises, shall be undertaken monthly by the Employer's Agent based on the accumulative achievements in comparison to the programmed utilisation of Targeted Enterprises, as a means of monitoring the Contractor's performance in achieving the Contract Participation Goal.

Failure by the Contractor to achieve the Contract Participation Goal target by the time of Practical Completion, shall result in the financial penalty being applied as prescribed in this clause. The Employer's Agent shall make a final determination of the Contractor's achievement of the Contract Participation Goals based on the value of the Final Payment Certificate.

F4. DUTIES OF THE EMPLOYER AND ENGINEER

The Employer, Engineer, and the Contractor, or their representatives, are parties to the Project Liaison Committee and are co-responsible for successful project Stakeholder and Community liaison. The Employer and the Engineer also play a supporting role in the successful implementation of the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals.

To implement the Employer's Targeted Labour and Targeted Enterprise goals, the Employer and the Engineer shall provide support to the Contractor by executing the following duties:

- (i) Make recommendations to the Contractor in the identification and structuring of the work packages to be subcontracted to Targeted Enterprises, and agree to the scope and extent of the work packages.
- (ii) Verify that the Targeted Enterprise Database(s), have been updated prior to the letting of every new set of subcontracts.

- (iii) Endorse all Databases, and approve tender procedures, tender documents, tender submission requirements and adjudication processes for the subcontracting of Targeted Enterprises.
- (iv) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to subcontract work to Targeted Enterprises are executed in a fair and transparent manner, and are in accordance with the Employer's standards.
- (v) Endorse subcontract agreements and ensure that the conditions of subcontracting with Targeted Enterprises are fair and transparent and within the prescripts of the Contract requirements.
- (vi) Monitor the management of Targeted Enterprise subcontracts and ensure that conditions such as the application of penalties and the termination of contracts, are applied in a fair and transparent manner and within the prescripts of the agreement.
- (vii) Verify that the Labour Database(s) from which Targeted Labour will be employed is updated prior to every new Labour intake.
- (viii) Monitor that the criteria and procedures applied by the Contractor to employ Targeted Labour are executed in a fair and transparent manner, and is within the Contract requirements.
- (ix) Monitor that the conditions of employment of Targeted Labour are applied in a fair and transparent manner and within the prescripts of the current and relevant Labour legislation.
- (x) Make recommendations to the Contractor in the identification of the training requirements of Targeted Enterprises and Targeted Labour and approve the proposed training programmes.
- (xi) Monitor that training programmes and support programmes, which the Contractor committed to, are implemented and executed as intended.

F5. SPECIFIC WORK TO BE CARRIED OUT BY TARGETED ENTERPRISE SUBCONTRACTORS

F5.1 Subcontract scope of work

It is a requirement of the contract that only those Targeted Enterprise subcontractors procured through a tender process by the Contractor, shall qualify to have their contribution count towards the Contract Participation Goal.

For this particular contract, the following listed work has been identified in terms of this Particular Specification, Part F, as suitable for execution by Targeted Enterprise subcontractors in order to assist the Contractor in achieving the Contract Participation Goal:

1. Drains
2. Prefabricated culverts
3. Concrete kerbing, concrete channelling, chutes and downpipes, and concrete linings for open drains
4. Overhaul
5. Clearing and grubbing
6. Mass earthworks
7. Pavement layers of gravel material
8. Stabilization
9. Prime coat
10. Asphalt base and surfacing
11. Concrete for structures
12. Gabions
13. Guardrails
14. Road signs
15. Road markings

The work to be carried out by Targeted Enterprise subcontractors is not limited to the work listed above, and the Contractor may need to engage Targeted Enterprises and Labour on other aspects of the Works in order to achieve the Contract Participation Goal.

F5.2 Subcontract work packages

The work activities shall be grouped into varying sizes of work packages according to the CIDB contractor grading designation and class of construction works. The typical scope of work may include the following class of construction works and specialist works:

- (i) Class of construction works – Civil Engineering (CE); and
- (ii) Specialist Works:
 - Asphalt works (SB);
 - Demolition and blasting (SE);
 - Piling (SJ);
 - Road marking and signage (SK); and
 - Structural steelwork fabrication and erection (SL).

For this contract the minimum number of prescribed work packages for execution by Targeted Enterprise subcontractors is indicated in table F1/1 according to the CIDB contractor grading designation and the scope of work according to the Chapters of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

Provision is made for each of the work packages to include Chapter 1.3 Contractor's Establishment on Site and General Obligations to cover the costs of the Targeted Enterprise subcontractors' own establishment and general obligations.

TABLE F1/1: PRESCRIBED MINIMUM NUMBER OF WORK PACKAGES ACCORDING TO CIDB CONTRACTOR GRADING DESIGNATION							
CHAPTER	DESCRIPTION	TARGETED ENTERPRISE SUBCONTRACTOR CIDB CONTRACTOR GRADING DESIGNATION					
		1 Max: R0,5 m	2 Max: R1 m	3 Max: R3 m	4 Max: R6 m	5 Max: R10 m	6 Max: R20 m
1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS		X*	X*	X*		
1.6	CLEARING AND GRUBBING				X(1)		
1.7	LOADING AND HAULING				X(1)		
3.1	DRAINS			X(1)			
3.2	CULVERTS			X(1)			
3.3	CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS			X(1)			
4.2	CUT MATERIALS				X(1)		
4.4	COMMERCIAL MATERIALS				X(1)		
5.1	ROADBED				X(1)		
5.2	FILL				X(1)		
5.3	ROAD PAVEMENT LAYERS				X(1)		
5.4	STABILIZATION				X(1)		
8.1	PRIME COAT				X(1)		
9.1	ASPHALT LAYERS				X(1)		
11.2	NON-STRUCTURAL GABIONS		X(1)				
11.4	ROAD RESTRAIT SYSTEMS		X(1)				
11.6	ROAD SIGNS		X(1)				
11.7	ROAD MARKINGS AND ROAD STUDS		X(1)				
13.4	CONCRETE				X(1)		
	MINIMUM TOTAL NUMBER OF TARGETED ENTERPRISE SUBCONTRACTORS PRESCRIBED FOR EACH CIDB CONTRACTOR GRADING DESIGNATION	0	1	1	1	0	0

NOTE:

X* denotes inclusion of Chapter 1.3 for all subcontract work packages.

X(1) denotes "one" prescribed subcontract work package according to the respective CIDB contractor grading designation and the scope of work according to the Chapter of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

For subcontractors with a higher CIDB contractor grading designation, it may be possible for the work package to comprise more than one chapter which is shown as “X” in the above table. The minimum total number of targeted enterprise subcontractors prescribed for each CIDB contractor grading designation is listed in the above table.

F5.3 Subcontract bill of quantities

The items of work identified for execution by Targeted Enterprise subcontractors is shown in the bill of quantities at the end of Part F: Small Contractor Development. The quantities of work shown for each item of work, is the anticipated work to be subcontracted, and the Contractor is not required to tender rates and prices for these items of work.

Payment of the works executed by Targeted Enterprise subcontractors will be made under the provisional sum allowed for in clause G10 Measurement and Payment and included in Schedule F: Small Contractor Development in Section C2.2 Bill of Quantities.

F6. TENDER PROCESS FOR TARGETED ENTERPRISE SUBCONTRACTOR PROCUREMENT

F6.1 Subcontract scope of work

The Contractor shall refer to Table F1/1 for the work packages identified to be subcontracted, the bill of quantities contained in these Particular Specifications, and to any other construction activities required to execute the Works in terms of the contract, to determine how he intends to unbundle or package specific subcontracts for execution by Targeted Enterprise subcontractors, and shall present his proposal to the Employer and Employer’s Agent for approval.

F6.2 Compilation of subcontract tenders

The Contractor shall be responsible for compiling the tender documents that will enable him to engage the Targeted Enterprise subcontractors for the various work packages, according to the contractor grading designation and class of construction works or specialist works. The Contractor shall compile each subcontract tender document in such a manner that it shall facilitate the achievement of all objectives and principles pertaining to the development of the Targeted Enterprise subcontractors.

The tender documentation shall comply with the Employer’s standards, including its standard conditions of tender. The following returnable schedules shall form part of the tender document for submission by tenderers:

- (i) certificate of registration of the tenderer in the required CIDB contractor grading designation, confirming the tenderer’s registration Status as “Active” at the closing date of tender submission;
- (ii) tax compliance status report;
- (iii) B-BBEE verification certificate or sworn affidavit;
- (iv) proof of registration on the Central Supplier Database; and
- (v) compliance with the COID Act.

The tender documents shall also contain the proposed subcontract agreement in accordance with clause F8.1.

The draft tender documents shall be subject to approval by the Employer and Employer’s Agent. The Contractor may then proceed with the preparation of tender documents for the work packages.

F6.3 Tender process

The Contractor shall be responsible for advertising the tenders for the work packages, and inviting tenders from Targeted Enterprise subcontractors in consultation with the Employer and Employer’s Agent and the local PLC.

The Employer shall identify the number of work packages which are to be executed by Targeted Enterprise subcontractors from specific designated groups.

The Contractor shall conduct a compulsory briefing session for tenderers, attended by the Employer and Employer's Agent, to explain the Works required and the tender process to the Targeted Enterprise subcontractors.

Tenders for the subcontracted works must close at a stipulated time and date. Tenders shall be placed in a suitable formal Tender Box, located at the Contractor's site office. The tender opening shall be conducted by the Project Management Team.

F6.4 Tender evaluation

The Project Management Team shall evaluate the tenders according to the Employer's standards. The Contractor shall prepare the tender adjudication report for each subcontract, and submit it to the Project Management Team for review prior to award of each subcontract.

F6.5 Allocation of subcontract work packages

The Project Management Team shall identify responsive tenders received for the various work packages from Targeted Enterprises in the following designated groups:

- (i) an EME or QSE which is at least 51% owned by black people;
- (ii) an EME or QSE which is at least 51% owned by black people who are youth;
- (iii) an EME or QSE which is at least 51% owned by black people who are women;
- (iv) an EME or QSE which is at least 51% owned by black people with disabilities; or
- (v) an EME or QSE which is at least 51% owned by black people who are military veterans.

The selection of subcontract work packages shall then be made, in consultation with the Employer in accordance with the provisions of clause 4.4.4 of the General Conditions of Contract 2015, in order to comply with the Employer's targeted procurement objectives.

F6.6 Award of subcontract work packages

Following the selection of the Targeted Enterprise subcontractors for the various work packages in consultation with the Employer in accordance with clause 4.4.4 of the General Conditions of Contract 2015, the Employer's Agent shall provide written confirmation of the Targeted Enterprise subcontractor selected for each work package, to the Contractor. The Contractor shall award each work package to the respective Targeted Enterprise subcontractor.

F7. GENERAL RESPONSIBILITIES OF THE CONTRACTOR TOWARDS TARGETED ENTERPRISES

F7.1 Obligations

The Contractor shall ensure that he complies with the following obligations:

- (i) institute a quality assurance system;
- (ii) provide adequate training, coaching, guidance, mentoring and assistance to Targeted Enterprises;
- (iii) provide financial support and other assistance to ensure that Targeted Enterprises are able to meet their obligations and commitments with respect to their subcontracts, including acquisition of labour, construction equipment and materials;
- (iv) ensure that the contract participation goals and objectives are achieved; and

- (v) make provision for Targeted Enterprises to be established within the Contractor's own camp facilities, and be responsible for the provision of site offices, common camp facilities, medical, security, safety, electricity, water, sewage services, waste disposal and all other camp services.

F7.2 Subcontracts

In the subcontracts arranged by the Contractor involving Targeted Enterprises, the following shall apply:

- (i) the appointment of Targeted Enterprises by the Contractor shall be made in accordance with the provisions of clause 4.4 of the General Conditions of Contract 2015; and
- (ii) no provision or requirements set out in the specifications shall be deemed to relieve the Contractor of any liability or obligation under the contract, and in accordance with the provisions of clause 4.4.3 of the General Conditions of Contract 2015, the Contractor shall be liable for the acts, defaults and negligence of any Targeted Enterprise, his agents or employees as fully as if they were the acts, defaults or negligence of the Contractor.

F8. MANAGEMENT OF TARGETED ENTERPRISE SUBCONTRACTS

The Contractor shall conclude the subcontract agreements, and provide the necessary management support to the Targeted Enterprises. Failure by a Targeted Enterprise to comply with the terms and conditions of the subcontract agreement shall result in penalties being applied or the subcontract terminated.

F8.1 Compilation of subcontract conclusion agreement

- (a) The Contractor in liaison with the Employer and Employer's Agent shall be responsible for the conclusion of each subcontract agreement. The agreement shall be in accordance with the provisions of clause 4.4 of the General Conditions of Contract 2015 and shall be consistent with the terms and conditions in this contract. The agreement shall be subject to approval by the Employer and Employer's Agent.
- (b) The terms and conditions of the subcontract agreement shall also specify the following:
 - (i) an entitlement of the Targeted Enterprise to receive such training as is contemplated in this contract;
 - (ii) an obligation on the Targeted Enterprise to participate and co-operate in such training as is provided for in this contract;
 - (iii) the allowable sources from which workers may be drawn in terms of the contract;
 - (iv) the terms and conditions relating to the recruitment, employment and remuneration of workers engaged on the contract;
 - (v) the training to be provided to the workers; and
 - (vi) the terms and conditions relating to payment of the Targeted Enterprise. Such terms and conditions shall also include a clause stipulating that payment to a Targeted Enterprise for work done shall be made within 30 days of submission of the invoice by the Targeted Enterprise to the Contractor. In the event of failure by the Contractor to make the payment by the due date, he shall pay to the Targeted Enterprise interest, at the prime overdraft rate charged by the Targeted Enterprise's bank, compounded monthly, on all overdue payments from the date on which the same should have been paid to the date when payment is effected, without prejudice to the Targeted Enterprise's other rights under the contract or by law.

F8.2 Quality of work and performance of the Targeted Enterprise

- (a) The Contractor shall closely monitor and supervise all Targeted Enterprises and shall train, mentor, guide and assist each Targeted Enterprise in all aspects of management, execution and completion of his subcontract. This shall typically include assistance with planning of the works, sourcing and ordering of materials, labour relations, monthly measurements and invoicing procedures. The

extent and level of such training, mentoring, guidance and assistance to be provided by the Contractor shall be commensurate with the basic level of subcontract applicable and shall be directed at enabling the Targeted Enterprise to achieve the successful execution and completion of their subcontract.

- (b) The Contractor shall closely monitor and supervise all Targeted Enterprises and shall give reasonable warning to the Targeted Enterprise when any contravention of the terms and conditions of the subcontract has occurred or appears likely to occur. The Contractor shall, whenever feasible, give the Targeted Enterprise reasonable opportunity to make good any such contravention, or to avoid such contravention, and shall render all reasonable assistance to the Targeted Enterprise in this regard.

F8.3 Dispute avoidance and resolution procedures

- (a) When taking any disciplinary action or imposing a penalty as provided for in the subcontract, the Contractor shall explain fully to the Targeted Enterprise that such actions are provided for in the subcontract. If such action is contemplated this shall be discussed with the Employer's Agent before any action is taken.
- (b) If the Targeted Enterprise, in the opinion of the Employer's Agent, fails to comply with any of the criteria listed below, the Employer's Agent shall issue a written warning to the Contractor, stating all the areas of non-compliance. A copy of the letter of warning shall be forwarded to the Employer. The criteria are as follows:
- (i) acceptable standard of work as set out in the specifications;
 - (ii) progress in accordance with the time constraints in the Targeted Enterprise's contract;
 - (iii) punctual and full payment of the workforce and suppliers;
 - (iv) site safety; and
 - (v) accommodation of traffic.
- (c) The Targeted Enterprise shall have 21 days from the date of receipt of the letter of warning by the Contractor to address and rectify the issues raised by the Employer's Agent, with the exception of the above subclauses (b)(iv) and (v) for which the reaction time shall be in accordance with the relevant specifications for those aspects of the Works but shall not be longer than 24 hours. Failure by the Targeted Enterprise to comply with the deadline set, will be sufficient grounds for the Contractor to apply a penalty, or terminate the subcontract provided that the Employer's Agent is satisfied that the Contractor has made every effort to correct the performance of the Targeted Enterprise.
- (d) The Targeted Enterprise shall have the right to dispute any ruling given or deemed to have been given by the Contractor, Employer's Agent or Employer. Provided that, unless the Targeted Enterprise shall, within 21 days after his receipt of a ruling or after a ruling shall have been deemed to be have been given, give written notice (hereinafter referred to as a Dispute Notice) to the Contractor, referring to this clause, disputing the validity or correctness of the whole or a specified part of the ruling, he shall have no further right to dispute that ruling or the part thereof not disputed in the said notice.

F9. TRAINING, COACHING, GUIDANCE AND MENTORING

F9.1 Obligations

This section provides details of the Contractor's obligations of implementing the National Skills Development Strategy. This strategy sets priorities for the skills development of workers. The Sector Education and Training Authorities (SETA) and provincial offices of the Department of Labour will play key roles in transforming the vision of the strategy into reality.

Supervision is included as part of the contractor's general obligations for the administration and management of the Targeted Enterprises. However, training, coaching, guidance and mentoring are not included as part of the Contractor's general obligations unless specific provision to that effect has been made in the project specifications.

The Contractor shall, from the commencement of the contract, provide a structured development programme designed to improve the entrepreneurial and basic business management skills of identified Targeted Enterprises and hired labour, as well as to improve their specific task skills (construction skills) commensurate with the applicable levels of subcontract that will enable the Targeted Enterprises to achieve the successful execution and completion of their subcontracts. The ultimate objective of training, coaching, guidance and mentoring is to develop the Targeted Enterprises as far as their potential allows.

F9.2 Definitions

F9.2.1 Training

Training refers to the process of teaching a learner – usually in a classroom or simulated work environment situation. Training usually takes place with one teacher/trainer and several learners. Principles and theory are taught. Demonstrations are given. Assignments are then set to ensure that the learner is able to apply what has been taught. Training is done by a specialist in the subject, who is also qualified to train.

Example: Use of a dumpy level

Training would involve the theory of how a dumpy level works and how to calculate levels. A demonstration of how to set up and read a level could be given.

F9.2.2 Coaching

Coaching refers to hands-on training and is mostly on a one-on-one basis of tangible and measurable skills. It is typically on-site training, or learning-on-the-job. Coaching is training by the process of “watch-do-correct-practice”. The coach does the task while the learner watches and asks questions. Then the learner does the same task while the coach watches. The learner is corrected until the coach feels that he has the gained competence in the function. The learner is then left to practise the task or skill, which the coach oversees. Coaching is imparting a skill – usually manual or physical. A coach is usually a person doing the same type of work on a higher or more competent level, or a person who has a mastery of the skill/task. While training gives the theory or shows/explains the principles, coaching helps the learner become competent and master a skill. A coach is often in the direct reporting line, i.e. someone in authority. Coaching could be part of the management function and would make the job run more smoothly.

Example: Use of a dumpy level

Coaching would involve taking the learner onto site, setting up a dumpy level, reading levels. Then the coach would get the learner to do the job, while the coach checked the setting up and reading. Once the learner understands and can do the tasks, the coach checks periodically to ensure the learner is still doing the job properly.

The desired outcome of coaching is for the learner to “fit-the-mould”, and to do things the same way and to the same standard as the coach.

F9.2.3 Guidance

Guidance is anticipating where one might go wrong, or where one is doing a task in a complicated, inefficient or ineffective way, and giving advice as to how to achieve a better result. Guidance is mostly given by a person in the direct reporting line, but can be given by anyone. Guidance is not imparting skills, but suggesting ways to improve performance.

Example: Use of a dumpy level

A person who knows how to use a dumpy level would be given guidance as to where he would next set up the level to limit the number of set-ups. Guidance could be an extension of coaching.

F9.2.4 Mentoring

Mentoring is developing a person on a long-term career path. It is mostly about imparting skills that are often intangible and non-measurable. A mentor is seldom anyone in the direct reporting line – although he

could be a person several levels higher in that reporting line. Mentoring is more about developing a relationship and taking a personal interest in an individual. A mentor looks out for that individual and gives him advice that cannot be found in a book or in the normal course of business. The sort of issues a mentor discusses with the protégé include company politics, how to pick up work before others get wind of it, how to position one's company to get a better competitive advantage, how to tender such that the tender is lowest but the profit is as good as or better than the next person, how to determine and assess risk. Mentoring helps the protégé think strategically, sharpen entrepreneurial skills and grow – both personally and in terms of the company. A mentor helps the protégé to develop insight and shrewdness. It is more about business skills to survive long-term than the technical, tactical or day-to-day activities of doing business.

The desired outcome of mentoring is for the protégé to develop his own style, i.e., to shape his own "mould".

F9.2.5 Supervision

Supervision is instruction regarding the work to be performed, and ensuring it is carried out to specification and to the satisfaction of the supervisor. It is not instruction on how the work is to be performed, but rather on what work has to be performed, and usually has specific time frames.

F9.3 Assessment of Targeted Enterprise potential

It is the responsibility of the Contractor to determine the level of development required by each Targeted Enterprise. This will require that the Contractor determine the level at which the Targeted Enterprise can operate competently and determine the skills already acquired by the Targeted Enterprise in terms of training and on-the-job experience. In some circumstances Adult Basic Education Training (ABET) will need to be started before any formal training can commence. The assessment of each appointed Targeted Enterprise is to be produced by the Contractor for discussion with the Employer and Employer's Agent at a meeting following the appointment of the Targeted Enterprise.

F9.4 Development Plan

Within a month of the meeting with the Employer and Employer's Agent on the Targeted Enterprise assessments, the Contractor is to present a development plan, specific to each Targeted Enterprise. The development plan is to be reviewed by the Employer and Employer's Agent for appropriateness before being implemented.

The development plan is to include the following:

- (i) specify the development needs of each Targeted Enterprise contracting entity – the systems the entity lacks;
- (ii) specify the development needs of the individuals comprising the entity – the skills the individuals within the entity lack;
- (iii) the level to which that activity will be developed within the period of the contract;
- (iv) whether training, coaching, guidance and/or mentoring is to be given in each activity; and
- (v) the person/s responsible for each activity.

F9.5 Identification and general training of potential Targeted Enterprises

- (a) The progression of training, coaching and mentorship may need to start with the identification and general training of identified Targeted Enterprises and hired labour, and should end with their acquisition of sufficient management skills that will equip them to compete confidently for subcontract work beyond the duration of this contract. In addition, generic skills shall be taught where the need for these has been identified as being necessary amongst Targeted Enterprise workforces and hired labour.
- (b) Before commencing with any structured training, the Contractor shall submit his intended programme to the Employer and Employer's Agent for approval of its subject content and proposed trainers, and the Contractor shall, if so, instructed by the Employer and Employer's Agent, alter or amend the programme and/or course content.

The Contractor shall be responsible for the provision of everything necessary for the delivery of the various

training workshops and modules including:

- (i) provision of a suitable fully serviced training venue facility;
- (ii) procurement of suitable accredited trainers;
- (iii) provision, in conjunction with the accredited trainers, of all the necessary training materials, including stationery and study materials; and
- (iv) transportation of the learners to and from the training venue facility (it is therefore in the Contractor's interest that the training venue facility be provided on the site in order to reduce these transportation costs).

Payment to the Contractor for carrying out the training function shall be effected through the pay items provided in this Part F, using the training facility provided under Part E: Expanded Public Works Programme.

F9.6 Activities

The tasks for each of the activities making up the development plan include material, equipment and general tasks, for training on technical, contractual, financial, human resources, legislative and general administrative functions.

The Construction Manager, site clerk and HR Manager will train/coach or mentor the above listed functions as part of on-site training.

F9.7 Portfolio of Evidence

The Contractor is to develop and/or maintain a portfolio of evidence for each Targeted Enterprise. The Portfolio of Evidence is a collection of proof of the training, coaching, guidance and mentoring inputs provided to the Targeted Enterprise and is similar to a log book used by technical students completing experiential training. It is a living document which records the development progress of the Targeted Enterprise and will need to be updated continually throughout the duration of the contract. It remains the property of the Targeted Enterprise who must take it to their next contract.

The Portfolio of Evidence should include the following documentation:

- (i) the development path designed for each Targeted Enterprise;
- (ii) the training courses completed by the Targeted Enterprise;
- (iii) the hours of guidance, coaching and mentoring received for each activity listed in the development plan;
- (iv) a list of outcomes achieved at each level for each activity;
- (v) six-monthly progress reports on the development provided (inputs) versus the actual progress made (output) by the Targeted Enterprise; and
- (vi) a list of competencies.

F9.8 Training Requirements

Only qualified trainers employed by training agencies that are accredited by the relevant Sector Education and Training Authorities (SETA), or other institutions recognised by the Department of Labour shall deliver any training. "Accredited training" refers to both the trainers as well as to the training material. Certificates affirming the successful participation in the various courses shall be presented to each attendant.

The Contractor shall facilitate in the delivery of training by instructing and motivating the hired labour and relevant Targeted Enterprises regarding attendance and participation. All training shall take place within normal working hours, or as agreed with the trainees.

F9.9 Development training

The Contractor will arrange training to support the development of the Targeted Enterprise. This training must be provided by training providers accredited with the relevant SETA pertaining to the course material being presented. The training will take place at hours agreed with the trainees, possibly on a part time basis after hours.

The following training courses are recommended to support the development programme detailed in the

contract document:

- (i) NQF Level 2: Construction Contractor - Business owner and administration officer;
- (ii) Tender training NQF Level 3 – Business owner / Technical expert;
- (iii) Computer literacy training - Business owner and admin officer – Microsoft Windows, email, Microsoft Word and Microsoft Excel;
- (iv) General bookkeeping relevant to construction - Business owner and admin officer;
- (v) Tendering NQF Level 4 and 5 – Business owner / Technical expert; and
- (vi) Construction supervision (Roadworks) NQF Level 4 – Business owner / Technical expert.

F9.10 Safety Training

The Targeted Enterprise's safety representative is to be fully trained in all aspects of safety and his duties in this regard. The owner of the Targeted Enterprise is to be trained on his responsibilities regarding safety regulations.

F9.11 Construction skills training

The focus of training provided on the contract should be to support the development of the Targeted Enterprise subcontractor. Construction skills training will only be approved by the Employer's Agent when appropriate.

The Targeted Enterprise, their workforce and hired labour that are selected will be entitled to receive structured training that will improve on-task skills necessary for the execution and successful completion of the works. The Contractor, in conjunction with the Employer's Agent, shall monitor the progress of the hired labour and each Targeted Enterprise closely and shall identify those who, in their collective opinion, will benefit from structured construction skills training as may be provided for in the contract, and where required by the Employer's Agent shall make recommendations in this regard. The final list of candidates shall be decided between the Contractor and the Employer's Agent, and those selected shall receive formal construction skills training in a programmed and progressive manner throughout the duration of the contract.

The training programme shall offer complete courses that could comprise some or all of the following modules:

- (i) Use and maintenance of hand tools;
- (ii) Operation of equipment;
- (iii) Manufacture and installation of minor precast concrete units;
- (iv) Erect, dismantle and maintain formwork;
- (v) Basic concrete skills;
- (vi) Excavation, backfill and compaction;
- (vii) Bricklaying; and
- (viii) Erosion protection using stone pitching, gabions or renos.

F9.12 Training venue facility

The training venue facility to be provided by the Contractor is described in clause E5.6 of Part E. This facility shall be used to deliver all training, irrespective of whether it is delivered in terms of Part E or Part F of the Particular Specifications.

F10. MEASUREMENT AND PAYMENT

Note:

In order to avoid duplication of training facilities, the training facility required for the training described in this Part F: Small Contractor Development, shall be measured and paid for in terms of the pay items provided for training in Part E: Expanded Public Works Programme.

Item	Unit
E10.01 Procurement of Targeted Enterprises:	
(a) Management and execution of Targeted Enterprise procurement process:	
(i) Procurement process for the appointment of CIDB contractor grading designation 2 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)	number (No)
(ii) Procurement process for the appointment of CIDB contractor grading designation 3 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)	number (No)
(iii) Procurement process for the appointment of CIDB contractor grading designation 4 Targeted Enterprise subcontractor (50copies of the tender document required for each individual tender)	number (No)

The unit of measurement shall be the number of individual subcontract agreements concluded with Targeted Enterprise subcontractors according to the CIDB contractor grading designation for all classes of construction works, in accordance with the procurement process described in this Part E.

Each tendered rate shall be in full compensation for the management and execution of the Targeted Enterprise procurement process in the relevant CIDB contractor grading designation scheduled, including for the compilation, printing, binding and issue of the tender documents for each tender, for the advertising of each tender, for the provision of the venue and the conducting of each compulsory briefing session for tenderers, for the conducting of each tender opening process, for the adjudication of the tenders received for each tender, for the preparation of each tender adjudication report and the review thereof in conjunction with the Employer and Employer’s Agent, for the award of each tender and for the conclusion of the subcontract agreement with each successful Targeted Enterprise subcontractor tenderer.

Item	Unit
E10.02 Construction Works for Targeted Enterprise subcontractors:	
(a) Payments associated with the construction Works carried out by Targeted Enterprise subcontractors	provisional sum (Prov sum)
(b) Handling costs and profit in respect of subitem E10.02(a)	percentage (%)
(c) Supply of materials and small construction equipment to assist Targeted Enterprise subcontractors	provisional sum (Prov sum)
(d) Handling costs and profit in respect of subitem E10.02(c)	percentage (%)
(e) Management of the Targeted Enterprise subcontractors	month

Expenditure under subitems E10.02(a) and (c) shall be in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum for subitem E10.02(a) is provided to cover the total cost of the construction Works carried out by the Targeted Enterprises subcontractors based on proof of payment made by the Contractor, as certified by the Employer's Agent, in separate payments for each Targeted Enterprise subcontractor in accordance with Part G of the Particular Specifications.

The tendered percentage for subitem E10.02(b) is the percentage of the amount actually spent under subitem E10.02(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the construction Works carried out by the Targeted Enterprise subcontractors.

The provisional sum for subitem E10.02(c) is provided to cover the total cost of the materials and small construction equipment supplied by the Contractor to assist the Targeted Enterprise subcontractors based on proof of payment made by the Contractor, as certified by the Employer's Agent, in separate payments for each Targeted Enterprise subcontractor in accordance with Part E of the Particular Specifications.

The tendered percentage for subitem E10.02(d) is the percentage of the amount actually spent under subitem E10.02(c), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the supply of materials and small construction equipment by the Contractor to assist the Targeted Enterprise subcontractors.

The unit of measure for subitem E10.02(e) is month or part thereof that the service is required. Payment shall only be made for the period one or more appointed Targeted Enterprise subcontractors are on site in the execution of the works. The tendered rate shall include full compensation for the conclusion of all the subcontract agreements and the management of all Targeted Enterprise subcontractors, including for the provision of the necessary management support, coaching, guidance and mentoring to the Targeted Enterprise subcontractors.

Item	Unit
E10.03 Training of Targeted Enterprise subcontractors:	
(a) Generic skills:	
(i) Training costs	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem G10.03(a)(i).....	percentage (%)
(b) Entrepreneurial skills:	
(i) Training costs	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem G10.03(b)(i).....	percentage (%)
(c) Construction skills:	
(i) Training costs	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem G10.03(c)(i).....	percentage (%)
(d) Transportation and accommodation costs of selected learners only, while receiving off-site training:	
(i) Transportation and accommodation costs	provisional sum (Prov sum)
(ii) Handling costs and profit in respect of subitem G10.03(d)(i).....	percentage (%)

Expenditure under subitems E10.03(a)(i), (b)(i), (c)(i) and (d)(i) shall be in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum for each of subitems E10.03(a)(i), (b)(i) and (c)(i) is provided to cover the total costs of the required training in generic skills, entrepreneurial skills and construction skills respectively, including for the procurement of the services of the accredited trainers and their delivery of the training courses to the learners employed by Targeted Enterprise subcontractors, the provision of all training materials including all stationery and study materials, and the wages of the learners for the duration of the courses. The payment of wages to learners in terms of subitems E10.03(a)(i), (b)(i) and (c)(i) will only be made to those learners who attend and successfully complete each course of the approved training programme. Payment shall not be made to learners who, once selected, do not attend or only partially complete structured training courses.

The Contractor's own personnel shall be permitted to attend the training courses provided for the learners employed by the Targeted Enterprise subcontractors only to the extent that the venue and its facilities can efficiently and comfortably accommodate the additional number of learners. All additional costs relating to such attendance by the Contractor's own personnel shall be carried by the Contractor and shall not be considered for payment in terms of item E10.03, including for any additional costs related to the accredited trainers and their delivery of the training courses, the provision of additional training materials, and the wages of the learners from the Contractor's own personnel for the duration of the courses.

The tendered percentage for each of subitems E10.03(a)(ii), (b)(ii) and (c)(ii) is the percentage of the amount actually spent under each of subitems E10.03(a)(i), (b)(i) and (c)(i) respectively, and shall include full compensation for the handling costs of the Contractor, and the profit in connection with the provision of the training in generic skills, entrepreneurial skills and construction skills respectively, including for the costs of record keeping and reporting with respect to the training received by each learner, and the costs of the compilation of the portfolio of evidence with respect to each Targeted Enterprise subcontractor.

The provisional sum for subitem E10.03(d)(i) is provided to cover all costs related to the transportation and accommodation costs of selected learners only, while receiving off-site training, where such learners have been specifically selected in conjunction with the Employer's Agent to receive such off-site training and where such training cannot be delivered using the training venue facility provided by the Contractor.

The tendered percentage for subitem E10.03(d)(ii) is the percentage of the amount actually spent under subitem E10.03(d)(i), and shall include full compensation for the handling costs of the Contractor, and the profit in connection with the transportation and accommodation costs of selected learners only, while receiving off-site training.

BILL OF QUANTITIES
PART G: SMALL CONTRACTOR DEVELOPMENT

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
Contract No. ZNB00188/00000/00/HOD/INF/20/T - WELA

CHAPTER C1.3

Item	Description	Unit	Quantity		
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS				
C1.3.1	The Contractor's general obligations				
C1.3.1.1	Fixed obligations	Lump sum	1.0		
C1.3.1.3	Time-related obligations	month	12.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
Contract No. ZNB00188/00000/00/HOD/INF/20/T - WELA

CHAPTER C1.6

Item	Description	Unit	Quantity		
C1.6	CLEARING AND GRUBBING				
C1.6.1	Clearing				
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	0.5		
C1.6.2	Grubbing				
C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	0.5		
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	5.0		
PSC1.6.7	Re-clearing of surfaces (on the written instructions of the Engineer only)	ha	0.2		
PSC1.6.11	Clearing and grubbing at inlets and outlets of hydraulic structures	m ²	10.0		
PSC1.6.12	Cleaning out of hydraulic structures:				
	(a) Pipes with an internal diameter up to and including 750mm	m ³	5.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
Contract No. ZNB00188/00000/00/HOD/INF/20/T - WELA

CHAPTER C1.7

Item	Description	Unit	Quantity		
C1.7	LOADING AND HAULING				
C1.7.1	Loading				
C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary				
C1.7.2	Hauling	m ³	10.0		
C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil or stockpile area:				
	(b)Soil and gravel material	m ³ -km	1 500.0		
Total Carried Forward To Summary					

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CHAPTER C3.1

Item	Description	Unit	Quantity		
C3.1	DRAINS				
C3.1.1	Excavation for open drains:				
C3.1.1.1	Excavating all material situated within the following depth ranges below the surface level using conventional methods:				
	(a) 0 m up to 1,5 m	m ³	162.0		
C3.1.4	Excavating in all material situated within the following depth ranges below the surface:				
	(a) 0 m up to 1,5 m	m ³	344.0		
	(b) Exceeding 1,5 m and up to 3,0 m	m ³	50.0		
C3.1.5	Impermeable backfilling to subsoil drainage systems				
C3.1.5.1	Un-stabilised natural gravel obtained from approved sources on the site	m ³	80.0		
C3.1.6	Construction of banks and dykes:				
C3.1.6.1	Banks and dykes using conventional methods	m ³	4.0		
C3.1.7	Natural permeable material in subsoil drainage systems (approved crushed stone):				
C3.1.7.2	Crushed stone obtained from commercial sources (20mm Nominal Size)	m ³	53.0		
C3.1.8	Natural permeable material in subsoil drainage systems (approved natural sand):				
C3.1.8.2	Sand from commercial sources (Coarse Grade Nom. 4.75mm)	m ³	159.0		
	(a) 0 m up to 1,5 m				
C3.1.9	Pipes in subsoil drainage systems:				
C3.1.9.1	U-PVC pipes and fittings , normal duty, complete with coupling (100 mm internal dia. slotted not perforated)	m	792.0		
C3.1.11	Geotextile (Synthetic-fibre filter fabric (Grade 2)	m ²	924.0		
C3.1.13	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
C3.1.13.1	Outlet structures (As per SD 0501)	No	12.0		
C3.1.13.2	Inspection boxes (As per SD 0501) Manholes	No	12.0		
C3.1.13.4	Cleaning eyes (As per SD 0501)	No	12.0		
C3.1.14.1	Concrete caps				
Total Carried Forward					

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CHAPTER C3.1

Item	Description	Unit	Quantity		
Brought Forward					
C3.1.18	Backfilling of drains with selected material compacted to 93 % of MDD prior to construction of concrete lining and/or stone pitched lining	m ³	121.0		
C3.1.22	Test flushing of subsoil drain pipe systems	No	12.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C3.2

Item	Description	Unit	Quantity		
C3.2	CULVERTS				
C3.2.1	Excavation for culvert structures:				
C3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:				
	(a) 0 m up to 1,5 m	m ³	20.0		
	(b) Exceeding 1,5 m and up to 3,0 m	m ³	41.0		
C3.2.1.4	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material,	m ³	5.0		
C3.2.2	Backfilling:				
C3.2.2.1	Using the excavated material	m ³	24.0		
C3.2.2.2	Using imported selected material				
	(a) From commercial sources	m ³	11.0		
C3.2.3	Concrete pipe culverts:				
C3.2.3.3	On class C bedding				
	(b) 600mm dia. Spigot and Socket Class 100D	m	15.0		
C3.2.7	Cast in situ concrete and formwork:				
C3.2.7.5	In inlet and outlet structures including kerbs, chutes and downpipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surfacing finish (Class 20/19)	m ³	2.0		
	(d) Formwork of concrete under item C3.2.7. 5 above (Vertical formwork for F1 surface finish)	m ³	9.0		
C3.2.10	Reinforcement:				
C3.2.10.2	High-tensile steel bars	t	0.5		
C3.2.10.3	Welded steel fabric	kg	50.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
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CHAPTER C3.3

Item	Description	Unit	Quantity		
C3.3	CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS				
C3.3.2	Concrete kerbing-channelling combination:				
C3.3.2.1	Prefabricated kerbing-channelling (description of type of channel and bedding with reference to drawing) (a) 500mm wide combined precast kerb to SABS 927 (Figure 6) and cast in situ channel (Refer to SD 0701/A)	m	630.0		
C3.3.8	Lining for open drains:				
C3.3.8.1	Cast in situ concrete lining (Class 20/19 for open drains) as per drawing SD 0601/B	m ³	320.0		
PSC3.3.8.2	Class U2 surface finish to cast in situ concrete (Open Drains and Sidewalk)	m ²	1 648.0		
C3.3.9	Formwork to cast in situ concrete lining for open drains (class F2 surface finish):				
C3.3.9.1	To sides with formwork on the internal face only	m ²	846.0		
C3.3.9.3	To ends of slabs	m ²	50.0		
C3.3.10	Sealed joints in concrete and stone pitched linings of open drains ((Polysulphide sealant) at 12m centres - SD0601)	m	492.0		
C3.3.12	Reinforcement:				
C3.3.12.3	Welded steel fabric	kg	936.0		
PSC3.3.19	Trimming of excavations for concrete-lined open drains: (a) In soft material	m ²	1 266.0		
PSC3.3.20	Inlet, outlet, transition and similar structures (typical designs): (i) Pipe to open chute including splash walls with 1m transition channels and erosion protection as shown in SD 0704/B (ii) 1000 V-Drain Outlet chute including 5m transition, 2m straight channel and stone pitching erosion protection (As shown on Drawing SD 0603/A)	No	15.0		
		No	4.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C4.2

Item	Description	Unit	Quantity		
C4.2	CUT MATERIALS				
PSC4.2.3	Excavating of materials in cuttings, material obtained from				
C4.2.3.1	Soft excavation	m ³	1 050.0		
C4.2.3.2	Boulder A	m ³	50.0		
C4.2.3.3	Boulder B	m ³	50.0		
C4.2.3.4	Hard excavation (other than by blasting)	m ³	80.0		
C4.2.3.5	Hard excavation (by blasting)	m ³	50.0		
PSC4.2.3.6	Intermediate	m ³	200.0		
C4.2.6	Widening of existing cuttings				
C4.2.6.1	Soft excavation	m ³	300.0		
C4.2.6.2	Boulder excavation class A	m ³	300.0		
C4.2.6.4	Hard excavation (other than blasting)	m ³	500.0		
C4.2.7	Removal of unsuitable stable cut material to spoil				
C4.2.7.2	In layer thicknesses exceeding 200 mm	m ³	1 000.0		
PSC4.2.8	Excavate material to spoil in sites designated by the Employer, material obtained from.				
C4.2.8.1	Soft excavation	m ³	500.0		
PSC4.2.8.6	Intermediate excavation	m ³	500.0		
C4.2.8.2	Boulder excavation class A	m ³	300.0		
C4.2.8.3	Boulder excavation class B	m ³	300.0		
C4.2.8.4	Hard excavation	m ³	500.0		
C4.2.12	Finishing the side slopes				
C4.2.12.1	Cuttings				
	(a) in soft material	m ³	200.0		
C4.2.11	Breaking down oversize material	m ³	10.0		
Total Carried Forward To Summary					

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CHAPTER C4.4

Item	Description	Unit	Quantity		
C4.4	COMMERCIAL MATERIALS				
C4.4.2	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers				
PSC4.4.2.1	Pavement layer material:				
	(c) Type G5/G6 base material compacted to 97% of modified AASHTO density (200mm thickness)	m ³	480.0		
	(d) Type G6 material subbase compacted to 95% of modified AASHTO density (150mm thickness)	m ³	360.0		
	(e) Type G8 material Upper selected subgrade compacted to 93% of modified AASHTO density (125mm thickness)	m ³	300.0		
	(f) Type G7 material sidewalk base compacted to 93% of modified AASHTO density (150mm thickness)	m ³	54.0		
	(g) Type G8 material lower selected subgrade compacted to 93% of modified AASHTO density (125mm thickness)	m ³	3 000.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C5.1

Item	Description	Unit	Quantity		
C5.1	ROADBED				
C5.1.1	Roadbed construction and compaction				
C5.1.1.1	Compaction of in-situ material to 90 % of MDD	m ³	3 339.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C5.2

Item	Description	Unit	Quantity		
C5.2	FILL				
C5.2.2	Fill construction				
C5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less:				
	(a) Compacted to 90 % of MDD	m ³	1 020.0		
	(b) Compacted to 93 % of MDD	m ³	300.0		
	(c) Roller-pass compaction	m ³	4 500.0		
C5.2.2.4	Rock fill material all as per Clause A5.2.7.6	m ³	20.0		
C5.2.11	Finishing-off fill slopes, medians and interchange areas				
C5.2.11.1	Fill slopes	m ²	200.0		
PSC5.2.12	Widening of fills as specified in subclause A5.2.7.4 extra over:				
(a)	Item C4.2.7.2	m ³	200.0		
PSC5.2.13	Extra over item PSC4.2.8 for spoiling material	m ³	200.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C5.3

Item	Description	Unit	Quantity		
C5.3	ROAD PAVEMENT LAYERS				
C5.3.2	Construction of pavement layers				
PSC5.3.2.1	Construction of layers using conventional construction methods:				
	(a) Lower selected subgrade layer G8 125mm compacted to 93% of modified AASHTO density	m ³	3 000.0		
	(c) Upper selected subgrade layer G8 125mm compacted to 93% of modified AASHTO density	m ³	300.0		
	(dd) Type G5/G6 base layer (200mm thickness) compacted to 97% of modified AASHTO density	m ³	480.0		
	(ee) Base layer for concrete sidewalk G7 150mm compacted 93% of modified AASHTO density	m ³	54.0		
	(ff) Type G6 subbase layer (150mm thickness) compacted to 95% of modified AASHTO density	m ³	360.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
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CHAPTER C5.4

Item	Description	Unit	Quantity		
C5.4	STABILISATION				
C5.4.2	Chemical stabilisation				
C5.4.2.1	Chemical stabilisation 150mm thickness of pavement layers (base G5/G6)	m ³	630.0		
C5.4.5	Cementitious stabilisation agents for pavement layers				
C5.4.5.1	Addition of cementitious stabilisation agents (Ordinary Portland Cement SANS 50197 - 1: 2000) for pavement layer				
	(a) Cement (for subbase G5/G6)	t	53.0		
C5.4.10	Provision and application of water for curing	kl	86.0		
Total Carried Forward To Summary					

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CHAPTER C8.1

Item	Description	Unit	Quantity		
C8.1	PRIME COAT				
C8.1.1	Prime coat:				
C8.1.1.3	Invert bitumen emulsion	ℓ	2 347.0		
C8.1.2	Aggregate for blinding				
C8.1.2.2	Crusher sand	m ²	3 000.0		
C8.1.3	Extra over item C8.1.1 for applying the prime coat accessible only to hand-held or light equipment	ℓ	1 666.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C9.1

Item	Description	Unit	Quantity		
C9.1	ASPHALT LAYERS				
C9.1.2	Construction of trial sections				
C9.1.2.1	Asphalt layers (using modified AE-2 binder with 10mm NMPS)	m ²	1 650.0		
C9.1.3	Application of bond coat				
C9.1.3.1	Stable – grade 30 % net bitumen emulsion as specified. Applied with a calibrated distributor Tack coat	ℓ	1 683.0		
C9.1.5	Asphalt surfacing				
C9.1.5.1	New construction (a) Stone skeletal mix – continuously graded as defined: (using modified AE-2 binder with 10mm NMPS)	t	310.0		
C9.1.10	Variation rates				
C9.1.10.1	Bitumen 35/50 pen	t	2.0		
C9.1.13	Coring of asphalt layers				
C9.1.13.1	100 mm diameter	No	10.0		
PSC9.1.17	Penalty deduction for overloading (a) Penalty deduction with respect to item C9.1.5.1	t			
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
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CHAPTER C11.2

Item	Description	Unit	Quantity		
C11.2	NON-STRUCTURAL GABIONS				
PSC11.2.1	Foundation trench excavation				
PSC11.2.1.1	Foundation trench excavation and backfilling: (d) In all other classes of materials	m ³	58.0		
C11.2.2	Surface preparation for bedding the gabion boxes and mattresses	m ²	146.0		
PSC11.2.3	Gabion boxes and mattresses:				
PSC11.2.3.1	Galvanized gabion boxes, hexagonally woven mesh, 80mm x 100mm, 2.7mm dia. with additional PVC coating, as follows: (c) 2.0 m long x 1.0 m wide x 1.0 m high	m ³	58.0		
PSC11.2.3.3	Galvanized gabion mattresses, hexagonally woven mesh, 80mm x 100mm, 2.7mm dia. with 1.0m diaphragm spacing: (a) 2.0m wide by 0.3m high by 6.0m long	m ³	37.0		
C11.2.4	Geotextile filter fabric Grade 2	m ²	160.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
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CHAPTER C11.4

Item	Description	Unit	Quantity		
C11.4	ROAD RESTRAINT SYSTEMS				
C11.4.1	Erecting of guardrails at 3,81 m spacing Guardrails on timber posts:				
C11.4.1.1	Complete galvanized system compliant to SANS 1350:				
	(a) On timber posts (SD reference)	m	612.0		
C11.4.4	Extra over for horizontally curved guard rails				
C11.4.4	Extra over C11.4.1 and C11.4.11 for horizontally curved guard rails factory bent to a radius of less than 45 m	m	100.0		
C11.4.5	Additional guardrail posts for 3,81 m systems:				
C11.4.5.1	Timber	No	10.0		
C11.4.6	Reflective plates				
C11.4.6.1	Steel plates	No	323.0		
C11.4.7	Removing existing guardrails:	m	80.0		
C11.4.10	End treatments to existing guardrails with recovered or provided material:				
C11.4.10.1	End wings	No	8.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
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CHAPTER C11.6

Item	Description	Unit	Quantity		
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:				
C11.6.1.1	Aluminium sheet (2,0 mm thick)				
	(b)Area exceeding 0,5 m2 but not 2,0 m2	m ²	15.0		
	(c) Area exceeding 2 m ² but not 10 m ²	m ²	10.0		
C11.6.2	Extra over item C11.6.1 for using:				
C11.6.2.1	Background of retro-reflective material:				
	(b) Class II	m ²	15.0		
C11.6.2.2	Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
	(a) Class III	m ²	10.0		
C11.6.3	Road sign supports (overhead road sign structures excluded):				
C11.6.3.2	Timber (150mm dia.)	m	21.0		
C11.6.5	Excavation and backfilling for road sign supports (not applicable to kilometre posts)				
C11.6.5.3	Extra over item C11.6.5 for cement-treated soil backfill	m ³	1.0		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
Contract No. ZNB00188/00000/00/HOD/INF/20/T - WELA

CHAPTER C11.7

Item	Description	Unit	Quantity		
C11.7	ROAD MARKINGS AND ROAD STUDS				
C11.7.1	Road-marking :				
C11.7.1.1	White lines (broken or unbroken)				
	(a) 100 mm wide	km	0.3		
	(b) 150 mm wide	km	0.3		
	(c) 300 mm wide	km	0.3		
C11.7.1.2	Yellow lines (broken or unbroken)				
	(a) 100 mm wide	km	0.3		
	(b) 150 mm wide	km	0.3		
	(c) White lettering and symbols	km	300.0		
	(d) Yellow lettering and symbols	m ²	200.0		
C11.7.7	Road studs				
C11.7.7.1	Permanent road studs compliant to SANS 1442 (type & colours stated)(100mm x 100mm x 20mm plastic stick-on type with 43 bead glass reflectors - Bi-directional (any colour))	No	30.0		
C11.7.8	Setting out and premarking the lines (excluding traffic island markings, lettering and symbols)	km	0.3		
Total Carried Forward To Summary					

Construction of the Wela River Bridge No.3490 on Road P451 at KM16.340 in KZ276 Big 5 Hlabisa
Local Municipality in the Empangeni Region
Contract No. ZNB00188/00000/00/HOD/INF/20/T - WELA

CHAPTER C13.4

Item	Description	Unit	Quantity		
C13.4	CONCRETE				
C13.4.1	Cast in situ concrete (Class of concrete and use or position in structure stated):				
C13.4.1.1	Strength concrete (class C):				
(d)	Class 30/19 in approach slabs	m ³	18.0		
(e)	Class 20/19 in sidewalks	m ³	20.0		
C13.4.9	Manufacturing precast concrete members (sidewalk elements in 1.5 m segments including kerb elements as shown on drawing)	No	34.0		
C13.4.11	Transporting and erecting precast concrete members (sidewalk elements in 1.5 m segments including kerb elements as shown on drawing)	No	40.0		
Total Carried Forward To Summary					

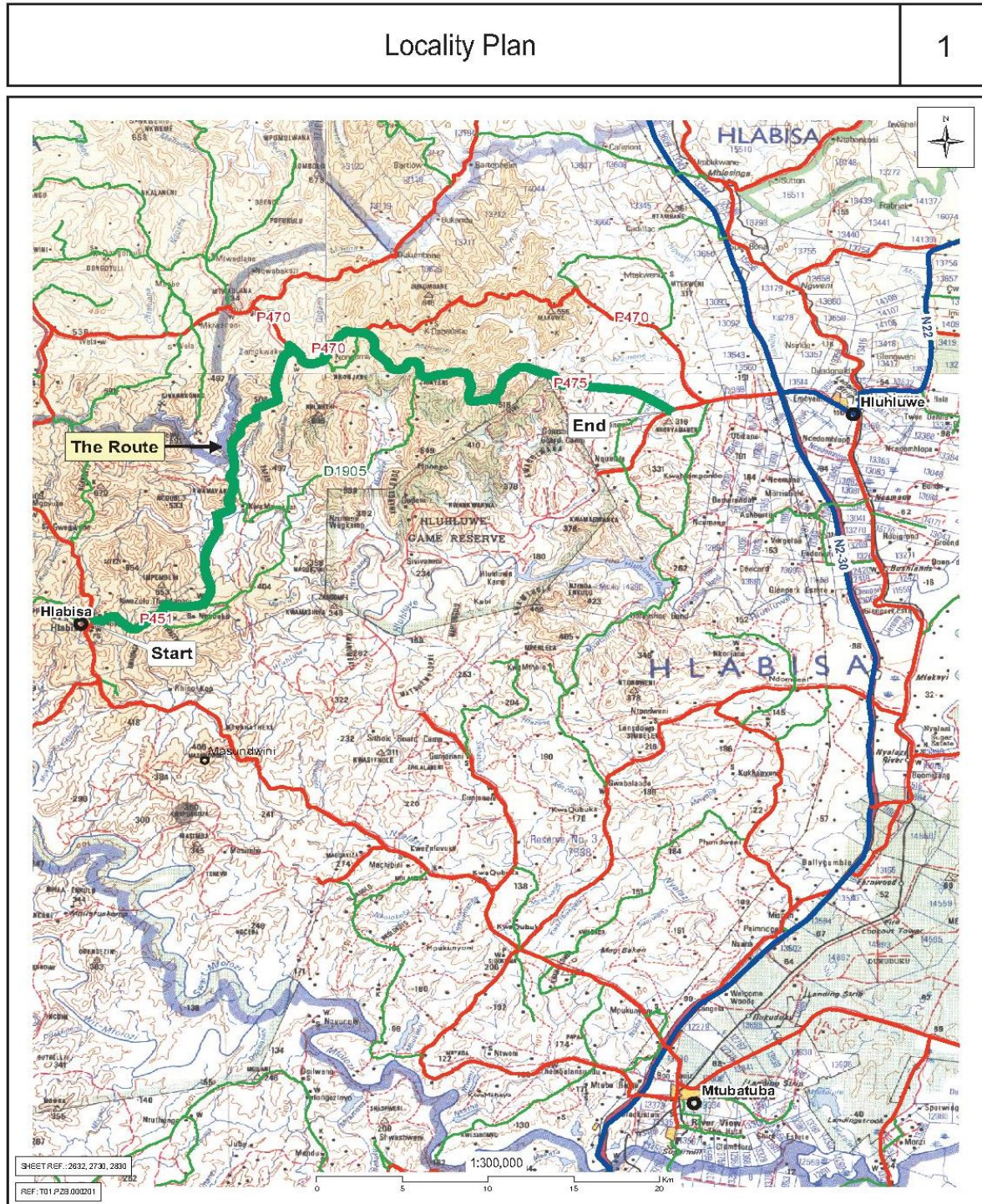
PART C4: SITE INFORMATION

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ANNEXURE A: GUIDELINES FOR CONSTRUCTION AND MAINTENANCE PROJECTS DURING COVID-19 LOCKDOWN.....	C233

C4.1 LOCALITY PLAN

Directions to Site

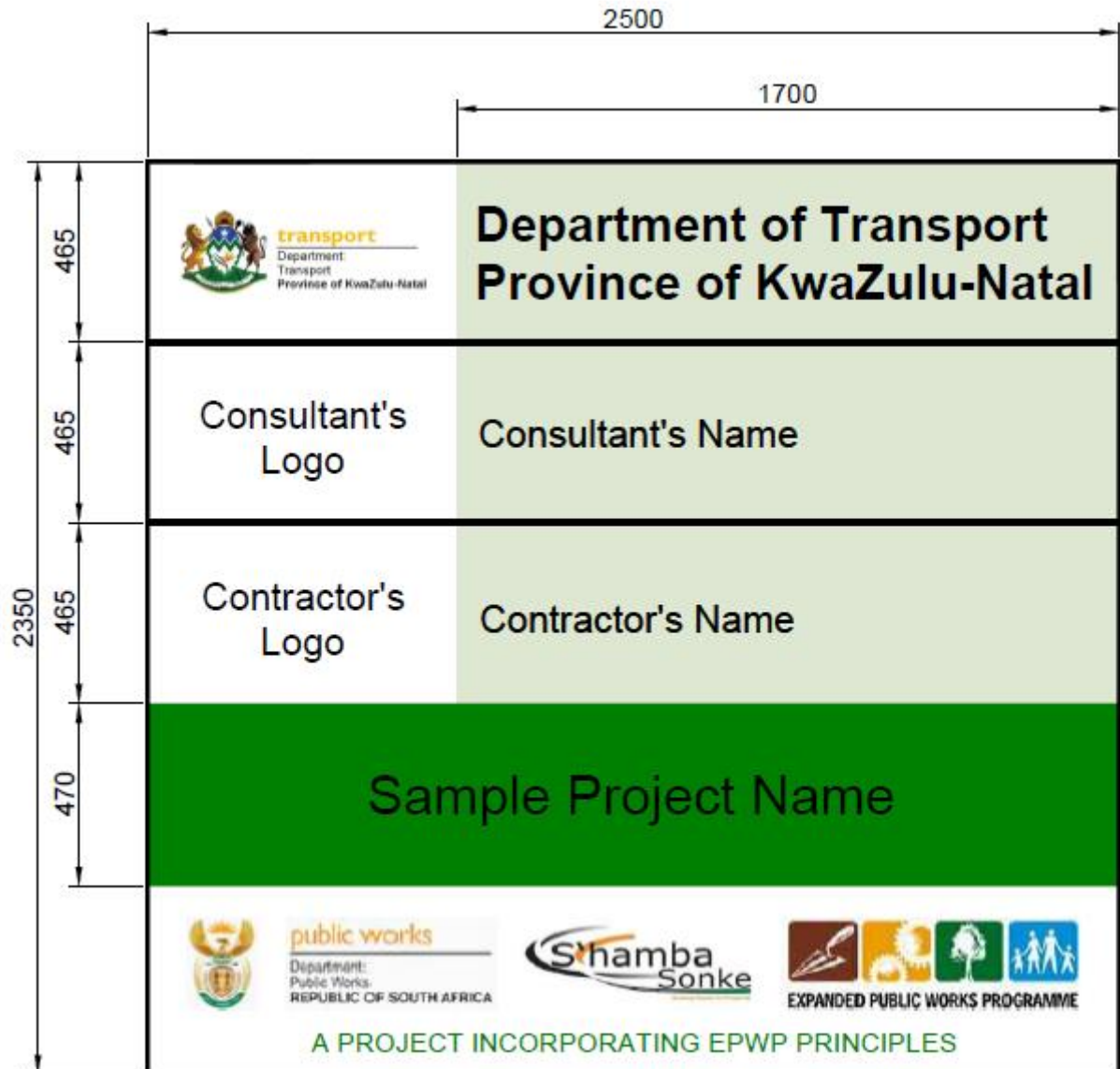
- From N2, Take exit 375 to R618 towards Mtubatuba.
- Turn left onto R618 and travel for approximately 46km.
- At the roundabout take the 2nd exit and stay on the R618.
- Travel 750m and at the roundabout take the 2nd exit onto Main Road P451.
- Travel approximately 16.5km on Main Road P451 to the bridge site.
- GPS coordinates 28° 03' 31.2" S 31° 57' 00.0" E



C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS

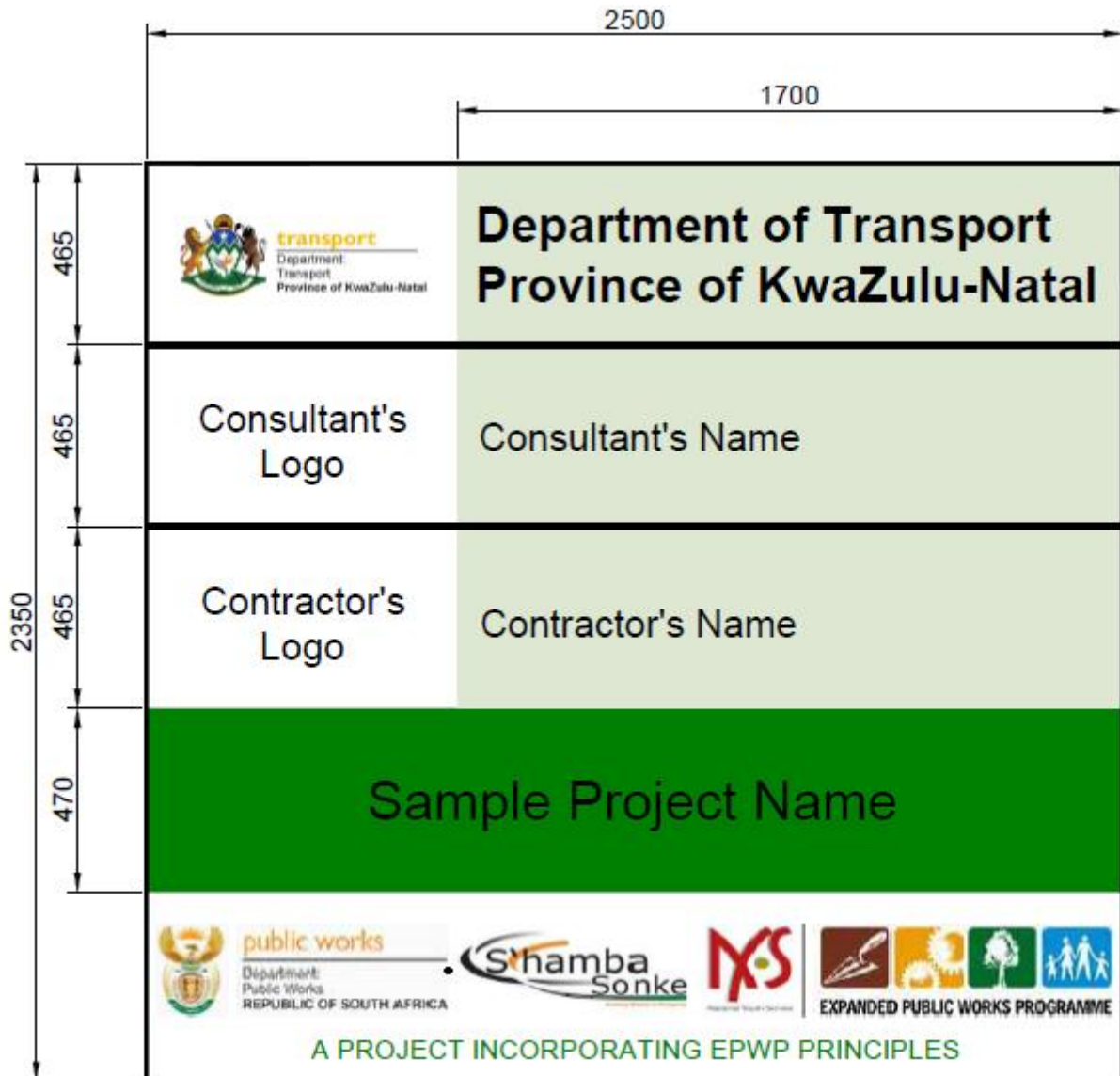
C4.2.1 CONTRACT SIGNBOARD FOR USE WHEN THE NYS PROGRAMME IS NOT REQUIRED:

Note: The “S’hamba Sonke” logo, as indicated below, shall appear on the signboard for Provincial Road Maintenance Grant (PRMG) contracts only. In all other cases it shall be omitted.



C4.2.2 CONTRACT SIGNBOARD FOR USE WHEN THE NYS PROGRAMME IS REQUIRED:

Note: The “S’hamba Sonke” logo, as indicated below, shall appear on the signboard for Provincial Road Maintenance Grant (PRMG) contracts only. In all other cases it shall be omitted.



C4.3 PROJECT SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

C4.4 TENDER DRAWINGS

- 3490-01 General Arrangement
- 3490-02 Longitudinal Section of Road and Borehole Data
- 3490-03 Foundation Layout and Bearing Details
- 3490-04 Left Abutment Concrete Details
- 3490-05 Right Abutment Concrete Details
- 3490-06 Pier Concrete and Reinforcement Details
- 3490-07 Deck Concrete Details
- 3490-08 Parapet and End block Concrete Details

**ANNEXURE A: GUIDELINES FOR CONSTRUCTION
AND MAINTENANCE PROJECTS DURING COVID-19 LOCKDOWN**



transport

Department:

Transport

Province of KwaZulu-Natal

PROJECT SITE OCCUPATIONAL HEALTH AND SAFETY

GUIDELINES FOR CONSTRUCTION AND MAINTENANCE PROJECTS DURING COVID-19 LOCKDOWN

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1 INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is a respiratory disease caused by the SARS-CoV-2 virus. In order to reduce the impact of COVID-19 on businesses, workers, customers and the public, the Kwazulu-Natal Department of Transport (KZNDOT), within the parameters of the COVID-19 regulatory framework, want to ensure that all those businesses, workers, customers and public it's interacting with are in compliance to the requirements as stipulated to ensure a safe work-environment for all.

On 23 April 2020, President Cyril Ramaphosa addressed the nation and announced that the country would resume economic activity in a phased approach from 1 May 2020. The lockdown levels depicted by Figure 1 below, will be lifted in phases, level 5 the highest and level 1 being the lowest as depicted below:



Figure 1: COVID-19 Alert Levels

1.1 BACKGROUND

Occupational Health and Safety are a fundamental segment of the construction industry. Safety must be embedded in all processes, implementing a top down approach, enabling the adoption of a safe and healthy working culture by all. Individual businesses or workplaces must have COVID-19 risk assessments and prevention and mitigation plans in place, and must conduct worker education on COVID-19 and protection measures:

- Identification and protection of vulnerable employees
- Safe transport of employees
- Screening of employees on entering the workplace
- Prevention of viral spread in the workplace
- Hand sanitisers and face masks
- Cleaning of surfaces and shared equipment
- Good ventilation
- Shift arrangements and canteen controls
- Managing sick employees

In addition to the above, monitoring systems must be in place to ensure compliance with safety protocols and to identify infections among employees.

1.2 PURPOSE

This document sets out the key principles and minimum requirements of the KZNDOT that define responsible, healthy and safe operations for road construction related operations working under COVID-19 Lockdown. The present state of the lockdown is geared toward the revival of economic activities and to allow employees involved in permitted services to resume work under certain conditions. This COVID-19 guidance has been developed on the basis of traditional infection prevention and occupational hygiene practices.

1.3 OBJECTIVES

The aims of this document are to:

- Keep workers and the wider public healthy and safe by preventing the spread of COVID-19.
- Apply relevant guidance from the Department of Health, Department of Employment and Labour and other Government Authorities to the construction environment.
- Encourage a safe and respectful work environment and good communication between all stakeholders.
- Sit alongside existing health and safety controls to ensure workers are safe on site.

Contractors and their employees should use this guidance to help identify risk levels on construction sites and to identify any appropriate control measures to be implemented. Additional guidance may be needed as the conditions of the COVID-19 outbreak change and as new information about the virus, its transmission and impact become available. It focuses on, as well as considerations for, the need for contractors to implement engineering, administrative and work practice controls and personal protective equipment (PPE).

2 RISK ASSESSMENT

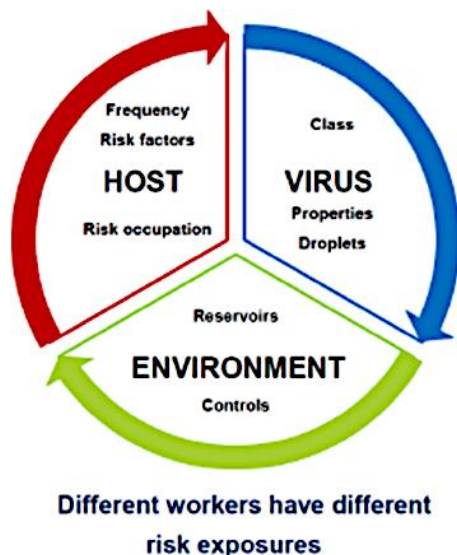


Figure 2: Risk Exposures

The legislation governing workplaces in relation to COVID –19 is the Occupational Health and Safety Act, Act 85 of 1993, as amended, and with the Hazardous Biological Agents Regulations and the Construction Regulation 2014. Section 8(1) of the Occupational Health and Safety Act, Act 85 of 1993, as amended, requires the employer to provide and maintain a working environment that is, to the extent possible reasonably practicable, as amended. Specifically, Section 8(2)(b) requires steps that may be reasonably practicable to eliminate or mitigate any hazard or potential hazard prior to the use of personal protective equipment (PPE).

2.1 BACK TO BASICS

Risk Assessment should be done to determine the **RISK** of **EXPOSURE** and to communicate this to the **WORKERS**.

2.2 IMPLEMENTATION OF CONTROL MEASURES

Before the implementation of control measures, current risk assessments need to be reviewed and updated, taking into account the new hazards posed by exposure to COVID-19 in the workplace. This is in accordance with Section 8 (2) (d) of the OHS Act.

With COVID-19, it may not be possible to eliminate the hazard, the most effective protection measures are engineering controls, administrative controls, safe work practices (a type of administrative control), and Personal Protection Equipment.

Measures for protecting workers from exposure to, and infection with, SARS-CoV-2, the virus that causes Coronavirus Disease 2019 (COVID-19), depend on the type of work being performed and exposure risk, including potential for interaction with people with suspected or confirmed COVID-19 and contamination of the work environment.

Contractors should adapt infection control strategies based on a thorough hazard assessment, using appropriate combinations of engineering and administrative controls, safe work practices, and personal protective equipment (PPE) to prevent worker exposures.

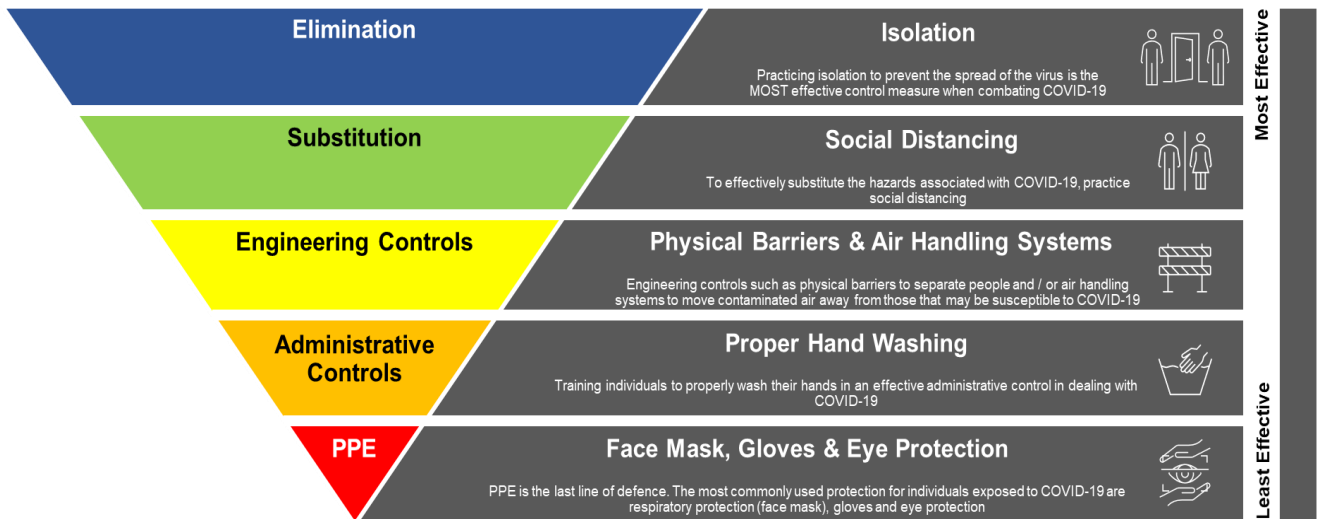


Figure 3: Infection Control Strategies

In preventing occupational exposure to COVID-19 also require Contractors to train workers on elements of infection prevention, including PPE. This would assist Contractors to identify:

- Exposure Levels
- “High Contact” Activities, and
- Vulnerable Workers and Special Measures

Contractors are expected to undertake and champion the principles of constantly focussing on eliminating or reducing the risk of COVID-19 transmission to an acceptable level, engaging meaningfully with their workforce, and making worker health a key priority. A Baseline Risk Assessment is included under Appendix D: COVID-19 Baseline Risk Assessment.

3 SITE OPERATING PROCEDURES

KZNDOT Construction sites operating during the Covid-19 pandemic need to ensure that they protect their workforce and minimise the risk of infection spread. In line with government guidelines on social distancing, this guideline is intended to implement effective steps at all KZNDOT construction sites of any size. These are extraordinary situations, and the KZNDOT intends to abide to the latest COVID-19 advice from national government.

3.1 SELF-ISOLATION

Anyone who meets one of the following criteria should not come to site:

- Has a high temperature or a new persistent cough;
- Is a vulnerable person (by virtue of their age, underlying health condition, clinical condition or pregnancy); or
- Is living with someone in self-isolation or with a vulnerable person.

3.2 IF SOMEONE FALLS ILL

If a worker develops a high temperature or a persistent cough while at work, they should:

- Return home immediately;
- Avoid touching anything; and
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook or into the bent elbow.

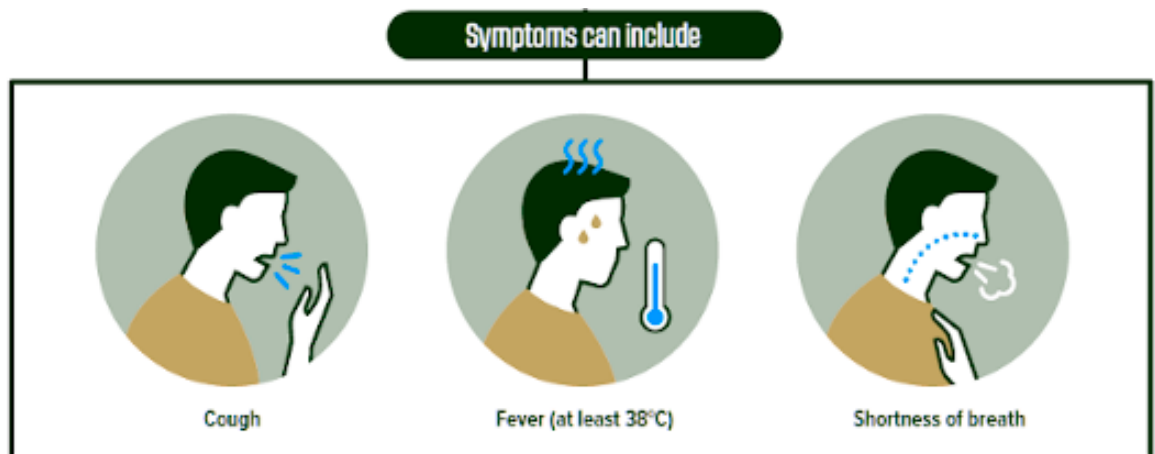


Figure 4: Symptoms of COVID-19

They must self-isolate and not return to work until their period of self-isolation has been completed and his or her negative status has been confirmed.

3.3 TRAVEL TO SITE

Wherever possible workers should travel to site alone using their own transport, and construction sites need to consider:

- Parking arrangements for additional cars, taxis, buses, etc;
- Other means of transport to avoid public transport e.g. cycling;
- They must ensure disinfecting the alternative transport before and after use; and Public Transport Regulations in respect of COVID-19 are adhered to;

- Providing hand cleaning facilities at entrances and exits. This should be soap, water and paper towels (and not fabric towels) wherever possible or hand sanitiser if water is not available; and
- How someone detected vulnerable after screening, taken ill and would get transported home.

3.4 SITE ACCESS POINTS

- Stop all non-essential visitors
- People, be it workers or visitors, without relevant face masks should not be allowed to enter construction sites; and workers should wear face masks at all times.
- Introduce staggered start and finish times to reduce congestion and contact at all times
- Monitor site access points to enable social distancing – you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring
- Remove or disable entry systems that require skin contact e.g. fingerprint scanners
- Require all workers to wash or clean their hands before entering or leaving the site or as frequent as possible
- Allow plenty of space (two metres) between people waiting to enter site
- Regularly clean common contact surfaces in Site Office, Access Control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times
- Reduce the number of people in attendance at site inductions and consider holding them outdoors wherever possible
- Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.

3.5 HAND WASHING

- Provide additional hand washing facilities to the usual welfare facilities on a large spread out site or significant numbers of personnel on site
- Ensure soap, fresh water and paper towels is always readily available and kept topped up
- Provide hand sanitiser where hand washing facilities are unavailable
- Regularly clean the hand washing facilities and check soap and sanitiser levels
- Provide suitable and enough rubbish bins for hand paper towels with regular removal and disposal.
- Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored.

3.6 TOILET FACILITIES

- Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant
- Wash hands before and after using the facilities
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush handles or buttons
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.

3.7 CANTEENS AND EATING ARRANGEMENTS

Whilst there is a requirement for construction sites to provide a means of heating food and making hot drinks, these are exceptional circumstances and where it is not possible to introduce a means of keeping equipment clean between use, kettles, microwaves etc. must be removed from use.

The workforce should also be required to stay on site once they have entered it and not use local shops.

- Dedicated eating areas should be identified on site to reduce food waste and contamination
- Break times should always be staggered to reduce congestion and contact
- Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area
- The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home
- Workers should sit 2 metres apart from each other whilst eating and avoid all contact
- Where catering is provided on site, it should provide pre-prepared and wrapped food only
- Crockery, eating utensils, cups etc. should not be used
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced
- Tables should be cleaned between each use
- All rubbish should be put straight in the bin and not left for someone else to clear up
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.

3.8 CHANGING FACILITIES, SHOWERS AND DRYING ROOMS

- Always introduce staggered start and finish times to reduce congestion and contact
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day
- Consider increasing the number or size of facilities available on site if possible
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of 1 ½ metres
- Provide suitable and enough rubbish bins in these areas with regular removal and disposal.

3.9 AVOIDING CLOSE WORKING

There will be situations where it is not possible or safe for workers to distance themselves from each other by 1.5 metres.

3.10 GENERAL PRINCIPLES

- Non-essential physical work that requires close contact between workers should not be carried out
- Work requiring skin to skin contact should not be carried out
- Plan all other work to minimise contact between workers
- Re-usable PPE should be thoroughly cleaned after use and not shared between workers
- Single use PPE should be disposed of so that it cannot be reused
- Stairs should be used in preference to lifts or hoists
- Where lifts or hoists must be used:
 - Always lower their capacity to reduce congestion and contact
 - Regularly clean touchpoints, doors, buttons etc.
- Increase ventilation in enclosed spaces
- Regularly clean the inside of vehicle cabs and between use by different operators.

3.11 SITE MEETINGS

- Only absolutely necessary meeting participants should attend
- Attendees should be two metres apart from each other
- Rooms should be well ventilated / windows opened to allow fresh air circulation
- Consider holding meetings in open areas where possible.

3.12 SITE MEETINGS

Enhanced cleaning procedures should be in place across the site, particularly in communal areas and at touch points including:

- Taps and washing facilities
- Toilet flush and seats
- Door handles and push plates
- Handrails on staircases and corridors
- Lift and hoist controls
- Machinery and equipment controls
- Food preparation and eating surfaces
- Telephone equipment
- Keyboards, photocopiers and other office equipment

Rubbish collection and storage points should be increased and emptied regularly throughout and at the end of each day.

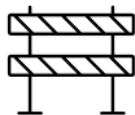
4 CONSTRUCTION PROTOCOLS

The core principle behind this “Construction Protocols” is to protect the health and safety of all workers required to perform duties during the COVID-19 crisis, including related health and safety impacts on operations related to operating under a COVID-19 environment, as well as protecting the wider KwaZulu-Natal population from transmission and spread of the virus.



Before
arriving on
Site

- Each Contractor must have a plan detailing the steps they will take to mitigate risks, including those presented by COVID-19. The details of the plan must be communicated to workers before they start work.
- Before any activity is recommenced the Contractor must ensure that all hazards have been reviewed and appropriately controlled before work activity is commenced after lockdown.
- Where possible, conduct a remote induction before arrival on site, this can be done via video conferencing or by phone.
- If an in-person induction is required, the **Physical Distancing and Hygiene Protocol** must be followed.
- All workers shall undergo a screening process to ensure they are fit for duty by confirming their health status.
- Contractors must understand how workers will travel to and from site and will communicate the **Site Transportation Protocol** to all.
- Ensure all workers understand when additional PPE may be required due to COVID-19 and that workers have access to the correct PPE as per the Department of Employment and Labour guidelines. When required to use face masks or gloves please follow these processes.



Site Entry

- Only relevant personnel to the workplace are to access the site.
- All office employees supporting a project will work remotely, where possible.
- A daily register of workers entering and leaving site must be completed along with a health declaration. Use your existing sign in register or the example Sign-in register.
- Signage reminding workers of the COVID-19 **Physical Distancing and Hygiene Protocol** will be posted at the site entrance and in common areas where appropriate.



Site
Operations

- All work is to be undertaken in such a way as to reduce any possible contact between workers and to promote physical distancing wherever possible, as per the **Physical Distancing and Hygiene Protocol**.
- All visitors to the site, such as necessary delivery workers, will be restricted to one person wherever possible. These workers must follow the **Site Transportation Protocol**.
- All offices and jobsites must implement cleaning measures as per the **Cleaning Protocol**.
- All tools, equipment, plant and vehicles must be used in alignment with the **Cleaning Protocol**.
- Toolbox talks should be held with physical distancing in place as per the **Physical Distancing and Hygiene Protocol**.
- Additional sanitary measures are to be implemented on site to prevent the spread of COVID-19 e.g. hand washing stations, provision of additional hand sanitizer, provision of disinfectant wiping products, as per the **Physical Distancing and Hygiene Protocol**.
- Smokers must follow the **Physical Distancing and Hygiene Protocol**.
- A COVID-19 Response plan must be available and accessible on site.



Leaving Site

- Workers must use the sign-in register to sign out.
- When returning home, workers will need to follow the necessary hygiene measures.
- Each site must be cleaned and sanitised at the end of the working day or end of each shift, as per the **Cleaning Protocol**.
- All waste and disposable PPE must be removed from site and securely disposed of as per the **Cleaning Protocol**.
- Workers must follow the **Site Transportation Protocol**.

4.1 PHYSICAL DISTANCING AND HYGIENE PROTOCOL

Physical distancing, also known as “social distancing”, is about keeping a safe distance from others. For physical distancing, at least one and ½ metre’s separation is required at work, and two metres in uncontrolled environments, like in public. This aligns with World Health Organisation advice. We expect one and ½ metre’s separation between people at work as the minimum and greater separation where it is reasonably practicable to do so. This is important to help protect us from COVID-19, which spreads via droplets from coughing and sneezing.

General
Working
Arrangements

- Keep team sizes as small as possible.
- Keep a record of who is in each team every day as it is required to assist contact tracing.
- Site teams are encouraged to put forward split/alternating shifts to avoid extensive intermingling to reduce potential of exposure.
- Work site is always to be segregated into zones (or by other methods) as much as possible to keep different teams/trades physically separated.
- Where possible, a one-way system in high-traffic areas, such as lifts, stairwells and scaffolds (Where Applicable).
- Where practical, all office employees supporting a project, work remotely.
- When using a vehicle, the **Cleaning Protocol** needs to be followed.
- When using a vehicle, limit this to one/two person per vehicle if possible.





External Interfaces	<ul style="list-style-type: none">• One member of the crew nominated to receive supplies etc.• Keep the engagement with the other person as brief as possible and maintain a two-metre physical distance.• Ask for paperwork to be emailed rather than handed over as much as possible.• If unavoidable, then either wear gloves when handling the item or wash hands before and after handling said items.
Site Entry	<ul style="list-style-type: none">• Limit visitors to site wherever possible.• Introduce staggered start and finish times where possible to reduce congestion and contact.• Monitor site access points to enable physical distancing – you may need to change the number of access points, increase to reduce congestion or decrease to enable monitoring.• Where entry systems that require skin contact, the Cleaning Guide must be followed.• Require all workers to wash or clean their hands before entering and leaving the site.• Allow plenty of space 1½ metres between people waiting to enter site.• Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times.• Where possible, conduct a remote induction before arrival on site, this can be done via video conferencing or by phone. If an in-person induction is required, reduce the number of people and hold them outdoors wherever possible.• Delivery drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.• Any sign in registers should be recorded by one person where possible – do not pass material around the group and minimise contact with any screens.
Site Meetings	<ul style="list-style-type: none">• Only absolutely necessary meeting participants should attend.• Attendees should be two metres apart from each other• Rooms should be well ventilated / windows opened to allow fresh air circulation.• Hold meetings in open areas where possible.• Meetings are to be held through teleconferencing or videoconferencing where possible.
Avoiding Close Working	<ul style="list-style-type: none">• Risk assessments and method statements must be updated to include COVID-19 control measures.• At least 1½ metre's separation is required at work. KZNDOT expect 1½ metre separation between people at work as the minimum and greater separation where it is reasonably practicable to do so.• If it is not possible or safe for workers to distance themselves by one metre for a work activity, the works should not be carried out.• Re-usable PPE should be thoroughly cleaned after use and not shared between workers.• Single use PPE should be disposed of so that it cannot be reused.• Stairs should be used in preference to lifts or hoists.• Where lifts or hoists must be used:<ul style="list-style-type: none">• Lower their capacity to reduce congestion.• Regularly clean touchpoints, doors, buttons etc.• Increase ventilation in enclosed spaces





Toilet Facilities	<ul style="list-style-type: none"> Physical distancing rules apply to the use of shared facilities, including toilets. Wash hands before and after using the facilities. Enhance the cleaning regimes for toilet facilities particularly door handles, locks, toilet flush and sanitary bins. Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.
Eating Measures	<ul style="list-style-type: none"> If you need to leave site for any reason, follow site entry procedures on return. Dedicated eating areas should be identified on site to reduce food waste and contamination. Break times should be staggered to reduce congestion and contact at all times. Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area. The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home. Workers should sit 2 metres apart from each other whilst eating and avoid all contact. Where catering is provided on site, it should provide pre-prepared and wrapped food only. Shared crockery, eating utensils, cups etc. should not be used. Tables should be cleaned between each use. All rubbish should be put straight in the bin and not left for someone else to clear up. All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles. Limit access and use of water fountains. Consider numbers on site for site facilities as physical distancing may require additional space/facilities.
Changing Facilities, Showers and Drying Rooms	<ul style="list-style-type: none"> Introduce staggered start and finish times to reduce congestion and contact at all times. Introduce enhanced cleaning of all facilities throughout the day and at the end of each day. Consider increasing the number or size of facilities available on site if possible. Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of one metre. Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal.
General Hygiene	<ul style="list-style-type: none"> Each worker must sanitise their hands with hand sanitiser or soap and running water before entry onto site, use warm water if available. Set up a specific place near the entry of the site for handwashing and/ or sanitising. Any personal items brought to site by workers must be segregated (kept separate from other workers items). Individual PPE for workers must be kept separate from other workers PPE and cleaned correctly as per the Cleaning Protocol. All eating and drinking utensils to be cleaned by the user. Have paper towels accessible to dry.
Smoking	<ul style="list-style-type: none"> Smokers/vapers must use designated area or do so off-site and butts are to be placed in the designated receptacle. Hands must be washed before and after smoking. Stand so that smoke or vapor produced is not going into another person's breathing zone.





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| Hand Washing | <ul style="list-style-type: none"> • Provide additional hand washing facilities to the usual welfare facilities on large, spread out sites or significant numbers of personnel on site. • Ensure soap and fresh water is readily available and kept topped up at all times. • Provide hand sanitiser where hand washing facilities are unavailable. • Regularly clean the hand washing facilities and check soap and sanitiser levels. • Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored. |
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4.2 SITE TRANSPORTATION PROTOCOL

Employers are required to have an understanding of how workers will travel to and from site.

Workers travel to site	 Workers are to travel to the site one person per vehicle where possible.
	 Log is to be kept recording who has arrived on site, how they travelled and who they travelled with for contact tracing purposes.
	 Workers must travel home in the same vehicle as they arrived in.
	 Handwashing protocols to be observed before entering site.

Any travel managed by the employer should ensure that adequate steps can be achieved for this transport which includes:	 Allowing for spaces between passengers.
	 Hygienic washing of hands before and after the journey.
	 Follow Vehicle Cleaning Procedures as per the Cleaning Protocols.
	 Restricting equipment and baggage to trailers and or separate parts of the vehicle.

Deliveries to site	 Deliveries to site should be delivered by one person only where possible.
	 Handwashing protocols to be observed once arrived at site.
	 Sign-in register must be completed for persons delivering goods to site.
	 1,5 m physical distancing rules to be applied at all times.

4.3 CLEANING PROTOCOL

Construction Sites operating under Coronavirus COVID-19 Lockdown need to ensure they are protecting their workforce and minimising the risk of spread of infection.

Key Cleaning Tips

All construction sites (offices and jobsites included) should implement additional cleaning measures of common areas to help minimise the spread of COVID-19. Consider your work environment and what is frequently used and touched by workers, customers and others. The virus can be spread from person to person or by touching unclean equipment or surfaces. To stop the spread, focus efforts on cleaning areas where the virus is more likely to spread, such as the kitchen and toilet.

- Schedule regular cleaning.
- Use a suitable cleaning product.
- Use disposable cloths, if available.
- Always wear disposable gloves when cleaning. When finished, place used gloves in a rubbish bin.
- Wear disposable gloves while handling soiled items.
- Wash hands immediately after removing gloves or after handling these items.

Physical distancing should also be practiced when cleaning offices and jobsites. Refer to the **Physical Distancing and Hygiene Protocol** for more information.

Disinfecting Cleaning Aids

Cleaning aids, such as cloths or mops, must be germ-free or they'll spread germs to other surfaces. To help prevent the spread of germs:

- Use disposable cloths or paper towels when possible.
- Reusable cloths should be disinfected or washed after each use.
- Wash brushes in a dishwasher regularly or clean with detergent and warm water after each use.
- Use two buckets for mopping - one for detergent and the other for rinsing.
- Mops and buckets should be cleaned and dried after each use.

Site Cleaning

Before leaving the jobsite at the end of the working day or end of each shift, wipe down any tables/surfaces with soapy water or cleaning agents where possible. All workers must be checked out of site and record kept daily.

Common touch points may include:

- All waste and disposable PPE must be securely disposed of.
- All door handles, railings and personal workstation areas are wiped down with a disinfectant, such as disinfectant wipes. Individuals are responsible for cleaning their workstation area with disinfectant wipes.
- Clean all 'high-touch' surfaces such as desks, counters, tabletops, doorknobs, bathroom fixtures, toilets, light switches, phones, and keyboards every day with antiseptic wipes or disinfectant, including bleach solutions.

Cleaning Bathrooms, Toilets and Showers	<p>Clean toilets with a separate set of cleaning equipment (disposable cleaning cloths, mops, etc).</p> <p>Clean sinks frequently if they're used regularly. If your jobsite has a shower:</p> <ul style="list-style-type: none">• Clean shower trays frequently, if used regularly.• If a shower has not been used for a while, let it run with hot water before using it.• Keep tiles and grout in good condition.• Clean shower curtains frequently. Common toilet touch points may include:• Keep the U-bend and toilet bowl clean by flushing after each use.• Limescale should be regularly removed using a descaling product.• Keep the toilet seat, handle and rim clean by using a disinfectant.
Cleaning Tools and Equipment	<ul style="list-style-type: none">• Clean tools and equipment before and after each day's work with a disinfectant, concentrating on points of contact such as handles.• Wash your hands after handling tools and equipment to prevent the spread of germs.• If possible, don't share tools on-site. If sharing cannot be prevented, take precautions and follow the hand washing guide before and after each use.
Cleaning Vehicles	<ul style="list-style-type: none">• Have dedicated drivers when using vehicles to avoid the spread of germs.• Don't share vehicles if possible, if you need to use a shared vehicle then wipe down the common touched areas of the vehicle after each use (steering wheel, handbrake, gear stick, dashboard, handles, etc) and wash hands before and after using the vehicle.• Wipe down the inside and common touched areas of the vehicle before and after each day.• Have one person per vehicle where possible. If you are required to have more than one person then keep as much distance between people as possible, open the windows to keep air circulating and passengers to face towards the window to reduce the spread of germs.• If you need to have multiple people in a vehicle, then where possible, split teams into groups and stay in those groups when you travel together.
Cleaning PPE	<ul style="list-style-type: none">• Work clothes to be placed in washing machines and clean reusable PPE.• Read and follow directions on the labels of laundry or clothing and detergent. In general, wash and dry laundry and clothing with the warmest temperatures recommended on the label.• When handling soiled laundry wash your hands afterwards. All clothes and towels should be washed with a laundry product to prevent germs from spreading.• Don't leave laundry in the washing machine – any remaining germs can multiply rapidly.
Specialist Clean	<ul style="list-style-type: none">• If a worker is unwell and removed from site, a specialist clean will be completed in the area/ areas identified where the worker was working and has accessed. These areas are to be isolated until a specialist clean has taken place.• All equipment and vehicles used must be cleaned down and disinfected, concentrating on points of contact such as handles, steering wheels etc.

4.4 SCREENING AND MONITORING PROTOCOL

Construction Sites operating under Coronavirus COVID-19 Lockdown need to ensure they are protecting their workforce and minimising the risk of spread of infection. Screening is a method to assess the possibility of employees and visitors who may have symptoms or have been infected with COVID-19. Rigid screening of employees must take place every day before they enter the workplace. This will be the most effective way to control the spread of the virus within the workplace.

Employees should be screened for COVID-19 related symptoms and report such symptoms to a designated person and / or occupational health practitioner prior to entry into the workplace or work area in order for a decision to be made as to the staff member's continued attendance at work.

During Screening	<ul style="list-style-type: none">• At the start of a workday/shift and prior to ending the workday/shift, designated persons and / or occupational health practitioner must check with employees whether they have experienced sudden onset of any of the following symptoms: cough, shortness of breath or fever/chills (or $\geq 38^{\circ}\text{C}$ measured temperature if this is available at the worksite), in the past 24 hours as outlined in Daily Symptom Monitoring Tool.• If an employee reports any of the above-mentioned symptoms, they should immediately be provided with a FFP1 surgical mask and referred to the designated staff at the workplace so that arrangements can be made for COVID-19 testing at the closest testing centre.• If employee report any additional symptoms as outlined in the symptom monitoring sheet, s/he should be provided with a surgical mask and referred to the occupational health clinic, family practitioner or primary care clinic for further clinical evaluation and requirement for COVID-19 testing if indicated.• On receiving their results, the employee and/or health professional supporting the employee should notify their workplace so that the employee is managed accordingly. The workplace should proactively take steps to obtain this information to avoid any delays in reporting.
After isolation or quarantine period	<ul style="list-style-type: none">• Undergo medical evaluation to confirm that they are fit to work• Wearing of surgical masks at all times while at work for a period of 21 days from the initial test• Implement social distancing measures as appropriate (in the case of health workers avoiding contact with severely immunocompromised patients)• Adherence to hand hygiene, respiratory hygiene, and cough etiquette• Continued self-monitoring for symptoms, and seek medical re-evaluation if respiratory symptoms recur or worsen

“Appendix C: COVID-19 Daily Symptom Monitoring Tool” is a monitoring Tool to track construction workers on a daily basis for two weeks.

ACRONYMS

PPE	Personal Protective Equipment
WHO	World Health Organization
NICD	National Institute of Communicable Diseases
RR	Residual Risk
OHS Act	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

KEY TERMS & DEFINITIONS

Contractor	Is defined as a person or company that arranges to supply materials or workers for building or for moving goods.
Extremely Vulnerable Persons	Defined as someone who is solid organ transplant recipients; people with specific cancers: people with cancer who are undergoing active chemotherapy or radical radiotherapy for lung cancer; people with cancers of the blood or bone marrow such as leukaemia, lymphoma or myeloma who are at any stage of treatment; people having immunotherapy or other continuing antibody treatments for cancer; people having other targeted cancer treatments which can affect the immune system, such as protein kinase inhibitors or PARP inhibitors; people who have had bone marrow or stem cell transplants in the last 6 months, or who are still taking immunosuppressive drugs; People with severe respiratory conditions including all cystic fibrosis, severe asthma and severe COPD; People with rare diseases and inborn errors of metabolism that significantly increase the risk of infections (such as SCID, homozygous sickle cell); People on immunosuppression therapies sufficient to significantly increase risk of infection; Women who are pregnant with significant heart disease, congenital or acquired.)
Physical Distancing	Physical distancing, also known as “social distancing”, is about keeping a safe distance from others.
Safe Work Practices	Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or intensity of exposure to a hazard.
Screening	Screening is a way for health workers to find out if you may have COVID-19 or not. The health worker will ask you questions and scan your forehead to take your temperature.
Workplace	Workplace means any premises or place where a person performs work.

APPENDIX A: SAFE PRACTICES ON SITE

Using Face Masks on Site



Wash Hands First

Always make sure you wash your hands thoroughly before and after touching a mask.



Masks

There are many kinds of masks, depending on the task.



The Right Side

There is a metal clip at the top of the mask.



Placement

Place the metal clip across the top of your nose.



Attach the Mask

Attach the mask by pulling the elastic bands over your ears.



Stretch Down

Stretch the mask down, so that it covers your chin.



Adjust

Bend the metal clip around your nose so that it sits securely.



Taking off the Mask

Pull the elastic bands away from your ears.



Disposal

Always place the used mask in a closed rubbish bin for secure disposal.

Using Face Masks on Site



Any time you are completing a manual task

Use your usual work safety gloves



If you are cleaning any surfaces

Use disposable gloves for this and throw them in the bin when you finish cleaning



Avoid touching your face while wearing gloves



Remove your gloves and then wash your hands prior to eating, drinking or smoking/vaping



Practice good hand hygiene and good cough and sneeze etiquette while wearing gloves

APPENDIX B: SUSPECTED OR CONFIRMED CASE OF COVID-19

If the suspected or confirmed case of COVID-19 is at work



Isolate

Isolate the person from others and provide a disposable surgical mask, if available, for the person to wear.



Inform

Call (Insert No). Follow the advice of health officials.



Transport

Ensure the person has transport to their home or to a medical facility



Clean

Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning. Identify who at the workplace had close contact with the infected person in the 24 hours before that infected person started showing symptoms. Send those people home to isolate. Allow employees to raise concerns.



Identify



Clean

Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning. Review risk management controls relating to COVID-19 and review whether work may need to change. Keep employees up to date on what is happening.



Review

If the suspected or confirmed case of COVID-19 is not at work when diagnosed



Inform

Call (Insert No). Follow the advice of health officials.



Identify

Identify who at the workplace had close contact with the infected person in the 24 hours before that infected person started showing symptoms. Send those people home to isolate. Allow employees to raise concerns. Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning.



Clean



Review

Review risk management controls relating to COVID-19 and review whether work may need to change. Keep employees up to date on what is happening.

APPENDIX C: COVID-19 DAILY SYMPTOM MONITORING TOOL



COVID-19 DAILY SYMPTOM MONITORING TOOL

Details of Worker				Details of Person completing this form		Date completing form	
Identifier	Date of contact	DD/MM/YYYY	Place last contact	Surname	Name	DD/MM/YYYY	
Surname	Name			Role	Facility name		
Date of birth	DD/MM/YYYY	Age (Y)	Sex M <input type="checkbox"/> F <input type="checkbox"/>	Email address	Telephone number		
Healthcare worker	Y <input type="checkbox"/> N <input type="checkbox"/> If yes, facility name			Next of kin details			
Contact number(s)	Email			Next of Kin name and surname	Next of Kin contact number		
Physical address							
House number	Street			Suburb	Town		
District	Province			Patient traced	Y <input type="checkbox"/> N <input type="checkbox"/>		
Details of confirmed COVID-19 case (Complete only if Applicable)							
Contact type ¹	Close <input type="checkbox"/>	Casual <input type="checkbox"/>	Relationship	Name	Surname	Date of Birth DD/MM/YYYY	

Instructions for completion: Mark “Y” if symptom present and “N” if not. If any symptoms are present collect, contact (Insert No) immediately and make immediate arrangements for the collection of a combined nasopharyngeal and oropharyngeal swab. Refer to COVID-19 Quick Guide on the NICD website for additional details. Days post exposure to case.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Date (DD/MM)														
Measured body temp														
Chills	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Cough	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Sore throat	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Shortness of breath	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Myalgia/body pains	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N
Diarrhoea ³	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N

¹ Close contact: A person having had face-to-face contact (≤2 metres) or was in a closed environment with a COVID-19 case; this includes, amongst others, all persons living in the same household as a COVID-19 case and, people working closely in the same environment as a case. A healthcare worker or other person providing direct care for a COVID-19 case, while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection). A contact in an aircraft sitting within two seats (in any direction) of the COVID-19 case, travel companions or persons providing care, and crew members serving in the section of the aircraft where the index case was seated. Casual contact: Anyone not meeting the definition for a close contact but with possible exposure. ² Chose from: Spouse, Aunt, Child, Class mate, Colleague, Cousin, Father, Friend, Grandfather, Grandmother, Healthcare worker taking care of, Mother, Nephew, Niece, Other relative, Uncle. ³ Diarrhoea defined as three or more loose stools in a 24-hour period.

APPENDIX D: COVID-19 BASELINE RISK ASSESSMENT

					Likelihood				
					Very Unlikely	Unlikely	Possible	Likely	Very Likely
Severity	Negligible	1	2	3	4	5			
	Minor	2	4	6	8	10			
	Moderate	3	6	9	12	15			
	Major	4	8	12	16	20			
	Extreme	5	10	15	20	25			

Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk
Exposure from others due to: 1. Living with someone with a confirmed case of COVID-19. 2. Have come into close contact (within 2 metres for 15 minutes or more) with a confirmed case of COVID-19. 3. Being advised by a public health authority that contact with a diagnosed case has occurred.				<ul style="list-style-type: none"> To follow government action of self-isolation and only to leave house on the following circumstances: for medical reason; to shop for necessary food supplies; for exercise once per day; and for essential works including those deemed 'key workers' Any existing individual risk assessments (disability, young persons or new / expectant mothers) to be reviewed Maintain contact with line management and Human Resources (HR) and to follow company policy / guidance. Travel is only required for essential travel; reduce the amount of time using public transport and to implement social distancing where possible (2m clearance from persons and not to travel in groups of more than 2 unless it is immediate family) To continue following ongoing government guidance Stay at home and only attend hospital in an emergency. Do not attend GP surgery and phone (Insert No) if further advice is required Company to ensure extremely vulnerable persons are shielding themselves and following their specific medical advice issued to them no later than 29/3/2020 Always follow good hygiene measures Avoid all visitors to your home unless they are providing a medical requirement Do not approach delivery staff, allow packages to be left on the doorstep Do not take any antibiotics as they do not work against viruses. 				Individual Workers

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
						Major	4	8	12	16	20
						Extreme	5	10	15	20	25
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
Suspected case whilst working on site				<p>If a worker develops a high temperature or a persistent cough while at work, they should:</p> <ol style="list-style-type: none"> Return home immediately Avoid touching anything Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow. They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed. 				Individual workers			
General travel including foreign travel				<ol style="list-style-type: none"> Do not travel unless you cannot work from home or deemed a key worker – implement teleconferencing for meetings Where an individual has recently visited these countries, they should self / home isolate themselves until further notice from the government (lockdown measures continue to apply) Please continue to follow any further national government advice provided Where an occupational health (OH) service provider has been appointed, please seek additional advice or concerns through this service All persons to limit their use of public transport. Where travel is essential, please use private single occupancy where possible 				Individual workers			
Access / egress to site				<p>Where possible, please consider and implement the following practices:</p> <ol style="list-style-type: none"> Stop all non-essential visitors Introduce staggered start and finish times to reduce congestion and contact at all times Monitor site access points to enable social distancing – you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring Remove or disable entry systems that require skin contact e.g. fingerprint scanners Require all workers to wash or clean their hands before entering or leaving the site 				Individual workers			

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
						Major	4	8	12	16	20
						Extreme	5	10	15	20	25
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
				<ol style="list-style-type: none"> Allow plenty of space (two metres) between people waiting to enter site Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times Reduce the number of people in attendance at site inductions and consider holding them outdoors wherever possible Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials. 							
Inclement weather – cold temperature allows disease to survive				<ol style="list-style-type: none"> All persons to dress appropriately for the weather Welfare facilities provided to shelter from the elements Maintain good hygiene measures at all times Appropriate respiratory protective equipment (RPE) masks to be considered as last resort however face fit test (FFT) must be completed to ensure mask effectiveness. It is advised to speak to your H&S competent person on these matters and supplies should be reserved for medical staff as it has been documented that supplies have been difficult to procure 				Individual workers			
Poor hygiene				<ol style="list-style-type: none"> Wash your hands thoroughly and regularly. Use soap and water for at least 20 seconds. Use alcohol-based hand sanitiser if soap and water is not available and hand washing technique to be adopted as directed Avoid touching your face/eyes/nose/mouth with unwashed hands and cover your cough or sneeze with a tissue then throw it in the bin. Provide additional hand washing facilities to the usual welfare facilities if a large spread out site or significant numbers of personnel on site Regularly clean the hand washing facilities and check soap and sanitiser levels Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal. Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored. 				Individual workers			

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
						Major	4	8	12	16	20
						Extreme	5	10	15	20	25
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
				7. Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant. Wash hands before and after using the facilities. Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush. Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently.							
Canteen - exposure from large numbers of persons				<ol style="list-style-type: none"> 1. The workforce should also be required to stay on site once they have entered it and not use local shops. 2. Dedicated eating areas should be identified on site to reduce food waste and contamination 3. Break times should be staggered to reduce congestion and contact at all times 4. Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area 5. The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home 6. Workers should sit 2 metres apart from each other whilst eating and avoid all contact 7. Where catering is provided on site, it should provide pre-prepared and wrapped food only - Payments should be taken by contactless card wherever possible and Crockery, eating utensils, cups etc. should not be used 8. Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced 9. Tables should be cleaned between each use 10. All rubbish should be put straight in the bin and not left for someone else to clear up 11. All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices. 				Individual Workers			

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
						Major	4	8	12	16	20
						Extreme	5	10	15	20	25
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
Use of Changing facilities, showers and drying rooms				<ol style="list-style-type: none"> 1. Introduce staggered start and finish times to reduce congestion and contact at all times 2. Introduce enhanced cleaning of all facilities throughout the day and at the end of each day 3. Consider increasing the number or size of facilities available on site if possible 4. Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of two metres 5. Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal. 				Individual workers			