SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD

Reg.No.1998/009584/30

BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

CONTRACT SANRAL NRA 2025/0097

THE RESURFACING OF NATIONAL ROUTE 3 SECTION 12 BETWEEN HEIDELBERG ROAD AND GELDENHUYS INTERCHANGES

PROJECT DOCUMENT

DATE: JULY 2025

TENDER DOCUMENT
VOLUME 3
BOOK 3 OF 3
PRICING DATA, SCOPE OF WORKS, PROJECT INFORMATION, ANNEXURES

CHIEF EXECUTIVE OFFICER
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED
48 TAMBOTIE AVENUE
VAL DE GRACE
PRETORIA, 0184

NAME OF TENDERER: .....

Set sequential number

SANRAL
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Reg.No.1998/009384/30
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FOR

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BOOK 3 OF 3
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THIS DOCUMENT COMPILED UNDER THE DIRECTION OF THE REGIONAL MANAGER
THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED
The Regional Manager (Northern Region)
The South African National Roads Agency SOC Ltd
38 IDA Park
Menlo Park
Pretoria, 0081

LIST OF CONTRACT DOCUMENTS

The following documents form part of this contract:

Volume 1: The Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (1999), published by the Federation Internationale des Ingenieurs-Conseils (FIDIC) which the tenderer shall purchase himself. (See note 1 below).

Volume 2: The COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition), issued by the Committee of Transport Officials which the tenderer shall obtain himself. (See Note 2 below).

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

The conditions of tender are the standard conditions of tender as indicated in Book 1.

Volume 4: The road works drawings.

Volume 5: The structural drawings.

Included under Volume 4

Volume 6: Materials investigation and utilisation.

Not Applicable

Volume 7: Environmental Management Plan report.

Not Applicable

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PART C2: PRICING DATA

PART C2: PRICING DATA

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C2.1 PRICING INSTRUCTIONS

C2.1.1 Measurement and payment shall be in accordance with the relevant provisions of Chapter 1, Section C1.1 of the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) or as amended in the Scope of Works.

C2.1.2 The units of measurement described in the Pricing Schedule are metric units. Abbreviations used in the Pricing Schedule are as follows:

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

C2.1.3 For the purpose of the Pricing Schedule, the following words shall have the meanings assigned to them:

Unit: The unit of measurement for each item of work as defined in the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition).

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

Rate: The payment per unit of work for which the Service Provider tenders to do the work.

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

C2.1.4 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

C2.1.5 It will be assumed that prices included in the Pricing Schedule are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.sabs.co.za for information standards)

C2.1.6 The prices and rates in the Pricing Schedule are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out. The Contractor shall submit to the Engineer within 28 days after the Commencement Date a full breakdown of all rates. The rates are to be clearly referenced to the relevant payitem numbers, with each rate broken down into its labour, materials, plant, fuel, overhead charges and profit components.

C2.1.7 Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items.

C2.1.8 A single lump sum will apply should a number of items be grouped together for pricing purposes.

C2.1.9 The quantities set out in the Pricing Schedule are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Pricing Schedule.

C2.1.10 Reasonable compensation will be received where no payitem appears in the Pricing Schedule in respect of work required in terms of the Contract and which is not covered in any other payitem.

C2.1.11 The short descriptions of the items of payment given in the Pricing Schedule are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.

C2.1.12 The item numbers appearing in the Pricing Schedule refer to the corresponding item numbers in the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition). Where a standard COTO payitem is amended or a new payitem added, the item number is preceded by the letter “P” in the Pricing Schedule.

C2.1.13 The pricing schedules are provided electronically. A printout of the entire completed pricing schedule must be signed and scanned and saved in .pdf format, and an electronic copy of the priced pricing schedule must be saved in Excel format and the printed copy bound. In the event of any discrepancy between the signed .pdf copy, and the electronically submitted copy in Excel format and the printed hard copy, the tender rates in the printed hard copy will govern. The item numbers and description of the printed hard copy document will govern. For all addenda issued relating to the pricing schedule, the item numbers, description and quantities of the issued document will govern.

C2.2 PRICING SCHEDULE (INCORPORATING SBD3)

SCHEDULE A

ROADWORKS

Note to tenderer:
Schedule A is contained in the Pricing Schedule in Excel format distributed as part of Volume 3 of the Tender Documents.

SCHEDULE B

BRIDGES

Note to tenderer:
Schedule B is contained in the Pricing Schedule in Excel format distributed as part of Volume 3 of the Tender Documents.

SCHEDULE D

STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT

Note to tenderer:
Schedule C is contained in the Pricing Schedule in Excel format distributed as part of Volume 3 of the Tender Documents.

CALCULATION OF TENDER SUM

C2.3 SUMMARY OF PRICING SCHEDULE

CONTRACT SANRAL N.003-120-2019/9
FOR THE RESURFACING OF NATIONAL ROUTE 3 SECTION 12 BETWEEN HEIDELBERG ROAD AND GELDENHUYS INTERCHANGES

SCHEDULE A:	ROADWORKS ..... (from page C2-6 to C2-23)	R .....
SCHEDULE B:	BRIDGES ..... (from page C2-24 to C2-26)	R .....
SCHEDULE D:	STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT . (from page C2-27 to C2-28)	R .....
SUBTOTAL A	.....	R .....

VALUE ADDED TAX:

15% of Subtotal A	.....	R .....

TOTAL CARRIED TO C.1.1.1: FORM OF OFFER	R .....

SIGNED BY TENDERER: .....

PART C3: SCOPE OF WORKS

PART C3: SCOPE OF WORKS

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SECTION A1: STANDARD AMENDMENTS ISSUED BY COTO

Notes to tenderer:

1. **The Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) prepared by the Committee of Transport Officials, (COTO), as amended, shall apply to this contract. The amendments are those issued by COTO and reproduced in Section A1, together with additional amendments as set out in Section A2 and Project specific Specification Data as set out in Section B.**

As at JULY 2025 no amendments have been issued by COTO.

SECTION A2: PROJECT SPECIFICATION AMENDMENTS TO THE COTO STANDARD SPECIFICATIONS

Notes to tenderer:

1. **This Section A2 contains amendments to the Standard Specification, including additional clauses, amendment to clauses or deletion of clauses and specifications, required for this particular contract. Where the Standard Specifications allow a choice to be specified in the Contract Documentation or Project Specifications, between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract, these selections are not made in this Section A2. Details of such alternatives or additional requirements applicable to this contract are contained in Section B: Specification Data. Section B also contains project specific sections for Sections C, D and E.**
2. **The number of each clause and each payment item in this part of the project specifications follows the numbering format of the standard specifications.**

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COTO CHAPTER 1: GENERAL

SECTION 1.1: GENERAL PREAMBLE

PART A: SPECIFICATIONS

A1.1.2 DEFINITIONS

*Replace the Definition for "*Site / Site of the Works*" with the following:*
"Site / Site of the Works - shall mean the entire road reserve (both new and existing), inclusive of road junctions and property accesses, required for construction of the Works as defined by the limits of construction given in the Contract Documentation. It shall also include areas within statutory building lines where work has to be carried out and any additional lengths of road required for the placement of advanced warning road signs and/or traffic accommodation measures beyond the limits of construction as shown on the drawings. The Site shall also include areas outside of the road reserve required for Construction camps, Engineer's site facilities, Borrow pit areas or quarry areas, haulage and access roads, temporary deviations, storage areas, spoil areas and stockpile areas. The exact extent of the limits of the construction will be verified once the Site is handed over to the Contractor."

PART C: MEASUREMENT AND PAYMENT

C1.1.3 PAYMENT

Add the following new subclauses:

"**C1.1.3.9 Reduced payments for substandard work**

Where provision for reduced payments for sub-standard work is made in the Contract Documentation, acceptance of reduced payment for substandard work may be accepted by the Engineer subject to prior approval by the Employer.

C1.1.3.10 Procurement of sub-services and omitted rates (Second tier procurement)

Second tier procurement include the procurement of any work where either the particulars of the work is not scheduled and priced, or where the process of procurement of the sub-service provider is specified elsewhere in the contract specification. It include the procurement of work where rates have been omitted or where allowance for the work is made under a Provisional sum or Prime cost sum item or where allowance for the work is made under a Provisional sum or Prime cost sum item but the particulars of the work is not scheduled, or where work is instructed under clause 13[Variations and Adjustments] or where work is to be performed by Targeted Enterprises.

The following procurement methods is to be followed as appropriate:

a) **Where the particulars of the work is not scheduled but existing rates for similar work exist in the contract and the work can therefore be executed by the contractor or his sub-contractor at the existing contract rates**.

No separate procurement process is required. The work is to be quantified and scheduled utilising existing rates and approved through the Works Authorisation process.

b) **Where the payment calculation is based on a formula specified in the contract document, or**
where the payment rate is pre-determined or fixed by the client.

No separate procurement process is required. The work is to be quantified and approved through the Works Authorisation process.

c) **Where the supplier is not selected by the contractor and actual cost is reimbursable and/or no procurement process is possible**.
No separate procurement process is required. The work is invoiced by supplier on completion and approved through the Works Authorisation process at the end of the contract.

d) **Where there are omitted items as part of the existing scheduled scope of work and no existing rates for similar work exist in the contract, or**
where there are no existing rates for the materials to be supplied and suitable rates for material to be determined.

A proposal for a new rate shall be submitted by the contractor and evaluated by the engineer, by comparing with either adjusted relevant rates in the contract, or by comparing with similar rates on similar contracts, or by comparing three informal quotes to substantiate the rate. The new agreed rate is approved through the Works Authorisation process.

e) **Where the particulars of the work is not scheduled and the estimated cost of the work (including VAT and excluding Contract Price Adjustment) is equal or less than R1,000,000.00 and there are no existing rates for similar work and the contractor's proposal submitted in terms of FIDIC Variation 13.1 is not accepted and the work is to be performed by a sub-contractor.**

A minimum of three quotations shall be obtained from Targeted Enterprises (as defined in Section D1000). The following is the minimum requirements for this process:
- Prequalification for Targeted Enterprise. (Approval to deviate must be granted by the Employer, based on market research)
- Quotation to include form of quotation, CSD registration, CIDB (where applicable),

A Works Authorisation shall be approved prior to execution of the work.

f) **Where the particulars of the work is not scheduled and the estimated cost of the work is more than R1,000,000.00 (including VAT and excluding Contract Price Adjustment) and there are no existing rates for similar work and the contractor's proposal submitted in terms of FIDIC Variation 13.1 is not accepted and the work is to be performed by a sub-contractor.**

The work is to be procured through a tender process. The following is the minimum requirements for this process:
- Prequalification for Targeted Enterprise. (Approval to deviate must be granted by the Employer, based on market research)
- Tenders to close at the relevant site offices at a specific date and time
- Tender documents to include form of Offer, CSD registration, Tax compliance, CIDB (where applicable), SBD1, SBD 4, SBD 6.2, BEE certificate, Form A2.2
- Tenders to be evaluated on price and preference
- Evaluation by contractor for review by engineer

A Works Authorisation shall be approved prior to execution of the work.

g) **Where the particulars of the work is identified by the contractor to be performed by subcontractors who are Targeted Enterprises to form part of the specified Contract Participation Goals for Targeted Enterprises.**

The work is to be procured as per the process specified in clause D1007.

h) **Where the work is unforeseen, urgent and the relevant procurement method as indicated above will result in a delay to the contract and payment for a claim for extension of time and/or cost, or**
where the above procurement methods are not applicable or cannot fully be complied with.

The Employer will determine the most appropriate procurement process to be followed and approved through the Works Authorisation process."

SECTION 1.2: GENERAL REQUIREMENTS AND PROVISIONS

PART A: SPECIFICATIONS

A1.2.3 GENERAL

A1.2.3.9 Monthly Reports

Add the following new paragraphs after the second paragraph:

"The monthly report(s) shall include aerial 4k georeferenced colour videography (using drone technology) AND high resolution still images.

The drone technology shall be utilised to record monthly progress of the entire project route from the aerial footage and to demonstrate the month-to-month progress of the current works. The monthly aerial photo and video footage shall be stored in a suitable format and handed to the Engineer upon final completion of the contract."

A1.2.3.15 Routine maintenance

Add the following new paragraphs:

"The Contractor's responsibility for routine maintenance on this contract is indicated in the Contract Documentation."

The backfilling for patching shall be done as indicated in the Contract Documentation.

The riding quality of gravel deviations shall comply with the requirements indicated in the Contract Documentation."

Add the following new subclause after A1.2.3.23:

"**A1.2.3.24 Reference Manuals, other specifications and test methods**

In various chapters of this Standard Specification, reference is made to Manuals, other specifications and test methods. If not otherwise indicated in the Contract Documentation, the latest published Manual, other specification and test methods at the time of close of tender will apply. Any changes to be implemented on a project as a result of revisions to manuals, other specifications and test methods, will be handled in terms of the Conditions of Contract.

Certain TRH and TMH documents are published as Sabita Manuals/TRH or Sabita Manuals/TMH publications. Where reference is made to the TRH or TMH document, it shall be read as referring to the latest version of the Sabita Manual/TRH publication or Sabita Manual/TMH publication, respectively."

A1.2.7 EXECUTION OF THE WORKS

A1.2.7.1 Programme of work

a) General

Add the following new paragraphs:

"The contractor shall note that the examination of a road with a view to rehabilitation is normally undertaken a considerable period of time before the commencement of the contract, and that conditions may subsequently change. The engineer will make further examinations during the period of contract, and, depending on the results of such

examinations, the quantities of any items of work may be drastically increased or decreased.

The contractor shall base his initial programme for road rehabilitation on the scope of the work as described in the project specifications on the quantities contained in the Pricing Schedule (Part C2)."
Add the following new sub-clause (e):

"e) Specified programmed activities

Where specific activities are indicated in the Contract Documentation to be completed within a specified duration or by a specified date, the Contractor shall programme and complete the items of Work as specified. Failure to comply will result in intra-programme charges."

Add the following heading and descriptive paragraphs at the end of the section (A1.2.7):

"A1.2.7.6 Lighting requirements during nighttime

The contractor shall provide sufficient lighting for night work to ensure that all inspection and work areas are illuminated to a minimum average of 100 lux at an overall uniformity of 0,33. The illuminance for active work areas shall comply with the requirements of the Occupational Health and Safety Act (Act 85 of 1993) and the related Environmental Regulations for Workplaces (1987) and all lighting shall be subject to a minimum glare control of 5. Luminaries mounted on masts shall have a minimum mounting height of 4 m. The contractor shall ensure sufficient backup lighting to replace faulty lighting. The full specified lighting must be provided at all activities undertaken at night.

The lighting must be positioned so as not to cause a hazard to the travelling public using the road. Should the Engineer be of the opinion that the lighting is insufficient or that it is a hazard to the road users, the contractor must rectify it immediately. Non-compliance will be subject to penalties.

Two mobile lighting units, including the towing vehicle and operators must on request be made available to the engineer for nighttime inspections.

The contractor shall submit his lighting operational plan to the engineer for approval and demonstrate the effectiveness of the lights before the commencement of any night work. The Engineer shall also inspect and approve all lighting equipment prior to the commencement of the night work. A trial set-up of the lighting equipment shall be made at an appropriate site. The contractor shall arrange for the measurement and certification of the lighting adequacy by a reputable service provider. Once the lighting plan and equipment have been approved, the contractor may not deviate from it unless agreed by the Engineer. If lighting requirements are not met for any activity, the Engineer will order that activity to be stopped until the required lighting has been reinstated."

PART C: MEASUREMENT AND PAYMENT

(ii) Items that will not be measured separately

Replace the wording of item 8 with the following:
*"*8. The design of all temporary work and the construction of all temporary work, unless otherwise indicated in the Contract Documentation.*"*

Add the following paragraphs to payment item C1.2.2.6:

Item	Description	Unit
C1.2.2	**Programming and Reporting**	

C1.2.2.6 Preparation and submission of all information and reports specified in the Contract Documentation .....month

The rates tendered under subitem C1.2.2.6 shall also include full compensation for all costs for monthly aerial 4k georeferenced colour videography (using drone technology) AND high resolution still images for inclusion in the monthly report(s).

The supply of the drone, required permits and operation thereof, recording of the footage, presenting monthly progress, providing the stored monthly aerial photo and video footage and all other incidentals applicable are deemed inclusive of the rate tendered under pay item C1.2.2.6.

Item **Unit**

C1.2.7 Road safety audits

*In the wording of item C1.2.7.2, replace "*C1.2.6.1*" with "*C1.2.7.1*".*

*In the wording of item C1.2.7.4, replace "*C1.2.6.3*" with "*C1.2.7.3*".*

*In the 4th paragraph of the item description, replace "*C1.2.7.2*" with "*C1.2.7.3*".*

Add the following sub-items to payment item C1.2.8.1:

Item **Description** **Unit**

C1.2.8.1 (g) Flagman ..... hour"

Add the following new pay items:

"Item **Unit**

C1.2.10 Dispute Adjudication Board (DAB)

C1.2.10.1 Employer's contribution to DAB (50%) .....prime cost (PC) sum

The unit of measurement for item C1.2.10.1 is the prime cost sum. Payment of the prime cost sum shall be in terms of FIDIC Clause 13.5 for 50% of the amounts invoiced from the appointed DAB. No sum for overhead charges and profit in terms of FIDIC Clause 13.5(ii) is payable for this item.

Item **Description** **Unit**

C1.2.11 Provision of lighting for night time work .....month

The unit of measurement for item C1.2.11 is the month or part thereof that the provision of lighting for night work to the work zone is provided for the duration of the contract.

The tendered rate shall include full compensation for providing, operating, maintaining and decommissioning upon completion, of all the required equipment, labour and tools, incidentals and supervision to carry out the activity as described in clause A1.2.7.6 herein."

SECTION 1.3: CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

PART A: SPECIFICATIONS

A1.3.2 DEFINITIONS

Under the 2nd bullet of the 2nd paragraph delete the words "when or where necessary."

PART C: MEASUREMENT AND PAYMENT

(ii) Items that will not be measured separately

Add the following as a 2nd paragraph:

"The following required activities will not be measured or paid for separately and the Contractor shall include the cost thereof in other items as deemed appropriate:

1. All costs related to all the Contractor's additional arrangements, risk, legal and contractual responsibilities and other obligations with regard to undertaking work at night shall be included in the rates for pay item C1.3.1."

Item **Unit**

C1.3.1 The Contractor's general obligations

Delete subitem C1.3.1.3 and replace with the following:

"C1.3.1.3 Time related obligations:
a) Mobilisation period ..... month
b) Execution of the works ..... month"

Add the following pay subitems:

"C1.3.1.4 Suspension Cost
a) De-establishment ..... Number
b) Re-establishment ..... Number
c) Suspension period ..... month
d) Engineer's cost ..... prime cost sum (PC) sum
e) Handling cost, profit and all other charges in respect of item C1.3.1.4(d) ..... percentage

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

"The contract rate shall include full compensation for that part of the Contractor's general obligations which are mainly a function of construction time. The contract rate shall be deemed to include, leasing costs, hire costs or cost of ownership per month for Contractor's Equipment. For subitem C1.3.1.3(a) the contract rate will be paid monthly, pro rata for parts of a month, from the Commencement Date in terms of the Contract Documentation until the end of the Mobilisation Period. The rate tendered under subitem C1.3.1.3(a) shall represent full compensation for all Costs during the Mobilisation Period, and no other monthly Costs shall be payable. For subitem C1.3.1.3(b) the contract rate will be paid monthly, pro rata for parts of a month, from the end of Mobilisation Period until the end of the original Contract Period specified for completion of the Works."

Add the following new paragraphs:

"Item C1.3.1.4

The rates tendered under subitem C1.3.1.4 shall represent full compensation for all Costs for Suspension of Work and all Costs during Suspension of Works period, and no other Costs (including other monthly costs) shall be payable.

Payment of subitems C1.3.1.4(a) and C1.3.1.4(b) shall be made for the number of de-establishments and re-establishments of all Personnel and Goods (Contractor's Equipment, Materials, Plant and Temporary Works) as instructed by the Engineer. Payment of subitems C1.3.1.4(a) and C1.3.1.4(b) shall not apply during the Mobilisation Period.

Payment of subitem C1.3.1.4(c) shall be made monthly, pro rata for parts of a month, from the date on which the Contractor has suspended progress of all of the Works in terms of Conditions of Contract clause 8.8 and commenced with de-establishment of the site, until permission or instruction to proceed in terms of Conditions of Contract clause 8.12 is given. Payment of subitem C1.3.1.4(c) shall not apply during the Mobilisation Period.

The Prime cost sum in subitem C1.3.1.4(d) is provided to cover the cost of the Engineer during the period of suspension of the works. The amounts certified by the Employer shall be made to the Engineer, within 30 days of it being certified by the Employer.

The percentage under item C1.3.1.4(e) is a percentage of the amount spent under item C1.3.1.4(d) which shall include full compensation for all handling costs, profit and all other charges in connection with arranging payment to the Engineer."

SECTION 1.4: FACILITIES FOR THE ENGINEER

PART A: SPECIFICATIONS

A1.4.3 GENERAL

In the 7th paragraph, delete: "All the site accommodation, laboratory and office buildings shall be provided as soon as possible after the Contractor has been given possession of the site of the Works and not later than six weeks after the Contract commencement date.",

and replace with the following: "All the site accommodation, laboratory and office buildings shall be provided as soon as possible after the Contractor has been given possession of the site of the Works but not later than six weeks after the Letter of Access has been issued.

PART C: MEASUREMENT AND PAYMENT

Item **Unit**

C1.4.3 Items measured by numbers

Add the following new subitem C1.4.3.39:

"C1.4.3.39 Refrigerators (200 litre min. capacity) ..... number (No.)

Measurement and payment shall be as stipulated in the standard specifications."

SECTION 1.5: ACCOMMODATION OF TRAFFIC

PART A: SPECIFICATIONS

A1.5.3 GENERAL

A1.5.3.7 Penalty events

Add the following after the second bullet:

"An early closing and late opening of lanes penalty amount as stated in the Contract Documentation shall be deducted for non-compliance with the accommodation of traffic requirements relating to closing and opening times of lanes. The penalty shall be applied to the number of lanes, the length of lane/s closed and the duration of 15 minutes or any part thereof for each and every occurrence that a lane/s are closed earlier than the closure times stated in the Contract Documentation and/or opened later than the times stated in the Contract Documentation."

A1.5.6 CONSTRUCTION EQUIPMENT

A1.5.6.2 Illuminated traffic signs and safety devices

c) Mobile Variable Message Sign

Delete the paragraphs under the sub-item and replace with the following:

1. Portable VMS (Trailer mounted)

Under this item, the Contractor shall furnish, install, operate, maintain, relocate and remove portable variable message signs (VMS) as ordered by the Employer. The portable VMS are intended for use as temporary warning devices for lane and roadway closings and for conveying such motorist information about construction as may be determined necessary by the Employer. As such, it must be self-contained, easily moved and provide a clear, readable message from roadside. The portable VMS shall meet the requirements of this specification.

2. Materials

The Portable Variable Message Sign shall consist of the following major components:

- Message Board
- Operator Interface
- Power Supply
- Towable Trailer

These items shall be permanently mounted on a trailer to allow the Equipment to be transported between sites. They shall be suitably housed to provide environmental and security protection and prevent unauthorised operation.

3. Message board

i. Operating modes

The Display Panel shall have two 'modes':

a) Transportation Mode; this mode will be used for both transportation of the Equipment and storage when non-operational.
b) Operation Mode; this mode will be used at all times when the Equipment is required to display a message.

Operation mode shall only be used when the Equipment is stationary. Once in Operation mode, the lower edge of the Display Panel enclosure shall be between 2.13m and 2.50m above local ground level measured to the parking area below the sign.

ii. Housing

The message board housing shall be as follows:

a) The housing shall be a weatherproof aluminium enclosure, which shall not exceed 3300mm (length) x 2000mm (height) x 356mm (depth). The housing shall be finished with one coat of corrosion inhibiting primer and two coats of flat black alkyd enamel baked to the surface.
b) The message board front face shall provide a smooth, flat, scratch-resistant and wipeclean surface that is predominantly non-reflective.
c) The housing shall incorporate drains in order to prevent any accumulation of water which might give rise to condensation which may affect optical performance.

iii. Display technology

The display shall use LED enhanced, reflectorized disks, arranged in a matrix for each character that is 7 disks high x 5 disks wide.

iv. Message Lines

Shall have the capabilities of displaying at least three lines of 457 mm characters with a minimum of 8 characters per lines.

v. Character spacing

The spacing between characters shall be a minimum of 114 mm and between lines of minimum of 171 mm.

vi. Display colour

The display shall appear amber in colour when viewed from the front of the sign.

vii. Illumination

The LED enhanced disks shall provide sufficient output illumination such that the display is clearly legible from a distance of 274m under all lighting conditions. The illumination intensity shall be automatically adjustable for various day and night-time ambient conditions.
The design shall ensure that light sensors cover the whole range of light levels from full daylight to darkness within their active operating range, with an accuracy of ± 2 Lux or 5%, whichever is the greater.

viii. Flashing lanterns

In addition to the character display matrix, flashing lanterns may be required.

The Display Panel shall incorporate four amber flashing Lanterns. These shall be 125mm in diameter and controlled by the light sensors.

ix. Operator interface

A means of controlling the display message at the site shall be provided with each sign. The operator interface shall contain, as a minimum the following:

a) Operator's Display
b) Input Device
c) Controller

The sign controller elements shall be housed in an IP65 lockable weatherproof enclosure.

All covers, doors, protective screens, plates, glands, external connectors etc. Necessary for environmental protection, shall be provided with seals which are maintenance free and shall remain effective for the design life of the equipment.

Where vents or grilles are provided, these shall be positioned and protected to prevent any ingress of dirt and moisture and grilles shall be fitted with insect mesh.

x. Operator's display

The operator's display unit shall be located in one of the external equipment enclosure and shall display a sufficient number of characters to allow the operator to preview the message content and format before it is put upon the message board.

xi. Input device

The input device supplied shall be a keyboard of standard design.

xii. Controller

The controller shall have the capability of at least the following:

a) Store a minimum of 190 pre-defined messages.
b) Store a minimum of 190 user-created messages.
c) Variable flash rate from 1 to 6 seconds.
d) Sequences of up to 6 messages for display.
e) Default message upon power loss.

The Controller shall:

a) Operate without user intervention for extended periods of time;
b) Restart upon power resumption, or a reset, without user intervention.

(N.B. In this case 'without user intervention' shall mean that no human interaction is required to restart the equipment, acknowledge alarms, press keys, etc.)

The Local Controller shall incorporate a password or other means of protection to prevent unauthorised setting of messages or changes to operational parameters.

a) Separate levels of access shall be provided as a minimum for 'Operator' and 'Engineer' access.

The Local Controller shall provide information to local users. This may be in the form or individual status indicators or a display panel. The local information shall typically comprise:
a) Current configuration;
b) Any fault status;
c) Status of power supplies and stored charge.

The Local Controller shall include a hardware based 'Watchdog' facility which in the event of a fatal fault shall automatically re-initialise the Equipment.

a) The occurrence of such events shall be recorded/latched within operational/fault logs
b) The occurrence of such events shall also be reported in accordance with the Purchaser's control system protocol when such a control system is enabled.
c) A 'fatal fault' shall be one which prevents a message from being correctly displayed, or a major failure of an element of the VMS e.g. an electrical generator.

xiii. Communication

The system shall support an NTCIP 1203 conformant interface for exchanging data.

xiv. Wired connection

The system shall be capable of communication a wired telephone connection.

xv. Remote control

The system shall be capable of communication using a cellular telephone.

The Contractor shall be capable of monitoring sign status and changing standard messages from a remote location as chosen by the Employer, by means of cellular phones. The cellular phone communication scheme shall be compatible with the Authorities central control hardware. One cellular phone and modem shall be supplied with each Potable Variable Message Sign.

xvi. Power supply

The Equipment shall be designed to operate from mains electricity supply and an internal set of batteries. The Equipment shall be provided with an automatic changeover system between the two energy sources.

The batteries provided shall be:

a) Sealed and maintenance free
b) Have a minimum design life of 24-months
c) Incorporate control circuits to prevent deep-discharging of any battery

The mains electricity connection point shall be rated at a minimum of IP44.

This external power supply shall operate the Display Panel and any onboard equipment, and

recharge the onboard energy store whenever connected and 'live'.

The Equipment shall be provided with a main electrical isolation switch.

xvii. Towable trailer

The trailer shall be rugged construction suitable for towing at highway speeds and at low speed over rugged construction site terrain. The trailer shall have at least the following features:

a) Complete lighting to standard highway specifications.
b) A single axle with two 381 mm wheels.
c) A hydraulic surge brake system.
d) 51 mm ball coupler with heavy duty safety chains.
e) 4 leveling jacks capable of leveling the trailer on 1 in 6 grade and capable of stabilizing the trailer in high winds up to 129 km/h.

The trailer shall be a maximum of 5 m long and a maximum 2.45 m wide. It shall have at least the following sign positioning capabilities:

a) The sign shall be capable of being locked in a stowed position while being towed, with no part of the equipment (including the message board, stabilizers and ancillary items) extending beyond the main structure of the trailer.
b) A hydraulic lift mechanism shall be provided to elevate the sign to its operating position.
c) The sign shall be capable of 360° rotation and be capable of being locked in a selected position.

xviii. Environment

The Portable Variable Message Sign shall be capable of performing all functions at ambient temperature from -10°C to +50°C. There shall be no degradation of operation due to fog, rain, or snow.

xix. Security

The number of exposed nuts, bolts and other fixings shall be minimised. Where these features cannot be avoided, the following minimum measures shall be applied:

a) Any exposed bolts shall be welded to the part they are securing
b) Any exposed bolts shall have a security head.

The Equipment shall be provided with a main securing point, to allow it to be chained to the parking area. (N.B. this facility may be provided by placing a chain around a main structural member of the trailer.)

The trailer shall be provided with a pair of wheel clamps to prevent the trailer being towed. Each wheel clamp shall be secured by a padlock.

Each wheel shall be provided with at least one locking wheel nut. These shall NOT be of a 'protruding-pin' variety.

Each Enclosure shall be provided with a locking facility. Preference shall be given to Barker-Nelson type locking and hinge mechanisms. Where padlocks are provided, it shall be enclosed to prevent the lock from being forced open with a pry-bar.

Where a security fitting is provided for a padlock, it shall be supplied complete with a suitable padlock.

a) All padlocks and padlock fittings shall be type-tested minimum grade 5.
b) Padlocks shall be closed or open shackle to suit the hasp.
c) All individual padlocks supplied with a single Portable VMS shall be keyed-alike and supplied with four number keys

If required by the Purchaser, that the Equipment shall include a radio-based tracking device. This shall be linked to an inertial system which may be activated by the operator.

a) If activated, the inertial system shall trigger the tracking system if the Equipment is moved.
b) The tracking system shall broadcast its current position to allow it to be located.
c) The tracking device shall be discretely and securely sited within the Equipment.

The onboard means of electricity generation shall be housed in a secure enclosure mounted upon the Equipment trailer. Whilst it shall be possible to access and remove any means of generation for maintenance the level of security shall not be compromised and shall take priority over ease of maintenance.

xx. Construction details

The Portable Variable Message Signs shall be placed and operated by the Contractor as ordered by the Employer. The central location from which the signs will be operated, and the messages to be displayed will be as directed by the Employer. The Contractor shall utilize a central computer to control the variable message signs.

The signs shall be mounted such that the base of the display panel is at least 2 m above the pavement surface and properly aligned to provide optimum viewing by approaching motorists. The signs may require relocation or reorientation on daily basis or more frequently as ordered by the Employer.

PART C: MEASUREMENT AND PAYMENT

Item	**Description**	**Unit**
C1.5.7	**Temporary traffic control facilities**	

"C1.5.7.1 Delineators including mounting bases and ballast:

Add the following pay item:

(c) Reboundable delineators, double sided
(1 000 mmx250 mm, TW401 and TW402, 20 kg base) .... number (No)

The unit shall be the number of heavy-duty reboundable delineators including a base that weighs 20 kg (minimum). The tendered rate shall include full compensation for providing, erecting, moving to new positions for the duration of the contract as well as removing from site."

Add the following pay items to C11.5.7 and descriptions after the last parapgraph:

Item	**Description**	**Unit**
C1.5.7.10	**Moveable barricade/road sign combination (1,4 mm thick pre-painted galvanised steel, background Class III and symbol retro-reflective Class III)..... number (No)**	

Item	**Description**	**Unit**
C1.5.7.11	**Mounted on stands:**	

(a) Road signs, R- and TR-series..... number (No)
(b) Road signs, TW-series..... number (No)
(c) Road signs, TGS- and TG-series..... square metre (m^2)
(d) Extra over items C1.5.7.11(a), C1.5.7.11(b) and C1.5.7.11(c) for stands required to straddle the existing median barrier ..... Number (no.)

The unit of measurement for item C1.5.7.10 shall be the number of moveable barricades, complete with road signs provided. The tendered rate shall include full compensation for providing and erecting each moveable barricade and signs and shall also include full compensation for moving the barricade as and when required."

The unit of measurement for item C1.5.7.11(a) to C1.5.7.11(b) shall be the number of each sign provided, and, as may be applicable, completely erected. In addition, the rate shall also include moving the signs as may be necessary to new positions as required in terms of the works.

The unit of measurement for item C1.5.7.11(c) shall be the square meter of each sign provided, and, as may be applicable, completely erected. In addition, the rate shall also include moving the signs as may be necessary to new positions as required in terms of the works.

The unit of measurement for payment item C1.5.7.11(d) shall be the number of stands required to be of such nature that the median barrier of the road can be straddled by the sign, extra over the applicable rates for payment items C1.5.7.11(a) to C115.7.11(c)."

Amend the payment items and the descriptive paragraphs as follows:

Item Description Unit

"**C1.5.8 Traffic safety officer(s).....man-month**

The unit of measurement for item C1.5.8 shall be the man-months or part thereof during the approved contract period that the / all traffic safety officer(s) are deployed on the site of works. It should be noted that although the project comprises nighttime construction, traffic accommodation may also be required during daytime. No separate payment shall be considered should two (2) or more traffic safety officers be required. The rate tendered shall be deemed all-inclusive for daytime and nighttime works, irrespective of the number of traffic safety officer required during each period and shall be in line with the submitted construction programme".

Replace all references to "traffic safety officer" *in the description with* "traffic safety officer(s)".

Amend the description of the payment item and the descriptive paragraphs as follows:

Item Description Unit

"**C1.5.9 Traffic safety vehicle(s).....month**

The unit of measurement for item C1.5.9 shall be the months or part thereof during the approved contract period that the / all traffic safety vehicle(s) are deployed on the site of works. It should be noted that although the project comprises nighttime construction, traffic accommodation may also be required during daytime. No separate payment shall be considered should two (2) or more traffic safety vehicles be required. The rate tendered shall be deemed all-inclusive for daytime and nighttime, irrespective of the number of vehicles required during each period and shall be in line with the submitted construction programme".

Replace all references to "traffic safety vehicle" in the description with "traffic safety vehicle(s)".

SECTION 1.7: LOADING AND HAULING

PART C: MEASUREMENT AND PAYMENT

Item **Unit**

C1.7.1 Loading

Add the following new pay items:

C1.7.1.4 Loading removed guardrails from stockpile using hand labour to storage..... meter (m)

The unit of measurement for item C1.7.1.5 shall be meter." The contract rate shall include full compensation for loading material directly from site and loading it onto hauling vehicles.

Item **Unit**

C1.7.2 Hauling

Add the following pay items:

"C1.7.2.3 Hauling guardrails from stockpile to designated storage area ..... meter-kilometer (m-km)

The unit of measurement for item C1.7.2.3 shall be length of guardrail transported per meter-kilometer (m-km). The contract rate shall include full compensation for hauling the material and off-loading it at the required or designated position.

COTO CHAPTER 3: DRAINAGE

SECTION 3.2: CULVERTS

PART C: MEASUREMENT AND PAYMENT

Add the following new pay item:

Item	Description	Unit
C3.2.28	**Increase capacity of existing cast in situ concrete outlet structures**.....	number (No.)

The unit of measurement shall be the number of complete cast in situ units as shown on the drawings including covers, frames, grids and other accessories.

The tendered rate shall include full compensation for complete installation of the cast in situ unit including all materials, formwork, loading, transporting, unloading, labour, breaking and joining into the existing structure, plastering, benching and all other incidentals required to complete the unit as specified and in accordance with the details shown on the drawings.

SECTION 3.3: CONCRETE KERBING AND CHANNELLING, ASPHALT BERMS, CHUTES, DOWNPIPES, CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS

PART C: MEASUREMENT AND PAYMENT

Add the following new pay item:

C3.3.17 Concrete median inlet drain and cover complete

C3.3.17.1 Manufacturing ..... metre (m)
C3.3.17.2 Installation ..... metre (m)

The unit of measurement shall be the metre of concrete drain and inlet constructed in accordance with the details on the drawings.

The tendered rate under sub item C3.3.17(a) shall include full compensation for manufacturing the precast median drain and shall include all costs for procuring and furnishing all materials, providing, erecting and removing formwork, mixing, all loading, transporting, placing and curing the concrete, and all labour, constructional plant and all incidentals required for manufacturing the concrete median drain, complete as specified.

The tendered rate under sub item C3.3.17(b) shall include full compensation for complete installation of the precast drain including loading, transporting and unloading, for providing and placing all specified bedding, and for the installation, laying and jointing of the drain, as specified on the drawing.

COTO CHAPTER 9: ASPHALT LAYERS

SECTION 9.1: ASPHALT LAYERS

PART A: SPECIFICATION

A9.1.3 GENERAL

A9.1.3.1 Nominal mix proportions and application rates

Add the following after the last paragraph:

(c) Bitumen Rubber Asphalt Open Grade (BRAOG)

The BRAOG is a functional asphalt surfacing used to reduce vehicle noise and increase drainage as well as add structural capacity. The completed layers will therefore be assessed to measure the functional benefits for which it was designed. The provisions of SABITA Manual 17 will apply and the following project specific specifications will need to be complied with:

(i) Volumetric Requirements

Average Voids	19% <Vavg <25%
Binder Content tolerance	+ or - 0.3%

(ii) Thickness

The thickness determined from cores drilled from the completed layers shall comply with the following criteria:

90^{th} percentile deviation	:	2,0 mm
maximum deviation	:	5,0 mm
average deviation	:	2,0 mm

(iii) Abrasion loss

The abrasion loss of field samples, compacted in the laboratory, may not exceed 20%.

(iv) Binder run-off

To be addressed as per Sabita Manual 17.

(v) Interconnected Voids

The completed layer will have a minimum of 20% interconnected voids (ICV) as measured with an LCS Drainometer.

(vi) Minimum texture depth

The final surface texture shall not be less than 0,9 mm and shall be demonstrated as being achievable in the trial section, as described in Clause A9.1.3.3. Measurement of texture depth shall be in accordance SANS 3001-BT11, or by means of instrumentally measurements as described and specified in Clause A20.1.5.5 of Chapter 20 “Tests on pavements”.

A9.1.3.4 Weather limitations

In the first paragraph of this clause which reads “Asphalt may be mixed and placed….”:
Replace “6°C” with “10°C in the first bullet point.
Replace “10°C” with “14°C” in the second bullet point.
Replace “10°C” with “14°C” in the third bullet point.

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

Insert the following new paragraph under the second paragraph:

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

A9.1.4 DESIGN BY THE CONTRACTOR

A9.1.4.3 Changes to mix components

Add the following:

"If the binder source or crude oil source changes, the following tests and report will be conducted and evaluated in order to determine whether there is a material difference between the original binder and the alternative source binder:

1. Saturates, Aromatics, Resins and Asphaltenes (SARA) fractionation analysis;
2. Fourier Transform Infrared (FTIR) spectroscopy testing;
3. Specialist Evaluation Report on the above binder test results related to chemical, structural and mechanical properties, including blending compatibility and stability characteristics. The report shall include a direct comparison with the original binder.
4. Asphalt mix volumetric and performance testing including Indirect Tensile Strength (ITS), Immersion Index, Air Permeability, Modified Lottman, and Hamburg Wheel Tracking tests.

If the above tests indicate a material difference in binder properties and mix performance, the mix design process will be repeated.

The above mentioned tests will also be conducted on the original proposed binder during the asphalt mix design process for future comparison purposes if the binder source or crude oil source changes.

All costs related to the above processes shall be at the cost of the Contractor and shall be deemed to be included in the relevant tendered rates."

A9.1.5 MATERIALS

A9.1.5.4 Aggregates

a) Aggregate properties

*In the 1st paragraph, delete the 2nd sentence: "*Coarse and fine aggregate shall be clean and free from decomposed materials, vegetable matter or any other deleterious substances, and shall meet the requirements listed in Table A9.1.5-1 below unless otherwise specifically stated in the Contract Documentation*.", and replace with the following:*
"Coarse and fine aggregate shall be clean from excess dust and free from decomposed materials, vegetable matter and any other deleterious substances such as clay lumps and organic matter and shall meet the requirements listed in Table A9.1.5-1 below unless otherwise specifically stated in the Contract Documentation.".

A9.1.6. CONSTRUCTION EQUIPMENT

A9.1.6.7 Vehicles

Replace the last sentence of the last paragraph with the following:

"The use of the thermal blankets is obligatory and shall be fully attached to the truck on the front back and sides of the bucket."

A9.1.6.8 Material transfer vehicle

Delete the following from the first sentence of the first paragraph:

"Where so specified, and provision thereof is included under Measurement and Payment,".

A9.1.7. EXECUTION OF THE WORKS

A9.1.7.5 Bond coat

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

"A bond coat shall in all instances be applied to the surface to be paved or covered with asphalt including all vertical cut edges."

A9.1.7.6 Placing the asphalt

Add the following to the end of the fourth paragraph:

"Due to the high stiffness of modified asphalt mixes hand work shall be limited as far as possible and, if done, shall be done while the mix is still at its specified paving temperature and in the shortest time possible. This precludes the paving of large areas by hand."

A9.1.7.7 Compaction

Replace the third sentence of the second paragraph with the following:

"Under no circumstances may any form of detergent, fuel oil or any petroleum product be used on roller drums to prevent pick-up"

Add the following after the last paragraph:

"Asphalt layers in excess of 50mm may need to be constructed in more than one layer. The Contractor shall make provision in his trial section and method statements to ensure compaction as specified. No additional remuneration shall be due to the Contractor, should it be required to construct the asphalt in more than one layer to meet the specification."

A9.1.7.10 Treatment of joints for traffic accommodation

Add the following to the last paragraph:

"Where the longitudinal step equals or exceeds 40mm, the provision and removal of these temporary ramps shall be paid separately."

Add the following sub-heading after A9.1.7.12:

A9.1.7.13 Road surface texture

(a) General

Grooves will be cut across the road surface in the final surfacing layer to improve the surface drainage and surface texture in accordance with these specifications and at the locations shown on the drawings, or as directed by the Engineer. It is required that grooves are cut transverse to the direction of travel with appropriate dimensions and spacing configurations as specified in order to intercept the excessive flow paths created due to flat slopes and/or improve surface texture. The process will be referred to as texturing of the road surface.

(b) Construction Method

Texturing must be programmed to be executed towards the end of the Contract but shall not be undertaken earlier than a 30-day curing period between placing asphalt and commencement of texturing is satisfied.

Transverse grooves saw-cut in the final surfacing layer must form a 4,5mm wide by 6,0mm deep by 25-25-22-25-25-22 mm etc. center-to-center configuration. The grooves must be continuous for the entire road/carriageway width and must be transversely in the road pavement.

The Engineer will mark out all areas requiring texturing.

The Contractor shall set out each work section to receive texturing for approval by the Engineer. The Contractor will ensure that the grooves are cut perpendicular to the yellow and/or white road markings and shall be spaced continuously within the marked-out section. Care will be taken to maintain the perpendicular alignment of the grooves along the entire work section through setting out guidelines every 5m on straights and every 2m on horizontal curves to ensure the grooves remain perpendicular to the yellow and/or white line marking. This may result in small wedges every 2m which will not have an adverse effect on the texturing.

(c) Equipment

The grooves are to be wet cut into the final surfacing using construction plant that will ensure optimal quality of the required works without fragmenting the surfacing material. A self-propelled, multi-blade arbour, operator guided, texturing machine fitted with diamond blades which cuts grooves in one pass, typically 19 diamond cutting blades fitted on an arbor over a 0,5m width may be considered. The thickness of the cutting blades shall be capable of making the required width and depth of grooves in one pass of the machine. The cutting head shall not contain a mixture of new and worn blades or blades of unequal wear or diameter. The wheels on the grooving machine shall be of a design that will not scar or spall the asphalt surface. The machine must be equipped with devices to control depth of groove and alignment within the specified tolerances. Each blade should have its own nozzle that provided water for cooling during the cutting process. As the texturing machine completes each cut, it reverses direction and proceeds with the next adjacent pass, aligning it with the last saw cut from the previous pass to maintain consistency up to the next set out guideline. This sequence continues until the entire section is finished. The machine shall have appropriate lighting installed on the front and back of it to provide sufficient illumination whilst texturing and to ensure that the grooves remained parallel.

The full road surface in the textured area including adjacent areas affected by the texturing process, like drainage structures, shall be cleaned by means of an appropriate method with no adverse effects to the final surfacing layer or any portion of the road. The areas shall be free from debris (including material generated from the texturing process) prior to opening the applicable section to traffic.

(d) Tolerances

The allowable tolerance shall be ±0.5mm on the groove cut width, ±0.5mm on the groove cut depth and ±2.0mm on the spacing of parallel cuts.

Random sampling of cut depth, width and spacing of cuts shall be undertaken by the Engineer at hourly intervals.

The condition of the blades shall be checked at hourly intervals.

(e) Trial section

Trial sections shall demonstrate the capability of the Contractor to texture the surface in accordance with the specification. The trial section shall be constructed with the same equipment as those intended for use by the Contractor for the final texturing. The trial section shall be across the full surface width and at least a length of 20m along the road length.

The Contractor shall make proposals, for the Engineer, on how non-compliant trial sections will be rectified.

A compliant trial section shall not be reimbursed separately and will only be reimbursed when it complies with all the requirements of the specification and has been accepted. The equipment and processes demonstrated during the trial section shall remain unaltered for all subsequent work, unless otherwise instructed/approved by the Engineer.

A9.1.8 WORKMANSHIP

A9.1.8.3 Construction joints

Add the following paragraph:

"On single lane ramps it will not be possible to have joints in asphalt under the line markings due to accommodation of traffic on half of the ramp. The asphalt construction joint must be set out from one edge (to obtain a "straight" line/joint) and cut properly to achieve this."

A9.1.8.4 Surface regularity

a) Measured using inertial laser profilometers

*In the 6th paragraph add the following prior to "*The applicable Full Payment Bracket *…":*

"For the Asphalt Base the values in Payment Bracket 6 in Table A9.1.8-3 shall be applied as the payment adjustment factors for the Asphalt Base on the contract or section, and for the Asphalt Surfacing".

In the 6th paragraph add the following after "…assessment of the base as per Clause A5.3.8.5c) of Chapter 5 for granular bases":

", and this clause A9.1.8.4a) for Asphalt bases."

*In the 6th paragraph delete "*network roughness measurements performed by Employer not more than 12 months prior to commencement of the contract,*" and replace with "*roughness measurements performed by the Contractor and confirmed by the Engineer during the mobilization period,"

In the 7th paragraph, delete: "under 1".

Add the following after the 8th paragraph:

"Where the asphalt surfacing is placed on a surface, other than a granular or asphalt base, constructed by the Contractor through mill and replace or patching, the surface regularity of the replaced or patched surface shall be measured before the surfacing is placed. Should the IRI values per 100m section so determined be better than the IRI values of the original surfacing for the particular 100m section, the measured values shall be used for the $IRI_{b\ Ave}$ in the above calculation. Should the IRI values per 100m section so determined be worse than the IRI values of the original surfacing for the particular 100m section, the IRI values of the original surfacing shall be used for the $IRI_{b\ Ave}$ in the above calculation."

In the 9th paragraph, delete "surfacing".

*For Table A9.1.8-3, delete "*surfacings*" in the heading and add the following additional Payment Bracket to Table A9.1.8-3*

"Target IRI$_{100m\ Ave}$ (m/km)	**Payment Bracket 9**
< 0.80	1.050
0.81 to 0.90	1.050
0.91 to 1.00	1.050
1.01 to 1.10	1.050
1.11 to 1.20	1.050
1.21 to 1.30	1.050
1.31 to 1.40	1.050
1.41 to 1.50	1.050
1.51 to 1.60	1.050
1.61 to 1.70	1.025
1.71 to 1.80	1.010
1.81 to 1.90	1.000
1.91 to 2.00	0,990
2.01 to 2.10	0,975
2.11 to 2.20	0,955
2.21 to 2.30	0,930
2.31 to 2.40	0,900
2.41 to 2.50	0.865
>2.51	Reject"

Replace the 15th paragraph with the following:

"On all road sections and in areas where the use of a profilometer is not possible, the rolling straight-edge, or 3,0m straight-edge, as specified in the Contract Documentation shall apply."

A9.1.8.8 Sampling

(a) Coring of completed layers

Add the following paragraph after the last paragraph:

*"*At least 25% of the cores drilled on the completed asphalt layers to determine the density, must be drilled randomly within 250 mm of the joints."

Insert the following sub-clause after Sub-Clause A9.1.8.8

A9.1.8.9 Surface Texture

*"*The final surface texture of any asphalt surface shall not be less than 0,8 mm and shall be demonstrated as being achievable in the trial section, as described in Clause A9.1.3.3. Measurement of texture depth shall be in accordance SANS 3001-BT11, or by means of instrumentally measurements as described and specified in Clause A20.1.5.5 of Chapter 20 "Tests on pavements".

PART C: MEASUREMENT AND PAYMENT

(iii) Items that will not be measured separately

Delete activity 6, and replace with the following:

"6. No separate payment will be made for transporting materials from commercial sources irrespective of the haul distance and no separate payment will be made for transporting asphalt from any source, irrespective of the haul distance."

Add the following after point 8:

"9. No additional or separate remuneration shall be due to the Contractor, should it be required to construct the asphalt in more than one layer to meet the specification."

"10. No separate payment will be made for establishing, utilising, and removal upon completion of the material transfer vehicle specified.

Item	Description	Unit
C9.1.16	**Work undertaken in accordance with a Product Performance Guarantee System**	lump sum (L Sum)

Delete all paragraphs of this item description and replace with the following:

"The tendered lump sum under payment item C9.1.16 shall include full compensation for the provision of a performance guarantee issued by an approved financial institution as specified in the Contract Data in respect of the asphalt surfacing and asphalt base of the permanent works, valid for a period of four (4) years from the date of the issue of the Taking-over Certificate. The value of the guarantee shall be 10% of the total value of Section C9.1 [Asphalt Layers]. The value of pay Item C9.1.17 [Surface Regulatory Payment Adjustment] to be excluded from the value of guarantee calculation.

The tenderer shall, with his tender, provide documentation as to confirm that a performance guarantee as required shall be provided by an acceptable financial institution should the tender be successful.

The guarantee shall be prepared to the format provided under C1.3.2 – Form of Performance Guarantee in Volume 3 of the Tender Documents. The Terms and Conditions applicable to the release of the Performance Guarantee shall be as described under Clauses D9.1.3, D9.1.9, D9.1.10, D9.1.11 and D9.1.12.

The tendered lump sum shall not be subject to Contract Price Adjustment and shall become payable once the Contractor has submitted and the Employer has accepted the guarantee."

Add the following payment items:

"Item		Unit
C9.1.17	**Surface regularity payment adjustments**	provisional sum (Prov Sum)

The provisional sum makes allowance for the payment adjustment where applicable. The adjustment shall be calculated as the cumulative monetary value of each 100 m section of the completed surface layer as measured and paid under item C9.1.5, multiplied by the applicable payment adjustment factor obtained from Table A9.1.8-3."

"Item		Unit
C9.1.18	**Constructing longitudinal asphalt wedge at 1:5 slope**	meter (m)

The unit of measurement shall be the meter of wedge constructed to the specified dimensions.

The tendered rate shall include full compensation for procuring, and furnishing of all materials, manufacturing of the asphalt, transport, placing and finishing at 1:5 slope between asphalt surfacing steps greater than 40mm, subsequently neatly cutting back and removing the asphalt wedge before constructing the adjacent asphalt layer.

The tendered rate shall also include removing the asphalt and all loose material to the Contractor's approved spoil site

"Item **Unit**

C9.1.19 Saw cutting of transverse grooves in asphalt surfacing ..... square metre (m^2)

The unit of measurement shall be the square metre of texturing in the final asphalt surfacing to the specified dimensions.

The tendered rate shall include full compensation for texturing the final asphalt surfacing in a single operation as specified. It shall also include for the cleaning of all debris (including material generated from the texturing process) of the full road surface in the textured area including adjacent areas affected by the texturing process. It shall further include for the execution of a compliant trial section.

PART D: GUARANTEES AND COMPLIANCE CERTIFICATES

D9.1.1 SCOPE

A performance guarantee shall be applicable to the final asphalt surfacing of permanent works.

D9.1.9 ASSESSMENT CRITERIA

Replace Tables 9.1.9-1 and 9.1.9-2 with the following:

"Table D9.1.9-1: Performance parameters for Lanes 3 and 4 of dual carriageways with more than four lanes, the slow lane of four-lane dual carriageways and the travelled lane of single carriageways

Visually Assessed Parameters	Instrumentally Assessed Parameters	Test Assessed Parameters
1. Bleeding	1. Rutting	1. Air Permeability
2. Ravelling	2. Roughness	2. Water Permeability
3. Deformation	3. Mean Profile Depth	3. Marvil Permeability
4. Surface Failures		

Table D9.1.9-2: Performance parameters for the shoulders of dual and single carriageways and inner lanes of dual carriageways

Visually Assessed Parameters	Instrumentally Assessed Parameters	Test Assessed Parameters
1. Bleeding	1. Rutting	1. Air Permeability
2. Ravelling	2. Roughness	2. Water Permeability
3. Deformation		3. Marvil Permeability
4. Surface Failures"		

D9.1.10 ACCEPTANCE CRITERIA

D9.1.10.1 Visual Assessments

Replace Table 9.1.10-1 with the following:

"Table D9.1.10-1: Acceptance criteria for visually assessed types of distress

Type of Distress	Maximum allowance	
	Degree[1]	CIV2
		Class 1
1. Bleeding	2	0.1
2. Ravelling	1	0.05
3. Deformation	2	0.1
4. Surface Failures"	1	0.05"

COTO CHAPTER 11: ANCILLARY ROAD WORKS

SECTION 11.4: ROAD RESTRAINT SYSTEMS

PART A: SPECIFICATION

A11.4.1 SCOPE

Delete the last paragraph, and replace with the following:
*"*Moveable vehicle restraint systems required for traffic accommodation during construction and truck mounted attenuators are also specified in Clauses A1.5.6.1, A1.5.6.3 and A1.5.7.11 of Chapter 1.".

SECTION 11.6: ROAD SIGNS

PART A: SPECIFICATION

A11.6.7 EXECUTION OF THE WORKS

A11.6.7.5 Erecting road signs

b) Excavation and backfilling

*In the 1st sentence of the 2nd paragraph, before "*Section A13.4 of Chapter 13*", add the following:*
*"*Section A13.2, Section A13.3 and".

SECTION 11.7: ROAD MARKINGS AND ROAD STUDS

PART A: SPECIFICATION

A11.7.3 GENERAL

Replace the paragraph with the following:

"The road marking painting unit will be required to have multiple establishments for the duration of the contract. The first phase shall be to complete the temporary road marking to the asphalt surfacing, the second phase to complete the water borne road marking to the UTFC and the third phase will be during the defects notification period to undertake the thermo and cold plastic road marking." The re-establishment of the painting unit on site during the execution of the three operations / phases shall not be regarded as an establishment."

A11.7.5 MATERIALS

A11.7.5.2 Materials

a) Marking materials

(iii) Thermoplastic road marking material

*In the 4th paragraph, delete "*mcd/m^2.lux*"and replace with "*mcd/m^2/lux*".*

PART C: MEASUREMENT AND PAYMENT

Item **Unit**

C11.7.3 Thermoplastic road marking

*Amend the retro-reflective luminance unit to be "*mcd/m^2/lux*".*

C14.9 REPAIR AND REPLACEMENT OF ANCILLARY STRUCTURAL ELEMENTS

PART C: MEASUREMENT AND PAYMENT

"Item **Unit**

C14.9.9 Refurbishment of bearings

Add the following new sub-items item:

"Item **Unit**

C14.9.9.1 Provisional sum allowed for repair and replacement of bearings ..... provisional sum

C14.9.9.2 Handling costs and profit in respect of item C14.9.9.1 ..... percentage (%)

The provisional sum allowed for repair and replacement of bearings under C14.9.9.1 shall be paid in accordance with the provisions of the conditions of contract.

The handling costs and profit tendered for is a percentage of the amount actually paid under the provisional sum. This percentage shall cover all the Contractor's handling, supervision, profit and liability costs to provide the services in the prime cost or provisional sum item.

COTO CHAPTER 20: QUALITY ASSURANCE

SECTION 20.1: TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP

PART A: SPECIFICATION

A20.1.2 DEFINITIONS

Independent site laboratory

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

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

A20.1.4 PUBLISHED TEST METHODS

A20.1.4.8 Testing of asphalt

Add the following new paragraph:

"Sabita Manual 39: Laboratory Testing Protocols for Binders and Asphalt, shall be implemented together with the asphalt tests listed."

*Delete reference to: "*Sabita Manual 35 for Design and Use of Asphalt in Road Pavements: Determining the Richness Modulus of EME asphalt mixes*."*
*and replace with "*Sabita Manual 33 for Design Procedure for High Modulus Asphalt (EME): Determining the Richness Modulus of EME asphalt mixes."

A20.1.7 ACCEPTANCE CONTROL BY STATISTICAL JUDGEMENT PRINCIPLES

A20.1.7.2 Taking samples

a) Stratified random sampling

Add the following new paragraph:

"Where the SARDS Laboratory module is used, the sampling locations must be as per the software. The Engineer may specify additional sampling locations."

b) Minimum samples per lot

Add the following new paragraph:

*"*Where the SARDS Laboratory module is used, the number of samples per lot must be as per the software, as a minimum. The Engineer may specify additional numbers of samples. The Number of samples must be sufficient to meet the requirements of TMH5.*"*

A20.1.7.5 Assessment Methods

b) Judgement plans

Add the following new sub-clause (iii) and renumber the existing sub-clause (iii) to (iv) and (iv) to (v):

"*(iii) Judgement Plan C*

Judgement Plan C is for judging measurements of the levels and thicknesses of pavement layers. In accordance with this plan, the compliance of the individual results only with the specified requirements is determined and the variability of test results is not computed."

Add the following new sub-clause (e):

"(e) Application of Judgement Plan C

Surface levels and layer thicknesses shall be judged in accordance with the following procedure:

(i) Taking the levels

Level measurements shall be taken in a random pattern, before and after a layer has been constructed, and levels shall be taken at exactly the same point before and after construction. Layer thicknesses will then be determinable as the difference between the pre- and post-construction levels but may be supplemented by determinations made by means of holes made in the layer.

The number of measurements of layer thicknesses shall be at least 30 (thirty), and that of surface levels at least 50 (fifty). Larger sample sizes will give more reliable results.

In the case of asphalt layers, the engineer may require that layer thicknesses be determined only by means of measurements taken on drilled cores, in which case the minimum number of cores shall be 20 (twenty) per lot and not 30 (thirty).

For rehabilitation or repair work the number of measurements shall be as specified in the Contract documentation or as directed by the engineer.

(ii) Calculating the deviations

Compute the difference between the specified level or thickness and the actual level or thickness. Compute the mean thickness of the layer.

(iii) Identifying outliers

Check this work by remeasuring any results which may possibly be defective.

(iv) Assessing the results

The following criteria will apply when results are assessed:

1. Surface levels

   The lot will comply with the requirements specified for surface levels if at least 90% of all surface levels are within the H_{90} tolerance specified in each case, before any level corrections are made.

   Individual spots, where the surface level deviates by more than the H_{max} tolerance, specified in each case, shall be repaired to bring them to within the H_{90} tolerance.

2. Layer thickness

   Individual spots, where the actual thickness is less than the specified thickness minus the D_{max} tolerance specified in each case, shall be locally repaired to bring them within the D_{90} tolerance."

PART C: MEASUREMENT AND PAYMENT

"Item **Unit**

C20.1.4 Special tests using Automated Road condition assessment instruments operated by service providers as requested by the Engineer for acceptance control in terms of Clause A20.1.3.6b)(iii)

Add the following pay-items and add the pay item description after the first paragraph.

"Item **Unit**

C20.1.4.6 Road roughness (Clause A20.1.5.5 c(ii))

(a) During the mobilisation period..... lane-km

(b) After completion of the final surfacing seal as instructed by the Engineer..... lane-km

C20.1.4.7 Road surface noise measurements

(a) During the mobilisation period..... lane-km

(b) After completion of the final surfacing seal as instructed by the Engineer..... lane-km

C20.1.4.8 Provisional Sum

(a) Handling cost and profit in respect of item C20.1.4.8..... percentage (%)

The unit of measurement for pay items C20.1.4.6 and C20.1.4.7 shall be the lane kilometre of tests performed on the pavement.

The rate tendered shall include full compensation for providing the specialist equipment, establishment of all units, traffic accommodation, labour, any additional plant and equipment, de-establishment of all units, providing the processed data in a format requested by the Engineer, profits, administrative duties, and all other incidentals required to undertake the measurements. The processed data shall be provided within 1 week after completing the measurements or as agreed with the Engineer.

The provisional sum allowed under item C20.1.4.8 shall provide for any additional testing that may be required as ordered by the Engineer. The provisional sum shall be paid in accordance with the provisions of the Contract Documentation.

C20.1.5 Financial contribution for an independent site/commercial laboratory

Delete reference to: "/commercial"

Add the following new pay item:

"Item **Unit**

C20.1.6 Payment of independent commercial laboratory

C20.1.6.1 Direct payment by contractor ..... prime cost (PC) sum
C20.1.6.2 Handling cost and profit in respect of item C20.1.6.1..... percentage (%)

The contractor shall pay the appointed laboratory for the amount as certified by the Engineer.

The charge or mark-up tendered or allowed for is a percentage of the amount actually paid under the prime cost item. The percentage shall cover all the Contractors' sourcing, handling, profit, and payment of the service provider in providing the services. The Contractor shall forfeit his mark-up when the service provider is not paid in time."

SECTION B: SPECIFICATION DATA

Notes to tenderer:

1. **In certain clauses, the Standard Specifications allow a choice to be specified in the Contract Documentation or Project Specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this Section B: Specification Data.**
2. **The number of each clause and each payment item in this part of the project specifications follows the numbering format of the COTO standard specifications. Where, however, a clause has been amended under Section A2, the clause number is prefixed with a "P" in this Section.**

COTO CHAPTER 1: GENERAL

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
1			**GENERAL**	
	A1.1		**GENERAL PREAMBLE**	
		PA1.1.2	**DEFINITIONS**	
			Conditions of Contract	The Conditions of Contract for Construction for Building and Engineering Works designed by the Employer as published by the International Federation of Consulting Engineers First Edition 1999, shall apply.
			Site / Site of the Works	The project is located on National Road 3 Section 12 from Heidelberg Road interchange (km 13,2) to Geldenhuys interchange (km 24,82). On the main carriageway the limits are from just north of the Heidelberg Road interchange, just after the southern direction off-ramp to north of the Geldenhuys interchange close to the Main Reef Road overpass. Both interchanges are included in the project. The limits are normally where a change in surface type or texture can be observed. On over- and underpass roads the limits are normally in line with the national road reserve fence line although the change in surface type or texture should also be utilised. On interchange cross roads the limits are normally 150m from the terminal centre although the change in surface type or texture should also be used. There are 5 major interchanges and additional 5 cross roads located along the route and 4 railway bridge crossings.
	A1.2		**GENERAL REQUIREMENTS AND PROVISIONS**	
		A1.2.3	**GENERAL**	
			A1.2.3.3 Environmental management	The requirements of the Environmental Officer is indicated in Section C.
			A1.2.3.4 Extension of time for delays caused by rainfall	
			c) Method 3 (Critical path method without consequential delays)	Method 3 (Critical path method without consequential delays) is specified. The value of "N" is 40. The calculation of payment for approved extensions of time granted for delays caused by rainfall, shall be calculated in accordance with Clause A20.1 in Part C.1.2.2 – Contract Data.
			A1.2.3.9 Monthly reports	Other information to be included in monthly progress reports are as follows: a) Information as required in terms of Conditions of Contract Clause 4.21

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				b) Aerial progress footage (images and video) Refer A1.2.3.9 c) Integrated Transport Information System (ITIS). Reporting of training, empowerment, capacity building, small contractor development, labour and staff employment and any such aspects shall be extracted from the Employer's Integrated Transportation Information System (ITIS), as required in terms of Conditions of Contract Clause 4.21. The Contractor shall update the ITIS system with the required information and documentation as required by the ITIS system. ITIS currently consist of the following platforms: • ITIS Web – Web enabled portal providing online access to various functions, workflows and reports. • ITIS Desktop – Offline data capture tool enabling the capture of information offline, validation and then synchronisation of data with the ITIS database. • ITIS Mobile – Application (Android 6 or later) that allows the in-field capture of information using a smart phone or tablet (must have camera and GPS), validation and then synchronisation of data with the ITIS database. The Employer has several ITIS modules running on any of the above ITIS platforms which affect the Contractor, who will need to use some of these modules to perform certain procedures and to provide required information. The current module applicable to this contract and its description is as follows: • Project Information Module – uploading of employment and training data; Users are to register as a service provider utilising the following link: https://itis.nra.co.za/Portal/ Manuals for the various functions can be downloaded utilising the following links: Project Information User Manual – https://itis.nra.co.za/Portal/Modules/ProductLicensing/MVC/Manuals/ITIS%20Desktop%20Project%20Information%20Module%20-%20User%20Manual.pdf Desktop Installation Manual – https://itis.nra.co.za/Portal/Modules/ProductLicensing/MVC/Manuals/ITIS%20DeskTop%20-%20Installation%20Manual.pdf Support Manual –

<table>
<tr><th>CH</th><th>SEC</th><th>CL</th><th>SUB-CLAUSE</th><th>SPECIFICATION DATA</th></tr>
<tr><td></td><td></td><td></td><td></td><td>https://itis.nra.co.za/Portal/Modules/ProductLicensing/MVC/Manuals/ITIS%20Support%20Service%20Desk%20User%20Manual.pdf</td></tr>
<tr><td></td><td></td><td></td><td>A1.2.3.10 Notices, signs and advertisements</td><td>Details of the contract sign board is provided in Drawing 7469-601-2408 included under Volume 4.</td></tr>
<tr><td></td><td></td><td></td><td>A1.2.3.12 Ownership of assets and disposal of non-usable assets</td><td>The Non-usable assets to be disposed by the Contractor is listed in the following disposal plan:

Disposal plan
<table>
<tr><th>Asset description</th><th>Estimated quantity</th><th>Disposal requirement</th></tr>
<tr><td>Reclaimed asphalt</td><td>±50 700m^3</td><td>The Client has the first right to reclaimed asphalt material generated from milling or hand excavation.

Reclaimed asphalt material generated from milling or hand excavation to be legally disposed off at an approved site of the Contractor’s choice.</td></tr>
<tr><td>Guardrail and posts complete</td><td>±37 000m</td><td rowspan="2">Non-usable guardrails and posts as well as road signs and posts to be legally disposed off at an approved site of the Contractor’s choice.</td></tr>
<tr><td>Road signs including posts</td><td>±400m^2</td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td></td><td></td><td></td><td>PA1.2.3.15 Routine maintenance</td><td>The Contractor shall be responsible for the following maintenance responsibilities:

• Drain cleaning;
• Base and/or surface patching using cold premixed asphalt;
• Base and/or surface patching using hot plant mixed asphalt;
• Any other road maintenance work ordered by the Engineer; and
• Liaison with the routine road maintenance contractor.</td></tr>
</table>

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				The Contractor shall take over the specified maintenance responsibility on the date of Access to site The backfilling for patching shall be done in accordance with the requirements of Chapter 8 and Clause A5.5.7.1. Any potholes which occur on the road surface shall be temporarily repaired within 24 hours after being recorded.
			A1.2.3.18 Stakeholder liaison	Additional requirements related to structured engagement with project Stakeholders and affected Communities, as well as guidance on the selection and the enhanced utilisation and development of Targeted Labour and Targeted Enterprises is provided in Section D1000. No formal agreements have been made with the relevant stakeholders.
			A1.2.3.20 Road safety audits	A Work zone traffic management audit as well as a Pre-opening stage road safety audit, shall be carried out.
			A1.2.3.22 Wayleaves/Agreements and Permits	The Contractor shall be responsible for applying for the following wayleaves: • Metrorail
		A1.2.7	**EXECUTION OF THE WORKS**	
			PA1.2.7.1 Programme of work	
			a) General	A scheme 2 programme shall apply.
			b) Scheme 2	The programme shall be drawn up or be compatible with MS Projects 2021. The following should be noted: 1. The time periods for lane closures and construction of the works shall take place during the night time only. Work during the day time shall only be allowed during an emergency and as approved by the Engineer. 2. The time periods for lane closures and construction of the works shall be adhered to at all time as follows: • Night shifts (“Normal” Working hours): 20:00 – 05:00
	A1.3		**CONTRACTOR’S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS**	
		A1.3.3	**GENERAL**	
			A1.3.3.1 Construction camps	No specific areas for construction camps have been identified. No SANRAL owned land is available.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
	A1.4		**FACILITIES FOR THE ENGINEER**	
		PA1.4.3	**GENERAL**	The Contractor to provide Engineering facilities. Refer drawing 7469-601-1000 for a typical site office layout.
		A1.4.7	**EXECUTION OF THE WORKS**	
			A1.4.7.1 Offices and laboratories	
			a) General	The site laboratory shall be supplied with three-phase electricity.
			b) Offices	As specified in the specifications and indicated in the Schedule of Quantities.
			c) Laboratories	A site laboratory complete with workbenches, services, furniture etc. is to be provided for on site. A typical site laboratory layout is indicated on drawing 7469-601-1000.
			A1.4.7.3 Services	
			b) Water, electricity and gas	A three-phase 50 kVA generator shall be provided on site for the laboratory and Engineer's offices and shall be capable of delivering constant regulated electricity suitable for operating sensitive electronic equipment.
	A1.5		**ACCOMMODATION OF TRAFFIC**	
		A1.5.3	**GENERAL**	
			A1.5.3.2 General requirements	The time periods for lane closures and construction of the works shall take place during the night time only. Work during the day time shall only be allowed during an emergency and as approved by the Engineer. The time periods for lane closures and construction of the works shall be adhered to at all time as follows: Night shifts ("Normal" Working hours): 20:00 – 05:00 The road shall be fully operational by 5:00 am. Typical traffic accommodation layout drawings (7469-601-4201 to -4209) have been included under Volume 4: Book of Drawings.
		A1.5.7	**EXECUTION OF THE WORKS**	
			A1.5.7.3 Accommodation of traffic where the road is constructed in half or partial widths	No specific sequence of work is required. The Contractor's elected sequence of work shall consider accommodation of traffic limitations stipulated below as well as all utility services requirements and timeframes for applying for wayleaves. The Contractor shall submit a plan of work indicating closure lengths and work zones for approval by the Engineer or his delegated representative before the erection of such closures commence.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				All lanes are required to be open between 05:00 and 20:00 on working days and fully open on non-working days. The following construction timeframes are to be adhered to during weekdays: • 05:00 to 20:00 – all lanes open. • 20:00 to 21:00 – set out traffic accommodation measures. • 21:00 to 04:00 – construction works proceed with lane closures in place. Temporary linemarking should commence during this period to ensure completion before opening. • 4:00 to 05:00 – cease construction works, clean-up, complete temporary linemarking and remove traffic accommodation measures to ensure all lanes are open by 05:00. The length of a closure shall be scheduled taking cognisance of the length of work zone required and shall not exceed 2km. The number of closures operational at any one time along the N3 main carriageway shall not exceed 2 No. per direction including ramps, irrespective of the work undertaken. The number of closures to cross roads shall not exceed 2No. A maximum of 6 total numbers of closures shall be allowed along the project length unless otherwise agreed with the Engineer. No closures will be allowed for a central lane with traffic diverting to both sides of the closed lane. Interchange ramps will require half-width construction (up to lane joints for multi-lane ramps and up to middle of lane for single lane ramps) in accordance with the Typical Drawings provided in Volume 4. No STOP/GO traffic accommodation shall be allowed along the N1 main carriageway at any point in time. STOP/GO one-way traffic sections shall only be permitted on crossroads where only one lane per direction is available. STOP/GO control shall not be allowed for a period from two days before, until two days after the annual Easter Weekend (period of 8 days). STOP/GO control not allowed during the Builders Break for a period from the 10th of December until the 10th of January each year. No partial width sections shall be in operation and general traffic shall be free flowing within the contract limits during the following additional periods:

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				(a) During daytime, unless specifically instructed by the Engineer (only works requiring curing periods / deep excavation areas / bridge joints, etc, as / where instructed). (b) During night and daytime for the following conditions / times: - All designated public holidays (including all foreseeable statutory declared election days). - The annual shut-down period between December and January. - Day before, the day after and during Easter Weekend. - Day of State school term closure and day prior to State school term start. Two (2) additional shoulder closures, for drainage / ancillary item works et al outside the surfaced road width, shall be allowed in conjunction with / over and above the half / partial width sections provided that such closures do not create any impediment to two-way traffic flow. All lanes shall remain open in this instance. Adequate protection shall however be provided for the protection of the workforce from vehicles on the surfaced road. Unrestricted sections shall remain applicable for such shoulder closures. Temporary line markings shall be executed before opening the road and shall only be utilized where it corresponds with the permanent line marking position. Straddling of line markings will only be considered in cases where single lanes will remain open. This implies that an additional lane will need to be closed adjacent to the works to serve as buffer area, considering that the pavement works will extend up to the lane joints. Should vertical steps be allowed between adjacent lanes, the steps shall be treated in accordance with the requirements and allowances of these project specifications.
			A1.5.7.6 Maintenance of existing roads used as detours	No detours are required.
	A1.7		**LOADING AND HAULING**	
		A1.7.7	**EXECUTION OF THE WORKS**	The Contractor must provide the Engineer with the certified carrying capacity of each vehicle before any construction materials can be transported.

COTO CHAPTER 3: DRAINAGE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
3			**DRAINAGE**	
	A3.2		**CULVERTS**	
		A3.2.3	**GENERAL**	
			A3.2.3.1 Types of culverts	Concrete median drain and grid as per drawing 7469-601-2608
	A3.3		**CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS**	
		A3.3.5	**MATERIALS**	
			A3.3.5.2 Drainage structure materials	
			d) Joint sealant	Refer drawing 7469-601-2601

COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
4			**EARTHWORKS AND PAVEMENT LAYERS: MATERIALS**	
	A4.3		**EXISTING ROAD MATERIALS**	
		A4.3.7	**EXECUTION OF THE WORKS**	
			A4.3.7.4 Milling	Loose asphalt shall be removed by brooming. Loose local areas in the floor of a milled excavation shall be demarcated and excavated to a minimum depth of 150mm or the full layer depth as instructed by the Engineer. Excavated areas shall be backfilled with similar bituminous materials as removed from the road / layer or as instructed by the Engineer.
			A4.3.7.12 Stockpiling of material	Stockpiling of material is not required. The onus is on the Contractor to find suitable stockpile areas for temporary placement of excavated material. Milling and excavations should be planned and the temporary placement of the excavated material shall be approved by the Engineer and shall not be paid for separately.

COTO CHAPTER 8: PRETREATMENT AND REPAIR OF EXISTING LAYERS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
8			**PRETREATMENT AND REPAIR OF EXISTING LAYERS**	
	A8.5		**STANDARD CRACK SEALING**	**SPECIFICATIONS**
		A8.5.7	**EXECUTION OF THE WORKS**	The cracks shall be blown out with hot compressed air and crack sealed with a CC-E1.
	C8.8		**PATCHING AND EDGE BREAK REPAIR PART C: MEASUREMENT AND PAYMENT**	
		C8.8.2	**Excavation in existing pavements for patching (non-milling)**	
			C8.8.2.3 Other layers (specify type)	If patching to be milled, to be measured under items C4.3.6 of Chapter 4.

COTO CHAPTER 9: ASPHALT LAYERS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
9			**ASPHALT LAYERS**	
	A9.1		**ASPHALT LAYERS**	
		A9.1.2	**DEFINITIONS**	
			Asphalt mix types	The following mix types will be used: **Functional Wearing Course – N3 Main Carriageway and Ramps (UTFC)** Stone skeletal mix (St) Open graded NMPS = 10mm Extreme loading conditions (E) PG64E-16 (Elastomer Modified Bitumen) Design Level III No Reclaimed Asphalt (RA) **Surfacing Wearing Course – N3 Main Carriageway at Certain Positions (BRAOG)** Stone skeletal mix (St) Open graded NMPS = 14mm Extreme loading conditions (E) PG64E-16 (CRM – A-R2) Design Level III No Reclaimed Asphalt (RA) **Surfacing Wearing Course – N3 Main Carriageway** Sand skeletal mix (Sa) Continuously graded NMPS = 10mm Extreme loading conditions (E) PG64E-16 (Elastomer Modified Bitumen) Design Level III Max 30% Reclaimed Asphalt (RA) **Surfacing Wearing Course – Ramps** Sand skeletal mix (Sa) Continuously graded NMPS = 10mm Extreme loading conditions (E) PG64E-16 (Elastomer Modified Bitumen) Design Level III Max 30% Reclaimed Asphalt (RA) **Surfacing Wearing Course – Cross Roads** Sand skeletal mix (Sa) Continuously graded NMPS = 10mm Extreme loading conditions (E) PG64E-16 (Elastomer Modified Bitumen) Design Level III Max 30% Reclaimed Asphalt (RA) **Patching (70mm Asphalt)** Sand skeletal mix (Sa) Continuously graded NMPS = 14mm Extreme loading conditions (E)

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				PG64E-16 (Plastomer Modified Bitumen) Design Level III Max 30% Reclaimed Asphalt (RA)
			Aggregate	Grading class 1 aggregate shall be applicable to all mix types.
		A9.1.3	**GENERAL**	
			A9.1.3.1 Nominal mix proportions and application rates	
			Table A9.1.3-1: Nominal Mix Proportions of Stone Skeletal Mixes for Tender Purposes Bitumen (type and grade according to Project Documentation) (%)	The bitumen type and grade is indicated under A9.1.2. The preliminary mix design base binder (%) shall be as indicated in Table A9.1.3-1.
			Table A9.1.3-1: Nominal Mix Proportions of Stone Skeletal Mixes for Tender Purposes	A maximum of 30% by mass of reclaimed asphalt (RA) shall be allowed in the asphalt to the surfacing wearing courses and asphalt patches, unless otherwise agreed by the Engineer. No RA is to be used in the mixes for the UTFC, BRAOG and EME.
			Table A9.1.3-2: Nominal Mix Proportions of Sand Skeletal Mixes for Tender Purposes Bitumen (type and grade according to Contract Documentation) (%)	The bitumen type and grade is indicated under A9.1.2. The preliminary mix design base binder (%) shall be as indicated in Table A9.1.3-2.
			Table A9.1.3-2: Nominal Mix Proportions of Sand Skeletal Mixes for Tender Purposes	A maximum of 30% by mass of reclaimed asphalt (RA) shall be allowed in the asphalt to the surfacing wearing courses and asphalt patches, unless otherwise agreed by the Engineer. No RA is to be used in the mixes for the UTFC, BRAOG and EME.
			b) Bond coat and rolled-in chippings	The following bond coat shall be used on the project: 1. The bond coat between the asphalt surfacing and milled / existing surfacing shall be a stable grade 30% emulsion at the application rates as stated in Table 9.1.3-3. A bond coat between the UTFC and asphalt surfacing shall be a cationic 60% bitumen emulsion plus 3% SBR plus nanotechnology (organo-silane) with a minimum torque bond strength of 650kPa and applied at 0.60 l/m2 is required to improve adhesion.

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
		A9.1.4	**DESIGN BY THE CONTRACTOR**	
			A9.1.4.1 Mix Designs	The mix types and design levels are indicated under A9.1.2.
			A9.1.4.2 Mix design requirements	The mix design requirements are stipulated under A9.1.2 and shall be placed at the following thickness: **Wearing Course – N3 Main Carriageway and Ramps (UTFC)** 20mm **Wearing Course – N3 Main Carriageway at Certain Positions (BRAOG)** 50mm **Surfacing – N3 Main Carriageway, Ramps, Loops, CD Roads** 40mm **Surfacing – Cross Roads** 40mm **Patching (Asphalt)** 70mm
		A9.1.5	**MATERIALS**	
			A9.1.5.2Bituminous binders for asphalt mixes	The mix types to be used are stipulated under A9.1.2. The following binders shall be used on this project: **Functional Wearing Course – N3 Main Carriageway and Ramps (UTFC)** PG64E-16 Elastomer modified bitumen Traffic Speed = 20 - 80 km/h Design traffic (million E80) = >30 - 100 **Surfacing Wearing Course – N3 Main Carriageway at Certain Positions (BRAOG)** PG64E-16 Crumbed Rubber Modified Bitumen Traffic Speed = 20 - 80 km/h Design traffic (million E80) = >30 - 100 **Surfacing Wearing Course – N3 Main Carriageway** PG64E-16 Elastomer modified bitumen Traffic Speed = 20 - 80 km/h Design traffic (million E80) = >30 - 100 **Surfacing Wearing Course – Ramps** PG64E-16 Elastomer modified bitumen Traffic Speed = 20 - 80 km/h Design traffic (million E80) = >10 – 30 **Surfacing Wearing Course – Cross Roads** PG64E-16 Elastomer modified bitumen

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				Traffic Speed = <20 km/h Design traffic (million E80) = >10 - 30 **Patching (70mm BC)** PG64E-16 Plastomer Modified Bitumen Traffic Speed = 20 - 80 km/h Design traffic (million E80) = >30 – 100 No warm mix technology is specified.
			A9.1.5.3Bitumen bond coat	The following bond coat shall be used on the project: 1. The bond coat between the asphalt surfacing and milled / existing surfacing shall be a stable grade 30% emulsion. 2. A bond coat between the UTFC and asphalt surfacing shall be a cationic 60% bitumen emulsion plus 3% SBR plus nanotechnology (organo-silane).
			A9.1.5.8Mix properties	The mix types and design levels of the asphalt to be used on this project are stated under A9.1.2. The properties of the various mixes shall be in accordance with the relevant Sabita, COTO, TMH and TRH Manuals.
		A9.1.6	**CONSTRUCTION EQUIPMENT**	
			A9.1.6.5Rollers	Only oscillating type vibratory compaction equipment may be used on bridge decks.
		A9.1.7	**EXECUTION OF THE WORKS**	
			A9.1.7.5Bond coat	The following bond coat shall be used on the project: 1. The bond coat between the asphalt surfacing and milled / existing surfacing shall be a stable grade 30% emulsion. A bond coat between the UTFC and asphalt surfacing shall be a cationic 60% bitumen emulsion plus 3% SBR plus nanotechnology (organo-silane).
			A9.1.7.11Surfacing of bridge decks	The type and nominal thickness of the surfacing to the bridge deck shall be the same as the main carriageway as stipulated under A9.1.2.
		A9.1.8	**WORKMANSHIP**	
			A9.1.8.8 Sampling	
			b) Coring of completed layers	The Contractor shall provide suitable coring machines capable of cutting 100mm or 150mm diameter cores from the completed asphalt layers.
	D9.1		**ASPHALT LAYERS**	

<table>
<tr><th>CH</th><th>SEC</th><th>CL</th><th>SUB-CLAUSE</th><th>SPECIFICATION DATA</th></tr>
<tr><td></td><td></td><td>D9.1.1</td><td>SCOPE</td><td>A performance guarantee shall be applicable to the asphalt surfacing of the permanent works.

The duration of the performance guarantee shall be four (4) years after the issuing of the Taking Over Certificate.</td></tr>
<tr><td></td><td></td><td>D9.1.2</td><td>DEFINITIONS</td><td></td></tr>
<tr><td></td><td></td><td></td><td>Performance Period:</td><td>The performance guarantee period shall be four (4) years.</td></tr>
<tr><td></td><td></td><td></td><td>Performance Guarantee Period:</td><td>The performance guarantee period shall be four (4) years.</td></tr>
<tr><td></td><td></td><td></td><td>Performance Guarantees:</td><td>The value of the guarantee shall be 10% of the total value of Section C9.1 [Asphalt Layers]. The value of pay Item C9.1.17 [Surface Regulatory Payment Adjustment] to be excluded from the value of guarantee calculation.</td></tr>
<tr><td></td><td></td><td>D9.1.3</td><td>GENERAL</td><td></td></tr>
<tr><td></td><td></td><td></td><td>D9.1.3.1Extended Performance Warranty</td><td>Prior to the issuing of the Taking-Over Certificate, the Contractor shall provide a guarantee valued at 10% of the total value of Section C9.1 [Asphalt Layers]. The value of pay Item C9.1.17 [Surface Regulatory Payment Adjustment] to be excluded from the value of guarantee calculation</td></tr>
<tr><td></td><td></td><td></td><td>Table D9.1.3-1: Programme of release of guarantees</td><td>The guarantee shall be released as follows:

<table><tr><td>Acceptable performance of UTFC two years after issuing of the Taking-Over Certificate</td><td>Release of 1st guarantee (5%)</td></tr><tr><td>Acceptable performance of UTFC three years after issuing of the Taking-Over Certificate</td><td>Release of 2nd guarantee (5%)</td></tr></table></td></tr>
<tr><td></td><td></td><td>D9.1.10</td><td>ACCEPTANCE CRITERIA</td><td></td></tr>
<tr><td></td><td></td><td></td><td>D9.1.10.1 Visual Assessments</td><td>Acceptance criteria for Class 1 shall be applicable.</td></tr>
<tr><td></td><td></td><td></td><td>D9.1.10.2 Deflection</td><td>At the end of the Performance Guarantee Period, the structural capacity of the road pavement, as determined in terms of deflection measurements, shall conform to be acceptance criteria presented in Table D9.1.10-2.

Acceptance criteria for Class 1 shall be applicable.</td></tr>
<tr><td></td><td></td><td></td><td>D9.1.10.3 Rutting</td><td>Acceptance criteria for Class 1 shall be applicable.</td></tr>
<tr><td></td><td></td><td></td><td>D9.1.10.4 Roughness</td><td>Acceptance criteria for Class 1 shall be applicable.</td></tr>
<tr><td></td><td></td><td></td><td>D9.1.10.5 Mean profile depth</td><td>Acceptance criteria for Class 1 shall be applicable.</td></tr>
</table>

COTO CHAPTER 11: ANCILLARY ROAD WORKS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
11			**ANCILLARY ROAD WORKS**	
	A11.4		**ROAD RESTRAINT SYSTEMS**	
		A11.4.5	**MATERIALS**	
			A11.4.5.2 Materials	
			c) Guardrail posts	The timber guardrail posts shall be treated with Creosote that complies with SANS 616.
		A11.4.7	**EXECUTION OF THE WORKS**	
			A11.4.7.2 Construction of guardrails on timber posts	Guardrails shall be installed in accordance with the standard drawings 7469-601-3301 to 3306
	A11.6		**ROAD SIGNS**	
		A11.6.1	**SCOPE**	In keeping with the project brief, the installation of permanent road signage is limited to the following: • Replacement of danger plates at culverts and structures within the contract limit. • Replacement of all regulatory and warning signs within the contract limit. All the permanent and temporary road signs shall be Class III retroreflective material.
		A11.6.7	**EXECUTION OF THE WORKS**	
			A11.6.7.1 Classification of Materials	Overbreak in width or depth will be filled by the Contractor and shall not be measured separately for payment.
			PA11.6.7.5 Erecting road signs	
			b) Excavation and backfilling	Excavation and backfilling shall be in accordance with the provisions as indicated on drawing 7469-601-3301 to 3306
			A11.6.7.7 Dismantling, storing and re-erecting existing road signs	Dismantled road signs shall be disposed of unless otherwise instructed by the Engineer. Dismantling of signs will include sign panels and ground mounted sign supports.
	C11.6		**ROAD SIGNS PART C: MEASUREMENT AND PAYMENT**	
			ii) Notes on measurement and pay items	Measurements for excavations will be taken from the ground surface.
	A11.7		**ROAD MARKINGS AND ROAD STUDS**	
		A11.7.5	**MATERIALS**	
			PA11.7.5.2 Materials	
			a) Marking materials	

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			(ii) Retro-reflective road marking	1. The first application on the surfacing wearing course. 2. The second application on the UTFC, shall be water-borne road marking paint compliant with SANS731-2. The third application, which will be done six (6) months after issue of the Taking-Over Certificate, shall consist of thermoplastic and cold plastic materials. All road markings shall be reflectorised.
			(iii) Thermoplastic road marking material	The final thermoplastic road marking paint application shall be carried out within 6 months after issue of the Take-Over Certificate.
			(iv) Methyl Metacrylate (MMA) Cold Plastic Marking Material	Cold plastic road marking material shall be used for symbols, arrows, lettering, painted islands and transverse markings as a second application. The final cold plastic road marking paint application shall be carried out within 6 months after issue of the Take-Over Certificate.
			b) Road studs	The road studs shall be in accordance with Table A11.7.5-1 with the following applications: • RSA-1 for all permanent applications • RSA-T for all temporary applications

COTO CHAPTER 14: REPAIR AND REHABILITATION OF STRUCTURES

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
14			**REPAIR AND REHABILITATION OF STRUCTURES**	
	A14.9		**REPAIR AND REPLACEMENT OF ANCILLARY STRUCTURAL ELEMENTS**	
		A14.9.7	**EXECUTION OF THE WORKS**	
			A14.9.7.3 Repair of expansion joints	Refer drawings 7469-301-1101 to 1102

COTO CHAPTER 20: QUALITY ASSURANCE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
20			**QUALITY ASSURANCE**	
	A20.1		**TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP**	
		A20.1.3	**TESTING METHODS**	
			A20.1.3.3 The Costs of Testing	
			a) Material and workmanship for quality control	Testing will be undertaken by an independent site laboratory as indicated under A20.1.3.3 a)(i)3. The total estimated cost of the independent site laboratory for the contract period as per A20.1.3.3 a)(ii)3 is R15 000 000.00.
		A20.1.7	**ACCEPTANCE CONTROL BY STATISTICAL JUDGEMENT PRINCIPLES**	
			PA20.1.7.5 Assessment Methods	
			(e) Application of Judgement Plan C	
			(i) Taking the levels	The number of measurements of layer thicknesses for rehabilitation or repair works shall be as follows: Surfacing layer: 50 Base layer: 30

SPECIFICATION DATA FOR SANRAL STANDARD SPECIFICATION SECTIONS

SECTION	CL	SUB-CLAUSE	SPECIFICATION DATA
SECTION C		**ENVIRONMENTAL MANAGEMENT PLAN**	
	C1004	**ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS**	
		(d) The Designated / Dedicated Environmental Officer (DEO)	DEO means: Designated Environmental Officer
	C1007	**ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES**	
		(h) On site plant	
		(ii) Asphalt plant	The Contractor shall notify the Employer in advance of his intention to erect an asphalt plant on site. It shall remain the Contractor's responsibility to acquire all the necessary authorisations from the various governing bodies and site / camp where the plant will be erected.
	C1012	**PROJECT SPECIFIC CONDITIONS**	Refer to C1012 for project specific specifications.
SECTION D		**STAKEHOLDER AND COMMUNITY LIAISON AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT**	
	D1002	**DEFINITIONS AND APPLICABLE LEGISLATION**	
		D1002.01 Definitions	
		(d) Contract Participation Goal (CPG)	i. Specific Goal for Targeted Enterprises is Minimum of 30% of the Final Contract Value by the end of the contract to Targeted Enterprises. ii. Specific Goal for Targeted Labour is a minimum of 6% of the Final Contract Value by the end of the contract to Targeted Labour. The Final Contract Value for purposes of this clause is defined in clause D1003.04
		(t) Target Area(s)	For Targeted Labour: The City of Ekurhuleni Metropolitan Municipality
		(u) Targeted Enterprise	Target Group for Targeted Enterprise: a. EMEs or QSEs which are at least 51% owned by black people.

		(z) Targeted Labour	Target Group for Targeted Labour: a. Unemployed black people who: i. are citizens of the Republic of south Africa by birth or descent; or ii. became citizens of the Republic of South Africa by naturalisation before 27 April 1994; or iii. became citizens of the Republic of South Africa by naturalisation on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalisation prior to that date; or b. unemployed women who are South African citizens; or c. unemployed youth (not attending and not required by law to attend an educational institution) as defined in the National Youth Commission Act (Act 19 of 1996); or d. unemployed people with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act (Act 55 of 1998); or e. unemployed black military veterans who qualify to be called a military veteran in terms of the Military Veterans Act (Act 18 of 2011);
	D1003	**TARGET GROUP PARTICIPATION**	
		D1003.04 Contract Participation Goal (CPG)	
		Specific sub-Goals for minimum contributions by specific Target Groups for Targeted Labour:	
		i) Unemployed black persons who are youth	30% of Targeted Labour value
		ii) Unemployed black persons who are people with disabilities	0.3% of Targeted Labour value
		iii) Unemployed black persons who are women;	30% of targeted labour value
		iv) Unemployed black persons who are military veterans	1.0% of Targeted Labour value
		Specific sub-Goals for minimum contribution by specific Target Groups for Targeted Enterprises:	
		i) Targeted Enterprise with ≥51% ownership by Youth	Minimum of 5% of the Final Contract Value
		ii) Targeted Enterprise with ≥51% ownership by Women	Minimum of 5% of the Final Contract Value

		iii) Targeted Enterprise with ≥51% ownership by Military veterans	Minimum of 1.0 % of the Final Contract Value
		iv) Targeted Enterprise with ≥51% ownership by Disabled persons (Differently abled)	Minimum of 0.5% of the Final Contract Value
		v) Targeted Enterprise with CIDB 1 or 2 grading	Minimum of 1.0% of the Final Contract Value
		vi) Targeted Enterprise with CIDB 3 or 4 grading	Minimum of 1.0% of the Final Contract Value
	D1008	**WORK SUITABLE FOR EXECUTION BY TARGETED ENTERPRISES**	Refer to D1008 for a project specific list of possible work types suitable for Targeted Enterprises.
	D1010	**TRAINING, COACHING, GUIDANCE, MENTORING AND ASSISTANCE**	
		D1010.02 Developing the TSDP	
		a) Skills Development Requirements	
		i) Contract Skills Development Goals (CSDG)	The CSDG shall not be less than 1.8% of the Final Contract Value. The Final Contract Value for purposes of this clause is defined in clause D1003.04
SECTION E		**REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS**	
	E1018	**PROJECT SPECIFIC CONSTRUCTION REQUIREMENTS**	Refer to E1018 for project specific specifications.

SANRAL STANDARD SPECIFICATION SECTIONS

SECTION C: ENVIRONMENTAL MANAGEMENT PLAN

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C1001 SCOPE

The South African National Roads Agency SOC Limited (SANRAL) recognises environmental management as a key component of road infrastructure development and as part of its Environmental Sustainability Framework has developed this Environmental Management Plan (EMP) as a tool for continual improvement in environmental performance.

This EMP prescribes the methods by which proper environmental controls are to be implemented by the Contractor for construction and maintenance projects. 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 Conditions of Contract for Construction for Building and Engineering Works Designed by SANRAL published by the Federation Internationale des Ingenieurs-Conseils (FIDIC) as the Defects Notification Period (maintenance period).

The provisions of this EMP are binding on the Contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract, particularly the conditions of any environmental authorisation and associated site-specific Environmental Management Programme (EMPr). In the event that any conflict occurs between the terms of the EMP and the project specifications or environmental authorisation, the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any changes to the EMP and/or environmental authorisation cannot occur without being submitted to SANRAL who will manage the process of amending the EMP.

The EMP identifies the following:

- Relevant parties and their responsibilities;
- Construction activities that will impact on the environment;
- Specifications with which the Contractor shall comply in order to protect the environment from the identified impacts; and
- Actions that shall be taken in the event of non-compliance.

C1002 DEFINITIONS

Alien Vegetation: undesirable plant growth which includes but is not limited to all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA), 1983 and the National Environmental Management: Biodiversity Act (Act No. 10 of 2004). Other vegetation deemed to be alien are those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction Activity: any action taken by the Contractor, his sub-contractors, suppliers or personnel during the construction process as defined in the contract documents.

Environment: the surroundings within which the contract exists and comprises land, water, atmosphere, micro-organisms, plant and animal life (including humans) in any part or combination thereof as well as any physical, chemical, aesthetic or cultural inter-relationship among and between them.

Environmental Aspect: any component of a contractor's construction activity that is likely to interact with the environment.

Environmental authorisation: a written statement from a Competent Authority, with the general and specific conditions and the EMPr recording its approval of an application for a planned undertaking that triggers listed activities in the Environmental Impact Assessment (EIA) regulations of the National Environmental Management Act (NEMA).

Environmental Impact: any change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Environmental Impact Assessment (EIA): a systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes basic assessment and scoping and environmental impact reporting.

Environmental Management Plan: An Environmental Management Plan (EMP) is an environmental management tool used to ensure that adverse impacts of the construction and operation and decommissioning of a project are prevented and/or minimised, and that the positive benefits are enhanced.

Environmental Management Programme (EMPr)*:* A project-specific Environmental Management Plan approved by a competent authority through an environmental impact assessment process.

Road Reserve: a corridor of land, defined by co-ordinates and/or proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Site: the site is defined in the FIDIC Conditions of Contract and in the scope of works. It is bound by the limits of construction as shown in the drawings or the title of the project and extends to also include the following:

- Areas outside the construction zones where accommodation of traffic is placed;
- All borrowpits defined in the applications approved by the Department of Mineral Resources (DMR);
- All haul roads constructed by the Contractor for purposes of access;
- Any non-adjacent sites specified in the contract documentation;
- The Contractor's and his subcontractors' camp sites.

For the purposes of this EMP, the site includes areas outside of, but adjacent to, the road reserve that may be affected by construction activities.

Spoil material is material that is unsuitable for construction of the road pavement and for which no other useful purpose can be found in additional works on the project (e.g. for the provision of protection berms). Such material requires spoiling at convenient areas to be identified by the Engineer and/or Contractor within the Site. Spoil material does not require removal to a designated landfill site unless it contains identifiable hazardous contaminants.

C1003 LEGAL REQUIREMENTS

(a) General

Construction shall be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the Contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The Contractor should note that obligations imposed by the EMP are legally binding in terms of this contract. In the event that any rights and obligations contained in this EMP contradict those specified in the standard or project specifications then the latter shall prevail.

(b) Statutory and other applicable legislation

The Contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

Major environmental legislation, as amended from time to time, includes but is not limited to the following:

(i) Conservation of Agricultural Resources Act (Act No. 43 of 1983)

This act provides for control over the utilisation of the natural agricultural resources of South Africa in order to promote the conservation of soil, water sources and vegetation, as well as combating weeds and invader plants.

(ii) The Constitution (Act 6 of 1996)

The Constitution states that everyone has the right to an environment that is not harmful to their health or well-being, and to have the environment protected through reasonable legislative and other measures to prevent pollution and ecological degradation; promote conservation and ensure ecologically sustainable development and use of natural resources.

(iii) Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)

This act makes provision for equitable access to, and sustainable development of, minerals and petroleum resources.

(iv) National Environmental Management Act (NEMA), (Act No. 107 of 1998)

This act supports the Bill of Rights within the Constitution and highlights principles of sustainable development including preservation of ecosystems and biological diversity and avoidance, minimisation and remediation of pollution and environmental degradation. It also sets the stage for the EIA Regulations.

(v) National Environmental Management: Air Quality Act (Act No. 39 of 2004)

This act provides reasonable measures for the prevention of pollution and ecological degradation; and provides for specific air quality measures; for national norms and standards regulating air quality monitoring, management and control by all spheres of government.

(vi) National Environmental Management: Biodiversity Act (Act No. 10 of 2004)

This act makes provisions to accomplish the objectives of the United Nations' Convention on Biological Diversity. SANRAL may be required to apply for permits to conduct certain listed activities which, together with the listed threatened or protected species, may be identified by the Minister.

Section 73 (3) of this act empowers a competent authority to direct a person to take steps to remedy any harm to biodiversity resulting from the actions of that person or as a result of occurrence of listed invasive species occurring on land on which that person is the owner. Thus SANRAL may be directed to remedy harm caused by listed invasive species.

(vii) National Environmental Management: Protected Areas Act (Act No. 57 of 2003)

This act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity, natural landscapes and seascapes.

(viii) National Environmental Management: Waste Act (Act No. 59 of 2008)

This act aims to regulate waste management practices through provision of national norms and standards, specific waste measures, licensing and control

of waste activities, remediation of contaminated land as well as providing for compliance and law enforcement.

(ix) National Forests Act (Act No. 84 of 1998)

This act makes provision for promoting the sustainable management and development of forests, and for the protection of certain forests and trees for environmental, economic, educational, recreational, cultural, health and spiritual purposes.

(x) National Heritage Resources Act (Act No. 25 of 1999)

This act provides for an integrated and interactive system for identification, assessment and management of South Africa's heritage resources, and empowers civil society to nurture and conserve their heritage resources.

(xi) National Water Act (Act No. 36 of 1998)

This act makes provision for the protection of surface water and groundwater and their sustainable management for the prevention and remediation of the effects of pollution, as well as for the management of emergency situations.

(xii) The South African National Roads Agency Limited and National Roads Act (Act No. 7 of 1998)

This Act makes provision for a National Roads Agency for the Republic to manage and control the Republic's national roads system and take charge, amongst others, of the development, maintenance and rehabilitation of national roads within the framework of government policy.

C1004 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

Copies of this EMP shall be kept at the site office and must be distributed to all senior contract personnel who shall familiarise themselves with its contents.

Implementation of this EMP requires the involvement of several stakeholders, each fulfilling a different but vital role as outlined herein, to ensure sound environmental management during the construction phase of a project.

(a) SANRAL

SANRAL and anyone acting on SANRAL's behalf is accountable for the potential environmental impacts of any activities that are undertaken and is responsible for managing these impacts.

(b) The Engineer

The Engineer has been appointed by, and acts for, SANRAL as its on-site implementing agent and carries the responsibility to ensure that the Contractor undertakes its construction activities in such a way that SANRAL's environmental responsibilities are not compromised.

The Engineer will, within seven days of receiving a contractor's request for approval of a nominated Designated Environmental Officer (DEO), approve, reject or call for more information on the nomination. The Engineer will be responsible for issuing instructions to the DEO where environmental considerations call for action to be taken.

If in the opinion of the Engineer the DEO is not fulfilling his/her duties in terms of this EMP, the Engineer may, after discussion and agreement with SANRAL, exercise his powers under FIDIC general conditions of contract and instruct replacement of the DEO in writing and with stated reasons.

(c) The Contractor

The Contractor is responsible for project delivery in accordance with the prescribed specifications, among which this EMP shall be included.

The Contractor shall receive and implement any instruction issued by the Engineer 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 Designated Environmental Officer (DEO). The Contractor shall nominate a person from among his site personnel to fulfil this function and submit to the Engineer for his approval the *curriculum vitae* of the proposed DEO. 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 Engineer to make a decision.

(d) The Designated/Dedicated Environmental Officer (DEO)

Once a nominated representative of the Contractor has been approved, he/she shall become the DEO and shall be the responsible person for ensuring that the provisions of this EMP are complied with during the life of the contract. The DEO shall submit regular written reports to the Engineer, but not less frequently than once a month.

The DEO may undertake other construction duties unless Section B: Specification Data, prescribes this position as 'Full-time' or 'dedicated' as opposed to the standard position being 'designated'. However, the DEO's environmental duties shall hold primacy over other contractual duties and the Engineer has the authority to instruct the Contractor to reduce the DEO's other duties or to replace the DEO if, in the Engineer's opinion, he/she is not fulfilling his/her duties in terms of the requirements of this EMP. Such instruction will be in writing clearly setting out the reasons why a replacement is required.

As a minimum the DEO shall have an accredited National Qualifications Framework (NQF) level 6 qualification in environmental or natural sciences or equivalent and a minimum of 2 years' experience in a similar role in construction or other environmental regulatory field.

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

(e) Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) is an independent environmental specialist appointed by SANRAL or the Engineer to objectively and regularly monitor the Contractor's compliance with the conditions of the authorisations issued for the project and the approved EMPr (that is this EMP augmented with specifics of the project). These are external audits and the regularity is determined by the environmental authorisations.

C1005 TRAINING

(a) Qualifications

The (DEO) shall have the minimum qualifications as prescribed above and must be conversant with all legislation pertaining to the environment applicable to the contract. He/she must be appropriately trained in environmental management and possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

The Contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees.

(b) Content

Apart from induction environmental training should, as a minimum, include the course content below and no induction or course should be given until the Engineer has been afforded the opportunity to appraise it and provide comment.

(i) The importance of conformance with all environmental policies and the consequences of departure from standard operating procedures;

(ii) Environmental impacts, actual or potential, caused by work activities, prevention measures to avoid them and mitigation measures when they occur;

(iii) Work force roles and responsibilities in achieving conformance with the environmental policy and procedures, including emergency preparedness and response requirements;

(iv) The environmental benefits of improved personnel performance and

(v) Consequences of non- compliance

(c) Induction

In the case of permanent staff the Contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the Contractor shall inform the Engineer when and how he intends concluding his environmental training obligations.

C1006 ACTIVITIES/ASPECTS CAUSING IMPACTS

Typical environmental aspects and impacts associated with road construction are listed in Table 1: Aspects and Impacts Associated with Road Construction. Actual impacts will differ from project to project and, therefore, so may the mitigation measures employed. The most common aspects and impacts are addressed separately, and typical avoidance and/or mitigation measures described. The list and descriptions are not by any means exhaustive, and they shall be used for guideline purposes only.

Table 1: Aspects and Impacts Associated with Road Construction

Aspect	Potential Impact
Waste generation/storage	Water pollution; nuisance; visual impact
Water use and stormwater discharge	Change in flow regime and/or reduction in downstream availability; soil erosion: water pollution
Vehicle use and maintenance	Air pollution; noise
Chemical/fuel storage	Water/air/soil pollution; health impacts; accidents e.g. spills, fire
Site clearing; earthworks; layer-works; seal works	Change in landform; impact on heritage resources; noise; soil erosion; air pollution
River bridges; installing drainage structures	Water pollution; impact on river flows; noise
Land acquisition	Loss of land and/or livelihood; change in land use;
Acquisition of building material from borrow pits	Change in landform and use

(a) General approach

The role of the DEO cannot be underestimated and once approved he/she shall be on the site at all times, and before the Contractor begins each construction activity, he/she shall give to the Engineer a written statement setting out the following:

(i) The type of construction activity about to be started.
(ii) Locality where the activity will take place.
(iii) Identification of the environmental aspects and impacts that might result from the activity.
(iv) The methodology of impact prevention for each activity or aspect.
(v) The methodology of impact containment for each activity or aspect.
(vi) Identification of the emergency/disaster potential for each activity (if any) and the reaction procedures necessary to mitigate impact severity.
(vii) Treatment and continued maintenance of impacted environment.

The Contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified, and the activity planned so as to prevent any impact from happening and shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce method statements for each construction activity in compliance with the provisions of these project specifications.

The Contractor shall provide such information in advance of any or all construction activities provided that new submissions shall be given to the Engineer whenever there is a change or variation to the original.

The Engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the Contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the Contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

(b) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous products. In the event of a spillage, the Contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill containment and treatment (whether hazardous or not) lies with the Contractor. The individual causing a spill, or who discovers a spill, must report the incident to his/her DEO or to the Engineer. The DEO will assess the situation in consultation with the Engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil/water shall be determined by the Contractor in consultation with the DEO and the Engineer. Areas cleared of hazardous waste shall be re-vegetated according to the Engineer's instructions.

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the Engineer. The costs of containment and rehabilitation shall be for the Contractor's account, including the costs of specialist input as well as the sampling and testing of the water quality upstream and downstream of the spill. Water quality sampling and testing, and further treatment shall continue until upstream and downstream results correspond with each other.

(c) Water use and control

The Contractor's use of water shall take into consideration that it is a scarce commodity and shall be optimised. Authorisation shall be obtained from the

Department of Water and Sanitation (DWS) before water is drawn from streams or new boreholes developed.

The Contractor shall also ensure that any stream deviations or diversions are undertaken in such a manner that the impact on the environment is minimised. Method statements shall be submitted to the Engineer for comment, detailing how the work will be undertaken, what risks are foreseen and what measures will be employed to minimise such risks. Notwithstanding any comments by the Engineer, no work on stream deviations or diversions shall be undertaken in accordance with GN 509 in GG 40229 of 26 August 2016 - General Authorisation in terms of Section 39 of the National Water Act, 1998 (Act No. 36 Of 1998) for Water Uses as defined in sections 21(c) and (i) .

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users/receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and flooding by dredging, daylighting, removal of debris and vegetation, etc. These shall also be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous products.

The Contractor shall submit to the Engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions up to 1:5 year severity.

The Contractor shall submit to the Engineer the results of the baseline water quality test taken above and below the site of the proposed activity, and thereafter monthly testing results or at the frequency as may be specified by the Water Use Licence/General Authorisation, where applicable. No taking-over can be authorised until the water quality is shown to be at pre-construction levels or better.

(d) Vegetation management

The Contractor shall be responsible for the management of vegetation by protection of indigenous vegetation, especially identified protected species, and the prevention of alien vegetation germinating in areas disturbed by road construction activities within and outside the road reserve. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily. This responsibility shall continue for the duration of the defects notification period. The project specification may instruction the removal of CARA and/or NEMBA-listed category 1 and 2 alien species and planting of specified indigenous species.

(e) Dust control

Dust caused by construction activities shall be controlled by appropriate means and applied at sufficient frequency so as not to cause nuisance to adjacent habitation or affect farming activities or natural vegetation. Vegetation cover should also be kept for as long as possible to reduce the area of exposed surfaces. Dust emissions from batching and screening plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant authorities.

(f) Noise control

The Contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during the hours prescribed by the conditions of contract (i.e. normal hours). Should such noise generating activities have to occur at any time outside normal hours the people in the vicinity of the noise-generating activity shall be warned about the noise well in advance and the activities kept to a minimum. Relevant legislation shall also be taken into consideration, and any practical mitigation measures adopted. No noise generating activity outside of normal hours, regardless of its proximity to residences, can take place without application to the Engineer for approval. The application shall be accompanied by the noise containment measures proposed.

(g) Energy consumption

The Contractor shall take into consideration the impacts of high energy consumption, both from a cost and emissions point of view. Energy use shall be minimised, and where possible, alternative energy sources such as solar utilised.

Furthermore, the Contractor shall measure and keep records of the consumption of carbon units his chosen method of construction produces in the execution of his programme. In conjunction with the Engineer who will provide complete cooperation, a month-by-month output shall be compiled and efforts made to see how these outputs can be curtailed and reduced.

C1007 ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

The Contractor shall undertake “good housekeeping” practices during construction as stated in the COTO Standard Specifications for Roads and Bridges and the FIDIC conditions of contract. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

The construction activities addressed below shall become part of the Contractor’s obligations regarding his programme of work and incorporated into the required method statements for workmanship and quality control.

a) Site establishment

i) <u>Site Plan</u>

The site refers to an area with defined limits on which the project is located. The Contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before any site establishment can begin, the Contractor shall submit to the ECO for his comments and to the Engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the Contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste management facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course. No camp establishment, including satellite camps, can be placed within 150 metres of

an identified watercourse unless the Contractor has applied to DWS and received authorisation to do so. Regardless of the chosen site, the Contractor's intended mitigation measures shall be indicated on the plan. The site plan shall have been submitted and approved before establishment commences. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the ECO and the Engineer for consultation during rehabilitation of the site in order that rehabilitation is, as a minimum, done to a standard similar to pre-construction activities.

ii) Vegetation

The Contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the Engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the Engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring shall be re-established. Protected trees may not be removed without a permit from the Department of Forestry, Fisheries and Environment.

Contravention of a notice of listed protected tree species under the National Forests Act, 1998 is regarded as a first category offence that may result in a fine or imprisonment for a period up to three years, or to both a fine and imprisonment. The DEO must be conversant with the latest gazette of declared protected trees.

Rehabilitation shall be undertaken using only indigenous tree, shrub and grass species. Special attention shall be given to any search and rescue operation identified during the environmental assessment process and any removal to an on-site nursery for continuous nurturing and protection and later replanting.

Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding.

Fires shall only be allowed in facilities or equipment specially constructed for this purpose. The need for a firebreak shall be determined in consultation with the Engineer and the relevant authorities, and if required a firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Water management

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp/office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans, dams etc.). Only domestic type wastewater shall be allowed to enter this system.

iv) Heating and cooking fuel

The Contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The Contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage management

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of the Engineer, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a specialist service provider. The type of sewage management will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the Engineer. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system and shall be approved by the Engineer in consultation with the ECO.

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The Contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the Engineer.

c) Waste management

The Contractor's intended methods for waste management shall be outlined and implemented at the outset of the contract and shall be to the satisfaction of the Engineer. A waste inventory shall be drawn up of all waste streams that will possibly be generated by the site/project and an integrated approach shall be taken to its management. Records shall be kept of all waste disposed. Opportunities for avoiding, reducing, reusing and recycling of materials should be identified upfront, as should constraints for their implementation. All personnel shall be instructed to dispose of all waste in the proper manner.

i) <u>Solid waste</u>

Solid waste shall be stored in an appointed area in covered, tip-proof metal drums or similar container for collection and disposal. Disposal of solid waste shall be at a licensed landfill site or at a site approved by the relevant authority in the event that an existing operating landfill site is not within reasonable distance from the project area. No waste shall be burned or buried at or near the project area.

ii) <u>Litter</u>

No littering by construction workers shall be allowed and particular emphasis on litter control measures shall apply at stop/go facilities.

During the construction period, the various contractors' facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter. At all places of work the Contractor shall provide litter collection facilities for later safe disposal at approved sites.

iii) Hazardous waste

Hazardous waste such as oils shall be disposed of at an approved landfill site and proof of such disposal kept by the Contractor. Special care shall be taken to avoid spillage of bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating surface water.

Under no circumstances shall the spoiling of bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected bituminous products shall be returned to the supplier's production plant. Any spillage of bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the Engineer.

iv) Construction and demolition waste

The opportunity for recycling and reuse of construction and demolition waste as fill for road embankments, land reclamation and drainage control must first be explored and take priority before the option of declaring these materials a 'waste'.

The Contractor is encouraged to actively engage with authorities and landowners adjacent to the site and identify where such materials can be usefully deployed to repair existing environmentally damaged areas such as erosion dongas.

d) Control at the workshop

The Contractor's management and maintenance of his plant and machinery will be monitored according to the criteria given below.

i) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials such as bitumen binders shall be stored in a secured, appointed area that is suitably fenced, bunded and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the ECO and the Engineer.

The Contractor shall provide proof to the Engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected, the Contractor shall furnish the Engineer with details of the preventative measures he proposes to install in order to mitigate pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

ii) Fuel and gas storage

The Contractor shall take cognisance of the limits set by legislation for the storage of fuels and acquire the necessary authorisation for storage capacity beyond these. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.

Gas welding cylinders and LPG cylinders shall be stored chained in a secure, well-ventilated area exterior to any building wall.

iv) Oil and lubricant waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by a specialist oil recycling company.

Drip trays shall be used to collect any lubricants or fuel spilled where any vehicle and machinery are repaired or refuelled. The lubricants and fuel collected shall be handled as specified above.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the site

In all areas where the Contractor intends to or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the Engineer for his approval. Working areas shall be clearly defined and demarcated on site to minimise the construction footprint. "No-go-areas" and other sensitive areas shall also be clearly demarcated on site, and staff must be made aware of them.

The plan of action shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the Engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during inspections.

f) Soil management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include all storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved waste disposal site. The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water.

The Contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be top-soiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The Contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The Contractor shall be held responsible for the replacement,

at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the Engineer. The Contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the Engineer, and if not used for road building it shall be stored and maintained separately from the topsoil so that neither stockpile is contaminated by the other. This soil shall be used for rehabilitation purposes by first spreading it over the excavated slopes without interfering with or contaminating the stockpiled topsoil.
Whilst in stockpile it shall be maintained free from erosion and weed infestation in the same way as for topsoil stockpile maintenance.

g) Earthworks and layerworks

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the Contractor shall have complied with the requirements of this EMP. In addition, the Contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The Contractor's attention is drawn to the requirement of the Department of Mineral Resources, that before entry into any quarry or borrow pit, an Environmental Authorisation for the establishment, operation and closure of a quarry or borrow pit shall have been approved by the Department where applicable. It is the responsibility of the Contractor to ensure that he is in possession of the authorisation prior to entry into the quarry or borrow pit. The conditions imposed by the relevant authorisation are legally binding on the Contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific authorisation and this EMP, the former shall apply.

ii) Excavation, hauling and placement

The Contractor shall provide the ECO and the Engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail measures by which the impacts of pollution (noise, dust, litter, fuel, oil and sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The Contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition.

iii) Spoil sites

The Contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the ECO for his/her comments and to the Engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the ECO and the Engineer. No spoil site shall

be located within 50m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.

The use of approved spoil sites for the disposal of any waste shall be prohibited. Spoil sites will be shaped to fit the natural topography. Depending on availability these sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Appropriate grassing measures to minimise soil erosion shall be undertaken by the Contractor. This may include both strip and full sodding. The Contractor may motivate to the Engineer for other acceptable stabilising methods. The Engineer may only approve a completed spoil site at the end of the defects notification period upon receipt from the Contractor of a landowner's clearance notice.

iv) Stockpiles

The Contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the Engineer for his approval. The Contractor's proposed measures for prevention of environmental damage, containment and subsequent rehabilitation shall also be submitted.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the Contractor shall at all times ensure that they are positioned and sloped to create the least visual impact, constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment and kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated/deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the Contractor's cost until clearance from the Engineer and the landowner is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the Engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in situ milling or any leftover material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract documentation or under instruction from the Engineer.

The ECO shall comment on, and the Engineer shall approve, the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their closure only when they have been satisfactorily rehabilitated.

v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the Contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives.

h) On site plant

i) Crusher, screening plants and concrete batching plants

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1007(g)(i) of this EMP, with the exception that the Contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the Contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant authority, as shall approval of closure. The Engineer will assist the Contractor in his applications to the relevant authority.

Screening activities shall be undertaken so that dust and noise is minimised. This can be done by carefully choosing the site for the activity, and by using slightly damp material.

Effluent from concrete batch plants and crusher plants shall be reused where possible or treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the Engineer for approval.

ii) Asphalt Plant

Asphalt plants shall be subject to the applicable legislation that governs establishment and operation of batching plants. The Contractor shall be responsible to obtain the necessary permit from the relevant authority.

Operation of the plant shall conform to the same requirements as for a crushing plant or concrete batching plant under C1007(h)(i) above.

C1008 AREAS OF SPECIFIC IMPORTANCE

Any area, as determined and identified within the project documents as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the specific environmental authorisation, as well as the approved EMPr. The Contractor may offer alternative solutions to the Engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection should not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall receive ad hoc treatment.

a) Archaeological sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the Engineer of such discovery. The South African Heritage Resource Agency (SAHRA) is to be contacted, and a SAHRA-registered archaeological consultant may undertake the necessary work involved in confirming the find and advising on how it should be preserved or removed. Work may only resume once clearance is given in writing by the archaeologist. (Read with FIDIC condition of contract clause 4.24)

If a grave or midden is uncovered on site then all work in the immediate vicinity of the graves/middens shall be stopped, and the Engineer informed of the discovery. The South African Heritage Resource Agency and the South African Police Services (SAPS) should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with SAHRA, be responsible for attempts to contact family of the deceased and for the place where the exhumed remains can be re-interred.

C1009 REHABILITATION

The Contractor shall be responsible for the re-establishment of grass within the road reserve boundaries for all areas disturbed during construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, construction has to be stored temporarily, and designated or instructed areas outside the road reserve. It also includes the area where site offices were erected which may require rehabilitation at the end of the contract. All construction material, including concrete slabs and barbecue (braai) areas shall be removed from the site on completion of the contract unless written approval from the relevant landowner demonstrates it is to be left in place.

Responsibility for re-establishment of vegetation shall extend until expiry of the defects notification period. However, SANRAL reserves the right to continue holding retention monies (or not releasing guarantees in lieu of retention) depending upon the state of cover at the end of the defects notification period. Such extension may continue until closure of the relevant quarry or borrow pit has been secured,

Rehabilitation of affected areas should be undertaken as early as possible when the relevant activities are done in order to reduce further environmental damage. All re-vegetation should be undertaken using indigenous vegetation. The standard of rehabilitation should be to the satisfaction of the Engineer and the relevant authorities. The Department of Minerals Resources will only issue closure certificates for borrow pits and quarries when they are satisfied with the rehabilitation undertaken. It should also be noted that in some cases there is a requirement for a final environmental audit covering the extent of the project.

C1010 RECORD KEEPING

The Engineer and the DEO will continuously monitor the Contractor’s adherence to the approved impact prevention procedures and the DEO shall submit regular written reports to the ECO and to the Engineer at least once a month. The DEO will report the environmental compliance performance of the project at regular site meeting. The Engineer shall issue to the Contractor a notice of non-compliance whenever transgressions are observed. The DEO shall document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the Engineer in the monthly report.

Copies of all authorisations shall be kept on site and made available for inspection by visiting officials from SANRAL, relevant authorities or internal/external auditors.

C1011 COMPLIANCE AND PENALTIES

The Contractor shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and an oral report given at the monthly site meetings.

Any non-compliance/omissions with the procedures in this EMP, environmental authorisations and the approved EMPr constitute a breach of the Conditions of Contract.

Regulatory financial penalties imposed on SANRAL shall be passed onto the defaulting parties.

SECTION D: STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT

SECTION D: STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT

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D1001 SCOPE

Section D of the Specifications describes the structured engagement with project Stakeholders and affected Communities to the project. It also guides the selection and the enhanced utilisation and development of Targeted Labour and Targeted Enterprises.

D1001.01 Principles for Project Liaison, Targeted Enterprise Sub-contracting, and Targeted Labour Sourcing in SANRAL Projects (Fourteen Point Plan)

The scope of the work described in this Section D of the Specifications shall be based on the Employer's Principles for Project Liaison, Targeted Enterprise sub-contracting and Targeted Labour sourcing in all SANRAL projects, which are stipulated below:

1. *SANRAL will establish a Project Liaison Committee (PLC) for every project to create a platform for project communication with the aim to facilitate the Contractor's sub-contracting with Targeted Enterprises and the employment of Targeted Labour. It may also include the supply of material and goods, procurement of services, and participation with MOU partners to facilitate successful works execution.*
2. *Communication will be streamlined through the PLC and used to manage the expectations of local business and communities.*
3. *SANRAL will chair PLC meetings and provide secretarial support through the Consulting Engineer or its Agent. Representation on the PLC will comprise SANRAL, the Contractor, the Consulting Engineer (SANRAL's Agent), and other relevant entities such as business representatives, traditional authority representatives, provincial, district, and local municipal representatives (not political office bearers), community representatives, and any other critical local Stakeholder that may be deemed necessary by SANRAL. While serving on the PLC, members must declare any conflict of interest and recuse themselves if requested by the PLC Chairperson.*
4. *The selection process of a Project Liaison Officer (PLO), who will be employed by the Consulting Engineer, must be fair and transparent, and the individual appointed must be supported by the PLC.*
5. *The definition of a Target Area (sometimes referred to as a local area or Project Area) may be varied by SANRAL with the input of the PLC prior to the construction tender being let.*
6. *The setup of databases for Targeted Labour in the Target Area will be done with the input of the PLC. The Targeted Labour database will be disseminated to the PLC for comment and input.*
7. *A system of Targeted Labour selection from the database must be established at a PLC meeting. The Targeted Labour database will be used by the Contractor to recruit Targeted Labour.*
8. *The PLC may give input in identifying areas of the Scope of the Works that are deliverable by Targeted Enterprises, and areas where capabilities are not available locally. All Scope of the Works areas where capabilities are not available locally will be imported from outside of the local area and local service providers will be given an opportunity to learn through one of the structured training options provided in the Contract.*
9. *Capability assessments of Targeted Enterprises will be done with the input of the PLC, prior to the sub-contract tender stage commencing, to identify any deficiencies in skills and experience. For Targeted Labour, skills assessments will be done at recruitment stage.*
10. *Targeted Enterprise development support and training must be coordinated and conducted, prior to the sub-contract tender stage commencing, with the input of the PLC.*
11. *The setup of databases for Targeted Enterprises will be conducted with the input of the PLC. The database will be disseminated to the PLC for comment and input. A database will only become final on the date of sub-contract tender closure.*
12. *The Targeted Enterprises on the database must be assisted by the Consulting Engineer and the Contractor to be compliant with the relevant legislation to execute work for a SANRAL project. Targeted Enterprises on the database must be registered on the National Treasury Central Supplier Database (CSD). The databases for Targeted Enterprise sub-contracting will be used by the Contractor for open tender processes. Tender processes for Targeted Enterprise sub-contracting must be conducted by the Contractor using government principles (e.g., public*

opening of received bids, announcement of bidders and prices). The successful tenderers will be tabled, by the Contractor, in the PLC meeting for information purposes.

13. *Appeals to the tender process, which cannot be resolved by the PLC, must be escalated to SANRAL for an independent review which will be facilitated by the Transformation Unit.*
14. *The Consulting Engineer must ensure that formal contracting arrangements between the Contractor and the Targeted Enterprise Sub-contractors are in place in all projects.*

These principles must be applied to facilitate better project level liaison with project Stakeholders and affected Communities. In addition, these principles serve to ensure communication and transparency in the execution of the Works and to facilitate inclusivity in the allocation of projects to benefit black business and local communities.

D1002 DEFINITIONS AND APPLICABLE LEGISLATION

The definitions and legislation listed below informs the requirements of this Section D of the Specifications for Stakeholder and Community Liaison, Targeted Labour employment and Targeted Enterprise utilisation and development.

D1002.01 Definitions

Unless inconsistent with the context, in these specifications, the following words, terms or expressions shall have the meanings hereby assigned to them:

a) Business Coaching

Business Coaching establishes an atmosphere of mutual trust, respect, responsibility and accountability to motivate the emerging business owner and his team. To that end, the business coach must conduct an ethical and competent practice, based on appropriate professional experience and business knowledge.

b) Community

The Community consists of South African Citizens, defined in terms of the South African Citizenship Act (Act 88 of 1995), who permanently reside within the Target and Project Area(s) of the project.

c) Contract Participation

Contract Participation is the process by which the Employer implements Government's objectives by setting Specific Goals to enhance Targeted Labour and Targeted Enterprises' utilisation and development, which the Contractor must achieve as a minimum.

d) Contract Participation Goal (CPG)

The CPG is the monetary value of the participation goals set by the Employer for Targeted Labour and Targeted Enterprises expressed as a percentage of the Final Contract Value (as per D1003.04).

e) Contract Participation Goal Plan (CPG Plan)

The CPG Plan outlines how the Contractor intends to achieve the various Specific Goals w.r.t the CPG as set in the Specification Data. The CPG Plan includes the detail of the Targeted Enterprise work programme, as well as the contents and value of the work packages. See Appendix 7.1 for the CPG Plan template.

f) Contract Participation Performance (CPP)

The CPP is the measure of the Contractor's progress in achieving the CPG and the formula for calculating its value is described in Section D1003.05.

g) Contract Skills Development Goals (CSDG)

The CSDG is the number of hours or head count of skills development opportunities that a Contractor contracts to provide in relation to work directly related to the Contract or order up to:

i) completion in the case of a professional service contract;
ii) the end of the service period in the case of a service contract; and
iii) practical completion in the case of an engineering and construction works contract.

h) Domestic Sub-contractors

A Domestic Sub-contractor is one in whose selection and appointment the Employer traditionally plays no part in other than simply giving consent when that is required under the terms of the Contract. The appointment of the sub-contractor is treated as something entirely for the benefit of the Contractor and is a purely "domestic matter".

i) Final Contract Value

The Final Contract Value also means the Contract Price as defined in FIDIC, sub-clause 1.1.4.2. For the purposes of calculating the CPG as per Section D1003.04 Contract Participation Goal (CPG) of the Specifications, the Final Contract Value shall exclude CPA, contingencies, and VAT).

j) 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 help, advice and direction 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.

k) Labour

Persons:

i) who are employed by the Contractor or a Sub-contractor in the performance of the Contract; and
ii) whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's or Sub-contractor's employment policies; but
iii) who are not Targeted Labour as stated in the Specification Data.

The personnel employed by the suppliers of goods and material are not defined as "Labour" for the purposes of this Contract.

l) Mentoring

Mentoring is a professional relationship in which an experienced businessperson assists another by giving advice and imparting their knowledge in developing special skills and knowledge that will enhance the less experienced businessperson's professional and personal growth. The objective is to equip the emerging business owner and his team to improve their decision-making skills, being focussed and make positive progress quickly.

m) Mobilisation Period

The Mobilisation Period is the period between the Commencement Date and the date of Access to Site), which period (duration) is stated in the Contract Data. Section D1005 of the Specifications describes the purpose and requirements of the Mobilisation Period.

n) Project Area

The Project Area is the area through which the road under construction traverse or which is adjacent to and/or in proximity to project operations.

Based on market research and/or requisite resources availability, Project Areas other than defined above may be identified where preference would be given to Targeted Enterprises for sub-contracting opportunities.

o) Project Liaison Committee (PLC)

The PLC is the Committee that represents the Employer, Engineer, Contractor, project Stakeholders and the Communities affected by the project. It is important to note that:

i) elected and/or nominated political office bearers may not be members of the PLC, and
ii) the Engineer and Contractor become members of the PLC on their appointment and participate in the Committee within the scope of their respective roles and responsibilities.

p) Project Liaison Officer (PLO)

The PLO is the person who acts as the liaison officer for the project. The PLO facilitates the selection of Targeted Labour to be employed by the Contractor and attends to the day-to-day project, Stakeholder, and Community matters that impact on the parties to the PLC.

q) Specific Goals

Specific Goals may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination based on race, gender and disability.

The Employer's Specific Goals are set in the Specification Data, and unless otherwise permissible by the Preferential Procurement Policy Framework Act (Act 5 of 2000) and its Regulations, Specific Goals may be set by the Employer for the Contractor to sub-contract with Targeted Enterprises in terms of their ownership and/or control, and employ Targeted Labour as follows:

i) EMEs and/or QSEs which are at least 51% owned by black people as listed below:
ii) black people who:
    a. are citizens of the Republic of south Africa by birth or descent; or
    b. became citizens of the Republic of South Africa by naturalisation:
        i. before 27 April 1994; or
        ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalisation prior to that date;
iii) women who are South African citizens;
iv) youth as defined in the National Youth Commission Act (Act 19 of 1996);
v) people with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act (Act 55 of 1998);
vi) black military veterans who qualify to be called a military veteran in terms of the Military Veterans Act (Act 18 of 2011);
vii) unemployed persons that are black people as listed in iii) to vi) above; and

viii) unemployed persons not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution.

r) Stakeholders

Any Stakeholder listed in the Employer's Communication Policy who is affected by the Employer's operations in the Project Area(s) and/or who has an interest or concern in the project, either as a decision maker, participant or affected party and may include, amongst others, the following entities:

i) Relevant Provincial departments;
ii) Relevant Municipal departments;
iii) Traditional leadership representation;
iv) Organised forums representing community interest groups;
v) Organised forums representing the youth, women and disabled people;
vi) Other structured community groups such as religion, education, farming, etc.
vii) Organised forums representing the transport sector;
viii) Organised forums representing the business sector;
ix) Organised forums representing road users and road safety interest groups;
x) Organised forums representing environmental interest groups;
xi) Any other relevant stakeholder forum or organisation recognised by the Employer and the local municipality.

s) Sub-contractor

An entity appointed by the Contractor to execute a portion of the Scope of the Works as defined in the Conditions of Contract under FIDIC subclause 1.1.2.8. This includes both Domestic Sub-contractors and Targeted Enterprises.

t) Target Area

The geographic area defined in the Specification Data for Targeted Labour and which typically are:

i) one or more Provinces;
ii) one or more Metropolitan or District Municipalities;
iii) one or more Local Municipalities; or
iv) one or more Wards that are predominantly located within the Project Area.

u) Targeted Enterprise

A Targeted Enterprise is an entity to which the Contractor sub-contracts a percentage of the contract value as set in the Specification Data acting in the capacity of a Sub-contractor or JV partner; and

i) the Contractor does not have any equity holding in the enterprise, either directly or through a flow through calculation in accordance with the amended Construction Sector Code of Good Practice published in Notice 931 of 2017 in Government Gazette No. 41287 of 2017 in terms of the Broad Based Black Economic Empowerment Act (Act 53 of 2003); and
ii) is registered in terms of the Company's Act (Act No. 71 of 2008) or Close Corporation Act (Act No. 69 of 1984); and
iii) its ownership adheres to the Specific Goals as set in the Specification Data; and
iv) is registered with National Treasury's Central Supplier Database; and
v) is tax compliant prior to award of a sub-contract; and
vi) is CIDB registered where applicable; and
vii) is COIDA compliant prior to award of the sub-contract where applicable.

A Targeted Enterprise may be a:

a. subcontractor subcontracted to execute a portion of the Scope of the Works;
b. manufacturer that operates or maintains a factory or establishment that produces materials or goods;

c. supplier that owns, operates or maintains a store, warehouse or other establishment in which goods are kept in stock, which was bought in its own name, and regularly sold to other parties in the usual course of its business;
d. service provider who provides professional, technical, or managerial services, including those required for the acquisition of personnel, facilities, equipment, and goods.

Targeted Enterprises are also Sub-contractors as defined in the Conditions of Contract under FIDIC subclause 1.1.2.8.

v) Targeted Enterprise Construction Manager (TE Construction Manager)

The full-time dedicated staff member or sub-service provider appointed by the Contractor to develop, implement and monitor the training, development and support of Targeted Labour and Targeted Enterprises. The Targeted Enterprise Construction Manager also mentors, guides and coaches the Targeted Enterprises.

w) Targeted Enterprise Monitor

The Targeted Enterprise Monitor is an independent service provider, or individual, appointed by the Employer's Transformation Unit, to audit the Contractor and his TE Construction Manager's activities with respect to their obligations to Targeted Enterprises.

x) Targeted Enterprise Procurement Coordinator (TE Procurement Coordinator)

The staff member or sub-service provider appointed by the Contractor to facilitate the procurement of Targeted Enterprise Sub-contractors.

y) Target Group

It is a group of entities and/or persons set as the Employer's Specific Goals in the Specification Data for the Contractor to sub-contract with Targeted Enterprises and employ Targeted Labour.

z) Targeted Labour

Persons:
i) who are unemployed; and
ii) who are then employed by the Contractor or a Sub-contractor (including Targeted Enterprises) in the performance of this Contract; and
iii) whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's or Sub-contractor's or Targeted Enterprise's employment policies; and
iv) permanently reside in the Target Area(s) or who are recognized as being residents of the Target Area(s) based on identification and association with, and recognition by, the residents of the Target Area(s); and
v) who are stated as being Targeted Labour in the Specification Data.

The personnel employed by the Contractor's suppliers and service providers are not defined as "Targeted Labour" for the purposes of this Contract.

aa) Training

Training refers to the process of teaching a Trainee, usually in a classroom or simulated work environment situation where principles, theory, knowledge and skills are taught, and demonstrations are given. Assignments are set to ensure that the Trainee can apply what has been taught. Training is done by a specialist in the subject, and who is qualified and accredited to train. The objective is to improve the competency of the Trainee.

bb) Training and Skills Development Programme (TSDP)

The TSDP outlines how the Contractor intends to achieve the CSDG targets, by applying the various training methods described in Section D1010 of the Specifications.

D1002.02 Applicable Legislation, Regulations and Standards

The following Acts, as amended from time to time, are predominant amongst those which apply to the Construction Industry and are listed here for reference purposes only:

a) Constitution of the Republic of South Africa Act, Act No. 108 of 1996;
b) Public Finance Management Act, Act No. 1 of 1999;
c) Preferential Procurement Policy Framework Act, Act No. 5 of 2000 and its latest regulations;
d) The South African National Roads Agency Limited and National Roads Act, Act No. 7 of 1998;
e) Construction Industry Development Board Act, Act No. 38 of 2000;
f) Broad-Based Black Economic Empowerment Act, Act No. 53 of 2003 as amended;
g) Amended Construction Sector Codes , Government Gazette Notice 931 of 2017;
h) The Skills Development Act, Act No. 97 of 1998;
i) The Skills Development Levies Act, Act no. 9 of 1999;
j) The National Small Enterprises Act, Act 102 of 1996 as amended.

The following Standards and Practice Notes, as amended from time to time, are applicable in terms of Targeted Labour and Targeted Enterprises and are used fully or portions thereof in this Section D of the Specifications:

i) CIDB Standard for Indirect Targeting for Enterprise Development through Construction works Contracts, 29 January 2013 (Government Gazette No. 36190, 25 February 2013).
ii) CIDB Standard for Developing Skills through Infrastructure Contracts, 08 August 2013 (Government Gazette No. 36760, 23 August 2013), amended by version 2, June 2020 (Government Gazette No. 43495, 03 July 2020).
iii) CIDB Standard for Minimum Requirements for Engaging Contractors and Sub-contractors on Construction Works Contracts, 25 October 2015 (Government Gazette No. 42021, 09 November 2015).
iv) CIDB Standard for Contract Participation Goals for Targeted Enterprises and Labour through Construction Works Contracts, 31 October 2017 (Government Gazette No. 41237, 10 November 2017).
v) SANS 10845: 2015, Parts 5, 7 and 8.

D1003 TARGET GROUP PARTICIPATION

This part of Section D of the Specifications describes the Employer's requirements for the establishment of Target Group databases from which participants in the project will be selected for employment and sub-contracting.

It also describes the measurement of penalties to be applied, with respect to the CPG as defined in the Specification Data.

D1003.01 Objectives of Target Group Participation

Amongst others, the key objectives of Government are to extend economic opportunities and build entrepreneurial capacity in rural and underdeveloped areas and townships by:

a) optimising the utilisation of local resources in the Project Area;
b) developing these local resources in the execution of the project; and
c) maximising the amount of funds retained within the Project Area.

To give effect to these objectives the Contractor shall, over the full duration of the contract, from site establishment up to the completion of the works:

i) employ Targeted Labour from the Target Area(s) as stated in the Specification Data; and
ii) sub-contract Targeted Enterprises as stated in the Specification Data; and

iii) give preference to Targeted Enterprises which are from rural and underdeveloped areas and townships within the Project Area(s).

D1003.02 Targeted Labour Database

A system for the recruitment of Targeted Labour shall be established at a PLC meeting prior to the commencement of labour recruitment. This system shall be fair and transparent.

Based on the system for recruitment, a Targeted Labour Database shall be compiled by the Contractor, with the assistance of the PLO, and the input of the PLC, for the Target Area(s) as stated in the Specification Data. If necessary, the assistance of the Department of Labour may be called upon to provide a labour database of labourers with the required skills and within the required Target Groups and Target Area(s). Once the Database has been disseminated to the PLC, it shall be utilised to facilitate the selection of Targeted Labour as per the resources and skills required by the Contractor during the different construction stages.

The Targeted Labour Database shall be updated as and when required to reflect new employment seekers in the labour market.

Only Labour recruited from the Targeted Labour Database will be measured for Contract Participation Performance (CPP).

D1003.03 Targeted Enterprise Database

The Contractor shall, with the inputs of the PLC, compile a Targeted Enterprise Database from which Targeted Enterprises shall be sub-contracted to construct portions of the work as described in this part of Section D of the Specifications.

a) Market Analysis and Requisite Resources Availability Audit

The Contractor shall conduct a market analysis and requisite resources availability audit to determine the availability, expertise, abilities, and proficiency of Targeted Enterprises in the Project Area.

To inform the market analysis and requisite resources availability audit, the Contractor shall, as a minimum, use the National Treasury's Central Supplier Database (CSD) which can be obtained from the Employer's Supply Chain Management department via the Project Manager, as well as the CIDB contractor database (if applicable).

The market analysis and requisite resources availability audit, and all updates thereof for the duration of the Contract, shall be submitted to the Engineer and the Employer's Project Manager in a format acceptable to the Employer.

Following the market analysis and a requisite resources availability audit, the Contractor shall apply the CPG Target Group criteria in the Specification Data to compile a ***preliminary*** Targeted Enterprise Database (see D1003.03(c) below).

b) Call for an Expression of Interest

In addition to the CSD and the CIDB database, the Contractor shall call for an expression of interest from Targeted Enterprises in the Project Area. The call for an expression of interest shall outline the anticipated eligibility, functionality, preference and compliance criteria, as well as the anticipated Works content.

c) Preliminary Targeted Enterprise Database

Based on the information obtained from the CSD, CIDB and the call for an expression of interest, the Contractor shall compile a Preliminary Targeted Enterprise Database.

The purposes of the Preliminary Targeted Enterprise Database are:

i) for the Contractor to determine if the required resources and skills to execute the identified Targeted Enterprise work packages are available in the Project Area(s);
ii) for the PLC to verify that Targeted Enterprises on the Preliminary Targeted Enterprise Database are authentic in terms of the Specification Data and other Database criteria, and
iii) for the PLC to alert prospective Targeted Enterprises that are not on the Preliminary Database of the opportunity.

Based on the market analysis and requisite resources availability audit, and the information obtained from the call for an expression of interest, additional criteria for the Preliminary Targeted Enterprise Database may be tabled by the PLC to the Contractor for consideration to ensure Target Group participation as intended by the Employer.

d) Targeted Enterprise Database

Once the Preliminary Targeted Enterprise Database has been disseminated to the PLC for information purposes, the Contractor shall invite Targeted Enterprises to tender for the Targeted Enterprise work packages. The Preliminary Targeted Enterprise Database shall remain a "live database" until the day of tender closure when a print-out of the CSD, based on the Database criteria, shall become the ***Final*** Targeted Enterprise Database for the tender.

Any Targeted Enterprise may respond to the invitation to tender, but preference shall be given to those Targeted Enterprises that satisfy the tender criteria.

The Targeted Enterprise Database shall be updated at every instance that a new sub-contract tender or group of similar sub-contract tenders are to be let for Targeted Enterprise work packages.

Targeted Enterprises within the Project Area shall be encouraged and assisted to register on the CSD and to become compliant with all other statutory requirements.

D1003.04 Contract Participation Goal (CPG)

The CPG is the monetary value of the participation goals set by the Employer for Targeted Labour and Targeted Enterprises expressed as a percentage of the Final Contract Value. The participation goals comprise of the following:

a) Targeted Labour

In the case of Targeted Labour, the CPG is:

i) the sum of the wages and allowances, for which the Contractor, Subcontractors, and Targeted Enterprises contract to engage Targeted Labour in the performance of the Contract, expressed as a percentage of the Final Contract Value (excluding CPA, contingencies, and VAT) associated with the Specific Goals that are set in the Specification Data; or
ii) the amount equal to the person days worked for which the Contractor, Subcontractors, and Targeted Enterprises contract to engage Targeted Labour expressed as a percentage of the total person days worked associated with the Specific Goals that are set in the Specification Data.

% Targeted Labour ($TL_{Total\%}$) = the sum of the % Targeted Labour employed by the Contractor, Sub-contractors and Targeted Enterprises.

b) Targeted Enterprises

In the case of Targeted Enterprises, including manufacturers, suppliers, and service providers, the CPG is:

i) the amount equal to the value of goods, services and works for which the Contractor contracts to engage Targeted Enterprises in the performance of the Contract, expressed as a percentage of the Final Contract Value (excluding CPA, contingencies, and VAT) associated with the Specific Goals that are set in the Specification Data, and calculated as follows:

$$\%\ \text{Targeted Enterprises } (TE_{Total\%}) = TE_{Subcontractor} + TE_{Supplier} + TE_{Manufacturer} + TE_{ServiceProvider.} + TE_{JonitVenture}$$

Where:

$TE_{Subcontractor}$ = 1.0 x % Targeted Enterprise subcontractors, including the % Targeted Labour employed by Targeted Enterprise subcontractors.

$TE_{Supplier}$ = 0.5 x % Targeted Enterprise suppliers.

$TE_{Manufacuter}$ = 1.0 x % Targeted Enterprise manufacturers.

$TE_{ServiceProvider}$ = 1.0 x % Targeted Enterprise service providers (excluding cost of goods if service provider is not also the supplier or manufacturer of goods, e.g., a transport service).

$TE_{JointVenture}$ = 1.0 x % Targeted Enterprise joint venture participation parameter.

While the individual participation goals, i.e. $TL_{Total\%}$ and $TE_{Total\%}$ must be met, the total CPG (CPG_{Total}) is not the sum thereof, but are calculated as follows:

CPG_{Total} = Final Contract Value x [$TL_{Total\%}$ + ($TE_{Total\%}$ - Targeted Labour employed by the Targeted Enterprises)]

Where:

Final Contract Value = The total value of the Contractor's final certified work measured at the date of issue of the Taking-Over Certificate. The Final Contract Value includes the value of scheduled work and extra work, but excludes any CPA, contingencies, and VAT.

The Contractor shall strive to distribute and implement the participation goals and opportunities equally and continuously over the duration of the Contract. Where the Contractor deems such an equal and continuous distribution of the participation goals to be unachievable, he shall provide reasons and motivate it clearly in the preliminary CPG Plan.

Both the Targeted Labour and Targeted Enterprise participation goals may consist of sub-goals which are stipulated in the Specification Data. The Contractor is required to achieve these individual sub-goals. If the Contractor fails to achieve any one of the individual sub-goals and does not substantiate that such failure is due to quantitative underruns, the elimination by the Employer of items contracted to Targeted Enterprises, or any other reason beyond the Contractor's control which may be acceptable to the Employer, penalties shall apply as stated in Section D1003.05 of the Specifications, and as provided for in clause 8.7 of the FIDIC Conditions of Contract.

The value of the Provisional Sum scheduled under item D10.05 will not necessarily make up the full value of the work required to meet the minimum goal set by the Employer for Targeted Enterprises. It is the Contractor's responsibility to assess the work required to meet the goals and, if necessary, to engage additional Targeted Enterprises to execute work on the Contract as well to ensure that the minimum goals are achieved.

D1003.05 Contract Participation Performance (CPP)

The CPP is the monetary value of the Contractor's actual progress towards achievement of the CPG calculated as follows:

CPP = CPG_{Actual}
= total monetary value (excluding VAT) of Targeted Labour employed by the Contractor plus the total monetary value (excluding VAT) of Targeted Enterprises contribution, including Targeted Labour employed by the Targeted Enterprises.

The Contractor's CPP shall be monitored monthly to determine the extent to which it is striving to achieve the CPG. The basis of monitoring shall be a comparison of the actual expenditure on Targeted Labour and Targeted Enterprises with the planned expenditure for Targeted Labour and Targeted Enterprises as per the accepted CPG Plan. Monthly returns, in the format required by the Employer, shall be submitted by the Contractor with each interim Payment Certificate.

To assist in the measurement of the CPP the Contractor shall include the envisaged CPG programme in its initial contract programme which is to be submitted within 28 days after the Commencement Date. The CPG programme shall be updated in the accepted construction programme on acceptance of the CPG Plan and with every subsequent revision.

a) CPP Penalties

Failure to reach either the CPG or any individual Target Group goals shall render the Contractor liable for a penalty as prescribed in clause 8.7 of the FIDIC Conditions of Contract unless there are compelling reasons why the goal or sub-goals could not be achieved as stipulated in Section D1003.04 of the Specifications. Penalties for Targeted Labour and for Targeted Enterprises shall be calculated as follows:

Penalty Targeted Labour = $(TL - TG) + Sum\ (TL_n - TG_n) - 1.2 \times L_{dp}$

Where:

$_n$	=	Each lowest order sub-group of Targeted Labour stipulated in the Specification Data.
TL	=	Monetary value of the Targeted Labour calculated at the percentage stipulated in the Specification Data applied to the Final Contract Value.
TG	=	Cumulative monetary value of Targeted Labour employed on the contract by the Contractor and all Sub-contractors.
L_{dp}	=	Cumulative monetary value of black Disabled Persons employed on the Contract by the Contractor and all Sub-contractors.
$(TL_n - TG_n)$ =		The monetary values calculated unless if any calculated value is negative, then it shall be a zero value.

Penalty Targeted Enterprises = $(TE - TGE) + Sum\ (TE_n - TGE_n) - 1.2 \times TE_{mv} - 1.2 \times TE_{dp}$

Where:

$_n$	=	Each lowest order sub-group of Targeted Enterprise stipulated in the Contract Data.
TE	=	Monetary value (excluding VAT) of Targeted Enterprises calculated at the percentage stipulated in the Specification Data applied to the Final Contract Value
TGE	=	Cumulative monetary value (excluding VAT) by Targeted Enterprises sub-contracted to the contract by the Contractor and 50% of the cumulative monetary value (excluding VAT) by Targeted Enterprise suppliers of goods and/or services.
TE_{mv}	=	Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Military Veterans, sub-contracted to the Contract by the Contractor.
TE_{dp}	=	Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Disabled Persons, sub-contracted to the Contract by the Contractor.
$(TE_n - TGE_n)$ =		The monetary values calculated unless if any calculated value is negative, then it shall be a zero value.

The total Penalty value shall be the sum of the Targeted Labour and Targeted Enterprises Penalty values unless the total Penalty value is negative then it shall be a zero (0) value.

Interim penalty valuations, based on the accepted CPG Plan, shall be calculated to interim Payment Certificate values (excluding VAT) to establish the anticipated outcome, and to plan corrective actions for non-adherence to the CPG Plan.

Interim penalty valuations shall not be applied to the interim certificate value, but the Contractor shall by notice be placed on terms to correct as prescribed in sub-clause 15.1 of the FIDIC Conditions of Contract. Failure to correct by completion of the Contract will lead to an Employer's Claim in terms of sub-clause 2.5 of the FIDIC Conditions of Contract.

Any Penalty payable shall be calculated on, and applied to, the Final Contract Value.

D1003.06 Accredited Registration

The CPP for Targeted Enterprises shall only be accepted if the respective Targeted Enterprises comply fully with the definition of a Targeted Enterprise, and documentary evidence to support the claim lodged with the Engineer before the work, goods or service may be considered as having been performed by a Targeted Enterprise. The responsibility for producing evidence of the respective documentation shall rest with the Contractor.

The Contractor shall assume responsibility for the compilation and maintenance of comprehensive records detailing each Targeted Enterprise's progress.

D1003.07 Contractor's Responsibility

In terms of the Conditions of Contract, all Targeted Labour recruitment and employment and Targeted Enterprises sub-contracting, as well as its associated risks, shall remain the sole responsibility of the Contractor.

The Employer's CPG requirements, and the compulsory utilisation of project specific Targeted Labour and Targeted Enterprise databases, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

D1004 STAKEHOLDER AND COMMUNITY LIAISON AND SOCIAL FACILITATION

This part of Section D of the Specifications describes the Employer's requirements with respect to Stakeholder and Community liaison and social facilitation. It also describes the roles and responsibilities of the Project Liaison Committee (PLC) and the Project Liaison Officer (PLO).

D1004.01 Purpose of Stakeholder and Community Liaison

To give effect to the need for transparency and inclusion in the process of delivering services, the Contractor shall liaise with the project Stakeholders and affected Communities for the duration of the Contract's life cycle. This shall be achieved through structured engagement with the PLC which was established by the Employer for this purpose.

D1004.02 Contractor's Responsibilities in Stakeholder and Community Liaison

The Contractor shall have the following general responsibilities in the Stakeholder and Community Liaison process:

a) Stakeholder and Community engagement shall be executed based on the Employer's social facilitation principles and processes described in this Section D of the Specifications.

b) The Contractor shall make use of the PLC as the official communication channel and utilise it to facilitate harmonious relationships, with project Stakeholders and affected Communities.
c) PLC members, which include the Contractor, shall be held accountable to disseminate project information discussed at the PLC meetings to the entities that they represent.
d) As a party to the PLC, the Contractor shall delegate from among his site personnel a responsible person to participate in the PLC and its business.
e) The Contractor shall provide the PLC with any assistance and information that it requires to execute its duties, which amongst others, include training, providing a meeting venue on site, providing Target Group reports, etc.

It is important to note that in terms of the Conditions of Contract, all Targeted Labour recruitment and employment, and Targeted Enterprises' selection and sub-contracting, as well as its associated risks, shall remain the sole responsibility of the Contractor.

The Contractor shall take cognisance of the Employer's PLC and PLO Forms, attached as Appendix 7.2. While the Employer holds its own staff accountable for the deliverables listed in the checklist, the Contractor and the Engineer shall assist the Employer in accomplishing the deliverables.

The Employer's establishment of the PLC, and/or the Engineer providing a PLO to the Contractor, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

D1004.03 Project Liaison Committee (PLC)

The PLC is the official communication channel through which the Employer, Engineer, Contractor and project Stakeholders and affected Communities communicates on project matters. This platform is also used to communicate the impact that the project has or may have on project Stakeholders and the affected Communities. This part of Section D of the Specifications describes the general processes pertaining to the PLC, as well as its role and responsibilities.

a) Establishment of the PLC

A PLC has either been established prior to commencement of the Contract or shall be established as soon as possible by the Employer. The PLC consists of the Employer, Engineer, Contractor and representatives of project Stakeholders and affected Communities.

To ensure that all relevant Stakeholders are represented in the PLC, the Employer did, or will, consult with the Executive Mayor's office, as well as with the LED Department of the Local Municipalities in the Project Area.

Stakeholder representation on the PLC is project and Project Area specific and may, amongst others, include:
i) Relevant Provincial departments.
ii) Relevant District and Local Municipal departments.
iii) Traditional leadership representation.
iv) Organised forums representing community interest groups.
v) Organised forums representing the youth, woman and people with disabilities.
vi) Organised forums representing the business sector.
vii) Organised forums representing transport sector.
viii) Organised forums representing road users and road safety interest groups.
ix) Organised forums representing environmental interest groups.
x) Any other relevant stakeholder forum or organisation recognised by the Employer and the district and/or local Municipality.

Every forum/organisation/constituency shall have one (1) representative on the PLC, which representation shall be confirmed by a duly signed nomination form.

It should be noted that the PLC is not a political platform. While political office bearers may be invited to some PLC meetings, they may not be PLC members and hence, will not have voting rights when attending a PLC meeting.

The Employer's timeous establishment of the PLC and/or the level of functionality of the PLC shall not prevent the Contractor from continuing with his responsibilities during the Mobilisation Period and the subsequent commencement of construction of the Works.

b) Reimbursement of PLC Members

PLC membership is voluntary, and PLC members shall not be renumerated for any time spent in PLC meetings or work done outside of PLC meetings, which are associated with representing their constituencies on the PLC.

Provision for the cost of liaison, social facilitation and PLC support has been made under pay-item D10.02(a). This pay-item provides for the Contractor's cost incurred in executing his responsibilities with regard to Stakeholder and Community liaison.

This pay-item may also be utilised to reimburse PLC members for actual costs incurred in executing their PLC duties (other than time spent in PLC meetings or work done outside of PLC meetings). The Contractor will determine and table to the PLC a realistic monthly reimbursable amount which will be substantiated by an outline of the anticipated actual costs envisaged to be incurred by PLC members.

In establishing a reimbursement amount for PLC members, the factors listed below, as well as the Project Classification Table may be considered, but is not mandatory or conclusive:

i) Transportation costs.
ii) Sustenance (if not provided during meetings).
iii) Type, size, and complexity of the project.
iv) Facilitation of performance milestones.

Table D1004.03(a): Project Classification (Type, Size, Complexity)

Project Classification	Project Value (Rm)	Indicative PLC Reimbursement
Maintenance (M) (OPEX)	< R 100	R 585
	> R 100	R 585
Development (D) (CAPEX)	< R 100	R 585
	R 100 – R 300	R 705
	R 300 – R 500	R 820
	> R 500	R 935

PLC members will be reimbursed monthly, and the reimbursable amount may be revised bi-annually should the actual costs incurred by PLC members change during the project.

The PLC reimbursement amount shall be increased annually, or twelve (12) months after the last bi-annual adjustment, based on the CPI figure contained in Table B2 of Statistical Release P0141 by StatsSA (base date JULY 2023).

c) Induction of the PLC

The Employer shall conduct an induction meeting with the PLC to acquaint PLC members with the following information:

i) SANRAL's Horizon 2030 Strategy.
ii) SANRAL's Principles for Project Liaison.
iii) The role and responsibilities of PLC members.

iv) SANRAL's Transformation Policy.
v) How the Transformation Policy impacts on SMMEs.
vi) Relevant details of the Contract, e.g.
   a. Start and end dates
   b. Important milestones
   c. CPG goals
   d. Envisaged Targeted Enterprise packages, and
   e. Envisaged work for other SMMEs (non-CPG).

d) Rules of Engagement for the PLC

In the execution of their duties, members of the PLC shall adhere to the undertakings listed below and the Contractor shall inform the Engineer of any transgression of these undertakings.

i) General Matters and Membership

   a. A PLC member may not be a politically elected representative and political party representation will not be allowed in the PLC.
   b. Ward Councillors may interact with the PLC through the Mayor's Office and the PLC chairperson (the Employer).
   c. If required, and in consultation with the Employer, a Political Steering Committee (PSC) may be established to address political matters.

ii) Term of Office for the PLC

   a. The duration of PLC members' participating in the PLC (term of office) shall depend on the duration of the project.
   b. If the Employer finds the performance of a PLC member to be below expectation or their conduct to be unacceptable, the affected member will be discharged from their obligations and the constituency whom they represent will be requested to nominate a replacement member.

iii) Targeted Enterprises and Targeted Labour

   PLC members shall:
   a. ensure that they, or companies in which they hold equity, do not tender for any work or on any sub-contract that are issued for this Contract. Should a PLC member, or a company in which he/she holds equity, tender for such work or sub-contract, it will be treated as a conflict of interest and:
      i. the person shall cease to be a PLC member for this Contract, and
      ii. the tender proposal submitted will not be evaluated.
   b. not have private or business interests in any of the sub-contract tenders tabled to the PLC or considered in this Contract.
   c. shall recuse themselves from discussions that deal with a sub-contract tender if any other member is of the opinion that a member's participation in deliberations, which is rightly or wrongly construe as improper or irregular, may lead to the award of a sub-contract to a tenderer known to the member.
   d. during the tender and tender evaluation processes, neither deliberately favoured nor prejudiced a person or tenderer, as intended, or contemplated in treasury Regulation 16, A8.3 (a), (b) & (c).
   e. ensure that no conflict of interest arises from members' involvement in the PLC and potential involvement in Targeted Labour recruitment and/or Targeted Enterprises procurement and/or any other manufacturer/supplier/sub-contractor/service provider procurement or involvement in the Contract.

iv) Confidentiality

a. PLC members shall accept that all information, documentation, and discussions regarding any matter serving before the PLC are confidential and undertake not to communicate this information outside of the PLC meeting.
b. Decisions of PLC meetings may not be disseminated to any party other than the constituency whom they are representing.
c. Information for public dissemination shall be clearly documented in the minutes of the meeting of the PLC to ensure that sensitive information is disseminated to the correct audience.

v) Removal from Office

a. PLC members who violate the provisions of these Rules of Engagement for PLCs will be removed from their role as a PLC member at the sole discretion of the Employer.
b. The Employer reserves the right to recover any costs from PLC members whose actions can be regarded as detrimental to the Employer or to the execution of the project.
c. The Employer also reserves the right to recommend criminal prosecution if the offence warrants such action.
d. The Employer reserves the right to dissolve the entire PLC should it believes that such an action is in its best interest, or that of the project. The Employer will not be obliged to reconstitute the PLC if such a dissolution occurs.

e) Responsibilities and Duties of the PLC

The PLC shall execute specific duties during the design and construction phases of the project.

Some of the PLC's duties during the design and construction stages overlap and hence, for completeness, a description of the PLC's duties in both project stages is provided here.

The PLC shall execute the following duties:

i) Project Design Stage

a. Meet as often as required to provide input to the project's design stage matters which are of interest or concern to the parties to the PLC.
b. Peruse the PLC duties outlined in this Section D of the Specifications and agree on the duties of, and procedures to be followed by, the PLC to fulfil its duties.
Note: The principles outlined in this section shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.
c. Act in accordance with the agreed terms of reference for the PLC.
d. Inform the Employer's Project Manager of any training that PLC members require to execute their duties.
e. Provide input to the Engineer in sourcing suitable candidates, based on the Employer's qualifying criteria, for the position of PLO.
f. Observe that the qualifying criteria and procedures applied by the Engineer to select and employ the PLO are executed in a fair and transparent manner and are within the prescripts of the relevant labour legislation and regulations.
g. Provide input to the Engineer in identifying the project's Target and Project Area(s), from which Targeted Labour and Targeted Enterprises could be employed and sub-contracted respectively.

h. Provide input to the Engineer in identifying the project's Target Groups for inclusion in the Tender Documents.

ii) Project Construction Stage

a. Meet formally prior to the Employer's monthly site meeting, or as may be required, to discuss and resolve project matters, which are of interest or concern to the parties to the PLC.
b. Provide input to the Contractor in establishing the selection criteria and process to employ Targeted Labour.
c. Provide input to the Contractor in identifying the eligibility, functionality, preference and compliance criteria to select and sub-contract Targeted Enterprises.
d. Provide input to the Databases compiled by the PLO and the Contractor from which Targeted Labour will be selected and employed and Targeted Enterprises will be sub-contracted respectively.
e. Observe that the criteria and methodologies applied by the Contractor to select and employ Targeted Labour and sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within Government legislation and regulations and the Employer's Policies.
f. Observe that the conditions of employment and the conditions of sub-contracting, in the employment of Targeted Labour and sub-contracting of Targeted Enterprises are applied in a fair and transparent manner and according to the Employer's employment and sub-contracting requirements.
g. Provide input to the Contractor on the training needs, eligibility criteria and selection criteria for the provision of training to Targeted Labour, Targeted Enterprises, Target Groups, project Stakeholders and the affected Communities.
h. Observe that training and skills development programmes, which the Contractor committed to, are implemented and executed as approved and intended.
i. Inform the constituency whom they represent of any project matters which the respective parties to the PLC wishes to communicate with each other.
j. Inform the constituency whom they represent of any project matters that are impacting or may impact, either positively or negatively, on the respective parties to the PLC.
k. Inform the Employer's Project Manager, Engineer and Contractor of any road safety concerns within the Project Area(s) and provide input on possible mitigating measures and/or road safety programs that will be most suitable for acceptance by the affected Communities to promote road safety.
l. Assist parties to the PLC to agree on a dispute resolution mechanism to resolve any disputes that may arise between the parties to the PLC.
m. Assist parties to the PLC to liaise with their respective constituencies to resolve any disputes amongst the parties which may occur due to the project.

f) PLC Meetings

i) Frequency
a. Meetings will be conducted monthly or as required by the parties to the PLC based on the urgency of project matters.

ii) Notice of Meetings
a. Notice of PLC meetings shall be given at least seven (7) calendar days prior to meeting dates.
b. Where meetings have been diarised over a period by the PLC, it shall be the duty of each PLC member to ensure his/her attendance on the set dates.

c. Where a PLC member has been absent from a meeting, he/she bears the onus of acquiring the date and venue of the next meeting.

iii) Venue
a. The venue for PLC meetings shall be the project site office or any other venue agreed to by the members of the PLC and approved by the Employer' Project Manager.
b. During the COVID-19 lockdown, or any other lockdown as announced by government, the meetings shall be held on an online platform such as WhatsApp, MS Teams, Zoom or similar.

iv) Agenda
a. An agenda shall be made available or displayed to PLC members at the commencement of meetings or the minutes of the previous meeting will serve as the agenda of meetings.
b. The agenda shall not be amended without prior approval from the Employer's Project Manager.

v) Chairperson
a. PLC meetings shall be chaired by the Employer which will typically be the Employer's Project Manager, or a SANRAL staff member, with decision-making delegation. The Chairperson shall:
i. chair all meetings of the PLC,
ii. co-ordinate all the activities of the PLC with the assistance of the PLO,
iii. monitor that PLC members are fulfilling their tasks as assigned by the PLC,
iv. see to the execution of decisions taken by the PLC,
v. ensure, with the assistance of the Engineer, the validity of members' claims for reimbursement,
vi. monitor that all activities of the PLC comply with current laws regulations, and SANRAL policies, and
vii. be a co-signatory to all official documents of the PLC.

vi) Secretariate
a. The Engineer's staff shall provide a secretarial service to take minutes of PLC meetings.
b. Secretarial support other than taking minutes at PLC meetings shall be provided by the PLO.

vii) Quorum
a. The quorum for PLC meetings shall be constituted by 50% plus one (+1) ratio excluding co-opted members.

viii) Apologies and Non-attendance
a. Apologies shall be in writing. In an emergency where a PLC member could not apologise in advance, a written apology must be submitted as soon as possible.
b. Apologies may be sent through any media agreed to by the PLC e.g. through SMS or WhatsApp messaging or a similar application.
c. The constituency, represented by a PLC member who fails to attend three (3) consecutive meetings without an apology, will be informed in writing and requested to nominate a replacement member.

ix) Language
a. PLC meetings will be conducted in English to enable all participants to understand the discussions of the meeting.
b. However, care and consideration must be given to provide non-English speakers an opportunity to participate, and hence, if agreed by all PLC members any of the 11 official languages may be spoken and translated during the meeting. Even if a language other than English is used, the minutes of the meeting will be recorded in English.

x) Other
   a. Sustenance shall be provided at PLC meetings as per government policy.

D1004.04 Project Liaison Officer

The PLO facilitates the selection and employment of Targeted Labour and coordinates communication between the members of the PLC to address the day-to-day project, Stakeholder, and Community matters that impact on the parties represented in the PLC.

a) Appointment of the PLO

The Engineer appoints the PLO in accordance with the Employer's criteria for a PLO. The appointment of the PLO must be supported by the PLC.

Although the PLO provides social facilitation support to the Contractor, the PLO shall report to the Engineer or his delegated representative, e.g. the Resident Engineer.

b) Duties of the PLO

The PLO shall execute specific duties during the design and construction phases of the project. These duties include the following:

(i) Except for taking the minutes of PLC meetings, which is a duty of the Engineer, the PLO shall provide a secretariat function to the PLC which includes, amongst others, the following:
   a. Schedule meetings;
   b. Compile meeting agendas;
   c. Compile document packages for meetings;
   d. Distribute minutes of meetings;
   e. Assist representatives of project Stakeholders and affected Communities to formulate their communication to the PLC in writing;
   f. Distribute written communication between the parties to the PLC;
   g. Keep records of all PLC correspondence and documentation; and
   h. Provide any other reasonable secretariat function required by the PLC.

(ii) Attend all PLC meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.

(iii) Attend all monthly project site meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.

(iv) Attend any other meetings related to the project in which any of the project Stakeholders, affected Communities, Targeted Labour and Targeted Enterprises are involved.

(v) Maintain a full-time presence on site to monitor and address the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.

(vi) Maintain a full-time presence on site to assist the parties to the PLC in the day-to-day liaison with each other.

(vii) Assist the Engineer and the Contractor to disseminate information to PLC members such as:
   a. the basic Scope of the Works and how it will affect the Community;
   b. the project programme and regular progress updates;
   c. the anticipated employment and sub-contracting opportunities;
   d. the project programme as it pertains to the employment of Targeted Labour and sub-contracting of Targeted Enterprises;
   e. Occupational Health and Safety precautions; and
   f. any other information relevant to project Stakeholders and the affected Communities.

(viii) Be well acquainted with the contractual requirements as they pertain to Targeted Labour employment and training.

(ix) Assist the PLC to establish and agree the criteria to follow when selecting and employing Targeted Labour.

(x) Assist the Engineer and the Contractor in their resources and skills audits by providing a coordinating function between the Engineer, the Contractor, project Stakeholders, and the affected Communities.
(xi) Monitor that the Contractor compiles the Targeted Labour databases based on the eligibility and selection criteria and that it is updated as and when required.
(xii) Coordinate the selection and employment of Targeted Labour based on the agreed eligibility and selection criteria and based on the Contractor's labour and skills requirements.
(xiii) Confirm that each Targeted Labourer enters into an employment contract which adheres to current and relevant Labour legislation.
(xiv) Confirm that each Targeted Labourer understands the conditions of his/her employment contract with an emphasis on the employment start date, end date and wages payable.
(xv) Identify and inform the Contractor of any relevant training required by the Targeted Labour.
(xvi) Attend all disciplinary proceedings to observe that hearings are fair and conducted in accordance with the current and relevant Labour legislation.
(xvii) Be proactive in identifying project Stakeholder and affected Communities' (including Targeted Labour and/or Targeted Enterprise Sub-contractor), requirements, disputes, unrest, strikes, etc. and bring it to the attention of the PLC.
(xviii) Play a facilitating role to resolve any disputes between the parties to the PLC, which may occur due to the project.
(xix) Other than keeping the records already mentioned in this section, keep record of all other documents and processes pertaining to the employment of Targeted Labour.
(xx) Produce and submit a monthly report to the PLC on PLC and other meetings attended by the PLO, as well as on Targeted Labour employment, Stakeholder and affected Communities' matters and any other project matters that impact on the parties to the PLC.

D1005 MOBILISATION PERIOD

The Mobilisation Period is defined in Section D1002 of the Specifications. This Section describes the requirements of the Mobilisation Period.

D1005.01 Purpose of the Mobilisation Period

The Mobilisation Period was introduced as an aid to the Contractor to:
a) become acquainted with the Stakeholder and Community liaison requirements of the Contract as prescribed in this Section D of the Specifications;
b) allow for the Contractor's planning to obtain the CPG as required in the Specification Data;
c) allow for the Contractor's planning to obtain the Contract Skills Development Goals (CSDG) as required in Section D1010 of the Specifications,
d) follow the processes prescribed in this Section D of the Specifications to employ the initially required Targeted Labour and enter the first sub-contracts with Targeted Enterprises; and
e) provide the training required by Targeted Labour and Targeted Enterprises to commence with the construction of the Works.

Access to site for the Commencement of the Works shall thus only be issued once the following deliverables have been submitted and/or completed by the Contractor:
i) Submission of the CPG Plan, followed by acceptance of the Engineer.
ii) Submission of the Training and Skills Development Programme, followed by acceptance of the Engineer.
iii) Appointment of the initial Targeted Enterprise Sub-contractors.

D1005.02 Duties of the Contractor

During the Mobilisation Period, the Contractor shall execute the following duties:

a) Compile a CPG Plan

The Contractor shall compile an acceptable CPG Plan, which sets out how he intends to achieve the various CPG goals as stated in the Specification Data The Contractor shall distribute and implement the participation goals and Targeted Enterprise work opportunities equally and continuously over the duration of the Contract, i.e. from site establishment to completion of the Works. Where the Contractor deems such an equal and continuous distribution of the participation goals to be unachievable, he shall provide reasons and motivate it clearly in the CPG Plan.

The CPG Plan shall provide the detail of the Targeted Enterprise work programme, as well as the contents and value of the work packages. See Appendix 7.1 for the CPG Plan format.

The Targeted Enterprise work programme shall be in line with the Works Programme and once the CPG Plan has been accepted by the Engineer, it shall be captured in the Works Programme.

The Mobilisation Period shall only be concluded once the CPG Plan has been accepted by, and all the duties with regard to the Mobilisation Period have been executed to the satisfaction of, the Engineer after consultation with the Employer's Project Manager.

The Employer's Project Manager and the Engineer shall monitor progress and adherence to the CPG Plan in the same manner as they would monitor the Works Programme.

Should the Contractor require an extension of the Mobilisation Period due to a delay not within his control, Contractual Procedure shall be followed, and the Contractor shall submit his Claim for an extension of time through the relevant Contractual Clauses of the Conditions of Contract.

b) Compile a Training and Skills Development Programme

The Contractor shall compile an acceptable Training and Skills Development Programme, which sets out how he intends to achieve the various CSDG goals as per Section D1010 of the Specifications and in line with the CIDB Standard for Developing Skills through Infrastructure Contracts (refer to latest version on www.cidb.org.za).

The Training and Skills Development Programme shall provide the detail of the training methods selected for implementation as described in Section D1010 of the Specifications and shall include an execution programme for acceptance by the Engineer, which shall demonstrate its correlation with the Works Programme.

The Mobilisation Period shall only be concluded once the Training and Skills Development Programme has been accepted by, and all the duties with regard to the Mobilisation Period have been executed to the satisfaction of, the Engineer after consultation with the Employer's Project Manager.

The Employer's Project Manager and the Engineer shall monitor progress and adherence to the Training and Skills Development Programme in the same manner as they would monitor the Works Programme.

c) Sub-contracting of Targeted Enterprises

During the Mobilisation Period the Contractor shall execute the following duties with regard to sub-contracting work to Targeted Enterprises:

i) Liaise with the Employer's Project Manager, the Engineer and the PLC to structure and finalise the work packages to be sub-contracted to Targeted Enterprises.
ii) Liaise with the Employer's Project Manager, the Engineer and the PLC to determine the Targeted Enterprise Database criteria for the sub-contracting of Targeted Enterprises.
iii) Compile the Targeted Enterprise Database(s) for input by the PLC.
iv) Undertake a skills audit of the Targeted Enterprises which appear on the Targeted Enterprise Database(s).
v) Based on the skills audit, and with the input of the PLC, identify the pre-tender training requirements of Targeted Enterprises.
vi) Provide an opportunity to Targeted Enterprises to receive the identified pre-tender training.
vii) Tender the initial work packages and sub-contract the first group of Targeted Enterprises for commencement of the Works.

d) Employment of Targeted Labour

During the Mobilisation Period the Contractor shall execute the following duties with regard to the employment of Targeted Labour:
i) Liaise with the PLC and the PLO on the compiled Targeted Labour Database(s) for the employment of Targeted Labour.
ii) Undertake a skills audit of the Targeted Labour which appear on the Targeted Labour Database(s).
iii) Based on the skills audit, and in with input of the PLC, identify the training requirements of Targeted Labour to enhance their employability.
iv) Provide an opportunity to eligible Targeted Labour to receive the identified training to enhance their employability.
v) Select and appoint the first group of Targeted Labour for commencement of the Works.

e) Training Requirements

The Contractor will not be able to address all the training requirements identified for Targeted Labour and Targeted Enterprises during the Mobilisation Period and it is accepted that training will take place over the duration of the Contract.

The training provided to both Targeted Enterprises and Targeted Labour during the Mobilisation Period shall focus on the activities and/or skills required for the commencement of the Works and shall include the mandatory Occupational Health and Safety training.

All training provided by the Contractor shall be aligned with the training requirements as described in Section D1010 of the Specifications.

D1006 THE ROLE OF THE ENGINEER

The role and responsibilities of the Engineer are clearly described in the Conditions of Contract. This section elaborates on the Engineer's duties with respect to Stakeholder and Community Liaison, Targeted Labour employment and Targeted Enterprise sub-contracting.

Together with the Employer and the Contractor, the Engineer is also a party to the PLC and hence, is co-responsible for successful project Stakeholder and Community liaison.

In addition, the Engineer shall play a supporting role to the Contractor in the successful implementation of the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals.

D1006.01 Duties During the Design Phase

During the design phase, the Engineer undertook a preliminary skills and resources audit of the Targeted Enterprises and Targeted Labour in the Project Area. The purpose of the audit was to:

a) obtain an understanding of the Community's skills, both educational and occupational;
b) obtain an understanding of the resources available within the Community, i.e. Targeted Enterprise availability and capabilities and Targeted Labour skills levels;
c) establish the CPG goals for Targeted Enterprises and Targeted Labour for inclusion in the Specification Data; and
d) identify tender and other relevant training to be offered to Targeted Enterprises and Targeted Labour to prepare them for tendering and to enhance their employability.

D1006.02 Duties During the Construction Phase

To implement the Employer's Targeted Labour and Targeted Enterprise goals, the Engineer shall provide support to the Contractor by executing the following duties:

a) Targeted Enterprise Sub-contracting

i) Make recommendations to the Contractor in identifying, structuring, and scheduling the work packages to be sub-contracted to Targeted Enterprises.
ii) Approve the scope and extent of the work packages and, in consultation with the Employer, accept the CPG Plan.
iii) Verify that the Targeted Enterprise Database(s) has been updated prior to the letting of every new set of sub-contracts.
iv) Approve tender procedures, tender documents, tender submission requirements and adjudication processes for the sub-contracting of Targeted Enterprises.
v) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within the Employer's and Government's Supply Chain Management Policies.
vi) Verify that sub-contract agreements and the conditions of sub-contracting to Targeted Enterprises are fair and transparent and within the prescripts of the Contract requirements.
vii) Monitor the management of Targeted Enterprise sub-contracts and ensure that conditions such as the application of penalties, the termination of contracts, etc. are applied in a fair and transparent manner and within the prescripts of the sub-contract agreement.

b) Targeted Labour Employment

i) Verify that the Labour Database(s) from which Targeted Labour will be employed is updated prior to every new Labour intake.
ii) 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.
iii) 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.

c) Target Group Training Requirements

i) Make recommendations to the Contractor in identifying the training requirements of Targeted Labour and Targeted Enterprises.
ii) Approve the proposed Training and Skills Development Programme, in consultation with the Employer.
iii) Monitor that the Training and Skills Development Programme and any Targeted Enterprise support programmes, which the Contractor committed to, are implemented and executed as intended.

D1007 TENDER PROCESS FOR TARGETED ENTERPRISES

While the Contractor may utilise manufacturers, suppliers, service providers, and sub-contractors of its choice and selected via its own internal processes, for the sub-contracting of Targeted Enterprises based on the Employer's Contract Participation Goals, the Contractor shall follow the prescripts of this Section D of the Specifications.

D1007.01 Targeted Enterprise (TE) Procurement Coordinator

The Contractor shall appoint a TE Procurement Coordinator to facilitate the sub-contracting of work to Targeted Enterprises as defined in the Specification Data. For Contracts with a value of less than R 100 million the Contractor may appoint a TE Procurement Coordinator from its site staff. For Contracts with a value of more than R 100 million the Contractor shall employ or sub-contract a dedicated TE Procurement Coordinator, whose sole responsibility will be the management of Targeted Enterprise procurement and sub-contracting matters.

The TE Procurement Coordinator shall be well acquainted with, and have experience in:

a) the management of road construction and ancillary works,
b) road construction and ancillary works suitable for SMMEs,
c) National Treasury's Supply Chain Management Legislation and Regulations,
d) the Employer's Supply Chain Management and Procurement Policies,
e) the Employer's Transformation Policy,
f) the Employer's proforma document for Targeted Enterprise Subcontracting,
g) claims, amicable settlement, and dispute resolution facilitation, and
h) Stakeholder and Community relations management.

The TE Procurement Coordinator shall conduct the tender processes and procedures for Targeted Enterprise sub-contracting as prescribed in this Section D of the Specifications and shall adhere to Government's Supply Chain Management legislation and regulations and the Employer's policies.

The TE Procurement Coordinator shall provide the PLC with the necessary pre- and post-tender information for them to be able to observe that the criteria and methodologies applied by the Contractor to subcontract Targeted Enterprises are executed in a fair and transparent manner and are within Government's legislation and regulations and the Employer's policies.

D1007.02 Procedures for Targeted Enterprises Sub-contracting

The Contractor shall utilise the Employer's proforma tender and contract document for Targeted Enterprise sub-contracting. The proforma sub-contract document is attached as Appendix 7.3 and an electronic version will be provided to the Contractor on award.

The identification and application of the eligibility and functionality criteria, and conducting the tender processes and procedures for sub-contracting include, amongst others, the following activities, and sub-activities:

Activity 1 Tender Preparation

1.1 Compile preliminary list of subcontracting work packages.
1.2 Conduct a market analysis and resources and skills audit.
1.3 Call for an expression of interest.
1.4 Establish a Targeted Enterprise Helpdesk.
1.5 Compile Preliminary Targeted Enterprise Database.
1.6 Identify Targeted Enterprises, Target Groups and Project Area.
1.7 Finalise the Contract Participation Goal (CPG) Plan.
1.8 Acceptance of the CPG Plan.
1.9 Compile tender documents.

Activity 2 Tender Process

2.1 Advertise the subcontract packages.
2.2 Conduct a tender briefing and tender training session.
2.3 List of minimum tender submission documents.

2.4 Tender closure and opening of tenders.
2.5 Finalise Targeted Enterprise Database.

Activity 3 Tender Evaluation

3.1 Stage 1 – Eligibility
3.2 Stage 2 – Functionality
3.3 Stage 3 – Price and Preference
3.4 Stage 4 – Compliance Check

Activity 4 Appoint Successful Targeted Enterprises

4.1 Submitting a Tender Report.
4.2 Negotiating tender sum and/or rates with Targeted Enterprises.
4.3 Low tender sums submitted by Targeted Enterprises.
4.4 Payment to the Contractor.
4.5 Entering the Subcontract Agreement.

The summarised list of activities above, are further elaborated on in the paragraphs below:

a) Tender Preparation

Although the Contractor is required to implement the Targeted Enterprise work opportunities equally and continuously over the duration of the Contract, most of the Tender Preparation activities must be concluded during the Mobilisation Period.

i) Compile preliminary list of sub-contracting work packages

Based on the Specification Data and the Scope of the Works, the Contractor shall compile a preliminary list of the work packages (scope of work and number of packages) that are anticipated to be sub-contracted to Targeted Enterprises.

The Contractor shall refer to the construction activities that have been identified as being suitable for construction by Targeted Enterprises as listed in Section D1009 of the Specifications, and to any other construction activities which are required to execute the Works in terms of this Contract, to determine how to unbundle or package subcontracts for Targeted Enterprises.

ii) Conduct a market analysis and resources and skills audit

Based on the preliminary list of work packages, the Contractor shall conduct a market analysis and resources and skills audits to determine the availability of the required resources and skills in the Project Area to execute the anticipated Targeted Enterprise work packages. The Contractor shall consult the following databases as a minimum:

a. Construction Industry Development Board (CIDB)'s contractor database (not applicable to manufacturers, suppliers, and non-construction service providers).
b. National Treasury's Central Supplier Database (CSD) to be obtained from the Employer's Supply Chain Management Department.

iii) Call for an expression of interest

In addition to consulting the CIDB contractor database and National Treasury's CSD, the Contractor shall call for an expression of interest, which shall be published in newspapers and at locations as advised by the PLC.

For each group of work packages, the call for an expression of interest shall outline:

a. evaluation and selection criteria such as eligibility, functionality, and preference,
b. compliance requirements such as CSD and CIDB registration, tax clearance and COID compliance, and

c. the anticipated scope of the works to be undertaken by Targeted Enterprises.

iv) Establish a Targeted Enterprise Helpdesk

Other than informing the Contractor's market analysis and resources and skills audits, the purpose of the call for an expression of interest is to alert Targeted Enterprises of the subcontracting opportunities and inform them of the anticipated eligibility, functionality, and preference criteria, as well as of compliance requirements.

The Contractor shall enhance the readiness of Targeted Enterprises to participate in the subcontracting opportunities by establishing a Targeted Enterprise Helpdesk at a suitable and easily accessible location in the Project Area.

The Contractor shall provide guidance to Targeted Enterprises in getting their statutory requirements in order in anticipation of the subcontracting opportunities. The helpdesk shall assist with, or provide guidance in, registering with the CSD and the CIDB, obtaining tax clearance and COID compliance and any other relevant qualifying requirements.

v) Compile Preliminary Targeted Enterprise Database

Based on the CPG goals listed in the Specification Data and the information obtained from the activities described in the paragraphs above, the Contractor shall compile a Preliminary Targeted Enterprise Database.

In compiling the Preliminary Targeted Enterprise Database, the Contractor must bear in mind that the benchmark for an adequate number of tenderers to ensure a competitive tender process is ten (10) tenderers that are able to achieve the functionality threshold during the tender evaluation stage.

vi) Identify Targeted Enterprises, Target Groups and Project Area(s)

Based on the CPG goals listed in the Specification Data and the Preliminary Targeted Enterprise Database; the Contractor shall identify the:

a. Targeted Enterprises (CIDB grades and types); and
b. Target Groups (woman, youth, etc.) which are anticipated to benefit from the subcontracting opportunities; and
c. Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities.

vii) Finalise the Contract Participation Goal (CPG) Plan

The Contractor shall utilise all the information gathered from the activities described in the paragraphs above to finalise the CPG Plan. The plan shall contain:

a. a list of work packages (scope of work and number of packages) to be subcontracted to Targeted Enterprises;
b. procurement, award and execution dates for the work packages, distributed over the duration of the Works Contract (from site establishment to completion of the Works) to ensure continuous work opportunities;
c. the Preliminary Targeted Enterprise Database(s) for each work package;
d. the Targeted Enterprises (CIDB grades and types) and Target Groups (woman, youth, etc.) which are to benefit from the subcontracting opportunities;
e. the Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities; and

f. the tender evaluation and selection criteria for the respective work packages.

viii) Acceptance of the CPG Plan

The Contractor shall submit the CPG Plan to the Engineer for acceptance after which it shall be tabled to the PLC for their information.

The Contractor shall ensure that the tender requirements and the outcome of different tendering scenarios are explained to the PLC, specifically with respect to the outcomes of evaluating:

a. Eligibility criteria;
b. Functionality structuring and scenarios;
c. Price and Preference;
d. Compliance requirements; and
e. Negotiation processes (if applicable).

If required, the Contractor shall make amendments to the CPG Plan based on the Engineer's instructions.

ix) Compile tender documents

The Contractor shall compile the tender documents for each Targeted Enterprise subcontract work package and shall utilise the Employer's proforma document for Targeted Enterprise sub-contracting (see Appendix 7.3).

The Contractor shall compile each subcontract tender document in a manner that facilitates the achievement of all objectives and principles pertaining to the development of the Targeted Enterprises.

The subcontract work packages, its evaluation and selection criteria, and the Tender Advertisement shall be acknowledged by the PLC and accepted by the Employer, prior to advertising the tender. The draft subcontract tender documents shall be approved by the Engineer before letting the tender (see Appendix 7.4).

b) Tender Process

i) Advertise the subcontract packages

The Contractor shall advertise and invite tenders from Targeted Enterprises for the respective subcontract packages. Advertisements shall be placed in local newspapers, on community notice boards, on SANRAL's electronic supply development desk portal (*https://sanralesdd.co.za*), and any other place or medium as advised by the PLC. The Contractor shall keep printed proof of all advertisements and the platforms where the subcontract packages were advertised.

If the Employer have a proforma Tender Notice available, the Contractor shall use this document.

ii) Conduct a tender briefing and tender training session

For each group of subcontract packages, the Contractor shall conduct a compulsory briefing session to explain the tender process, the evaluation and selection criteria and the scope of the works to the Targeted Enterprises.

An Attendance Register shall be completed by all attendees and Minutes shall be taken during the briefing session. The Minutes of the briefing session shall be distributed to all attendees as an Addendum to the Tender Documents.

The Contractor shall conduct a “how to complete a tender document” training session as a component of the tender briefing session to interested Targeted Enterprises. The level of detail and hence the duration of the training session shall be informed by the findings of the resources and skills audit conducted during the Tender Preparation Phase.

The Contractor shall engage with the Employer’s Regional Transformation Officer on the Employer’s SMME Pre-tender Training and Development Programme and utilise this programme if it is available at the time in the Project Area. The Regional Transformation Officer’s contact details shall be provided on award:

Notes of the tender briefing training session shall be distributed to all attendees of the briefing session as an Addendum to the Tender Documents, irrespective if they have attended the training session or not.

A separate Attendance Register shall be completed for the training session for future reference.

iii) Minimum tender submission documents

It shall be a condition of tender that Targeted Enterprises include in their tender submissions the following documentation (if applicable, based on the subcontract type e.g. construction, manufacturing, supply or services):

a. A valid B-BBEE certificate or Sworn Affidavit with the Tenderer’s B-BBEE contributor level.
b. Proof that the Tenderer is an EME or QSE entity.
c. Proof that the Tenderer is registered on National Treasury’s CSD.
d. Proof of the Tenderer’s locality (address registered with the CIPC).
e. Proof that the Tenderer is registered with the CIDB in the required grading and class (if applicable).
f. Proof that the Tenderer is compliant with the COID act.
g. Proof that the Tenderer is tax compliant.

iv) Tender closure and opening of tenders

Tenders for the subcontract packages shall close at the stipulated time and date as advertised in the sub-contract Tender Advertisement and Tender Data. Tenders shall be submitted to the Contractor in the format and at the address prescribed by the Contractor in the subcontract Tender Advertisement and Tender Data.

The tender opening shall be conducted by the Contractor who shall publicly announce and record the names of all Tenderers and their tender prices.

v) Finalise Targeted Enterprise Database

The purposes of the preliminary Targeted Enterprise Database are described in the Tender Preparation phase above of which one is to alert Targeted Enterprises to assess their readiness to participate in the project’s subcontractor opportunities.

The period between the Contractor’s call for an expression of interest and the date of closure of the relevant subcontract tender allows for prospective Tenderers to become compliant to the database criteria. The preliminary database is thus a “live” database until the date of tender closure.

On the date of tender closure, the Contractor shall request the Employer’s Supply Chain Management Department to print out a list from National Treasury’s CSD, of entities that adheres to the Targeted Enterprise Database criteria. This list shall become the Final Targeted Enterprise Database for the

relevant sub-contract tender and shall be made available to the PLC if requested.

c) Tender Evaluation

The Contractor shall evaluate the tenders, and it shall be a condition of tender that tenders will only be accepted from Targeted Enterprises that fully comply with the definition of a Targeted Enterprise as described in Section D1002 of the Specifications.

The Contractor shall evaluate the tenders based on (1) Eligibility, (2) Functionality, (3) Price and Preference, and (4) Compliance.

i) Stage 1 – Eligibility

Tenderers shall be checked for their eligibility to tender for the advertised subcontract packages based on the following eligibility criteria:

a. Proof that the Tenderer is registered with the CIDB (if applicable).
b. Proof that the Tenderer is registered on National Treasury's CSD
c. Proof that the Tenderer is registered with the CIPC.
d. A valid B-BBEE certificate or a Sworn Affidavit with the Tenderer's B-BBEE contributor level
e. Proof that the Tenderer is an EME or a QSE.
f. Proof that the Tenderer falls within one or more of the Target Groups as per the Specification Data (if applicable).

Eligible Tenderers shall be further evaluated against the functionality criteria.

ii) Stage 2 – Functionality

No Targeted Enterprise may be prohibited from responding to the invitation to tender, however, preference shall be given to those Targeted Enterprises that adheres to the tender criteria which, amongst others, shall be measured by means of a functionality evaluation.

To ensure Targeted Enterprise participation as it is intended by the Employer and as defined in the Specification Data, Functionality shall be scored based on the type of subcontract package, e.g. construction or the supply of goods or services and at least three (3) or more of the criteria listed below shall be applied.

The points allocated for the listed criteria shall be clearly demonstrated to tenderers as a matrix in the tender document. The functionality matrixes provided in the Employer's proforma document for Targeted Enterprise subcontracting (Appendix 7.3) shall be applied to evaluate the functionality of Tenderers.

Tenderers must score a minimum of 75% for functionality and Tenderers that do not obtain the threshold shall not be evaluated further.

a. Locality

For lower CIDB grade packages, the points allocated for Locality typically has a higher weighting in the total evaluation points but shall not be more than 65% of the total evaluation points.

Points scored shall be based on the Targeted Enterprise's registered address with the CIPC.

i. If the Targeted Enterprise is more than twelve (12) months old and the company address:

(a) was changed with the CIPC in the twelve (12) months prior to the tender advertisement; or
(b) does not correlate with the company address recorded on the CSD,

the Targeted Enterprise shall provide additional proof of its address in the twelve (12) months preceding the tender advertisement date and that the address is current by submitting the following:

(i) for urban areas:
1. signed lease agreement confirming occupation in the preceding twelve (12) months; or
2. mortgage statement confirming ownership in the preceding twelve (12) months; and
3. a current utility bill (not older than three (3) months) confirming that occupation is current; or

(ii) for semi-urban and rural areas
1. an affidavit from the relevant ward councillor or traditional authority, signed and stamped by a registered commissioner of oaths, which confirms that the business has been operating from the said address in the preceding twelve (12) months.

ii. If Targeted Enterprise is less than twelve (12) months old and the company address:
a. was changed with the CIPC in the twelve (12) months prior to the tender advertisement; or
b. does not correlate with the company address recorded on the CSD,

the oldest registered address on either the CIPC or the CSD will be accepted as the Targeted Enterprise's address for the purpose of scoring locality points.

iii. If the Targeted Enterprise intends to operate from a branch office for the purpose of the anticipated subcontract, the same additional proof that the company has been operating from the branch office in the twelve (12) months prior to the tender advertisement date must be provided as listed in the paragraphs above.

iv. If the above additional proof of address cannot be provided, locality points shall be awarded based on the tenderer's address registered with the CIPC in the twelve months prior to the tender advertisement date.

b. CIDB grade and class

The points allocated for CIDB grade and class shall not be more than 35% of the total evaluation points.

CIDB grade and class shall not be used as an evaluation criterion for packages pertaining to the supply of material, goods and/or services.

c. Project Specific Target Groups, e.g. woman, youth, etc.

In addition to the eligibility criteria for preferential procurement functionality points may also be allocated for the following Target Groups:

i. Tenderer is 51%+ owned by black people who are youth.
ii. Tenderer is 51%+ owned by black people who are women.
iii. Tenderer is 51%+ owned by black people with disabilities.
iv. Tenderer is 51%+ owned by black people who are military veterans.

The points allocated for Target Groups shall not be more than 15% of the total evaluation points.

One, two or three of the Target Groups listed above may be selected to count towards the score for Target Groups.

If any one of the Target Groups listed above is already an eligibility criterion, it must not be included as a functionality criterion as well.

The inclusion of any of the Target Groups listed above shall be based on the Contractor's Resources and Skills Audit.

Youth and veterans may not be selected together.

iii) Stage 3 – Price and Preference

Tenderers that obtained the minimum threshold for functionality shall be further evaluated on their Price and Preference submissions, i.e.:

a. Price = 80 / 90 %
b. Preference = 20 / 10 %

Preference will be scored as follows:

Table D1007.02(a): Allocation of Preference Score

Specific Goals	Criteria	10 Points		20 Points	
		Points	Max Points	Points	Max Points
TE's B-BBEE Level	1	10	10	20	20
	2	9		18	
	3	6		14	
	4	5		12	
	5	4		8	
	6	3		6	
	7	2		4	
	8	1		2	
	Non-compliant	0		0	

The highest scoring tenderer for each subcontract package shall be checked for compliance.

The Contractor shall state in the tender advertisement and in the tender documents that only one subcontract package shall be awarded to an entity at any one time for this project, meaning that a Targeted Enterprise may be awarded a work package and on conclusion thereof may be awarded a subsequent work package, but more than one work package may not be awarded simultaneously for this project.

If a tenderer tendered for more than one subcontract package and scored the highest points in more than one package, the Contractor shall award to the tenderer the work package that has the most economic benefit to the Employer.

iv) Stage 4 – Compliance Check

The highest scoring tenderer for each subcontract package shall be checked for compliance with respect to the following criteria:

a. Proof that the Tenderer is compliant with the COID Act (excl. CIDB 1 and 2 subcontractors).
b. Proof that the Tenderer is tax compliant.

If the highest scoring tenderer fails to meet any of the compliance criteria, he will be given seven (7) calendar days to become compliant.

If the highest scoring tenderer fails to submit the requested compliance information in the required timeframe, he shall be deemed non-compliant, and the evaluator shall check the second highest tenderer for compliance. This process is repeated until a compliant tenderer has been identified.

d) Appoint successful Targeted Enterprises

i) Submitting a Tender Report

The Contractor shall present the Tender Report for each sub-contract package to the Employer's Project Manager and the Engineer and thereafter table the winning tenderers to the PLC prior to award of the sub-contract.

ii) Negotiating tender sum and/or rates with Targeted Enterprises

a. Rates

If the Contractor choose to include work for which he has tendered rates in the subcontract package and the tenderer who scored the highest points tendered higher rates than that of the Contractor, the Contractor may negotiate rates and the final sum with the tenderer.

If the Contractor fails to negotiate a reasonable tender sum or rates with the tenderer, he may:

i. approach the second highest points scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, where after the package shall be retendered. The Contractor shall be limited to negotiate down to 25% above his own rates (this process must be clearly explained to the PLC prior to negotiation; or
ii. accept the highest points scoring tenderer's higher rates and total sum and remunerate the sub-contractor at the sub-contractor's tendered rates from the Lump Sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors.

b. Provisional Sum

If the Employer has provided a Provisional Sum for the work items in the subcontract package, the Contractor shall report on the feasibility of the highest point scoring compliant tenderer's tender rates and tender sum to the Employer's Project Manager and the Engineer.

i. If the highest points scoring compliant tenderer's rates and tender sum are deemed market related by the Engineer, the Contractor shall obtain the Employer's approval to utilise the Provisional Sum provided for the work items.
ii. If the highest points scoring compliant tenderer's rates and tender sum are deemed not market related and the Employer does not approve the utilisation of the relevant Provisional Sum, the Contractor may negotiate with the tenderer for market related rates and tender sum.
iii. If the Contractor fails to negotiate market related rates and a tender sum with the tenderer, he may:
    (a) approach the next highest point scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, where after the package shall be retendered; or
    (b) accept the highest points scoring tenderer's rates and total sum and remunerate the sub-contractor from the Lump Sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors. The Contractor shall not pay rates or tender sums that is more than 15% higher than what are deemed market related by the Engineer.

iii) Low tender sums submitted by Targeted Enterprises

The Contractor shall report to the Employer's Project Manager and the Engineer on the feasibility of tendered rates, sums or Provisional Sums of tenderers who tendered exceptionally low. Exceptionally low rates, sums or Provisional Sums are those that are more than five percent (5%) less than what the Contractor tendered or, in the case of a Provisional Sum, what is deemed market related by the Engineer.

a. If the tendered rates, sums or Provisional Sums of those tenderers who tendered exceptionally low are deemed by the Engineer to still be feasible, the Contractor may continue to include these tenders in his tender evaluation.
b. If the tendered rates, sums or Provisional Sums of those tenderers who tendered exceptionally low are deemed by the Engineer to not be feasible, the Contractor may disqualify these tenders from his tender evaluation.

The Employer strongly discourages the appointment of Targeted Enterprises that did not tender feasible rates, sums or mark-ups. If all prices submitted are deemed exceptionally low by the Engineer, the subcontract package shall be retendered.

The consequences of exceptionally low prices must be clearly outlined in the Tender Report and clearly explained to the PLC prior to award or retendering of the subcontract packages.

iv) Payment to the Contractor

a. The Employer shall not remunerate the Contractor, other than what have been provided for in the payment items, for accepting higher tender sums tendered by Targeted Enterprises.

b. If the Contractor accepts tender sums that are higher than what have been provided for in the Contractor's tendered rates or the Employer's provisional and/or prime cost sums, the costs shall be paid by the Contractor from the Lump Sum which he tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors.

v) Entering the Subcontract Agreement

The Contractor's TE Procurement Coordinator shall assist successful Targeted Enterprises to enter into a subcontract agreement with the Contractor as described in this Specifications.

D1008 GENERAL RESPONSIBILITIES OF THE CONTRACTOR TOWARDS TARGETED ENTERPRISES

The Contractor shall have the responsibilities described in this Section, D1008 of the Specifications, towards all Targeted Enterprises subcontracted in terms of the CPG as stated in the Specification Data.

a) The Employer's Independent Targeted Enterprise Monitor

The Employer shall, through its Transformation Unit, appoint an independent Targeted Enterprise Monitor, who shall audit the Contractor with respect to his obligations to Targeted Enterprises and who shall report his findings to the Employer's Project Manager, the Engineer, and the Regional Transformation Officer (RTO) monthly.

b) Failure to Comply with Responsibilities Towards Targeted Enterprises

If the Contractor, in the opinion of the Employer's Project Manager or the Engineer, fails to comply with its responsibilities towards Targeted Enterprises, the Engineer shall issue a written warning to the Contractor, stating all the areas of non-compliance. The Contractor's time to correct shall be stated in the letter and shall be in accordance with the relevant specifications for the aspects of non-compliance.

A copy of the letter of warning shall be forwarded to the Employer's Project Manager and the Targeted Enterprise Monitor shall monitor that corrective action is taken by the Contractor.

Failure by the Contractor to comply with a deadline, will be sufficient grounds for the Employer to apply a penalty or institute a claim in accordance with the relevant Conditions of Contract.

D1008.01 Targeted Enterprise (TE) Construction Manager

The Contractor shall appoint a dedicated TE Construction Manager whose sole responsibility shall be to assist the Contractor with the execution of his responsibilities towards Targeted Enterprises and Target Groups as prescribed in this Section D of the Specifications, with an emphasis on D1008 and D1010.

The TE Construction Manager may be appointed from the Contractor's existing staff or may be employed or sub-contracted for the purpose of this Contract. Irrespective of the contractual relationship between the TE Construction Manager and the Contractor, the TE Construction Manager shall not perform any other duties than that of a dedicated TE Construction Manager on a full-time basis for this Contract.

a) TE Construction Manager's Obligations

Amongst others, the TE Construction Manager shall facilitate the training, mentoring, guidance, coaching, development and support of Targeted Enterprises as per the Contractor's approved Training and Skills Development Programme (see Section D1010 of the Specifications).

The TE Construction Manager shall submit monthly TE Progress Reports in the Employer's reporting format. The report shall be submitted to the Employer's Project Manager and Regional Transformation Officer, the Engineer and the Contractor, at least one week prior to the monthly site progress meeting.

This report shall include, amongst others:

i) Details of TEs trained, e.g., number, hours, value, modules, credits obtained, etc.
ii) Details of TEs sub-contracted, e.g., number, packages, values, etc.
iii) Details of TEs performance on the work packages, and skills gaps to be addressed, etc.
iv) Details of TEs growth and sustainability, e.g., CIDB grading upgrades, business success, etc.
v) Details of disputes and the associated interventions and/or resolutions.

b. TE Construction Manager's Qualifications and Experience

The TE Construction Manager shall have, as a minimum, a National Diploma: Management of Civil Engineering Construction Processes (NQF Level 5) or an equivalent qualification.

He/she shall have at least 5 years' experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation, roads structures, etc. In addition, he shall have ample knowledge of, and experience in, the requirements of training and mentoring in the road construction environment.

c. TE Construction Manager's Team

The TE Construction Manager shall have on his team one (1) TE Site Supervisor for every six (6) Targeted Enterprises which are in their respective construction phases and one (1) Senior TE Supervisor for every six (6) TE Site Supervisors.

The qualifications and/or experience of TE Site Supervisors and Senior TE Supervisors shall be relevant and of a suitable level to enable them to supervise the level of Targeted Enterprise and the specific works under construction. Below is an indicative organogram of the TE Construction Manager and his team.

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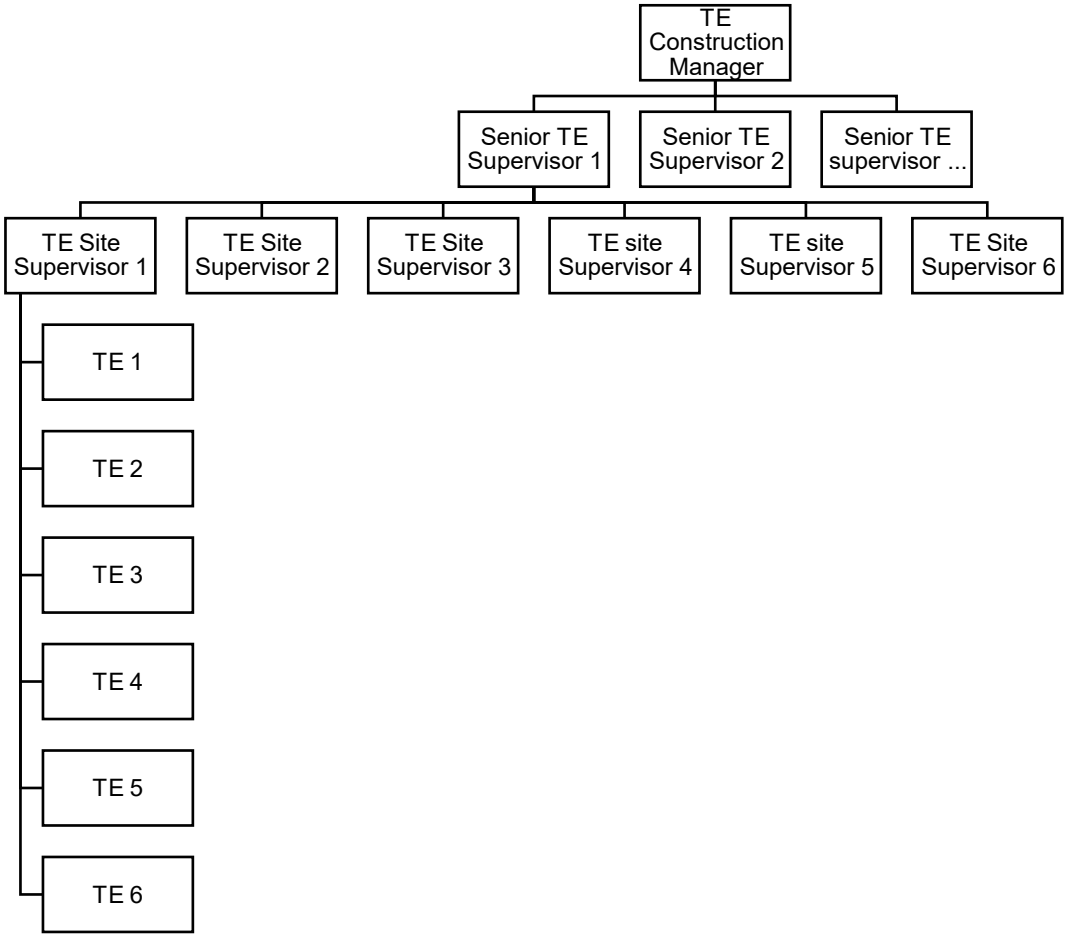

D1008.02 General Obligations

The Contractor shall, with the assistance of the TE Construction Manager, comply with the following general obligations:

a) Assist the Targeted Enterprises in instituting a quality assurance system;
b) Provide adequate training, coaching, guidance, mentoring and any other identified and approved assistance to Targeted Enterprises and their employees;
c) Provide support and any other identified and approved assistance to ensure that the Targeted Enterprises meet their obligations and commitments with respect to their sub-contracts,
d) Assist Targeted Enterprises to monitor and manage the schedules, costs, and cash flows of their sub-contracts.
e) Endeavour to avoid sub-contract disputes and if disputes do arise, facilitate a process to find an amicable solution.
f) Ensure that the CPG objectives are achieved.

D1008.03 Sub-contract Agreements

The Contractor shall conclude subcontract agreements with each sub-contracted Targeted Enterprise and shall utilise the be the Employer's proforma document for Targeted Enterprise sub-contracting (see Appendix 7.3), which is based on the 2011 FIDIC Conditions of Sub-contract for Construction and shall be in accordance with the provisions of amended sub-clause 4.4 of the Conditions of Contract and shall be consistent with the terms and conditions of this Contract.

a) Special Conditions of Contract

Amongst others, the sub-contract agreement includes the following Particular Conditions of Contract:

i) The Targeted Enterprise's entitlement to receive the training contemplated in the main Contract (sub-contract Part C1, C1.2.1, Part B, clause 6.8);
ii) The Targeted Enterprise's obligation to participate and co-operate in the training provided for in the main Contract (sub-contract Part C1, C1.2.1, Part B, clause 6.8);
iii) The allowable sources from which Labour may be drawn in terms of the main Contract (sub-contract Part C1, C1.2.1, Part B, clause 6.5);
iv) The terms and conditions relating to the recruitment, employment and remuneration of Labour engaged on the main Contract (sub-contract Part C1, C1.2.1, Part B, clause 6.5);
v) The training to be provided to the Targeted Enterprise's workforce (sub-contract Part C1, C1.2.1, Part B, clause 6.8);
vi) The terms and conditions related to payment of the Targeted Enterprise (sub-contract Part C1, C1.2.1, Part B, clauses 14.6 to 14.8 and 15.3);
vii) Sanctions in the event of failure by the Targeted Enterprise to comply with the terms and conditions of the subcontract agreement (sub-contract Part C1, C1.2.1, Part B, clauses 14.6 and 20.4 to 20.7);
viii) Dispute avoidance and resolution procedures (sub-contract Part C1, C1.2.1, Part B, clauses 20.4 to 20.7).

Further Special Conditions of Contract required by the Contractor shall only be included into the subcontract agreement once approved by the Employer and the Engineer.

b) Monitoring of Sub-contract Agreements

The proforma subcontract agreement for each group of work packages shall be tabled to the Employer's Independent Targeted Enterprise Monitor for his review and confirmation that sub-contract agreements are in terms of the Employer's requirements and policies.

In addition, the PLC may request proof that subcontract agreements were entered into with the subcontracted Targeted Enterprises. The PLC may request insight into the Conditions of Subcontract and Subcontract Data.

To protect Targeted Enterprises' competitive advantage and/or tender strategy, only the subcontract agreement shall be available to the PLC for perusal and not the pricing structure and/or Schedule of Quantities.

A copy of each subcontract agreement shall be filed with the Engineer after confirming that it is in accordance with the provisions of this Contract.

D1008.04 Payment of Targeted Enterprises

Targeted Enterprises shall be paid the rates and/or Provisional Sums which they have tendered, or which have been negotiated as described in this Section D of the Specifications.

a) Payment of Provisional and General Obligations

Provision shall be made in the subcontract agreement for the Targeted Enterprise's preliminary and general obligations (P&Gs), which shall be calculated as a minimum of 15% of the value of the scheduled subcontract work items.

Where the Contractor's subcontract work is not paid from a Provisional Sum, the P&Gs of the Targeted Enterprise shall be paid from the Lump Sum tendered by the Contractor for the P&Gs of Targeted Enterprises.

P&Gs shall be paid to Targeted Enterprises as per Section C1.3.1 of the COTO specification payment items, i.e.:

i) C1.3.1.1 paid in 3 instalments of 50%, 35% and 15%;
ii) C1.3.1.2 paid as a percentage of the total value progressively per certificate;
iii) C1.3.1.3 paid monthly for the sub-contractor's contract duration.

b) Monitoring of Payment of Targeted Enterprises

The Employer's independent Targeted Enterprise Monitor shall audit the Contractor's Payment of Targeted Enterprises to ensure timeous and correct payment in terms of the Employer's requirements and Policies and shall report his findings to the Employer's Project Manager on a regular basis.

D1008.05 Quality of Work and Performance of Targeted Enterprises

a) Ensuring Quality of Work and Performance

The purpose of the Employer's CPG is to, amongst others, enhance the utilisation and development of Targeted Enterprises. Thus, while the Contractor remains responsible for the quality of work and performance of Targeted Enterprises, he may not neglect the developmental requirements in the sub-contracting of Targeted Enterprises.

It is thus emphasised that the Contractor's TE Construction Manager shall closely monitor and supervise all Targeted Enterprises and shall train, coach, guide, mentor and assist each Targeted Enterprise in all aspects of management, execution and completion of its 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, coaching, guidance, mentoring, and assistance to be provided by the Contractor shall be commensurate with the level of subcontract applicable and shall be directed at enabling the Targeted Enterprise to achieve the successful execution and completion of its subcontract.

b) Failure by the Targeted Enterprise to Comply

If the Targeted Enterprise, in the opinion of the Engineer, fails to comply with any of the criteria listed below, the Engineer 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's Project Manager and the Employer's independent Targeted Enterprise Monitor. The criteria are as follows:

i) Deliver acceptable standard of work as set out in the specifications;
ii) Progress in accordance with the time constraints in the subcontract agreement;
iii) Punctual and full payment of the workforce and suppliers;
iv) Site safety;
v) Accommodation of traffic.

c) Assist the Targeted Enterprise to Make Good

The Contractor shall in terms of the sub-contract agreement (sub-contract Part C3, clause 3.1.12) give reasonable warning to the Targeted Enterprise when any contravention of the terms and conditions of the subcontract agreement has occurred or appears likely to occur.

The Contractor shall, together with the Targeted Enterprise, identify the causes that led to failure to comply and jointly develop a plan to rectify, which plan shall be

submitted to the Employer's Project Manager and the Engineer for information purposes.

Based on the plan to rectify, the Contractor shall 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.

d) Monitoring Execution of the Plan to Make Good

The Employer's independent Targeted Enterprise Monitor shall review plans to rectify and monitor the execution thereof to ensure that Targeted Enterprises are given a fair opportunity to rectify within a developmental environment. He shall report his findings to the Employer's Project Manager monthly.

D1008.06 Dispute Avoidance and Resolution Procedures

When any disputes arise, the Contractor shall within seven (7) calendar days inform the Employer's Project Manager, the Employer's Targeted Enterprise Monitor, and the Engineer, in writing, of the details of the dispute.

a) Facilitate Dispute Avoidance

Prior to taking any action, the Contractor shall commence with a facilitation process by arranging a formal meeting with the Targeted Enterprise with the aim to find an amicable solution to the dispute. The meeting shall be attended by the Employer's Project Manager, the Employer's Targeted Enterprise Monitor, and the Engineer to ensure a fair and transparent process in reaching a settlement.

If the parties are unable to find an amicable solution, the Contractor shall explain fully to the Targeted Enterprise the provisions in the sub-contract agreement to address disputes. If action is necessary, it shall be discussed with the Employer's Project Manager and the Engineer prior to any action being taken.

b) Support to Targeted Enterprise during Dispute Resolution Process

While the Employer's Project Manager and the Engineer will observe the dispute resolution process to ensure fairness and transparency, the Targeted Enterprise may request consultation and assistance from the Targeted Enterprise Monitor. The Targeted Enterprise Monitor will assist the Targeted Enterprise with the interpretation of the Conditions of Sub-contract and will guide the Targeted Enterprise during the dispute resolution process.

c) Issuing a Letter of Warning to Targeted Enterprise

The Contractor shall issue a letter of warning to the Targeted Enterprise, whom shall have 21 calendar days from the date of receipt of the letter of warning by the Contractor to address and rectify the issues raised by the Engineer, except for issues pertaining to Site Safety and Accommodation of Traffic, for which the reaction time shall be in accordance with the relevant specifications for those aspects of the Works, but which shall not be longer than 24 hours.

d) Failure by the Targeted Enterprise to Comply

Failure by the Targeted Enterprise to comply with a deadline, will be sufficient grounds for the Contractor to apply a penalty or terminate the subcontract agreement provided that the Employer's Project Manager and the Engineer are satisfied that the Contractor has made every effort to correct the performance of the Targeted Enterprise.

The Targeted Enterprise may dispute any ruling given or deemed to be given by the Contractor or the Engineer, within 21 calendar days after receipt thereof by

submitting a written Dispute Notice to the Contractor, in terms of the relevant Conditions of the Sub-contract.

On request by the Targeted Enterprise, the Targeted Enterprise Monitor will assist the Targeted Enterprise with the interpretation of the Conditions of Sub-contract and will guide the Targeted Enterprise during the dispute resolution process.

D1009 WORK SUITABLE FOR EXECUTION BY TARGETED ENTERPRISES

To assist the Contractor in achieving his CPG, the following work items have been identified as being suitable for execution by Targeted Enterprises:

a) Erection and maintenance of the Contractor's camp site
b) Clearing and grubbing.
c) Provision of traffic control facilities.
d) Management of traffic control facilities and traffic safety as part of the accommodation of traffic.
e) Construction and installation of prefabricated median inlet drains.
f) Construction / extension of inlet structures.
g) Concrete linings for open drains.
h) Patching and repairing edge breaks.
i) Erection of guardrails.
j) Road signs.
k) Road markings.
l) Finishing the road and road reserve.
m) Site Security Services.
n) Haulage of materials
o) Supply of plant.
p) Supply of fuel
q) Supply of transport to Local Labour.
r) Specialised subcontract work such as:
    i) Milling of asphalt
    ii) Laying of asphalt using asphalt pavers.
    iii) Joints replacement at bridges.
    iv) Repair to bearings.

From the above work items, the following have been identified as suitable for execution by CIDB CE1 and CE2 Targeted Enterprises:

a) Erection and maintenance of the Contractor's camp site
b) Clearing of drains.
c) Construction and installation of prefabricated median inlet drain.
d) Construction of inlet structures.
e) Concrete linings for open drains.
f) Erection of guardrails.
g) Road signs.
h) Finishing the road and road reserve.
i) Site Security Services.
j) Haulage of materials.
k) Any other work identified by the Employer to be executed in the Target Area.

The work to be carried out by Targeted Enterprises is not limited to the work listed above and the Contractor may need to engage Targeted Enterprises on other aspects of the Works to achieve the CPG.

A Provisional Sum for the work by CIDB 1 and 2 Targeted Enterprise sub-contractors is allowed under pay item D10.05.

D1010 TRAINING, COACHING, GUIDANCE, MENTORING AND ASSISTANCE

The Contractor shall with the input and support of the PLC develop a Training and Skills Development Programme (TSDP) which shall be managed by the Contractor's TE Construction Manager.

The CIDB Standard for Developing Skills through Infrastructure Contracts, 08 August 2013 (Government Gazette No. 36760, 23 August 2013), as amended by version 2, June 2020 (Government Gazette No. 43495,03 July 2020) shall apply to projects with a Works Construction Period of 12 months or more, as set out under this Section D1010.

D1010.01 Purpose of the Training and Skills Development Programme (TSDP)

Skills development forms an integral part of the Employer's Transformation and Community Development Policies and hence, it is important to the Employer that Targeted Labour and Targeted Enterprises be equipped with skills that can be used to gain meaningful future employment and secure subcontracting opportunities.

It is, therefore, a requirement of this Contract that the Contractor provide adequate training, coaching, guidance, mentoring and assistance to the Targeted Labour and Targeted Enterprises to ensure skills development within the Construction Industry.

The TSDP shall provide the learning detail for Targeted Labour, Targeted Enterprises and other Learner categories, including course and/or module contents and timeframes. See Appendix 7.5 for the TSDP format.

D1010.02 Developing the TSDP

The Employer shall through its Project Manager be involved in the decision making and quality control pertaining to the development and implementation of the TSDP facilitated through this Contract.

The complete TSDP shall be developed during the Mobilisation Period, accepted by the Engineer after consultation with the Employer's Project Manager, and tabled to the PLC for their information before any training commence.

a) Skills Development Requirements

i) Contract Skills Development Goals (CSDG)

This section establishes a minimum CSDG which is to be achieved in the performance of a Contract in relation to the provision of different types of workplace opportunities linked to work associated with a Contract which culminate in or lead to:

a. a part- or full occupational qualification registered on the National Qualification Framework,
b. a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012),
c. a national diploma registered on the National Qualification Framework, and
d. registration in a professional category by one of the professional bodies listed in Table 1 of the Standard.

The Contractor shall achieve or exceed the CSDG in the performance of the Contract. The Contractor may, if need be, devolve their obligations onto Sub-contractors.

The CSDG shall not be less than the final contract value multiplied by the percentage (%) for Civil Engineering work (CE) as set in the Specification Data.

To attain the CSDG, it is estimated that the following number of Learners must be trained on the Contract in the stated categories:

TABLE D1010/1: Number of Learners per Category

Learning Category	Number of Learners

Method 1	Occupational qualification.	40
Method 2	TVET College graduates, or	6
	Apprenticeships.	6
Method 3	P1 and P2 learners, or	6
	240 credits qualification.	6
Method 4	Candidates, 360 credits qualification.	6
	Candidates, 480 or more credits qualification.	6
Generic Skills	Occupational qualification.	40
Community Training	Occupational qualification.	40

ii) Achieving Contract Skills Development Goal (CSDG)

The Contractor shall achieve the CSDG by providing employment opportunities to Trainees requiring structured workplace learning using one or a combination of any of the following methods in relation to work directly related to the Contract:

Method 1: Structured workplace Learning opportunities for Learners (LoL) towards the attainment of a part or a full occupational qualification.

This training method shall apply to Targeted Enterprises and Targeted Labour.

Method 2: Structured workplace Learning opportunities for Apprentices or other artisan Trainees (LoA) towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least 60% of the artisan Trainees being holders of public FET college qualifications.

This training method shall apply to Targeted Enterprises and Targeted Labour.

Method 3: Work integrated Learning opportunities for University of Technology or Comprehensive University Students (LoUS) completing their national diplomas.

This training method shall apply to P1 and P2 Trainees, or Trainees with a 240 credits qualification. Both the permanently employed and temporary employed Trainees shall be considered under this training method.

Method 4: Structured workplace Learning opportunities for Candidates (LoC) toward registration in a professional category by a statutory council listed in Table 1 of the Standards.

This training method shall apply to Candidates with 480 credits qualification. Both the permanently employed and temporary employed Trainees shall be considered under this training method.

No single method shall contribute more than 50 percent (%) of the CSDG. The Contractor's permanently employed Trainees may not account for more than 25 percent (%) of the CSDG, and not more than one method may be applied to any individual concurrently in the calculation of the CSDG.

iii) CSDG Credits

The CSDG shall be calculated by multiplying the number of people employed by the Contractor and placed for continuous training opportunities in a three-month period by the notional values contained in Table 3 of the Standard, or as revised in a Gazette notice.

iv) Denial of Credits

Credits towards the CSDG shall be denied should the Contractor not fulfil all the requirements listed in clause 3.4 (a) to (f) of the Standards.

v) Compliance with Requirements

The Contractor shall comply with the requirement as set out in clause 4 of the Standards.

vi) Records

The Training Service Provider shall keep comprehensive records of the training provided to each Trainee and shall ensure that Trainees' successful completion of successive Unit Standards is entered onto the national SAQA database. After the successful completion of generic skills courses each Trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The Contractor shall keep a register of certificates issued. Whenever required, the Contractor shall provide copies of such records to the Engineer.

The Contractor shall submit all the documentation required in terms of clause 4 of the Standards, in a timely manner and according to a prescribed format where applicable.

The Engineer shall certify the value of the credits counted towards the CSDG, if any, whenever a claim for payment is issued to the Employer and shall notify the Contractor of this amount.

The Contractor shall, upon termination of the opportunities provided to satisfy the CSDG, certify the quantum and nature of the opportunity and submit the certificate, counter-certified by the relevant individual, to the Engineer for record-keeping purposes.

vii) Sanctions (Penalty)

Failure to achieve the CSDG shall render the Contractor liable for a penalty as prescribed in clause 8.7 of the FIDIC Conditions of Contract. Penalties shall be as follows:

a. Penalty = {[LoAs + LoLs + LoUSs + LoCs]}

Where:

LoLs = Monetary Value of the shortfall for structured workplace learning opportunities for Trainees towards the attainment of a part or a full occupational qualification.

LoAs = Monetary Value of the shortfall for structured workplace learning opportunities for apprentices or other artisan Trainees towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least 60% of the artisan Trainees being holders of public FET college qualifications.

LoUSs = Monetary Value of the shortfall for work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas (LoUS).

LoCs = Monetary Value of the shortfall for structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 of the Standards (LoC).

b. Delay the issuing of the Performance Certificate until all the required records described in clause 5 of the Standards are received.

D1010.03 TSDP General Requirements

The Training and Skills Development Programme shall consist of Learnerships that include multiple, but related Unit Standards which are (1) relevant to the Works to be constructed, (2) aimed at achieving the skills development objectives of the Programme, and (3) lead towards a formal qualification in the Construction Industry.

Learnerships shall include both the theoretical and practical components of each Unit Standard and shall be in accordance with the various laws and regulations contained in the South African Qualification Authority (SAQA) statutes.

a) Sourcing of Trainees

The Employer may provide the Contractor with its list of Trainees or source from which Trainees may be selected.

The Employer may deploy students to the construction site to obtain experiential training. The Contractor shall provide experiential training to these students in accordance with the relevant academic institution's requirements, which is typically a university, a university of technology, or a TVET.

The Contractor shall also provide students with all the tools (including appropriate information technology hardware and software) and site office space necessary to carry out engineering work as if they were the Contractor's own permanent staff.

Reporting on training progress of each student shall be compiled according to the formats and intervals set be the relevant academic institution

If the Employer does not provide the Contractor with a list or source of Trainees, the Contractor may source beneficiaries of the CSDG from the CIDB Skills Development Agency (SDA) or an SDA recognised by the CIDB such as the Construction Education and Training Authority (CETA) or a relevant Sector Education and Training Authority (SETA).

All beneficiaries shall be registered with a Skills Development Agency (SDA) recognised by the CIDB.

b) Skills Audit and Analysis

To develop the Training and Skills Development Programme(s), the Contractor shall conduct a skills audit and analysis of Labour on the Targeted Labour database and the Targeted Labour of sub-contracted Targeted Enterprises to determine their levels of education, existing qualifications, and skills sets. The outcome of the skills audit and analysis shall be used to develop a Training and Skills Development Programme that will benefit both the employee and the Construction Industry at large.

Included in the skills audit and analysis shall be a separate section, analysing the education, qualifications and skills sets of the Targeted Enterprise's owners and their supervisors sub-contracted by the Contractor, to develop a Training and Skills Development Programme that will develop and improve the ability of small business owners and their supervisory staff to better manage their enterprises.

c) Selection of Trainees

To complete a Learnership successfully requires minimum literacy and numeracy competencies as defined by SAQA. The Training Service Provider shall utilise the skills audit and analysis and conduct additional skills analysis to benchmark the literacy and numeracy levels of Targeted Labour and Targeted Enterprises and their employees. This information shall guide the Training Service Provider in formulating the Trainee selection methodology(ies) and process(ess). The Training Service Provider shall make provision for:

i) baseline assessments, e.g., conducting RPL enquiries and tests, and
ii) a skills gap programme consisting of Fundamental Unit Standards, to facilitate the selection process.

Trainees identified as having already acquired some tertiary training, particularly in the field of Civil Engineering, may be suitable for a specialised Trainee programme or a higher NQF Level programme. The Training and Skills Development Programme shall, therefore, make provision for Trainees with a variety of competency levels and shall make provision for different levels of training.

It should be noted that where this Section D of the Specifications refers to the selection and training of Trainees, any person, employed by any national, provincial, or local authority, being it full time or part time, is expressly excluded from being considered for this training.

d) Training Programme: Requirements and Considerations

The Skills Audit and Analysis shall inform the Contractor of every employee's Recognised Prior Learning (RPL) skills and competencies, which shall be taken into consideration in the development of the Training and Skills Development Programme so that the RPL skills and competencies, together with the Training Programme Unit Standards offerings, will lead to a full Learnership outcome and hence a formal qualification.

It is recognised that the Training and Skills Development Programme may consist of several Unit Standards but totalling insufficient credits for a full Learnership qualification. Nevertheless, the competencies and credits achieved in the Programme shall contribute to a full Learnership by a later acquisition of the outstanding Unit Standards required for the full Learnership.

The Training and Skills Development Programme shall be structured in a manner to prioritise those Unit Standards that will equip Trainees with the minimum skills and competencies required to become economically involved in the execution of the Works as soon as possible.

The Training Service Provider shall apply the SAQA Learnership criteria of which the basic elements are listed below to demonstrate the Employer's requirements:

i) Minimum credits for qualification;
ii) Fundamental Unit Standards and credit values;
iii) Core Unit Standards and credit values;
iv) Elective Units Standards and credit values;
v) Assumption that NQF Level 3 literacy, numeracy, and computer competencies exist;
vi) RPL processes;
vii) Exit level outcomes.

The above criteria are not exhaustive, and the Training Service Provider shall apply the systems and processes required by the relevant SAQA and other related legislation pertinent to training. The Training Service Provider shall regularly consult the SAQA website (www.saqa.org.za) to ensure that the most current Unit Standards are presented. In the event of any conflict, the legislated requirements shall apply.

While structuring the Learnership offerings, the Training Service Provider shall distinguish between the levels of learning required. The bulk of the training shall focus on NQF Levels 4 and 3. NQF Level 5 training is not anticipated but may be suitable for qualifying staff of established small contractors. The qualification titles for the respective NQF Levels are:

a.	NQF Level 3	National Certificate: Construction Roadworks.
b.	NQF Level 4	National Certificate: Supervision of Construction Processes
c.	NQF Level 4	National Certificate: Business Management
d.	NQF Level 5	National Diploma: Management of Civil Engineering Construction Processes

It may be necessary to include additional Core Unit Standards, e.g. “Tendering” or “Entrepreneurship” as an additional Unit Standard for NQF Level 4, to achieve the Contract’s development objectives. The identification of any additional Unit Standards shall be discussed with the Engineer and shall not be implemented without prior approval.

Before qualifying, Trainees will be expected to demonstrate competence in a practical situation that integrates the assessment of all specific outcomes, for all Unit Standards in the Learnership Programme.

All training shall take place within normal working hours, or as agreed with the trainees.

e) Learning Material

Learning material is required for each Unit Standard. This learning material is the equivalent of prescribed textbooks for other qualifications. Each Trainee shall receive a copy of the learning material to learn the contents and to use it as reference source after obtaining the qualification.

The SAQA Unit Standard curriculums define the contents of the learning material. The learning material shall not only comply with the SAQA and CETA guidelines but shall be technically and practically aligned to road construction and/or road maintenance. Any input from a subject matter expert required to ensure the appropriateness of learning material contents shall be included in the Training Service Provider’s costs.

The requirements to be addressed in learning material as outlined by the SAQA Unit Standard curriculums are, amongst others, the following:

i) Purpose of the Unit Standard;
ii) Specific outcomes (typically 4 per Unit Standard);
iii) Assessment criteria (typically 4 per specific outcome);
iv) Range as is defined for each specific outcome;
v) Critical cross-field outcomes for the Unit Standard;
vi) Unit Standard essential embedded knowledge.

(f) Generic Skills Training

Generic skills training, which is not construction (technical) specific, but which are beneficial to the skills development of Targeted Enterprises and Targeted Labour, shall be taught in learning areas where the need has been identified and approved by the Employer’s Project Manager and the Engineer.

The Contractor shall make representation to the Employer’s Project Manager and the Engineer, who shall approve candidates that should attend such courses as they deem appropriate. Those selected shall receive formal generic skills training in a programmed and progressive manner. The PLC may also identify a need for generic skills training.

Typical examples of generic skills training programmes are:
i) National Certificate: Vocational, levels 1, 2, and 3 in various fields.
ii) National Certificate: Road Safety Development.
iii) National Certificate: Occupational Hygiene and Safety.

Generic skills training shall add towards the Contractor's CSDG credits and shall be structured learning as per the CSDG Method 1 requirements. Training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided by SETA accredited entities and individuals.

(g) Community Training

Community training shall be taught in learning areas where the need has been identified. Affected Communities may submit their training needs to the PLC for the Contractor's consideration and inclusion into the Training and Skills Development Programme.

While considering the training needs of affected Communities, the Engineer shall inform the PLC of the Contract's training limitations, as well as of the training that could be undertaken through the Contract.

Trainees from the Community shall be identified through the Community structures, and with the input and support of the PLC. Trainees selected from the Community shall receive formal skills training in a programmed and progressive manner in compliance with subclause (d). Priority shall be given to training that will equip Community members with skills that will enhance their employability.

Typical examples of community training programmes are:
i. General Education and Training Certificate: Hygiene and Cleaning
ii. General Education and Training Certificate: ABET
iii. National Certificate: Vocational, levels 1, 2, and 3 in various fields.
iv. National Certificate: Travel and Community Tourism
v. Further Education and Training Certificate: Community Development
vi. Further Education and Training Certificate: Public Awareness HIV/AIDS

Community skills training shall add towards the Contractor's CSDG credits and shall be structured learning as per the CSDG Method 1 requirements. Training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided by accredited entities and individuals.

D1010.04 The Training Service Provider

The Employer has no service agreement or memorandum of understanding with any education and training quality assurance body and, therefore, does not function as the "Employer" as defined under any three-party-agreement between the Trainee, the Training Provider, and the Employer.

However, the Employer requires similar outcomes to that of formal learnership programmes and the Contractor shall structure a Training and Skills Development Programme in a manner that permits continued access to further learning and qualifications within a defined programme.

While the Contractor's TE Construction Manager will manage the Training, Development and Support Programme and mentor Targeted Enterprise sub-contractors from a practical point of view, the Contractor shall sub-contract a Training Service Provider to implement the theoretical training components of the Programme by applying the Employer's Supply Chain Management Policy for second tier procurement.

a) Accreditation of the Training Service Provider

The Training Service Provider entity shall be accredited, and have in its employ Practitioners, Assessors and Moderators who are registered, with the Construction

Education Training Authority (CETA). Proof of accreditation and registration shall be current, valid and list the NQF levels and Unit Standards for which the entity and its staff are accredited.

b) Qualifications and Experience of the Training Service Provider

The training and competency levels required of the Training Service Provider and his staff are outlined in the table below:

TABLE D1010/1: QUALIFICATIONS FOR TRAINING STAFF

Designation	Title and Unit Standard No	NQF Level	Credit
Practitioner	Train the trainer; No 7384	4	16
Assessor	Conduct outcome base assessment; No 115753	5	15
Moderator	Conduct moderation of outcome-based assessment; No 115759	6	10

In addition to the above qualifications, and in keeping with current CETA practical experience requirements for registration as a Practitioner, NQF Level 4 Unit Standards shall only be presented by Practitioners with NQF Level 5 (one level up) credentials.

The Employer further requires that Assessors and Moderators shall have at least 5 years' experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation and structures.

Elective Unit Standards are typically more vocational orientated and may require specialist input. It is thus not a requirement that individual Practitioners and Assessors shall have all the necessary skills for all the different categories of Unit Standards. The Training Service Provider may and shall therefore, when necessary, appoint Practitioners and Assessors on and ad hoc basis with the levels of experience which are required for the Unit Standards to be presented.

(c) Training Facilities

The Contractor shall be responsible for providing everything necessary to offer the various training workshops and modules including:

i) a suitable venue with sufficient furniture, lighting and power,
ii) all necessary stationery consumables and study material,
iii) transport for attendees.

D1011 LABOUR ENHANCED CONSTRUCTION

The Contractor's attention is drawn to the fact that it is an objective of the Contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former should generally be kept to the practical minimum.

Before commencing with any labour enhanced operations the Contractor shall discuss his intentions with the Engineer and shall submit to the Engineer monthly, daily labour returns indicating the numbers of temporary personnel employed on the Works and the activities on which they were engaged.

It should be noted that activities that are conventionally done by labour methods, e.g. gabions, shall not qualify under this Section D of the Specifications.

D1012 COMMUNITY DEVELOPMENT

D1012.01 Corporate Social Investment (CSI)

The Contractor shall demonstrate its willingness to actively participate in the social development initiatives for local Communities affected by the Contract. To this end, the Contractor shall provide details of CSI initiatives it will actively pursue under Form D9: Corporate Social Investment.

D1012.02 Community Development Projects

Community Development (CD) Projects are primarily training and skills development programmes to benefit an identified Community and Trainee Targeted Enterprises selected from the Community.

The owners and supervisors of Trainee Targeted Enterprises receive SAQA accredited training towards an accredited NQF qualification which consists of theoretical and practical components.

The theoretical training as well as the practical training (which is the construction of the CD Works), is undertaken by the Trainee Targeted Enterprises under the mentorship and supervision of a Training and Construction Manager.

a) CD Project(s)' Service Provider(s)

CD Projects identified for implementation in association with this Contract will be let for tender by the Employer as **separate Contracts**.

The name(s) and contact details of the Service Provider(s) appointed for the implementation of the CD Project(s) will be provided to the Contractor on award of the Contract or as soon as the Service Provider(s) has/have been appointed.

The Contractor shall collaborate and cooperate with the CD Project(s)' Service Provider(s) and take cognisance of the CD Project(s)' programme in compiling the programme of the Works Contract.

b) CD Project(s) Associated with this Contract

The Employer will identify a CD Project in the Project Area of this Contract and will inform the Contractor of the CD project number and description as soon as it has been registered, together with all other relevant detail.

D1013 MEASUREMENT AND PAYMENT

Item		Unit
D10.01	**Target Group Participation**	
(a)	N/A	

Item		Unit
D10.02	**Stakeholder and Community Liaison and Social Facilitation**	
(a)	Cost of liaison, social facilitation and PLC support	Prime Cost (PC) Sum
(b)	Handling cost and profit in respect of sub-item D10.02(a)	Percentage (%)

The prime cost sum for item D10.02(a) shall cover the direct costs incurred by attending members of the PLC. The rate of compensation shall be fair and agreed by the Engineer in accordance with clause 13.5 of the FIDIC Conditions of Contract. The tendered percentage for sub-item D10.02(b) shall include full compensation for all handling costs and profit of the Contractor associated with sub-item D10.02(a).

The liaison with, and assistance provided by the Contractor to the PLC to perform its duties shall not be paid from the prime cost sum. The Contractor's costs to liaise with the PLC and render such assistance shall be deemed to have been included in its rate offered for pay sub-item C1.3.1.3 Contractor's Establishment on Site and General Obligations: Time Related Obligations.

Item			Unit
D10.03	**Tender Process for Targeted Enterprises**		
(a)	Contractor's charge for the management and execution of the Targeted Enterprise procurement process:		
	(i)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 1 and 2 contractor grading	Number (No)
	(ii)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 3 and 4 contractor grading	Number (No)
	(iii)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 5 and higher contractor grading	Number (No)
	(iv)	Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise suppliers	Number (No)
(b)	Targeted Enterprise Procurement Coordinator		Month

The unit of measurement for sub-item D10.03(a) shall be the number of individual subcontract agreements concluded with Targeted Enterprise sub-contractors and suppliers in accordance with the procurement process described in this Section D of the Specifications.

The tendered monthly rate for sub-item D10.03(b) shall include full compensation for the provision of the relevant personnel on a full-time basis to carry out the requirements in terms of sub-item D10.03(a) and the full contents of this Section D of the Specifications.

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 appointment of a TE Procurement Coordinator (if required), the pre-tender training of eligible Targeted Enterprises, 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, Engineer and the PLC, for the award of each tender and for the conclusion of the subcontract agreement with each successful Targeted Enterprise tenderer, and any other relevant requirement described in this Section D of the Specifications.

Item		Unit
D10.04	**Responsibilities of the Contractor towards Targeted Enterprises**	

(a)	Contractor's establishment, management, management support, assistance, coaching, guidance, mentoring and supervision of Targeted Enterprises	Month
(b)	Targeted Enterprise Construction Manager	Person Month
(c)	Targeted Enterprise Site Supervisors	Person Month

The tendered monthly rate for sub-item D10.04(a) shall include full compensation for the registration of all the subcontract agreements and the management of all the Targeted Enterprise subcontracts, including for the provision of the necessary management, support, coaching, guidance, mentoring and supervision of the Targeted Enterprise subcontractors.

The tendered monthly rate for sub-items D10.04(b) and (c) shall include full compensation for the provision of the relevant personnel on a full-time basis to carry out the requirements in terms of sub-item D10.04(a) and the full contents of this Section D of the Specifications.

Item		**Unit**
D10.05	**Construction Works by Targeted Enterprises**	
(a)	Payments associated with the construction works executed by Targeted Enterprise sub-contractors of CIDB 1 and 2 contractor grading designation appointed in terms of Section D of the Specifications	Prime Cost (PC) Sum
(b)	Handling costs and profit in respect of payment associated with sub-item D10.05(a)	Percentage (%)
(c)	Fluctuation between the main contractor's rates and that of the Targeted Enterprise sub-contractors	Lump Sum (LS)
(d)	Preliminary and General Obligations of Targeted Enterprise sub-contractors appointed in terms of Section D of the Specifications	Lump Sum (LS)

Expenditure under sub-items D10.05(a) shall be in accordance with clause 13.5 of the FIDIC Conditions of Contract.

The Prime Cost Sum for sub-item D10.05(a) is provided to cover the cost of the construction works , including preliminary and general obligations carried out by the Targeted Enterprise subcontractors of CIDB 1 and 2 contractor grading designation as certified by the Engineer, in separate payments for each Targeted Enterprise in accordance with Section D of the Specifications. Expenditure under sub-item D10.05(a) shall be limited to the Prime Cost Sum amount stated in the Pricing Schedule. Construction works by Targeted Enterprise sub-contractors of CIDB 1 and 2 contractor grading designation exceeding the Prime Cost Sum amount shall be measured for payment from the applicable work items in the Contractor's pricing schedule.

The tendered percentage for sub-item D10.05(b) is the percentage of the amount spent under sub-item D10.05(a) and shall include full compensation for the Contractor's handling costs, profit or any other costs associated with the work conducted by the Targeted Enterprise sub-contractors, which are not provided for in other pay items.

The Lump Sum tendered under item D10.05(c) is for fluctuation of the Targeted Enterprise sub-contractor rates more than the contractor's tendered rates, for work not paid under items D10.05(a). Payment of the Lump Sum shall be on a pro-rata basis to provide compensation for the fluctuation between the tendered rates of the Main Contractor and that of the Targeted

Enterprise sub-contractors until the Lump Sum is depleted. Any costs incurred due to fluctuation in tendered rates more than that tendered for under item D10.05(c) will be for the Contractor's account. Item D10.05(c) is applicable where the Target Enterprise sub-contractor's tender amount is higher than the Main Contractor's tender amount. The Lump Sum will cover the fluctuation for all the tendered rates of the sub-contractors.

The Lump Sum tendered under item D10.05(d) is for the Preliminary and General Obligations of Targeted Enterprise sub-contractors (excluding CIDB 1 and 2 contractor grading designation paid from the Prime Cost Sum). Payment of the Lump Sum shall be on a pro rata basis to provide compensation for the P&Gs of Targeted Enterprise sub-contractors until the Lump Sum is depleted. Any costs incurred for the P&Gs of Targeted Enterprise sub-contractors more than that tendered for under item D10.05(d) will be for the Contractor's account.

Item		**Unit**
D10.06	**Training, coaching, guidance, mentoring and assistance**	
(a)	~~Accredited occupational qualification training~~	
	(i) ~~Stipend/wages for unemployed learners~~	~~Prime Cost (PC) Sum~~
	(ii) ~~Handling costs and profit in respect of payment associated with sub-item D10.06(a)(i).~~	~~Percentage (%)~~
	(iii) Mentorship and other costs	Person Month
~~(b)~~	~~TVET college graduates and apprenticeships~~	
	~~(i) Stipend/wages for unemployed learners~~	~~Prime Cost (PC) Sum~~
	~~(ii) Handling costs and profit in respect of payment associated with sub-item D10.06(b)(i).~~	~~Percentage (%)~~
	~~(iii) Mentorship and other costs~~	~~Person Month~~
(c)	P1 and P2 learners and learners with a 240 credits qualification	
	(i) Stipend/wages for unemployed learners	Prime Cost (PC) Sum
	(ii) Handling costs and profit in respect of payment associated with sub-item D10.06(c)(i).	Percentage (%)
	(iii) Mentorship and other costs	Person Month
	(iv) Travel and Accommodation	Prime Cost (PC) Sum
	(v) Handling costs and profit in respect of payment associated with sub-item D10.06(c)(iv).	Percentage (%)
(d)	Candidates with 360 credits or more qualification	
	(i) Stipend/wages for unemployed learners	Prime Cost (PC) Sum
	(ii) Handling costs and profit in respect of payment associated with sub-item D10.06(d)(i).	Percentage (%)
	(iii) Mentorship and other costs	Person Month
	(iv) Travel and Accommodation	Prime Cost (PC) Sum
	(v) Handling costs and profit in respect of payment associated with sub-item D10.06(d)(iv).	Percentage (%)
(e)	Generic skills training	
	(i) Stipend/wages for unemployed learners	Prime Cost (PC) Sum
	(ii) Handling costs and profit in respect of payment associated with sub-item D10.06(e)(i).	Percentage (%)
	(iii) Mentorship and other costs	Person Month

(f)	Community training		
	(i)	Stipend/wages for unemployed learners	Prime Cost (PC) Sum
	(ii)	Handling costs and profit in respect of payment associated with sub-item D10.06(f)(i).	Percentage (%)
	(iii)	Mentorship and other costs	Person Month

The Prime Cost Sums under sub-items D10.06(a)(i), (b)(i), (c)(i), (d)(i), (e)(i), and (f)(i) shall be paid in accordance with the provisions of sub-clause 13.5 of the FIDIC Conditions of Contract. The Prime Cost Sums shall cover the monthly stipends and/or wages as prescribed by the Employer to be paid to the relevant categories of unemployed Trainees receiving training and/or workplace training. No provision is made for stipends or wages of employed Trainees and the Contractor must make provision for loss of production for his own employees which are included in the TSDP.

The Percentage tendered for sub-items D10.06(a)(ii), (b)(ii), (c)(ii), (d)(ii), (e)(ii), and (f)(ii) is the percentage of the stipends and wages paid under sub-item D10.06(a)(i), (b)(i), (c)(i), (d)(i), (e)(i), and (f)(i) and shall include full compensation for the Contractor's handling costs, and any other costs associated with the pay-out of stipends and wages, which are not provided for in other pay-items.

The Person Month under sub-items D10.06(a)(ii), (b)(ii), (c)(ii), (d)(ii), (e)(ii), and (f)(ii) shall be paid in accordance with the provisions of sub-clause 13.5 of the FIDIC Conditions of Contract. The Person Month shall cover the monthly cost to mentor and/or train a Trainee and shall include all charges for the provision and delivery of the service including an accredited Training Service Provider (if required), learning material, stationery, information technology hardware and software, connection or licence costs, Trainee sustenance, fully furnished and equipped training venue(s), travel and accommodation (if/where required) and any other requirement as described in Section D1010 of the Specifications, and shall include the Contractor's loss of production, handling cost, profit, record keeping, reporting to the Employer and any other body or organisation as required in terms of the mentoring or training category, and all other administrative and overhead costs associated with mentoring and training. No mark-up is payable to the Contractor under this item.

No payment, nor pro rata payment, shall be made for trainees that, once selected, do not attend or only partially complete structured training modules. The Contractor's own staff may attend the training modules provided. However, training of the Contractor's staff shall be considered for measurement and payment purposes within the limits set in Section D1010.02 and if they also qualify as Targeted Labour.

The Prime Cost Sums under sub-items D10.06(c)(iv) and (d)(iv) shall be paid in accordance with the provisions of sub-clause 13.5 of the FIDIC Conditions of Contract. The Prime Cost Sums shall cover the travel and accommodation of Trainees in the relevant learning categories and in line with the Employer's Travel, Accommodation and Disbursement Policy. No provision is made for travel and accommodation of Trainees in other learning categories and the Contractor must make provision for travel and accommodation (if required) for these categories in other relevant pay-items.

The Percentage tendered for sub-items D10.06(c)(v) and (d)(v) is the percentage of the travel and accommodation paid under sub-item D10.06(c)(iv) and (d)(iv) and shall include full compensation for the Contractor's handling costs, and any other costs associated with the travel and accommodation, which are not provided for in other pay-items.

SECTION E: REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS

Note to tenderer:
Wherever reference is made in this section of the Scope of Works to contractor this is the equivalent of the *principal contractor* in the Occupational Health and Safety Act and Regulations. Similarly, reference to subcontractors is equivalent to *other contractors*.

SECTION E: REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS

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E1001 SCOPE

The Occupational Health and Safety Act, Act 85 of 1993 (OHS Act) and its Regulations together with SANS Codes set out minimum standards with regards to Occupational Health and Safety. The South African National Roads Agency SOC Limited (SANRAL), has developed this Occupational Health and Safety Specifications with these minimum standards in mind and in certain aspects the requirements of SANRAL exceeds the minimum legal requirements to follow best practices and to ensure a healthy and safe workplace for all.

SANRAL in no way assumes The Principal Contractors legal liabilities and responsibilities. The Principal Contractor is and remains accountable for the quality and execution of his health and safety program for his employees. This Health and Safety Specification reflects minimum legal and SANRAL requirements and should not be construed as all encompassing.

It is realized that The Principal Contractor have its own Health and Safety Management system and safe work practices. The intention of this Health and Safety Specification is not to change The Principal Contractors Health and Safety management system, but for The Principal Contractor to use its current Health and Safety management system to draw up a project specific Health and Safety plan according to these specifications as well as to legally comply with the any applicable Regulations under the OHS Act and incorporated Standards.

It is the responsibility of the Principal Contractor and other Contractors to make themselves conversant and comply with the requirements and conditions contained in the various legislation pertaining to their profession and scope of works at all times.

This specification is not exhaustive of all duties imposed by the OHS Act and its Regulations, governing the duties and obligations, of a Designer, Principal Contractor and Contractor performing duties in terms of an agreement with the client (SANRAL). These duties are fully described in the OHS Act and its Regulations and it is the duty of every Designer, Principal Contractor and Contractor to acquaint themselves therewith before commencing work.

This specification is compiled to ensure that the Principal Contractor and any other Contractors working for SANRAL directly or through a Principal Contractor, are aware of the Occupational Health and Safety requirements when working on a SANRAL contract, as well as to make them aware of their legal liabilities and responsibilities as per the Occupational Health & Safety Act, Act 85 of 1993, and its Regulations.

Words used herein in the singular shall be deemed to include the plural and male shall include female and vice versa unless the context otherwise requires.

E1002 DEFINITIONS AND ABBREVIATIONS

Assessment – An opinion or a judgment about someone or something that has been thought about very carefully.
At-risk behavior – Conduct that unnecessarily increases the likelihood of an injury or incident.
Audit – A systematic and documented review of the effectiveness of implementation of processes, programs and procedures, based on general process criteria.
Baseline risk assessment: This is the initial assessment of risk in a workplace. It is a broad assessment and includes all activities taking place on site but does not include risk control measures or safeguards.
Client – Any organization or person for whom construction work is performed. For the purpose of this document, the client is the South African National Roads Agency SOC Limited, also identified in the contract document as the Employer.
Competence – A combination of attributes such as knowledge, training, experience and qualifications to assure successful performance.
Competent Person – Means a person who has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No. 67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act.
Consequence – Outcome or impact of an event.

Continual Improvement – A recurring process of enhancing performance to achieve consistent improvements in overall performance.
Contractor – An employer as defined in section 1 of the OHS Act, who performs construction work and includes Principal Contractors and Sub-Contractors.
Construction Work – any work in connection with:

- The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- The construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.

Corrective Action – An action taken to eliminate the cause of a detected non-conformity or other undesirable situation.

Construction Regulations (CR) – Construction Regulations, GNR. 84 of 2014

Critical equipment – A piece of equipment or a structure whose failure to perform to design specification, has the potential to result in a major accident event.

Design – in relation to any structure, includes drawings, calculations, design details and specifications.

Designer –
a) competent person who:
   - Prepares a design;
   - Checks and approves a design;
   - Arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
   - Designs temporary work, including its components;
b) an architect or engineer contributing to, or having overall responsibility for a design;
c) a building services engineer designing details for fixed plant;
d) a surveyor specifying articles or drawing up specifications;
e) a contractor carrying out design work as part of a design and building project; or
f) an interior designer, shop fitter or landscape architect.

DMR – Driven Machinery Regulations, GNR. 295 of 26 February 1988

Documents – Structured units of recorded information and its supporting medium (paper or electronic). Most records are documents, but not all documents are records. A document becomes a record when it is part of a business transaction, is kept as evidence of that transaction and is managed within a record-keeping system.

EIR – Electrical Installation Regulations, GNR. 242 of 6 JULY 2009

Emergency – An abnormal occurrence that poses a threat to the safety or health of employees, customers, or local communities, or which can cause damage to assets or the environment.

Employee – An individual who is employed by or works for an Employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person.

Employer – Any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerates him but excludes a labour broker as defined in section 1(1) of the Labour Relations Act, 1956 (Act No. 28 of 1956). The South African National Roads Agency SOC Limited, also identified in the contract document as the Employer.

EMR – Electrical Machinery Regulations, GNR. 250 of 25 JULY 2011

Environment – The surroundings or conditions in which a person, animal or plant lives or operates, including air, water, land, natural resources and habitats.

Epidemic Disease - An *epidemic* disease is one affecting many persons at the same time and spreading from person to person in a locality where the disease is not permanently prevalent. The World Health Organization (WHO) further specifies *epidemic* as occurring at the level of a region or community.

Excavation work – The making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping.

GAR – General Administrative Regulations, GNR. 929 of 25 June 2003.

GMR – General Machinery Regulations, GNR. 1521 of 5 August 1988.

GSR – General Safety Regulations, GNR. 1031 of 30 May 1986.

Harm – A significant and or long-lasting adverse effect on people, the environment or the community.

Hazard – A source, situation or act with a potential for harm in terms of human injury or ill health.

Health and Safety File – Means a file, or other record in permanent form, containing the information in writing as required by the Construction Regulations, GNR. 84 of 7 February 2014, Section 7(1)(b).

Health and Safety Plan – Means a project specific documented plan in accordance with the client's health and safety specifications, as required by the Construction Regulations, GNR. 84 of 7 February 2014, Section 7(1)(a).

Health and Safety Specification – Means a project specific document prepared by the client pertaining to all health and safety requirements related to construction work, as required by the Construction Regulations, GNR. 84 of 7 February 2014, Section 5(1)(b).

HSE – Health, Safety and Environment. Commonly used in the format HSE.

Incident – Work-related events (including accidents which give rise to injury, ill health, fatality or emergencies) that have resulted in, or has the potential to result in adverse consequences to people, the environment, property, reputation or a combination of these.

Likelihood – A description of probability or frequency, in relation to the chance that something will occur.

Lost Time Injury (LTI) – When a person is injured during the execution of his/her duties and as a result of the injury is unable to perform his/her regular duties for one full shift or more on the day following the day on which the injury has incurred, whether a scheduled work day or not(weekend).

Management System – Management processes and documentation that collectively provide a systematic framework for ensuring that tasks are performed safely, correctly, consistently and effectively to achieve a specified outcome and to drive continual improvement in performance.

Mandatory – An agent, contractor or sub-contractor for work, but without derogating from his status in his own right as an employer or a user.

MSDS – Material Safety Data Sheet

Near Hit / Near Miss – Any occurrence or situation which had the potential for adverse consequences to people, the environment, property, reputation or a combination of these.

Non-conformance – Any deviation from work standards, practices, procedures, regulations that could either directly or indirectly lead to injury or illness, property damage, damage to the environment or a combination of these.

OHS Act – Occupational Health & Safety Act, 85 of 1993

Pandemic Disease - a *pandemic* disease is an *epidemic* disease that has spread over a large area, that is, it is prevalent throughout an entire country, continent, or the whole world.

Policy – Statement by an organization of its intentions and principles in relation to its overall performance which provides a framework for action and for the setting of its objectives and targets.

PPE – Personal Protective Equipment

Preventive Action – An action implemented to eliminate the cause of a potential non-conformity or other undesirable potential situation.

Principal Contractor – An employer appointed by the client to perform construction work and who is in overall control and management of a part of or the whole construction site.

Procedure – A specific documented way to carry out an activity or a process.

Records – Recorded information, in any form that is kept as evidence. Records include monitoring results, evidence of training, audits, inspections and calibration reports.

Risk Assessment – A process of evaluating the risk(s) arising from hazards taking into account the adequacy of any existing controls and deciding whether or not the risk(s) is acceptable.

Risk Management – The ongoing treatment of risks through the application of management policies, processes, procedures and risk control measures.

Risk – A combination of the likelihood of an occurrence of a hazardous event or exposure and the severity of injury or ill health that can be caused by the event or exposure.

Root Cause – The cause of the incident that, when rectified, will prevent the recurrence of not just incidents with those exact circumstances, but others with similar causes.

SACPCMP – South African Council for Project and Construction Management Professions

SANRAL - South African National Roads Agency SOC Limited

Supplier – A person or company that supplies material or equipment to a contractor on a construction site but does not physically carry out construction work on the construction site.

The Act – The Occupational Health and Safety Act No. 85 of 1993

The Site – The area where work is carried out for SANRAL as defined on the front page of this document.

WAH – Acronym for Working at Heights.

E1003 HEALTH AND SAFETY POLICY

Contractors are expected to have their own written Health and Safety Policy. The policy should declare their attitude and approach to the health, safety and welfare of their employees and others. The policy should include a description of the company and provision must be made to review the policy annually and the CEO or Managing Director must sign and date the policy to indicate his commitment to ensuring the health and safety of his employees, as per Section 7 of the OHS Act.

E1004 ROLES AND RESPONSIBILITIES

Every Contractor is considered to be an employer in his own right and shall comply with all legal requirements pertaining to an employer, which include the responsibility to provide as far as reasonably practicable a safe and healthy working environment for his employees, as per Section 8 of the OHS Act.

In conjunction with Section 8 of the OHS Act, all employees on the project are responsible for their own health and safety as well as the safety of persons who may be affected by their acts, as per Section 14 of the OHS Act. It is the responsibility of each employee to ensure that he acts in a safe manner before and during work is carried out.

The Principal Contractor shall ensure that where required by the OHS Act and Regulations, competent employees are appointed in writing. These appointments must be project/contract specific and specific to the tasks that will be performed. Every appointment must display the duties of the person appointed and training certificates from a registered training provider must be attached to such appointment (where applicable). A list of possible appointments can be found in clause E1010 below.

E1005 HSE TRAINING AND COMPETENCE

Where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2000 (Act No. 67 of 2000), those qualifications and training must be regarded as the required qualifications and training and employees must have attended courses of the aforementioned nature to be considered competent in the task.

All employees that form part of the construction work must be trained and competent. Employees formally appointed to perform a certain duty must be in possession of a training certificate (where applicable), received from a registered training provider. All employees must as a minimum have received site specific safety induction training and must receive daily safe task instruction training (DSTI) before any work commences and thereafter on a daily basis.

a) <u>Training Needs</u>

There shall be a system in place to determine the training requirements of each individual, based on the tasks that the employee will perform as well as to ensure the health and safety of fellow employees and the public. Special attention should be given to employees who are new hires, new to the task or have combined responsibilities.

b) Basic Safe Work Training (Induction Training)

Every contractor shall ensure that his employees are inducted into his own company Health and Safety System as well as basic safe work training (HSE Induction Training). The Principal Contractor shall ensure that his, all his Contractor's employees and visitors are inducted on the specific site safety procedures.

A Daily Safe Task Instruction (DSTI) must be conducted on site with all employees involved in the project. The DSTI must be carried out each day before work commences and proof thereof must be available on site. Each work crew may conduct their own specific DSTI to discuss the hazards, risks and control measures associated with their task for the day.

Where two or more contractors or work crews work in the same area, they should have a combined DSTI to ensure they know of the additional hazards the other contractor or work crew will introduce to their operations and what precautions to put in place.

The Principal Contractor shall have evidence that employees have been trained on the relevant procedures prior to and during the project duration. The evidence will be in the form of attendance register.

c) Formal Training

All qualifications for which there are SAQA registered training courses, must be regarded as the minimum required qualifications and training. To be deemed "competent" an employee must have received training at a registered training provider, the training course must be registered and if there is an assessment, the employee must have been found competent after the assessment. A person cannot be deemed competent after awareness training only.

The Principal Contractor shall ensure that his employees, as well as the employees of any contractors that may be used, have received appropriate training for the type of work that will be performed, e.g. First Aid, Flag Man, Mobile Plant Operator, Working at Heights, Risk Assessment training etc.

d) Records

Record of all training shall be kept by the employer and shall be readily available. Records shall make provision for refresher training where applicable. Where an employee is legally appointed with certain duties and responsibilities a copy of the training certificate must be attached to the appointment.

E1006 APPLICATION FOR CONSTRUCTION WORK PERMIT

Construction Regulation, 2014 Section 3 requires that the client apply for a construction work permit at least 30 days before construction work is started, if the intended construction work will:

- exceed 365 days AND will involve more than 3 600 person days of construction work; or
- if the tender value limit is a CIDB grade 7, 8 or 9.

If approved, the provincial director will issue a construction work permit in writing to perform construction work within 30 days of receiving the application and assign a site-specific number for the construction site. It is the intention of SANRAL to apply for a construction work permit as soon as The Principal Contractor is appointed and his Health and Safety Plan is received, in order to minimize construction delays.

The site-specific construction work permit number must be displayed at the main entrance to the site and a copy of the construction work permit must be kept in the principal contractor's health and safety file for inspection purposes.

E1007 DUTIES

Various duties are imposed on the client, designer, principal contractor and other contractors by the Construction Regulation, 2014, Sections 5, 6 & 7. SANRAL will comply and carry out the required duties as contemplated in Section 5 of the Construction Regulations, 2014 and it is expected from the designer

and every contractor to make themselves conversant with the requirements and duties imposed on them and to ensure that they comply with the requirements of section 6 & 7 at all times.

E1008 MANAGEMENT AND SUPERVISION

The Principal Contractor shall ensure that the project is managed safely, and legal compliance is ensured at all times.

A full-time competent person must be appointed as a Construction Manager to manage all construction work, including health and safety compliance. The construction manager may not be appointed to manage more than one single construction site. An Alternate Construction Manager must be appointed, to carry out the duties in the absence of the Construction Manager.

The construction manager must appoint construction supervisors responsible for construction activities and ensuring occupation health and safety on the construction site.

The Principal Contractor must appoint a full-time construction health and safety officer, who is registered with the SACPCMP, to assist in the control of health and safety aspects on site.

E1009 RISK MANAGEMENT

The Principal Contractor must follow a formal risk-based approach to ensure hazard control measures are implemented to an acceptable reasonable practical level. The Principal Contractor and his employees shall be responsible to ensure all hazards pertaining to his scope of activity are proactively identified, the risks assessed and appropriately eliminated or minimized and managed on an ongoing basis. Risk assessments shall also identify possible and potential environmental, health and hygiene issues pertaining to each hazard with potential exposures and limits.

a) **Risk Assessment**

i) Hazard Identification and Risk Assessment (Construction Regulation 9)

The Principal Contractor shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, conduct a risk assessment by a competent person, appointed in writing and the risk assessment so produced shall form part of the OH&S plan and be implemented and maintained as contemplated in Construction Regulation 9(1). Competence is a factor of training, knowledge, experience and/or appropriate qualifications.

The risk assessment shall include, as far as is reasonably practicable, at least:

- The task or task step
- the identification hazards to which persons may be exposed to during the task or task step;
- The analysis and evaluation of the risks associated to the hazards identified, inclusive of a residual risk rating methodology. The method to be used is not prescribed;
- a documented plan of safe work procedures, to mitigate, reduce or control those residual risks that have been identified as unacceptably high, by means of the rating system;
- a monitoring plan;
- a review plan, inclusive of dates to be adhered to; and
- Ergonomic related risks are to be analysed, evaluated and addressed as part of the process.

Based on the risk assessments, The Principal Contractor shall develop a set of site-specific OH&S rules that shall be applied to regulate the OH&S aspects of the construction. The risk assessments, together with the site-specific OH&S rules shall be submitted to the Employer before construction on site commences. SANRAL has conducted a Baseline Risk Assessment as per clause E1009 (b) below, which must be used by The Principal Contractor to develop task specific risk assessments before work commences. This does not mean that all possible Risk Assessments must be attended to before work commences,

but that all relevant Risk Assessments receive the necessary attention as the contract progresses, and this is the responsibility of The Principal Contractor.

All variations to the scope of work shall similarly be subjected to a risk assessment process.

ii) Risk Assessment Monitoring

The Principal Contractor shall ensure that a monitoring plan for all risk assessments are in place. Risk assessments must be monitored to ensure effectiveness and employee understanding. The monitoring of risk assessments shall be formal, and records thereof shall be available for audit purposes.

iii) Review of Risk Assessment

The Principal Contractor shall review the hazard identification, risk assessments and standard safe working procedures:

- prior to any work activity commencement,
- where changes are affected to the design and construction that result in a change to the risk profile,
- when an incident has occurred, or
- at least quarterly.

The Principal Contractor shall provide the Employer, sub-contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated above.

Activities carried out without conducting a risk assessment or found to be non-compliant with the risk assessment, will be stopped until such time a risk assessment is compiled, and work is carried out according to the risk assessment.

Risk assessments must be fully communicated to all relevant personnel and must be considered when establishing training, awareness and competency requirements. Records of risk assessment communications must be kept for inspection purposes.

b) **Baseline Risk Assessment**

SANRAL prepared a Baseline Risk Assessment from which the Health and Safety Specifications for this project was prepared. The Baseline Risk Assessment highlights all work for which The Principal Contractor must prepare safe work procedures and or work method statements. It must be noted that the Baseline Risk Assessment is not exhaustive and Principal Contractors are required to identify risks and come up with control measures, this must be identified by Principal Contractor when preparing the Issue Based Risk Assessments.

The Baseline Risk Assessment for this Project can be found in clause E1018.

c) **Continuous Risk Assessment**

The Principal Contractor shall continuously assess the risks of the activities that are carried out. Risk assessments must be in writing, site specific and must be reviewed continuously as per E1009 a(iii) to ensure it is current and it addresses all the relevant hazards and risks associated with the specific activity at the specific site.

The Risk assessment must be discussed with the whole work crew before the activity starts and the work crew must acknowledge in writing having discussed the risk assessment and that they understand it. This acknowledgement must be on site and must be available to the client for audit purposes.

E1010 LEGAL COMPLIANCE AND DOCUMENT CONTROL

The Principal Contractor is required to implement systems and procedures to ensure legal compliance through:

- Identification of all relevant HSE legislation, standards and codes applicable to its operations.
- Have available copies of all relevant HSE legislation, standards and codes for reference purposes.
- Update systems and procedures with changed/updated legislation, standards and codes.
- Communicate to all employees any changes that may affect their accountabilities and conformances.
- Incorporate any legal requirements into their HSE management system.
- Monitor and review their HSE management system for effectiveness.

The Principal Contractor shall, as a minimum, comply with:
- The Occupational Health and Safety Act and Regulations (Act 85 of 1993), an up-to-date copy of which shall be available on site at all times.
- The Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993), an up-to-date copy of which shall be available on site at all times.
- Where work is being carried out on a quarry/borrow pit/"mine", The Principal Contractor shall comply with the Mines Health and Safety Act and Regulations (Act 29 of 1960) and any other OH&S requirements that the mine may specify. An up-to-date copy of the Mines Health and Safety Act and Regulations shall be available on site at all times.

Wherever in the Construction Regulations or this specification there is reference to other regulations (e.g. Construction Regulation 24: Electrical Installations and Machinery on Construction Sites) The Principal Contractor shall be conversant with and shall comply with these regulations.

All legal appointments of The Principal Contractor regarding the Health and Safety of his employees who are to work on the project are addressed and governed by the OHS Act and applicable Regulations. Legal appointments must be in place and must reflect in the project safety file before work commences.

a) **Overall Supervision and Responsibility for OH&S**

SANRAL will appoint the Principal Contractor in terms of Construction Regulation 5(1)(k). A Mandatory agreement as per Section 37.2 of the OHS Act, shall be signed between SANRAL and the Principal Contractor.

It is a requirement that the Principal Contractor, when he appoints other contractors in terms of Construction Regulations 7(1)(c), 7(1)(d), 7(1)(f) and 7(3) includes in his agreement with such Contractors the following:
- OH&S Act (85 of 1993), Section 37(2) agreement: "Agreement with Mandatory".
- OH&S Act (85 of 1993), Section 16(2) appointee(s) as detailed in his/her/their respective appointment forms. (Where applicable).

The signed Mandatory agreements shall be placed in the project file for reference and for audit trail purposes.

b) **Specific Supervision Responsibilities for OH&S**

The Principal Contractor shall appoint designated competent employees and/or other competent persons as required by the OHS Act and Regulations, as well as this specification. Appointments shall be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information shall be communicated to and agreed with the appointees. Where applicable, the training certificate must be attached to the appointment. Notice of appointments shall be submitted to the Employer. All changes shall also be communicated to the Employer.

Below is a list of possible appointments for the project, which is not an all-inclusive list, but for reference purposes only:

Appointment	**Legal Reference**
Assistant to CEO	OHS Act 16(2)
Health and Safety Representative	OHS Act 17(1)
Nominated Health and Safety Committee Member	OHS Act 19(3)

Appointment	Legal Reference
Contractor (Sub-contractor)	CR 7(1)(c)(v)
Construction Manager	CR 8(1)
Alternate Construction Manager	CR 8(1)
Assistant Construction Manager	CR 8(2)
Health and Safety Officer	CR 8(5)
Construction Supervisor	CR 8(7)
Assistant Construction Supervisor	CR 8(8)
Risk Assessor	CR 9(1)
Fall Protection Plan Developer	CR 10(1)(a)
Structure Inspector	CR 11(2)(a)
Temporary Works Designer	CR 12(1)
Temporary Works Supervisor	CR 12(2)
Excavation Supervisor	CR 13(1)(a)
Demolition Supervisor	CR 14(1)
Competent Person in the use of Explosives	CR 14(11)
Scaffold Supervisor	CR 16(1)
Suspended Platform Supervisor	CR 17(1)
Rope Access Supervisor	CR 18(1)(a)
Material Hoist Inspector	CR 19(8)(a)
Bulk Mixing Plant Supervisor	CR 20(1)
Explosive actuated fastening device Inspector	CR 21(2)(b)
Explosive actuated fastening device cartridge Controller	CR 21(2)(g)(i)
Construction Vehicle & Mobile Plant Operator Authorised	CR 23(1)(d)(i)
Temporary Electrical Installation Controller	CR 24(c)
Stacking and Storage Supervisor	CR 28(a)
Fire Equipment Inspector	CR 29(h)
Incident investigator	GAR 9(2)
Lifting tackle inspector	DMR 18(10)(e)
Ladder inspector	GSR 13(a)
Certified Explosives Manager	ER 12(1)
First Aider GSR	GSR 3(4)
Lifting machine Operator	DMR 18(11)

In addition to the above, the Employer requires that a Traffic Safety Officer be appointed.

It is a requirement that The Principal Contractor shall provide the Employer with an organogram of all sub-contractors that he/she has appointed or intends to appoint and keep this list updated and prominently displayed on site.

c) **Designation of OH&S Representatives (Section 17 of the OH&S Act)**

Where the Principal Contractor employs more than 20 (twenty) persons (including the employees of sub-contractors) he has to appoint 1 (one) OH&S representative for every 50 (fifty) employees or part thereof. This is a minimum (legal) requirement. The Principal Contractor may at his own discretion appoint more OH&S representatives according to site specific requirements. General Administrative Regulation 6 requires that the appointment or election of the OH&S representatives be conducted in consultation with employee representatives or employees (Section 17 of the Act and General Administrative Regulation 6 & 7). OH&S representatives shall be designated in writing and the designation shall include the area of responsibility of the person and term of the designation. OH&S representatives must be experienced, permanently employed

by The Principal Contractor or his sub-contractors, trained and able to move freely within their designated area of responsibility.

d) **Duties and Functions of the OH&S Representatives (Section 18 of the OH&S Act)**

The Principal Contractor shall ensure that the designated OH&S representatives perform their functions in respect of the workplace or section of the workplace for which they have been appointed. These functions include to conduct continuous monitoring and monthly inspections of their respective areas of responsibility, focusing on unsafe acts and unsafe conditions and report thereon to The Principal Contractor and OH&S Committee. OH&S representatives shall participate in accident or incident investigations. OH&S representatives shall attend all OH&S committee meetings. The complete list of functions can be found in Section 18 of the OHS Act.

e) **Appointment of OH&S Committee (Sections 19 and 20 of the OH&S Act)**

The Principal Contractor shall establish an OH&S committee, which shall meet at least once a month, where two or more Health and Safety Representatives have been appointed. OH&S representatives must be appointed as OH&S committee members. The number of members nominated by management may not exceed the number of OH&S representatives on the committee and must be appointed in writing.

E1011 OPERATIONAL INTEGRITY

The operational integrity of plant, equipment, structures and protective systems must be monitored and assured on an ongoing basis throughout the project cycle. Hazards must be identified, risks assessed and as far as reasonably practicable, eliminated or the risks treated to as low as reasonably practicable (ALARP).

a) **Construction Plant & Equipment**

The Principal Contractor shall maintain all items of plant and equipment necessary to perform the work in a safe condition.

SANRAL reserves the right to inspect items of plant and equipment brought to site and used on site by The Principal Contractor. Should it be found that any item is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, The Principal Contractor will be advised of such observation/inspection, and The Principal Contractor shall be required to repair, make safe or remove such item from operation and replace it with a safe and adequate substitute.

The Principal Contractor shall ensure that all plant, equipment, and power tools that are brought onto and used on site are:

- Appropriate for the type of work to be performed.
- Placed on a register and inspected by a competent person and/or the authorized operator before use, daily or monthly dependent on Legislation.
- Record inspection findings on a register that must be kept on site.
- The inspection register shall reflect the serial number of the plant, equipment or power tool.
- Maintained and used in accordance with the manufacturers' recommendations.
- Have adequate machine guarding fitted to all exposed rotating or moving parts, as reasonably practicable, that have the potential to cause harm.
- All electrical power supply units are protected with operational earth leakage devices.
- Any defective, damaged or sub-standard equipment must be marked as unsafe for use and removed from operation as soon as possible.

b) **Standards and Registers**

As standard project procedures, The Principal Contractor is expected to:

- Set up an initial set of registers as per the requirements of the OHS Act and Regulations.
- Complete the registers for each piece of plant, tool and equipment brought on and used on site.

- Maintain a complete, continuous and comprehensive inspection and service history in these registers or checklists.
- Ensure daily, weekly, monthly inspections are done and recorded for all plant, tools & equipment by a competent person and/or authorized operator as required by the OHS Act and Regulations.
- Have the inspection and maintenance records available for audit purposes.

E1012 OCCUPATIONAL HEALTH AND HYGIENE

a) Medical Fitness for Duty

All contractor employees shall undergo medical examinations and be certified fit for duty by an Occupational Health Practitioner before they are allowed to work on site.

The medical certificate must be in the form of Annexure 3 of the Construction Regulations and stipulate the possible exposures the employee might be exposed to during the execution of the project.

It is recommended and in the best interest of The Principal Contractor to implement pre-employment, periodic, as well as exit medical surveillance, especially with regards to Section 8 of the Noise Induced Hearing Loss Regulation.

b) First Aid

According to GSR 3(4), where more than 10 (ten) employees are employed at a workplace/worksite, The Principal Contractor shall ensure that there is at least one trained first aider for every group of 50 (fifty) employees at the workplace/site. First Aid boxes must be provided where more than 5 (five) employees are employed and must be readily available and accessible for the treatment of injured persons at the workplace.

To ensure immediate treatment of an injured person, it is recommended that all work crews have at least one trained first aider, with a fully stocked first aid box, irrespective of the number of people in the work crew. This is especially important when contractors work at great distances from the nearest emergency facility or town. These persons shall be appointed in writing as the first aiders with their certificates attached as proof of competency.

The minimum contents of the first aid box shall be as per the supplied list in the General Safety Regulations.

All treatments done must be recorded on a register and kept with the first aid box. A trained and appointed first aider must be responsible for the first aid box and its content. Used content must be replenished as soon as possible.

In order to ensure prompt response at the emergency facility it is recommended that the W.Cl 2 forms be partially completed with the Employers' details.

c) Hygiene Facilities

The Principal Contractor and his contractors shall ensure compliance to Section 30 of the Construction Regulations with regards to facilities on the construction site as well as where accommodation is provided to employees on remote sites. The Principal Contractor shall ensure that the facilities are kept clean at all times, either through a service provider or self-employed persons. The Principal Contractor shall provide employees with at least one sanitary facility for each sex and for every 30 (thirty) workers, changing facilities for each sex and sheltered eating areas.

d) Health related Epidemics and Pandemics

The contractor shall, as far as reasonably practicable describe in his health and safety plan how health related epidemics and pandemics will be dealt with. The Employer is aware that this section in the health and safety plan will not speak to specifics, but generic procedures. The Contractor must ensure that the requirements stipulated in the Hazardous Biological Agents (HBA)

Regulation are addressed in his health and safety plan, training and information given to staff and procedures implemented on site to prevent health risks on site.

Once the nature and scale of the epidemic or pandemic is known, the Contractor must update his health and safety plan with the relevant information and send the updated plan to the relevant appointed OHS Agent for approval. Once approved, the Contractor must implement the updated health and safety plan and maintain the updated plan on site.

E1013 WASTE MANAGEMENT

The Principal Contractor shall comply with all applicable and relevant Waste management legislation, as well as municipal bylaws applicable to waste management.

The Principal Contractor shall remove all waste generated at the construction site as soon as possible after generation to ensure good housekeeping at all times. The Principal Contractor shall have a waste management plan which must be implemented on the construction site, and which will have the objective to ensure that waste is managed according to the Waste Management Hierarchy:

- Reduce what you can. If you cannot reduce then,
- Re-use what you can. If you cannot re-use then,
- Recycle what you can. What you cannot recycle,
- Convert into energy sources. If it cannot be converted to an energy source,
- Dispose of in a landfill – this is only to be done as a last resort and disposed without endangering human health and without using processes or methods which could harm the environment.

E1014 HAZARDOUS SUBSTANCE MANAGEMENT

The Principal Contractor shall ensure that hazardous substances brought onto site are easily identifiable and stored according to the requirements of the General Safety Regulations, GNR. 1031 of 1986, Section 4.

Where flammable liquids are being used or stored, this must be done in a manner which would not cause a fire or explosion hazard.

The Principal Contractor shall have Material Safety Data Sheets (MSDS) readily available for flammable, hazardous and toxic chemical substances and materials brought onto site and shall ensure that his employees are trained in these MSDS's.

Flammable, hazardous or toxic chemical substances may not be stored in empty food or drink containers. Empty flammable, hazardous and toxic containers must be disposed of in a safe manner, which will prevent further use of such a container.

A survey of the construction site must be done during site establishment, to locate any asbestos. Should asbestos be located, the conditions of the Asbestos Regulations, GNR. 155 of 2002 must be followed and complied with.

E1015 CONTRACTORS

a) Consultations, Communications and Liaison

OH&S liaison between the Employer, The Principal Contractor, The Contractors, the designer and other concerned parties will be through the OH&S committee. In addition to the above, communication may be directly to the Employer or his appointed agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their construction managers and supervisors, OH&S representatives and the OH&S committee. The Principal Contractor shall be responsible for the dissemination of all relevant OH&S information to The Contractors e.g. design changes agreed with the Employer and the designer, instructions by the Employer and/or his/her agent, exchange of information between subcontractors, the reporting of hazardous/dangerous conditions/situations etc. The Principal Contractors' most senior manager on site shall be required to attend all OH&S meetings.

b) **Operational Procedures**

Each construction activity shall be assessed by The Principal Contractor so as to identify operational procedures that will mitigate against the occurrence of an incident during the execution of each activity. This specification requires The Principal Contractor:

- to be conversant with all relevant Regulations;
- to comply with their provisions;
- to include them in his OH&S plan where relevant

c) **Checking, Reporting and Corrective Actions**

i) Monthly Audit by Employer (Construction Regulation 5(1)(o)

The Employer will conduct monthly health and safety and document verification audits in compliance with Construction Regulation 5(1)(o) in order to ensure that The Principal Contractor has implemented and is maintaining the agreed and approved OH&S plan.

The Principal Contractor will be provided with a copy of the Health and Safety audit report within seven days after the audit. The Employer or his representative may stop any Principal Contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specification and the Principal contractor's health and safety plan for the specific site.

ii) Other Audits and Inspections by the Employer

The Employer reserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include site safety walks.

iii) Principal Contractor's Audits and Inspections

The Principal Contractor must conduct his own regular internal audits to verify compliance with his own OH&S management system, as well as with this specification.
The Principal Contractor shall furthermore ensure that each contractor`s health & safety plan is being implemented and maintained. The Principal Contractor will ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the Principal Contractor and any contractor, but at least once every 30 days.

iv) Inspections by OH&S Representatives and other Appointees

OH&S representatives shall conduct monthly inspections of their areas of responsibility and report thereon to their foreman or supervisor, as well as the OH&S Committee, whilst other appointees shall conduct inspections and report thereon as specified in their appointments e.g. vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

v) Recording and Review of Inspection Results

All the results of the abovementioned inspections shall be in writing, reviewed at OH&S committee meetings, endorsed by the chairman of the meeting and placed on the OH&S File.

d) **Project Health and Safety Management Plan**

As per Section 5(1) (l) and Section 7(1) (a) of the Construction Regulations of 2014, The Principal Contractor shall develop, implement and administer a Health and Safety Management Plan. The plan shall be in writing and shall be negotiated between The Principal Contractor and SANRAL or designated OHS Agent and must be approved by SANRAL or the designated OHS Agent prior to the commencement of work on site. The plan shall demonstrate management's commitment to ensure employee health and safety as their primary objective during the contract. The H&S plan shall be site and project specific and must address all aspects of the project H&S specification.

e) **Project Health and Safety File**

The Principal Contractor shall compile a project specific Health and Safety File that consist of all the relevant project specific documentation. The Health and Safety file may consist of multiple files, which when combined should contain all the required documentation.

It is recommended that the project specific Health and Safety file contain at least the following:

- Scope and summary of the project as well as any scope changes.
- Notification of Construction Work to DoL / Copy of Work Permit
- Proof of COID registration (Letter of Good Standing)
- Contractor Health and Safety Policy statement signed by management
- Appointment of Principal Contractor
- Mandatory Agreement – OH&S Act 37.2 (Between Employer and Principal Contractor)
- Client Health and Safety specification
- Latest copy of the OHS Act end Regulations
- Company Organogram depicting Health and Safety Responsibilities, including sub-contractors
- Employee list including copy of IDs and medicals
- Project specific Health and Safety Management Plan agreed with the Employer – See E1015(d) above
- Relevant OH&S Legal appointments which includes duties and responsibilities as well as competencies (training certificate)
- Copies of minutes of meetings – OH&S committee and other relevant OH&S meeting minutes
- Site specific Fall Protection Plan (if applicable)
- Risk Assessments
- Contractor Induction material
- Waste management Plan
- Emergency preparedness (first aid, firefighting, emergency plan, etc.)
- Emergency Contact Telephone numbers
- List of hazardous chemical substances used on site
- Material Safety Data Sheets of hazardous chemicals on site
- List of plant & equipment to be used on site
- Inspection Checklists/Registers of plant & equipment and emergency equipment
- List of Sub-contractors including type of work
- Sub-contractor 37.2 Mandatary Agreements
- Sub-contractor appointments which shall include the type of work The Principal Contractor is appointed for.

f) **Contracting Philosophy**

Any site-specific hazards and safety management expectations will be made known to the Principal Contractor prior to the work commencing on site. This will be done through the OH&S Specification for the project. SANRAL as the Employer/Client may specify requirements that are stricter than Legislative requirements in this OH&S Specification. Legal OHS requirements contained in the OHS Act and Regulations, SANS Codes and the project OH&S Specifications are the minimum requirements the Principal Contractor must apply during this contract with regards to Occupational Health and Safety. The Principal Contractor shall implement the minimum OH&S requirements and ensure conformance to these at all times.

g) **Workers Compensation Registration**

The Principal Contractor shall ensure that his employees are covered for any occupational injuries and illnesses in terms of the Occupational Injuries and Diseases Act 130 of 1993, which cover shall remain in place and up to date for the duration of the project.

The Principal Contractor shall ensure that his sub-contractor employees are covered for any occupational injuries and illnesses in terms of the Occupational Injuries and Diseases Act 130 of 1993, which cover shall remain in place and up to date for the duration of the project.

h) **HSE Non-Compliance**

It is a legal duty of the client according to the Construction Regulation 5(1)(q) that a Principal Contractor is stopped from executing any activity which poses a threat to the health and safety of persons. Depending on the seriousness of the non-compliance only the specific activity may be stopped until the non-compliance is rectified or the whole operation may be stopped.

It is also the duty of every employee to take reasonable care of his own health and safety and of other persons who may be affected by his acts as per OHS Act, Section 14(a). Keeping this in mind, it is required of The Principal Contractor to ensure his employees has the right to remove themselves from any unsafe situation or work activity, without any negative consequence to them until such time as The Principal Contractor has made the unsafe situation or activity as safe as practicable possible.

i) **Indemnity by Contractor**

The Principal Contractor shall indemnify the Employer against and from all damages, losses and expenses (including legal fees and expenses) resulting from:

i) the loss of output and delay caused by the slowing down or partial or total stoppage of work caused by:
   - all or any of The Principal Contractor's workforce as a result of a dispute between all or any of the Principal Contractor's workforce and The Principal Contractor; or
   - all or any of the Principal Contractor's suppliers' difficulty or impossibility to deliver goods or materials needed to perform the Works;

ii) Any unlawful, riotous or disorderly conduct by or amongst the Principal Contractor's personnel."

j) **The Principal Contractor Conduct**

Guidelines to the most important rules that shall be implemented and maintained by the Principal Contractor:

- Complete compliance to the OH&S Act 85 of 1993 and Regulations,
- Hazard identification and Risk Assessments for all activities,
- Daily communication of DSTI's before work commences, even if it is a repetitive task,
- Safe access and egress to and from work areas,
- Compulsory use of lifelines, Safety Harnesses and Fall Arrestors (Lanyards to be attached at all times), when working in elevated positions,
- Scaffold shall comply with Legal and SANS standards at all times,
- Good housekeeping and stacking practices,
- Safe lifting, rigging and slinging practices,
- Complying to Legal standards for lifting machinery & equipment,
- No lifting in wind conditions exceeding 30km/h (This is a guide and is dependent on risk assessments),
- Securing of tools, equipment and material at heights,
- Wearing of appropriate personal protective equipment as identified in the risk assessment.

Supervisors in charge are responsible for ensuring that the employees are aware of the hazards/risks involved in the work they will be doing/are doing and shall ensure the safety rules are obeyed.

No person shall act in a manner that endangers or is likely to endanger the safety of any other person, or cause harm to any other person.

An employee who observes any dangerous situation shall as soon as possible inform the person who is responsible for that section of the site.

Any employee who becomes aware of any person disregarding any safety rules, shall remind that person of the rules. If he persists in disregarding the rules, the matter must be reported to his supervisor.

No person shall damage, alter, remove, render ineffective or interfere with anything that has been provided for the protection of the site, or for the health and safety of persons.

No person shall interfere with or use firefighting equipment without authority and training.

No person in a state of intoxication or condition that renders him incapable of controlling himself shall enter or be allowed to enter the site.

No alcohol or illegal drugs shall be taken onto the site.

All safety and warning signs shall be obeyed.

Always be alert of construction vehicles as well as traffic. Never turn your back to oncoming traffic, always have a line of sight.

k) **Principal Contractor and Contractor Management**

The Principal Contractor shall establish, maintain and ensure that all his contractors establish and maintain OH&S standards and systems as necessary and to comply with the Legal requirements as well as these OH&S specifications.

The Principal Contractor shall be solely responsible for carrying out work on the project, having the highest regard for the health and safety of his employees and people in the vicinity of his work area.

l) **Public Health and Safety**

The Principal Contractor shall, as far as is reasonably practicable, be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers.

This includes:

- Non- employees entering the site for whatever reason
- The surrounding community
- Passers-by to the site.

E1016 DESIGNING FOR HEALTH, SAFETY AND THE ENVIRONMENT

Designing for safety is a process aimed at minimizing injury, death, property damage or destruction and harm to the environment, by utilizing an approach to identify and eliminate or control hazardous conditions and material during the design process. The Principal Contractor is responsible for appointing the temporary works Designer and shall ensure that the temporary works Designer implement a process and designs the temporary works in such a way that ensure the safety of employees during the erection, use and dismantling of the temporary works. The temporary work designer shall comply with the duties of the Temporary Work Designer as per the Construction Regulations, 2014 Section 6(2).

The Principal Contractor must communicate the anticipated risks and hazards resulting from the design to his employees and establish safe work procedures for the temporary works.

E1017 INCIDENT MANAGEMENT

The Principal Contractor shall ensure that a culture exists within his company that promotes the recognition, response, reporting and investigation of incidents, including near misses (near hits). The Principal Contractor must implement a procedure for reporting and investigating accidents, incidents and near misses. The Principal Contractor should have a clear objective and target to obtain zero injuries for the duration of the project and such an objective must be communicated to all employees.

Appropriate corrective actions must be implemented, and the applicable learnings must be shared within The Principal Contractors business to prevent a recurrence of the incident or to prevent the near miss from becoming an incident in future.

(a) **Incidents and Accidents**

The Principal Contractor and his contractors shall coordinate their investigation of all accidents/incidents where employees and non-employees were injured to the extent that he had to be referred for medical treatment by a doctor, hospital or clinic. The results of the investigation shall be entered into an accident/incident register, which must be updated with each accident/indent.

The Principal Contractor shall notify the relevant SANRAL Project Manager and or SANRAL OHS Specialist of any incident/accident within the Principal Contractors or his Contractors area of responsibility in writing as soon as possible.

Although the accident/incident is reported to the client, the Principal Contractor has a responsibility and is required by law to report any Section 24 accidents and incidents to the Department of Labour. Any road traffic accident must be reported to the relevant authorities.

It is essential that the Principal Contractor demonstrates that corrective and preventative action has been taken to prevent a similar incident in future and that it is communicated to all the Principal Contractors affected staff. A copy of the investigation, corrective and preventative action taken as well as the attendance register of the employees who attended the discussion of the incident and the action implemented to prevent a similar incident, must be forwarded to the SANRAL Project Manager and or the SANRAL OHS Specialist.

Investigations must be completed for:

- Near Miss Incidents (To prevent it from becoming an incident)
- First Aid case Incidents
- Medical treatment case Incidents
- Fatalities

(b) **Incident Reporting**

The Principal Contractor shall provide the Employer with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring. In addition, The Principal Contractor shall update monthly the Disabling Injury Frequency Ratio (DIFR) and display this information on a signboard at the site office.

The Principal Contractor is responsible for collecting, recording, calculating and reporting his and his subcontractors Health & Safety statistics to the SANRAL OHS Specialist.
The statistics should contain at least the following for all employees of all contractors working on the project:

- Total Number of workers
- Total Number of hours worked (on the SANRAL project)
- Total Number of Near Miss Incidents
- Total Number of First Aid case Incidents
- Total Number of Medical Treatment case Incidents (Excluding Section 24 type incidents)
- Total Number of Section 24 type Incidents
- Preventative actions taken on incidents that have occurred
- Communication to employees and contractors of incidents and preventative actions.

E1018 PROJECT SPECIFIC CONSTRUCTION REQUIREMENTS

The clause contains specific requirements for Contract SANRAL N.003-120-2019/9, which must be adhered to in addition to minimum legislative requirements.

a) **Baseline Risk Assessment**

The following is a list of activities, hazards and risks identified which forms the Baseline Risk Assessment for the project prepared by the Client in terms of Construction Regulation 5(1) (a):

Risks associated for identified activities and hazards:

Activity	Associated Hazards	Associated Risks	Risk Rating High Medium Low
Site establishment	Extreme temperatures; Pesticides, herbicides, dust. Snakes, bees, spiders, vermin (rats & mice); Portable electrical equipment; Electrical hand tools; Lifting equipment; Aggrieved members of the public.	Heat exhaustion; Dehydration; Poisoning; Fatality / Serious health effect; Silicosis; Electrical shock; Personal Injuries; Falling objects; Strikes / riots	M
Security	Aggrieved members of the public; Uncontrolled people	Protest Riots Theft	M
Loading / Unloading of materials / plant & equipment from trucks	Lifting equipment; Inexperience operators; Inexperienced workers;	Material / plant falling from height; Operator losing control; Employees under/close to suspended loads.	M
Transportation of personnel / materials	Overloaded vehicles; Transportation of workers in vehicles not designed to transport people; Transporting vehicle defective / not roadworthy	Operator losing control of vehicle; Vehicle overturning; Vehicle accidents; Fatality; Serious injuries	H
Erection of temporary site offices / Laboratory	Extreme temperatures; Pesticides, herbicides, dust, cement; Snakes, bees, spiders, vermin (rats & mice); Portable electrical equipment; Electrical hand tools; Lifting equipment; Temporary works; Aggrieved members of the public.	Heat exhaustion; Poisoning; Fatality / Serious health effect; Silicosis; Electrical shock; Personal Injuries; Falling objects; Strikes / riots	M
Working with and handling of hazardous / flammable / toxic materials	Hazardous, flammable and toxic substances	Chemical burns; Fire; Serious injuries; Fatalities	M
Disposal of waste materials	Hazardous waste	Environmental pollution Re-use of containers can have serious health effect on people or fatal.	H
Traffic accommodation / calming	Public vehicles; Extreme temperatures Stop & Go	Employees run over by public vehicles – serious injuries / fatalities Heat exhaustion Public not adhering to stop & go signals / try to bypass stop & go – fatality / serious injuries / vehicle accidents.	H

Activity	Associated Hazards	Associated Risks	Risk Rating High Medium Low
Working in elevated positions - Working at heights, on slopes, next to excavations, on trucks.	Defective / Inadequate equipment; Improper use or non-use of fall protection equipment; Environmental conditions – rain / strong wind, lighting; Live electrical power lines; Suspension trauma.	Inadequate protection of employees against falls; Electrical Shock; Electrical arching; Slippery work surfaces; Fatality / serious injuries;	H
Stockpiling	Material falling from stockpile	Serious personal injuries; Material damage	M
Operations involving Noise	Noise	Noise induced hearing loss	M
Operations involving Vibration	Vibration	Damage to joints, muscles, circulation and sensory nerves.	M
Working above / near water environments	Working at heights Water environment	Drowning	M
Working near existing services – overhead/underground power cables; telecommunication cables	Electricity	Electrical Shock; Electrical arching; Fire; Burns Fatality Serious injury	H
Working with portable electrical equipment – grinders, circular saws, generators	Electricity Electrical tools Portable electrical equipment	Electrical shock Cuts Personal injuries	M
Lifting / Lowering operations	Elevated objects Lifting machines Improper rigging Electrical cables	Lifting machine / crane overturning; Falling objects Dropped loads Strong winds Loads striking personnel, vehicles or equipment. People working underneath High voltage power lines may arch onto crane boom.	H
Driving and operation of construction vehicles and mobile plant	Distracted drivers; Recklessness; Impaired driving; Poor visibility; Poor road conditions; Unsecured loads; Uncontrolled vehicle entry; Equipment failure; Public vehicles; Uneven ground surfaces	Fatalities; Serious injuries; Crashes; Vehicles, plant and equipment damage; Workers not seen by operators; Workers working too close to mobile plant and vehicles; Construction vehicles & mobile plant not road worthy / defective; Roll over of construction vehicles / plant.	H

Activity	Associated Hazards	Associated Risks	Risk Rating High Medium Low
Excavation work	Unstable ground Underground electrical cables; Underground pipelines; Excavation equipment, construction vehicles & plant.	Cave-ins; People falling into excavation; Workers buried in excavation due to cave-ins; Construction vehicles / plant falling into excavation; Fatalities; Serious injuries	H
Use of explosives	Explosives; Flying debris	Fatality; Serious Injuries	M
Gabion work	Manual handling Slopes Slippery Rocks	Personal injuries Trips, Slips & Falls	M
Work adjacent or in proximity of railway lines	Trains	Working too close to railway track can cause train draft to suck workers under trains. People falling onto or in front of trains while working above railway track.	H
Work adjacent or near traffic	Public vehicles	Workers not attentive to approaching vehicles. Drivers not slowing down to indicated speed limit. Drivers losing control of their vehicles.	H
Temporary works – Form work & support work	Temporary works	Falls from height; Collapse of temporary work overloading	H
Demolition work	Demolition equipment Flying debris Explosives;	Fatality; Serious Injuries; Damage to equipment; Damage to public assets	H
Work adjacent to public property	Construction plant and equipment; Excavation activities; Demolition activities;	Injury to public persons; Damage to public property and assets;	H
Protection of public H&S	Unprotected temporary works; Stockpiles; Incomplete structures.	Public persons accessing construction area, stockpiles and incomplete structures. Fatality / Serious injury to public persons	H
Welfare facilities – drinking water; eating facilities; sanitary facilities	Water not suitable for human consumption; Shortage of water; Hazardous substances; Environmental impact.	Serious health effects; Dehydration Environmental pollution	M
Working in the environment	Bees Snakes	Poisoning; Fatality / Serious health effect;	M

Activity	Associated Hazards	Associated Risks	Risk Rating High Medium Low
	Spiders Lighting Strong winds Heavy rain Hot/cold conditions	Electrical shock / burns; Personal Injuries; Slips; Drowning; Heat exhaustion; Dehydration;	
	Hazardous biological agents	Serious health effects; Fatality; Pandemic; Epidemic	H

The following Project Specific Baseline Risk Assessment:

BASELINE RISK ASSESSMENT NATIONAL ROUTE 3 SECTION 12 BETWEEN HEIDELBERG ROAD AND GELDENHUYS INTERCHANGES

Irrespective of the risk presented on site, it will be ensured that sufficient supervision is in place on site, that personnel are trained in accordance with legislation, including the requirement for site specific inductions on site to inform personnel on site of the risks and hazards applicable to the site. Site supervision is responsible for ensuring that the control measures required below are implemented on site.

	HAZARD	RISK	MINIMUM CONTROL MEASURES
	Asphalting	Fire Burns to skin Skin disease	• Suitable fire extinguisher to be in place prior to commencement of works • Ensure competent personnel using materials and competent and trained machinery/equipment operators • Ensure there is a safe place of work at all times • Ensure all personnel wear suitable and sufficient personal protective equipment (PPE) including safety boots, reflective vests and gloves • Health and Safety data sheet required
2.	Compacting and Filling	Contact with tipping materials Contact with moving plant Vehicles/personnel falling into excavations Contact with underground services	• Trained banksman to control vehicles movement • Only trained personnel use plant • Personal Protective Equipment to be worn • Personnel to stand clear as materials are being tipped • Use stop blocks and signs to warn vehicles of excavations, where applicable • Stand clear of plant whilst materials are being compacted • Establish position of underground services and protect services from damage
3.	Compactor Operation	Crushing of feet	• Only trained and competent personnel to use the machine • Ensure operative wears steel toe cap shoes or boots at all times
4.	Fire	Injuries to workers, pedestrians, residents, road users, damage to property through fire	• No littering on site which could become fire hazard, maintain site in clean condition. • No fires to be lit on site. Have a working fire extinguisher at hand at all times. • No smoking or naked flame near flammable substances or in unauthorized areas • Ensure proper storage/use of Petrol/diesel/flammable substances – post warning notices
5.	Flammable Liquids and Gases (Use of)	Fire Explosion	• No littering on site which could become fire hazard, maintain site in clean condition. • Have a working fire extinguisher at hand at all times. • No smoking or naked flame near flammable substances or in unauthorized areas • Ensure proper storage/use of Petrol/diesel/flammable substances – post warning notices • Equipment must be in good condition, maintained • Personnel using substances must be trained in safe use and risks
6.	Hand tools	Injuries caused by use of hand tool Impact with the tool Falls due to access problems Contamination with substance being worked	Ensure: • Tool is correct for job • Tool is in good order and suitably sharp • Personnel must be competent/instructed in tool usage and tool safely • Lighting is sufficient • Access is safe, working platform is secure, leading edge is guarded • Operative is wearing all necessary PPE

	HAZARD	RISK	MINIMUM CONTROL MEASURES
7.	Hazardous Substances	Injuries to workers through use of hazardous substances, e.g. injuries to eyes, skin, etc.	• Use substances in accordance with data sheet, particularly reference protective clothing equired (example: gloves, goggles, etc.) • Know what First Aid measures are • Have welfare facilities available for washing of hands, etc.
8.	Hot Works	Burns to eyes or other parts of the body	• Personal Protective Equipment to include eye, skin and hearing protection • Respirator maybe be required where cutting galvanized steel or anywhere else toxic fumes and gases arise. • Dust can also be a problem and forced ventilation may be required.
9.	Manual Handling of General Items	Muscular skeletal injuries if the load is too heavy or awkward Operative falling/ tripping Contamination from the substance being carried Fall of material being carried	• Personnel should be aware of safe manual handling techniques • Personnel to wear Personal Protective Equipment when carrying items, e.g. safety footwear and gloves. • Ensure good housekeeping against tripping/fall hazards. • Operative to get assistance if load too heavy- team lift if necessary. • Utilise mechanical lifting and carrying aids where possible. • Personnel to ensure access equipment, ladders will take weight of operative and load being carried. • Personnel to ensure item being carried is properly bonded or is not be liable to break apart whilst being manually handled.
10.	Members of Public – Protection of	Injury to member of public and road users from site works	• Barriers and signage to be in place • Workers must warn away any members of public from the works • Footpaths and bridges which are open to public must be closed off if in area of works or otherwise made safe so that no injury occurs to members of public • Traffic turning into site – traffic management and signage as required. • Signage to be on road at site entrance warning motorists that construction traffic turning into/out of site access. Keep roads free of mud where possible • Refer to plant risk assessment for details on plant safety precautions • NOTE: SIGNAGE TO BE POSTED ON SITE TO WARN OF CONSTRUCTION TRAFFIC MOVEMENTS. SAFE MEANS OF ACCESS FOR BOTH CONSTRUCTION TRAFFIC TO SITE AND PRIVATE HOMEOWNERS MUST BE AGREED.

	HAZARD	RISK	MINIMUM CONTROL MEASURES
14.	Plant or Vehicles and Equipment Operation .	Workers injured by passing traffic Road users and pedestrians at risk from plant operation Noise	• Implement traffic protection measures • Trained and competent operators must be used • Check plant and vehicles on daily basis before use and record inspections. Maintain vehicles in safe condition. • Medical certificates of fitness required for construction plant. • Crossing of road by construction vehicles or machines must be limited to the practical minimum • Plant and vehicles must be fitted with amber rotating beacons and reverse alarms. • Wear appropriate protective clothing/equipment, e.g. • goggles, gloves, ear defenders, etc. as appropriate.
15.	Road Construction	Risk of being struck by vehicles	• Ensure traffic management measures in place • No construction activities to commence until adequate provision made to accommodate traffic in accordance with the South African Traffic Signs Manual. • Wear reflective waistcoats when working on or near the road or road shoulder as well as any other required personal protective clothing. • Crossing of road by personnel must be limited to the practical minimum • Use of fencing or other barriers as appropriate
16.	Road Marking	Contact with moving vehicles Fire	• Ensure suitable and sufficient road signs are erected, as applicable • Possible road or lane closure may be required – traffic management will be required • Fire Extinguisher to be situated in a suitable area, use dry powder or foam
17.	Road Working – working in or next to road	Injury to workers caused by passing traffic Injury to road users and pedestrians by works	• Flagmen to be used where interface with construction plant with passers-by or where hazard posed y delivery vehicles turning into/out of site. • Traffic management plan to be approved by Municipality and, if necessary, traffic epartment • No construction activities to commence until adequate provision made to accommodate traffic in accordance with the South African Traffic Signs Manual. • Use safety signage to warn traffic and pedestrians of construction works • Where existing walk ways/pavements affected by works, must direct pedestrian traffic away to afe walking area. • Wear reflective waistcoats when working on or near the road or road shoulder as well as any other required personal protective clothing. • Crossing of road by personnel must be limited to the practical minimum. • Use of fencing or other barriers as appropriate

b) **Daily Site Attendance Register**

The Principal Contractor shall keep a daily site register so as to be able to identify the entire Contractors personnel on site in case of an emergency or evacuation situation. The attendance register must include permanent as well as temporary workers working on the site.

All contractors shall report to security/reception upon arrival at site. The Principal Contractor will only grant first time access to work on the site if all required documentation has been provided by the contractor and has been approved by the Principal Contractor.

All site visitors, suppliers and any new contractors shall report to security/reception upon arrival at site. All visitors need to sign an attendance register when visiting the site. Visitors include all persons who are not permanently working on the site but excludes temporary site workers. Visitors must undergo site induction training before they are allowed on site to make them aware of the site dangers.

c) **Emergency Numbers / Emergency Evacuation**

A list with emergency numbers must be readily available to first aiders and supervisors. Emergency numbers must be site specific and must display the nearest emergency facilities.

The Principal Contractor shall identify and formulate emergency procedures in the event an incident does occur. The emergency procedures thus identified shall also be included in The Principal Contractor's OH&S plan and communicated as part of induction training. It is the responsibility of the first aid worker, together with the construction supervisor, to make an assessment regarding the severity of injuries and which actions are appropriate. For example: transfer to a medical facility by ambulance or helicopter.

The Principal Contractor must implement an emergency evacuation procedure on site to ensure that in case of an emergency, all staff will leave their place of work when the emergency siren is sound and proceed to the designated emergency assembly point. The emergency assembly point at the site office must display the sign "Emergency Assembly Point".

An evacuation route diagram must be displayed and visible at strategic points in the site office buildings and on notice boards.

All staff working on site must be given awareness training on the emergency evacuation procedure and evacuation drills must be exercised to ensure all staff know the correct procedure to follow in case of an emergency.

d) **Site Security**

Certain areas where work must be carried out is recognized unsafe areas and certain other areas may from time to time become unsafe, due to 3rd party actions. The Principal Contractor must, as far as reasonably possible, anticipate unsafe areas and must ensure that his site staff is safe from 3rd party actions, which include but is not limited to:

- Unrests,
- Violent Demonstrations,
- Theft,
- Injury to staff due to 3rd party actions.

The Principal Contractor must, when work is to be carried out in the above-mentioned areas, make provision for security services to accompany site staff during the execution of their work, as The Principal Contractor is responsible for the Health, Safety and Security of his own staff. The provision for security services must form part of The Principal Contractors tender.

e) **Personal Protective Equipment**

Comply with General Safety Regulations, Section 2

The Principal Contractor shall identify the hazards in the workplace and follow the hierarchy of controls to prevent incidents. Where possible, hazards must be eliminated or, where impracticable, mitigate the hazards through implementing control measures. Where mitigated hazards still pose a risk to the health and safety of workers, take steps to protect workers and make it possible for them to work safely and without risk to their health under the hazardous conditions, by wearing personal protective equipment and clothing.

Personal protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigate hazardous situations before the wearing of PPE is considered. The hierarchy of hazard control must be followed before the option of personal protective equipment is considered. The following hierarchy of controls must be followed:

- Elimination
- Passive Controls
  - Substitution – Using a cherry picker or man-lift instead of a ladder.
  - Engineering Controls – Installing barrier railings; Installing stairs instead of using vertical ladders.
- Active Controls

- Administrative policies and procedures
- Personal protective equipment

Where it is not possible to create an absolutely safe and healthy workplace, the Principal Contractor shall inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the Principal Contractor maintain the said equipment, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the Employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The Principal Contractor shall include in his OH&S plan the PPE he intends issuing to his employees for use during construction and the sanctions he intends to apply in cases of non-conformance by his employees. Conformance to the wearing of PPE shall be discussed at the DSTI and Toolbox Talk meetings.

The Principal Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on site. Any person found not wearing a reflective jacket on site must be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are ineffective must immediately be replaced by The Principal Contractor.

f) **Site Supervision**

Comply with Construction Regulation, Section 8.

The Principal Contractor shall appoint a competent Construction Manager who shall be responsible for the construction activities and for ensuring occupational health and safety compliance on the construction site.

g) **Working in Elevated Positions**

Comply with Construction Regulation, Section 10

The Principal Contractor shall ensure that a fall protection plan, developed by a competent person who is designated as the Fall Protection Plan Developer, is available on site and understood by all employees who will be working in elevated positions.
All employees working in elevated positions shall protected themselves from falls by wearing a full body harness and the lanyard shall be attached as far as possible above the head of the worker to a lifeline or other approved and anchor point indicated in the fall protection plan.

In addition to obvious elevated work activities, work activities which include:

- Working on the edge of an excavation where there is a risk of falling into the excavation; or
- Work on the edge of a vertical drop where there is a risk of falling;

shall be considered work in elevated positions and Section 10 of the Construction Regulations must be adhered to at all times. The hierarchy of controls must be implemented when such activities are carried out. As a minimum the employee must wear PPE as identified in the risk assessment, which shall include a full body harness.

h) **Structures**

Comply with Construction Regulations, Section 11.

The Principal Contractor shall ensure that all practicable measures are taken to prevent the uncontrolled collapse of new or existing structures or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work. No structure may be loaded in a manner which would render it unsafe.

When a structure is of temporary nature, all conditions as required by the Construction Regulations Section 12 - Temporary Works, must also be complied with.

i) **Excavations**

Comply with Construction Regulations, Section 13

The Principal Contractor shall ensure that all excavations are carried out under the supervision of a competent person who has been appointed in writing as Excavation Supervisor.

The Principal Contractor must evaluate the stability of the ground before excavation work begins as well as during excavation work.

Excavations must be barricaded to prevent unauthorized access.

Material removed from excavations, as well as heavy machinery and construction vehicles, must not be closer than 1 meter to the edge of the excavation, to prevent additional loads on the excavation edge, which could cause cave-ins, to prevent construction vehicles from falling into the excavation and to prevent the accumulation of carbon monoxide gas inside the excavation.

The principal contractor and its contractors must cause every excavation which is accessible to the public or which is adjacent to the public roads or thoroughfares, or whereby the safety of persons may be endangered, to be –

- Adequately protected by a barrier or fence and as close to the excavation as is practicable; and
- Provided with warning illuminants or any other boundary indicators that are clearly visible at night or when visibility is poor.

People working in the excavation must be adequately protected from cave-ins, by means of protection systems such as trench boxes and shielding and must have a safe means of access into the excavation and egress from the excavation.

j) **Scaffolding**

Comply with Construction Regulations, Section 16, General Safety Regulations, Section 6 and SANS 10085 – The Design, erection, use and inspection of access scaffolding

The Principal Contractor shall appoint a competent person in writing as scaffolding Supervisor. Scaffolding Inspectors and Scaffolding Erectors must be trained and found competent to carry out scaffolding work. It is important to note that only competent scaffold erectors are allowed to build the scaffolding. The scaffold inspector is not allowed to build the scaffold with the scaffold erector team.

Scaffolding shall be erected according to SANS 10085 and shall be tagged “Unsafe for use” while it is being build and “Safe for Use” after inspection indicated that the scaffold is safe to use. The inspection of the scaffold shall be in writing and proof thereof shall be available for any user of the scaffold as well as for audit purposes.

Scaffold left erected while The Principal Contractor is not in attendance, must be tagged with a “Not Safe for Use” tag and all reasonably practicable measures must be taken to prevent unauthorised access to the scaffold.

Scaffold must be inspected by the competent scaffold inspector on completion of the scaffold build, weekly thereafter or following severe weather conditions.

Hazards such as overhead power lines must be identified before the scaffold is build and must be reflected in the risk assessment.

When using mobile scaffold, employees and materials must be removed from scaffold before moving the mobile scaffold. Hazards such as overhead power lines must be identified before moving mobile scaffold and must reflect in the risk assessment.

k) **Suspended Platforms**

Comply with Construction Regulation, Section 17, SANS 10295-2 - Suspended access equipment Part 2: Temporary suspended platforms (TSPs)

All suspended platform work must be carried out under the supervision of a competent appointed Suspended Platform Supervisor. Suspended platform erectors, operators and inspectors must be competent.

The Principal Contractor must be in possession of a certificate of design for the use of the suspended platform system.

l) **Cranes**

Comply with Construction Regulation, Section 22, Driven Machinery Regulation, Section 18.

Crane operators must be trained and found competent to operate the particular type of lifting machine and have a valid operator's card. The crane operator must be in possession of a valid medical certificate of fitness, issued by an occupational health practitioner.

The wind factor should always be taken into consideration when operating cranes and a wind speed device must be fitted so that it provides the operator with an audible warning when the speed exceeds the safe lifting speed. Upon noticing that the wind speed is equal or more than the specified speed limit, the operator should stop immediately.

m) **Construction Vehicles & Mobile Equipment**

Comply with Construction Regulation, Section 23, National Road Traffic Act, 1996

Construction vehicle operators must have received training to operate the class of construction vehicle or mobile equipment and must be in possession of an operator's card as proof of competency. Construction vehicle operators must be authorised in writing and have a medical certificate of fitness issued by an occupational health practitioner to operate the construction vehicle and/or mobile equipment.
All construction vehicles operating on a public road, must be roadworthy, licenced and when operated on a public road, comply with the National Road traffic Act.

n) **Electrical Equipment**

Comply with Construction Regulations, Section 24.

The Principal Contractor shall take adequate steps to ascertain the presence of and guard against danger to workers from electrical cables or apparatus which is under, over or on the site.
The exact location of underground electric power cables must be determined before any excavators are used for excavation purposes.
The location of overhead electrical cables must be assessed when working with cranes and lifting equipment. Injury may be possible from touching the electrical cables with the crane boom, or from arching when the crane boom comes too close to the electrical cable.
All temporary electrical installations must be inspected at least once a week by a competent person and the records of the inspections must be recorded in a register which must be kept on site.
Electrical machinery and extension cords must be is a serviceable condition and must be inspected on a daily basis before use on a construction site by the authorised operator and the inspection checklist must be kept on the construction site.

Comply with Electrical Installation Regulations.

All electrical installations shall be inspected and approved by an accredited electrical inspector and a valid Certificate of Compliance must be issued for the installation.
All electrical installations carried out on site (permanent and temporary) must be in accordance and comply with the Electrical Installation Regulations.
All power supplies and generating units must be fitted with a functional earth leakage device.

o) **Temporary Storage of Flammable Liquids**

Comply with Construction Regulation, Section 25 and General Safety Regulations, Section 4

The Principal Contractor must ensure storage areas of flammable liquids are well ventilated and "No Smoking" signs are placed at the entrances and ventilation ducts of the storage areas. Firefighting equipment must be available in suitable positions around the storage areas.

The Principal Contractor must ensure that good housekeeping is practiced in and around the flammable storage areas.

p) **Water Environments**

Comply with Construction Regulation, Section 26.

The Principal Contractor must ensure that a life jacket forms part of the employees PPE and is worn when the employee is exposed to the risk of drowning, by falling into water.

The risk assessment must make provision for the rescuing of persons in danger of drowning and for preventing employees from falling into the water.
When working next to a river, the Principal Contractor shall put a system in place to monitor the river water level in order to evacuate employees in case of a flood.

When working over water environments, Section 10 of the Construction Regulations – Fall Protection will also apply.

q) **Housekeeping**

Comply with Construction Regulation, Section 27, Environmental Regulations for Workplaces, Section 6(3).

The Principal Contractor shall ensure that suitable and acceptable housekeeping is continuously implemented and maintained on the construction site. Off-cuts and waste must be removed as soon as practicable.

r) **Stacking & Storage of Material, Plant & Equipment**

Comply with Construction Regulations, Section 28 and General Safety Regulations, Section 8.

The Principal Contractor shall appoint a competent person in writing with the duty of supervising all stacking and storage operations on site.

Stacking shall only take place in areas specifically demarcated for this purpose. Circular items must be secured with wedges or chocks.

Items removed from a stack shall only take place from the topmost layer of the stack.

Stacks shall not obstruct any fire extinguishing equipment, first aid equipment, electrical switchgear (DB Boxes) and ventilation or lighting installations.

Unstable stacks must be broken down immediately.

s) **Fire Precautions**

Comply with Construction Regulation, Section 29.

The Principal Contractor must provide his own firefighting equipment that is within the service date and safe for use. Firefighting equipment must be on a register and inspected by a competent person who has been appointed in writing.

Suitable and sufficient fire extinguishing equipment must be placed at strategic locations and a sufficient number of firefighters must be available, who must be trained in the use of it.

t) **Intoxicating Liquor and Drugs**

Comply with General Safety Regulations, Section 2A.

The principal Contractor must compile a Substance Abuse Policy, which must be communicated to all employees. This policy should form part of the induction material for employees as well as visitors.

The Substance Abuse Policy should set the limit for intoxication to zero in order to complement a vision of zero tolerance.

Any person found to be intoxicated, or consuming intoxicating liquor or illegal drugs, shall not be allowed onto the premises and/or must be removed from the premises.

The Principal Contractor has the right to test any person entering the premises for intoxicating liquor or illegal drugs and may refuse entrance on the basis of the outcome of the test.

The Principal Contractor shall ensure that employees taking prescription medicine informs the Principal Contractor of such and shall ensure that the side effect of such medicine does not constitute a hazard to the employee himself or people working with, or in close proximity to the employee.

u) **Confined Space Work & Tunnelling**

Comply with Construction Regulation, Section 15 and General Safety Regulations, Section 5.

The Principal Contractor shall ensure that only authorized persons enter confined spaces.

An entrance log must be kept to ensure people are not left inside the confined space. Adequate air monitoring must be carried out before entering the confined space. When air monitoring indicated the oxygen to be less than 20% by volume, the confined space must be purged and ventilated to obtain a safe atmosphere or self-contained breathing apparatus must be used.

v) **Site Services**

The Principal Contractor shall provide and maintain on the site adequate facilities for employees to use, which must be serviced and kept sanitary and hygienic at all. The following site services should be taken not of:

i) <u>Drinking Water</u>

The Principal Contractor must ensure that an adequate supply of potable drinking water is available for all persons engaged in managing and working on the construction site and, if necessary, similar facilities elsewhere for such personnel off the site. Employees working in hot conditions must consume enough water per hour to prevent dehydration.

Where water is unsafe for human consumption, it must be so indicated by means of adequate signage.

ii) <u>Accommodation</u>

The Principal Contractor shall comply with the requirements of Construction Regulation 30 with regards to employee's accommodation. Reasonable and suitable living accommodation must be provided to employees who are far removed from their homes.

iii) Sanitary Facilities

The Principal Contractor shall comply with the requirements of Construction Regulation 30 with regards to employees' sanitary facilities. Sanitary facilities must be positioned in close proximity of the work area. Sanitary facilities must be serviced regularly and kept in a clean and hygienic condition.

w) **Traffic Accommodation**

The Principal Contractor must develop a clear Traffic Management Plan, which must be approved by the Engineer. Traffic must be organized and controlled in accordance to the Traffic Management Plan and any work area must have adequate signage, signaling or other control arrangements to guard against the dangers relating to the movement of vehicles. Where reasonably practicable, solid barriers must be placed between workers and traffic passing by.

When the Principal Contractor is executing night work, permission should be obtained from the Engineer. The Principal Contractor must put in place visible or reflective signs that can be seen by motorists at a distance. If a stop and go method is used flag persons must be properly trained on how to control the traffic.

PART C4: PROJECT INFORMATION

PART C4: PROJECT INFORMATION

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Information Only
All data and descriptions contained in this section of the contract documents are given for information purposes only and cannot be interpreted as prescriptive or as an instruction despite the fact that the text may give the opposite perspective. If any conflict arises between the content of this section and other sections of the contract documents, the latter take precedence.

C4.1 DESCRIPTION OF THE WORKS

C4.1.1 ROADWORKS

C4.1.1.1 General

The project extent, which is indicated on the locality plan in **Appendix 1**, is located along National Route 3 (N3), Section 12 from Heidelberg Road interchange (km 13,2) to Geldenhuys interchange (km 24,82).

The project extent also includes the ramps at the major interchanges; and overpass and underpass roads along the N3 route. The limits at the ramps are normally where a change in surface type or texture can be observed. On interchange crossroads the limits are normally 150m from the terminal centre although the change in surface type or texture should also be used. On over- and underpass roads the limits are normally in line with the national road reserve fence line although the change in surface type or texture should also be utilised.

There are 5 major interchanges and additional 5 crossroads located along the route and 4 railway bridge crossings, which are located as follows:

Major Interchange

- Heidelberg Road Interchange km 13.2
- John Vorster Drive Interchange km 15.5
- N3/ N17 I/C (km 18.0), km 18.0
- Rand Airport I/C (km 22.4), and km 22.4
- Geldenhuys I/C (km 23.8) km 23.8

Cross Roads

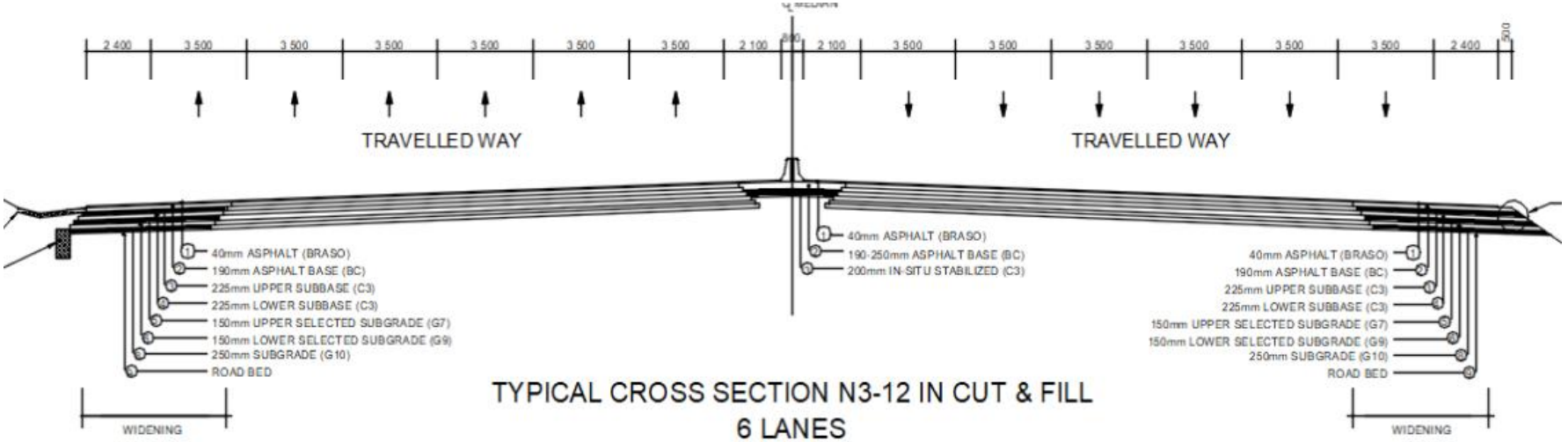
- Race Course Bridge km 13.95
- Chris Street / Hein Road Underpass km 17.15
- Alberton Rd Underpass km 19.49
- Nasmith Road Underpass km 22.80
- Main Reef Road Overpass km 24.78

Major Interchange

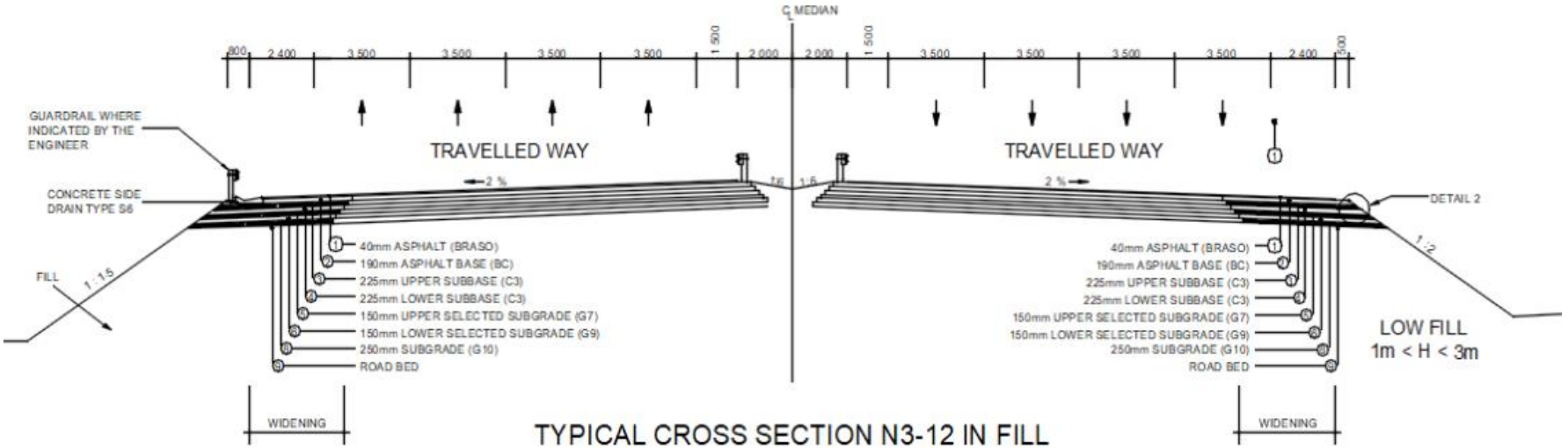
- Natalspruit - Union Railway Underpass km 14.47
- Alberton Rail Overpass km 19.35
- Railway Bridge Underpass km 23.20
- Railway Bridge Overpass km 24.30

The project section of the N3 is for most part an 8-lane (4-4) dual carriageway with directional split separated by either a concrete new jersey barriers or w-shape guardrails in isolated areas. The lane configuration along the route varies anything from a 2-2 to a 6-6 configuration with the deviation from the 4-4 lane configuration due to auxiliary / ramp lanes extending the full length between interchanges. Lane widths are mostly 3.5m with 3.7m in places with the least lanes. The inside shoulder fluctuates between 0.5m and 2.6m with 1.5m the most frequent width. The outside shoulder is typically 2.4m wide

but varies between 1.1m and 3m. Typical cross sections found along the length are shown in **Figure 1** overleaf.



TYPICAL CROSS SECTION N3-12 IN CUT & FILL
6 LANES



TYPICAL CROSS SECTION N3-12 IN FILL
4 LANES

Figure 1: Typical Cross Section along N3: 4- and 6-lanes

C4.1.1.2 Overview of the works

Work along the project length along the N3 will inter alia include the following main components:

i. Execution of all work during nighttime i.e 20:00 to 05:00.
ii. Accommodation of traffic along the N3, ramps and crossroads.
iii. Pavement related works to the N3 Mainline, CD roads and ramps:
   - Mill the existing asphalt surfacing and wearing course to a depth of 40mm.
   - Repair demarcated distressed areas to the rest of the carriageway and ramps where required as a patch by excavating / milling to a depth of 70mm and backfill with asphalt (PG64E-16 with Plastomer Modified Bitumen).
   - Construct 40mm thick asphalt surfacing (PG64E-16 with Elastomer Modified Bitumen).
   - Construct 20mm Ultra-Thin Friction Course (UTFC) (PG64E-16 with Elastomer Modified Bitumen).
iv. Pavement related works to the Cross-Roads:
   - Mill the existing asphalt surfacing to a depth of 40mm.
   - Repair distressed areas by excavating / milling to a depth of 70mm and backfill with asphalt (PG64E-16 with Plastomer Modified Bitumen).
   - Construct 40mm thick asphalt surfacing (PG64E-16 with Elastomer Modified Bitumen).
v. Mill additional 50mm and construct Bitumen Rubber Asphalt Open Graded (BRAOG) surfacing with Crumbed Rubber Modified (CRM) bitumen in isolated areas with insufficient surface drainage run-off as indicated on drawing 7469-601-1001 to 1004.
vi. Cutting of transverse grooves in accordance with the specification included under A9.1.7.13 in the road's surface where insufficient surface drainage run-off is experienced as indicated on drawing 7469-601-1001 to 1004.
vii. Manufacture of median inlet drain and cover 7469-601-2608.
viii. Construction of median inlet drain and cover and tie into existing inlet drain. Refer drawing 7469-601-1001 to 1004 for location and drawing 7469-601-2608 for the detail.
ix. Increase capacity of existing grid inlets by constructing an additional chamber and breaking through the existing to form one inlet structure. Refer drawing 7469-601-1001 to 1004 for location and drawing 7469-601-2609 for the detail.
x. Repair to damaged concrete line v-drain (Refer drawing 7469-601-1001 to 1004).
xi. Removing all the existing sub-standard guardrails and installing new guardrails using existing and new materials where required.
xii. Installation of new guardrails.
xiii. Replacement of damage road signs.
xiv. Replacement of damaged steel grid inlets.
xv. Road marking and road studs.
xvi. Repair to bridge joints:
   - Demolish & construct new asphaltic plug.
   - Service and repair armoured nosing;
   - Replace damaged gland where applicable;
   - Demolish & construct new silicon seal;
   - Replacement of damaged concrete bridge nosings;
   - Repair damaged joints at kerb/sidewalk ;
   - Replace damaged / missing plate to sidewalk.

The following investigations shall be done during the mobilisation period:

i. Road roughness (IRI)
ii. Road surfacing noise measurements

The following supplementary work items should be executed in addition to the main items of work:

- The new surfacing to be sloped down to the existing bridge nosings at a slope of 1mm vertical to 1m horizontal.
- On single lane ramps it will not be possible to have joints in asphalt under the line markings due to accommodation of traffic on half of the ramp. The asphalt construction joint must be set out from one edge (to obtain a "straight" line/joint) and cut properly to achieve this.

C4.1.1.3 Traffic Accommodation

To minimise congestion and disruption to traffic, work will be executed strictly at night between the hours of 20:00 and 05:00. This will be considered as "normal" working hours. Provision is made for daytime closures for extreme cases and will require prior approval from the Engineer.

The length of a closure shall be scheduled taking cognisance of the length of work zone required and shall not exceed 2km. The number of closures operational at any one time along the N3 main carriageway shall not exceed 2 No. per direction including ramps, irrespective of the work undertaken. The number of closures to crossroads shall not exceed 2 No. A maximum of 6 total numbers of closures shall be allowed along the project length.

STOP/GO one-way traffic sections shall only be permitted on crossroads where required. No detours are required.

With reference to drawings 7469-601-4201 to 4209, the following describe a typical traffic accommodation strategy envisaged along the route:

a) General

The traffic accommodation is in line with SARTSM, and the plan covers the approaches and departure carriageway lanes, on and off ramps and included overpass lanes. The closures will have advance warning and transition and stabilising zones of 150m and 100m according to SARTSM.

Generally, closures will be a single night for milling to a depth of 40mm, asphalt base patches and repairs and replacement of the main surfacing course. Where any delay of the surfacing replacement is experienced, it could result in a double night closure. In such an instance, it could result in a 40mm step during the day between the works. To ensure safety between lane change, the asphalt in the adjacent lane will be cut to create a key to facilitate a smoother lane change instead of an erupt change. The placement of the UTFC will be done in a single stage throughout the entire project section, which will result in a 20mm longitudinal step between adjacent lanes during the day.

b) Common Lanes

The traffic accommodation approach for the slow lanes, middle lanes, fast lane and shoulders are typically common to each sector along the project section. The proposed sign sequencing for these traffic accommodation deviations will be very similar to those shown in the advance warning and deviations in drawings 7469-601-4201 and 4202 and general layouts continued through drawings 7469-601-4203 to 4209 contained under Volume 4.

i. Slow lanes through Interchanges

Traffic will be slowed down and deviated around slow lane works closures through interchange zones. The closures will consist of outside shoulder, slow lane and adjacent lane resulting in 2 fully closed lanes through interchanges.

ii. Outside Middle Lanes

The outside middle lane (northbound and southbound) will be constructed with a 2-lane closure (outside middle lane, slow lane, and shoulder), with advance staggered slowing down and diversion of slow and fast traffic to pass on the inside of the 2-lane closure.

iii. Middle Lanes

In the case of 5 lane cross section, there exists a middle lane. This middle lane (northbound and southbound) will be constructed with a 3-lane closure (middle, outside middle lane, slow-lane and shoulder) or (middle, inside middle lane, fast lane and shoulder), with advance staggered slowing down and diversion of slow and fast traffic to pass on the inside or the outside of the 3-lane closure.

iv. Inside Middle Lanes

The inside middle lane (northbound and southbound) will be constructed with a 2-lane closure (inside middle lane, fast lane and shoulder), with advance staggered slowing down and diversion of slow and fast traffic to pass on the outside of the 2-lane closure.

v. Fast Lanes

The fast lane closure (northbound and southbound) will be constructed with a 2-lane closure (inside middle lane, fast lane, and shoulder), with advance staggered slowing down and diversion of slow and fast traffic to pass on the outside of the 2-lane closure.

vi. Cross Roads

The cross road lanes will be constructed with separate lane closures at night, while alternative routes will be advised to users. No impact on the main N3 carriageways is envisaged.

c) Heidelberg Road Interchange and Proximity Carriageways

i. Layout

This interchange, approaches, off and on ramps and departure carriageway lanes have the following layout:

Two (2) approach lanes are present on the northbound carriageway. One (1) lane develops into the off-ramp. Two (2) lanes proceed through the region of the interchange for a short distance, before 2 on-ramp lanes join and result in 4 lanes completing the departure carriageway.

The southbound carriageway consists of 4 approach lanes. One lane leads off with a second lane developing which results in two (2) lanes into the off-ramp. Three (3) lanes proceed for the first part of the short distance through the interchange, before 1 lane shuts down resulting in 2 lanes through the last part of the interchange. A single on-ramp lane merges with the carriageway keeping 2 lanes completing the departure carriageway.

Two (2) cross-road carriageways with a total of 8 lanes going under main line.

ii. Slow lane with single off-ramp lane

Beginning with the slow lane developing into the off-ramp (northbound) with two on-ramps merging after the interchange, we propose advance slowing down and diverting of the traffic around the works areas of the existing slow lane/off-ramp lane. Traffic then proceeds through the interchange area using both slow and fast lanes and onto the 4 lanes of the departure carriageway.

After the interchange, the on-ramps merging to remain with 2 departure lanes. A proposed alternative to accommodation deviations and sign sequences is shown in drawing 7469-601-4203.

iii. Slow lane with outside off-ramp lane

Beginning with the slow lane leading into the outside off-ramp and outside middle lane developing into the inside off-ramp (northbound), we propose advance slowing down and diverting of the traffic around the works areas of the existing slow lane/outside off-ramp lane. Traffic then proceeds through the interchange area using remaining slow, middle, and fast lanes, before the middle lane shuts down with only 2 lanes proceeding further through the interchange area, before being joined by a single on-ramp lamp to merge and continue with the 2-lane departure carriageway.

iv. Slow lanes through interchange

The slow lane proceeding through the interchange (northbound only). We propose advance slowing down and diverting of the traffic around the works area (slow and outside middle lanes) into the fast lane and shoulder through the interchange. The inside middle lane leading into the slow lane through interchange (southbound), we propose advance stepping slowing down of the slow lane into outside middle, outside middle into inside middle, fast lane into inside middle and then all 4 lanes back into the fast lane through the interchange.

d) Grey Avenue Interchange and Proximity Carriageways

i. Layout

This interchange, approaches, off and on ramps and departure carriageway lanes have the following layout:

Four (4) approach lanes are present on the northbound carriageway. Two (2) lanes develop into the off-ramp. Four (4) lanes proceed through the region of the interchange for a short distance, before 2 lanes merge and result in 1 lane leading into the on-ramp. This results in 5 lanes completing the departure carriageway.

The southbound carriageway consists of 5 approach lanes. One lane leads off with a second lane developing which results in two (2) lanes into the off-ramp. Four (4) lanes proceed for the short distance through the interchange, before 2 on-ramp lanes merge, resulting in 1 on-ramp lane merging into the carriageway, keeping the 4-lane departure carriageway.

Two (2) cross-road carriageways with a total of 6 lanes going over main line.

ii. Slow lane with outside off ramp lane

Beginning with the slow lane developing into the outside off-ramp (northbound) or leading into the outside off-ramp (southbound). We propose advance slowing down and diverting of the traffic around the work closure (outside shoulder, slow lane and outside middle lane) into the middle, inside middle and fast lanes proceeding through the interchange 4 lanes, before having on-ramp traffic rejoining ultimately the 5-lane (northbound) and 4-lane (southbound) departure carriageways. A proposed alternative to accommodation deviations and sign sequences is shown in drawing 7469-601-4204.

iii. Outside middle lane with inside off ramp lane

The outside middle lane leading into the inside off ramp lane as well as staying as the slow lane through the interchange (southbound only). We propose advance slowing down and diverting of the traffic around the work closure (outside middle lane and inside off ramp lane and shoulder). This allows the slow traffic to take the exit using the outside shoulder and outside off ramp lane. The rest of the traffic will proceed through the interchange 4 lanes before being joined by 2 on-ramp lanes. Traffic will then rejoin the departure carriageway of 4 lanes. A proposed alternative is again shown in drawing 7469-601-4205.

iv. Slow lanes through interchange

The slow lanes proceeding through the interchange. We propose advance slowing down and diverting of the traffic around work zone (slow lane and outside middle lane through the interchange area) using the inside middle and fast lanes through interchange (northbound and southbound).

e) N3/N17 Interchange and Proximity Carriageways

i. Layout

This interchange, approaches, off and on-ramps leading off and joining from left and right sides, many cross-roads, and departure carriageway lanes has the following layout:

Five (5) lanes approach the interchange on the northbound carriageway with the 5th lane leading off and splitting into 1 off-ramp and 1 continuous service road through the interchange area. 4 main lanes continue through the interchange. An on-ramp joins the service road and combines with 1 on-ramp lane joining the main line resulting in 5 departure lanes in the departure carriageway.

Five (5) lanes approach the interchange on the southbound carriageway with the 5th lane leading off and splitting into 1 off-ramp and 1 continuous service road through the interchange area. 4 main lanes continue through the interchange. An on-ramp joins the service road and combines with 1 on-ramp lane joining the main line resulting in 5 departure lanes in the departure carriageway.

Five (5) cross-road carriageways with a total of 12 lanes going over main line.

ii. Slow lane with single off ramp lanes that split into service roads and off-ramps

Beginning with the slow lane leading off into the off-ramp (northbound and southbound), off ramp later splitting into a service lane and single off-ramp lane. We propose advance slowing down and diverting of the traffic around the work closure (outside shoulder, slow-lane and outside middle lane) to use the middle, inside middle and fast lanes approaching and through the interchange, before being joined by on-ramp traffic back into the 5 departure carriageway lanes. A proposed alternative to this accommodation deviation and sign sequences is shown in drawing 7469-601-4205.

iii. Outside middle lane

The outside middle lanes leading into the interchange slow lanes (northbound and southbound). We propose advance slowing down and diverting of the traffic around the diversion of outside middle and middle lanes, allowing slow lane to exit the off-ramp and remainder to use inside middle and fast lanes to approach and proceed through the interchange area and then opening into the 4 lanes through the interchange before being joined by on-ramps into the 5 lanes of the departure carriageway. This proposed alternative is also shown in drawing 7469-601-4206.

iv. Slow lanes through interchange

The slow lane proceeding through the interchange (northbound and southbound). We propose advance slowing down and diverting of the traffic around the work areas (slow lane and shoulders and outside middle lanes) in the interchange area and the join the remainder of traffic in the inside middle and fast lanes through the interchange before being joined by the on-ramp traffic into the 5 lanes of the departure carriageways.

f) Rand Airport Interchange and Proximity Carriageways

i. Layout

This interchange, approaches, off and on ramps and departure carriageway lanes, has the following layout:

Five (5) lanes approach this stage (northbound), an off-ramp leads off to the left whilst another develops and leads off with four (4) lanes remaining with the main line, a further lane leads off to the left with three (3) lanes remaining with the main line. Four (4) lanes lead on from the left to join and merge with the three (3) lanes resulting in six (6) lanes, one (1) lane closes down, with five (5) departure lanes continuing, a further on-ramp joins in from the left, resulting in six (6) lanes in the departure carriageway going northwards.

Five (5) lanes approach this stage (southbound), one (1) lane develops and splits into an off-ramp with Six (6) lanes continuing. Two (2) lanes lead off and one (1) lane splits off, resulting in four (4) lanes continuing south. Three (3) lanes split off and two (2) lanes join resulting in five (5) lanes continuing with the departure carriageway going south.

Two (2) cross-road carriageways with a total of 4 lanes going under the northbound and over the southbound main line.

ii. Outside middle lane splitting into inside off-ramp and leading into further service road

Beginning with the outside middle lane (northbound) splitting into an inside off-ramp lane and then leading off as off-ramp service road. We propose advance slowing down and diverting of the traffic around the work closure (outside middle lane leading into further off-ramp) with all traffic diverting back into the three (3) lanes towards the interchange where closures all shut down and traffic can proceed into the departure carriageway before the interchange. A proposed alternative to this accommodation deviation and sign sequences is shown in drawing 7469-601-4206.

iii. Slow lane developing into off-ramp lane

The slow lane developing into the single off ramp lane as well as staying as the slow lane approaching the interchange (southbound). We propose advance slowing down and diverting of the traffic around the works closure (slow lane and outside shoulder a diversion before exiting. This allows the slow traffic to take the exit using the outside shoulder off ramp lane with the work closure being the inside off ramp and its shoulder. The rest of the traffic with proceed towards and through the interchange using all lanes. A proposed alternative is also shown in drawing 7469-601-4207.

iv. Slow lane through interchange

We have three (3) lanes (northbound) proceeding through the interchange after firstly, a single off-ramp splitting into two, has led off to the left and a further service lane led off to the left. We propose advance slowing down and diverting of the traffic around the works closure (slow and middle lanes) using part of the middle lane and the full fast lane, before three (3) on-ramps rejoin from the left and the service road rejoins from the left into the full six (6) lane departure carriageway.

We have four (4) lanes (southbound) proceeding through the interchange after a single off-ramp has led off to the left and a further three (3) lanes, two (2) leading and one (1) splitting off to the right. We propose advance slowing down and diverting of the traffic through the interchange around the works closure (slow lane and outside middle lanes) using inside middle and fast lanes, before the on-ramps rejoin from the right in the full five (5) lane departure carriageway. A proposed alternative to accommodation deviations and sign sequences is shown in drawing 7469-601-4207/8.

g) Geldenhuys Interchange and Proximity Carriageways

i. Layout

This interchange, approaches, off and on ramps and departure carriageway lanes have the following layout:

Six (6) lanes are approaching the interchange on the northbound carriageway, two (2) lanes lead into the off-ramp, with 4 lanes continuing, a further lane develops and leads off on the left and becomes a service lane with four (4) continuing through the interchange. A single lane joins the service road from the left and a single lane develops and leaves the service lane on the left. The service lane rejoins the main carriageway forming 5 lanes going northbound initially until one lane shuts down resulting in 4 lanes in the carriageway. Two (2) lanes lead into the on-ramp with 1 lane shutting down and 1 lane adding, which results in a 5-lane departure carriageway.

Five (5) approach lanes on the southbound carriageway. One (1) lane leads off into the off-ramp with a further two (2) off-ramp lanes developing for a three (3) lane off-ramp to the left with four (4) lanes continuing south to the interchange. A single lane joins from the left and a further two (2) lanes join from the left, one of the on-ramp lanes shuts down resulting in five (5) lanes continuing in the departure carriageway going southbound.

An overpass with six (6) lanes is at the northmost project limit, while in the region of the Geldenhuys interchange there are a total of seven (7) lanes in the underpasses. There is also a rail underpass just south of Geldenhuys interchange.

ii. Outside middle lane leading into inside off ramp lane

Beginning with slow lane and outside middle lanes leading into the two (2) off-ramp lanes, with the remaining 4 lanes continuing, we propose works to the outside middle leading into the inside off-ramp. We propose advance slowing down and diverting of the traffic around the work closure (outside middle lane and the inside off-ramp). The traffic can exit the outside off ramp and continue with the 4 remaining lanes towards and through the interchange. A proposed alternative to accommodation deviations and sign sequences is shown in drawing 7469-601-4208.

iii. Slow lane into off-ramp slow lane

The slow lane and outside middle lane leading into off ramp (northbound) and the slow lane and outer middle leading off, with the second outer middle lane splitting off as well (southbound). We propose works on the slow lane off-ramps. We propose advance slowing down of the traffic around the works closure (slow lane and a short length of the outside middle lane). The remaining traffic will then redivert and continue through the interchange using the full 4 lanes. A proposed alternative is shown in drawing 7469-601-4209.

iv. Slow lanes through interchange

After the initial off-ramps, there are 4 main lanes proceeding through the interchange (northbound and southbound). We have slow lanes proceeding through the interchange, developing service road off-ramp to the left (northbound) with the rejoining service road and rejoining further two (2) on-ramps. We have a single on-ramp joining from the left with further two (2) on-ramps joining (southbound). We propose advance slowing down and diverting of the traffic around a diversion (developing service off-road and slow lane through interchange, with closed outside middle lane), stopping where on-ramps join. This will result in all traffic through the inside middle and fast lanes through the interchange before entering the departure carriageway, where the joining on-ramps also are allowed to join. A proposed alternative to accommodation deviations and sign sequences is shown in drawing 7469-601-4209.

C4.1.1.4 Drainage

a) Roadside

Median inlet drains and covers will be manufactured as per drawing 7412-601-2608 and installed at locations and tied to the existing median inlet drains at positions indicated on drawings 7469-601-1001 to 1005.

b) Surface

In addition to constructing the UTFC friction course, the following surface drainage improvements strategies will be done:

i. Constructing BRAOG surfacing.
ii. Cutting of transverse grooves in accordance with the specification included under A9.1.7.13 in the asphalt surfacing.

Transverse grooves saw-cut in the pavement must form a 4,5mm wide by 6,0mm deep by 25-25-22-25-25-22 mm spacing configuration.

C4.1.1.5 Existing services

Various services are in and adjacent to the road reserve along the N3 as listed below.

a) **Electrical**

Table 1 inter-alia summarises the electrical cables along the project length as per as-built records.

Table 1: Electrical overhead cable crossings

Description	Position (km)	Owner
Underground cables to median lights	km 13.720	SANRAL
Underground cables to median lights	km 16.030	SANRAL
Underground cables to median lights	km 16.385	SANRAL
2x6600 volt underground electric cable	km 16.530	Ekurhuleni
Underground cables to median lights	km 17.342	Ekurhuleni
Underground cables to median lights	km 17.530	Ekurhuleni
Underground cables to median lights	km 17.580	SANRAL
Underground cables to median lights	km 17.990	SANRAL
Underground cables to median lights	km 18.500	SANRAL
6600 volt underground electrical cable	km 19.530	Ekurhuleni
Underground cables to median lights	km 20.110 (RHS)	SANRAL
Underground cables to median lights	km 20.170 (LHS)	SANRAL
Underground cables to median lights	km 20.42 (LHS)	SANRAL
Underground cables to median lights	km 20.66 (LHS)	SANRAL
Overhead power line	km 21.655	Eskom
Overhead power line	km 21.670	Eskom
Overhead power line	km 21.690	Eskom
275kv overhead power line	km 22.54	Eskom
2x6600 volt underground electric cable	km 22.907	Ekurhuleni
2x6600 volt underground electric cable	km 22.943	Ekurhuleni
Underground cables to median lights	km 22.960	SANRAL
Underground cables to median lights	km 23.100	SANRAL
Underground cables to median lights	km 23.790	SANRAL
Underground cables to median lights	km 23.890 (RHS)	SANRAL
Underground cables to median lights	km 24.170	SANRAL

b) **Fibre Optic**

According to the as-built drawings, fibre optic cables can be found at the locations as listed in **Table 2** below.

Table 2: Fibre Optic Cables

Description	Position (km)	Owner
Fibre Optic Cable (8X100mm Ø sleeves)	km 17.160	Telkom
Fibre Optic Cable (8X100mm Ø sleeves)	km 17.522	Telkom
Fibre Optic Cable (8X100mm Ø sleeves)	km 19.512	Telkom
Fibre Optic Cable (8X100mm Ø sleeves)	km 22.943	Telkom
Fibre Optic Cable (8X100mm Ø sleeves)	km 23.400	SANRAL
Fibre Optic Cable (8X100mm Ø sleeves)	km 24.793	Telkom

c) **Water and Sewerage Services**

Table 3 summarises the water, sewerage and gas service are indicated on the as-built records.

Table 3: Water and Sewerage Services

Description	Position (km)	Owner
Water pipe	km 16.740	Ekurhuleni
Water pipe	km 17.030	Ekurhuleni
Water pipe	km 17.530	Ekurhuleni
Water pipe	km 19.359	Ekurhuleni
1 220mm Ø water pipe	km 22.910	Rand Water
1 800mm Ø water pipe	km 22.93	Rand Water
400mm Ø water pipe	km 22.96	Rand Water
Sewer pipe	km 17.025	Ekurhuleni
Sewer pipe	km 19.359	Ekurhuleni
Sewer pipe	km 19.570	Ekurhuleni
Sewer pipe	km 22.900	Ekurhuleni
157mm Ø gas pipe	km 15.260	GASKOR
157mm Ø gas pipe	km 19.513	GASKOR
Low pressure gas pipe	km 22.929	Sasol Gas

C4.1.1.6 Ancillary Roadworks

a) Guardrails

All guardrails along the route are sub-standard and will be replaced. Existing usable material will be salvaged and re-used.

The following table summarises the guardrails found along the route.

Table 4: Guardrail Quantity

Location	Length (m)
N3 - Northbound	11 680
N3 - Southbound	10 060
CD Road - Northbound	1 720
CD Road - Southbound	540
Ramps & Loops - Northbound	8 310
Crossroads	4 680
TOTAL	**36 990**

b) Road Signs

All danger plates, regulatory and warning signs along the route will be replaced. The Contractor must record the type of sign, position and condition before replacing with a similar type of sign with material as per the contract documentation.

The following table inter alia list the type of road signs and quantity of along the route. The Contractor should prepare an inventory of the danger plates, regulatory and warning signs o be replaced along the route and allow sufficient time for ordering and replacement of the road signs.

Table 5: Roadsign Quantity

Type	N3 - Southbound	N3 - Northbound	CD Road - Northbound	CD Road - Southbound	Ramps & Loops	Cross Roads	Total
R1	0	0	0	0	0	1	**1**
R2.0	0	0	0	0	1	0	**1**
R2.1	0	0	0	0	1	1	**2**
R103	0	0	0	0	0	3	**3**
R201	2	0	0	0	6	0	**8**
R210	0	0	0	0	0	1	**1**
R218	0	0	0	0	4	0	**4**
R304	0	0	0	0	7	0	**7**
W203	0	0	0	0	0	1	**1**
W301	0	0	0	0	3	0	**3**
W303	0	0	0	0	0	2	**2**
W401	39	33	5	5	10	10	**102**
W402	4	3	1	3	7	6	**24**
W405	4	17	0	0	28	5	**54**
W406	4	0	0	0	207	0	**211**
W407	0	0	0	0	2	1	**3**
Total	***53***	***53***	***6***	***8***	***276***	***31***	***427***

c) Road Marking and Road Studs

The first application of road marking shall be to the surfacing wearing course and the second application to the UTFC. Both applications shall be with water-borne road marking paint. The third application, which will be done six (6) months after issue of the Taking-Over Certificate, shall consist of thermoplastic and cold plastic materials. All road markings shall be reflectorised.

Road stud types will be applied as follows:

- RSA-1 for all permanent applications
- RSA-T for all temporary applications

C4.1.2 PAVEMENT DESIGN FOR ALL PARTS OF THE VARIOUS ROADS

C4.1.2.1 Existing Pavement

As-built drawings indicate that the road was widened as part of the Gauteng Freeway Improvement Project (GFIP), which commenced in 2008 and was completed in 2011.

The pavement structure was widened in both directions, either to the outside or in the median, and comprises of the asphalt base pavement as indicated in **Table 6** and illustrated

Error! Reference source not found. overleaf. The asphalt surfacing was constructed over the full width of the road. Large section of the existing pavement pre-GFIP was milled and filled with an asphalt at varying thickness between 100mm to 300mm, but generally around 120mm thick.

Table 6: Pavement Structure - Widening

Section	Pavement Layer						
	Year Constructed	Surface	Base Layer	Upper Subbase Layer	Lower Subbase Layer	Upper Selected Layer	Lower Selected Layer
km 13.2 to km 24.82	2008 - 2011	40mm Asphalt (BRASO)	190mm Asphalt	225mm Stabilised Gravel (C3)	225mm Stabilised Gravel (C3)	150mm G7 Natural Gravel	150mm G9 Natural Gravel

C4.1.2.1 Pavement Repair Strategy

The pavement strategy is to improve the functionality of the road by patching distressed areas and constructing an asphalt surfacing and a UTFC wearing course to provide a waterproofing cover to the underlying pavement and to provide adequate skid resistance improved surface water run-off and reduction in traffic noise.

The pavement repair strategy entails the following:

a) N3 Mainline and Ramps

- Mill the existing asphalt surfacing and wearing course to a depth of 40mm.
- Repair demarcated distressed areas to the rest of the carriageway and ramps where required as a patch by excavating / milling to a depth of 70mm and backfill with asphalt (PG64E-16 with Plastomer Modified Bitumen).
- Construct 40mm thick asphalt surfacing (PG64E-16 with Elastomer Modified Bitumen).
- Construct 20mm Ultra-Thin Friction Course (UTFC) (PG64E-16 with Elastomer Modified Bitumen).
- Application of Bitumen Rubber Asphalt Open Graded (BRAOG) surfacing with Crumbed Rubber Modified (CRM) in place of UTFC and cutting of transverse grooves in the road's surface at in accordance with the specification included under A9.1.7.13 where insufficient surface drainage run-off is experienced as indicated on drawing 7469-601-1001 to 1004.

b) Pavement related works to the Cross-Roads:

- Mill the existing asphalt surfacing to a depth of 40mm.
- Repair distressed areas by excavating / milling to a depth of 70mm and backfill with asphalt (PG64E-16 with Plastomer Modified Bitumen).
- Construct 40mm thick asphalt surfacing (PG64E-16 with Elastomer Modified Bitumen).

C4.1.3 STRUCTURAL WORKS

a) Culverts

No works to culverts shall be undertaken.

b) Bridges

Table 7 inter-alia list the scope of work at each bridge and should be read in conjunction with the pricing schedule.

Table 7: Shedule of Work at each Bridge

Bridge Number	Bridge Name	Chainage (km)	No. of joints	Type of Joint	Description of work required	Confirmation of remedial work
B546B	Natalspruit - Union Railway Underass - Bridge B	14.25	2	Silicon seal	Reinstate silicon seal	No
B629B	Chris Street / Hein Road Underpass -Bridge B	17.17	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B631B	Alberton Rd Underpass	19.51	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B632	Elands I/C Rand Airport Road (M46) Overpass	20.28	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B636B	Natalspruit River Bridge	21.4	3	Armoured Nosing	Blow clean to inspect. Possibly replace gland. Form new joints	Yes
B78A	Geldenhuis I/C N3S over N3S to M2W Ramp	23.42	1	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			3	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B77B	Geldenhuis Interchange Bridge B	23.65	1	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			4	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B77BII	Geldenhuis Interchange Infill Bridge BII Southbobound	23.75	3	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	No
B216B	Nasmith Rd	approx 23	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B627	Race Course Bridge	13.95	3	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B546A	Natalspruit - Union Railway Underass - Bridge A	14.47	2	Silicon seal	Replace silicon seal	No
B628	Grey Avenue I/C: Grey Avenue Operpass	16.7	3	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B629A	Chris Street / Hein Road Underpass - Bridge A	17.15	2	Armoured Nosing		
B830	Radio Rd Overpass Bridge	17.68	2	Silicon seal	Replace silicon seal	No
B828D	Rand Airport I/C N17w Overpass Ramps	17.9	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B828C	Rand Airport I/C N17w Overpass	17.92	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B828B	Rand Airport I/C N17e Overpass	17.94	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B828A	Rand Airport I/C N17e Overpass Ramps	17.97	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B170	Alberton Rail Operpass	19.35	2	None	Construct silicon seal and backing chord	Yes

Bridge Number	Bridge Name	Chainage (km)	No. of joints	Type of Joint	Description of work required	Confirmation of remedial work
B631A	Alberton Rd Underpass - Bridge A	19.49	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B0139	Elands I/C: Natalspruit Bridge on M46 On-ramp	20	None	None	N/A	N/A
B0036	Eland I/C N3N Switch Ramp over N12/Rand Airport Rd (M46)	20.33	2	Armoured Nosing		Yes
B635	Elands I/C: N3s Over N3s/N12 Ramps And Rand Airport Road	20.36	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B634	Elands I/C: N12e To N3s Ramp Over N3s To N12w And Under	20.4	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B947	Elands I/C: N12e To N3N Ramp	20.53	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
B636A	Natalspruit River Bridge	21.4	1	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			2	None		Yes
B53-1	Geldenhuis I/C: Jupiter-Hillview Railway Underpass	23.17	2	Asphaltic Plug	Blow clean to inspect. Possibly replace gland. Concrete nosing rolled over	Partially
B78C	Geldenhuis I/C N3N Collector Over N3S To M2w Ramp - Bridge	23.51	1	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			3	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B79	5n3 South - M2 Offramps	23.51	4	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			2	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B78B	Geldenhuis I/C N3N over N3S to M2W Ramp	23.52	1	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			3	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B77A	Geldenhuis Interchange Bridge A	23.71	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland.	Partially
			4	Asphaltic Plug	Asphaltic plug. Will be repaired.	Yes
B1187	Pedestrian Bridge Over Pass	24.22	None	None	N/A	N/A
B52	Railway Bridge	24.3	2	Armoured Nosing		Yes
B53-2	Geldenhuis I/C: Jupiter to Driehoek Railway Underpass	28.49	2	Asphaltic Plug	Blow clean to inspect. Possibly replace gland. Concrete nosing rolled over	Partially

Bridge Number	Bridge Name	Chainage (km)	No. of joints	Type of Joint	Description of work required	Confirmation of remedial work
B216A	Nasmith Rd	TBC	2	Armoured Nosing	Blow clean to inspect. Possibly replace gland. Concrete nosing rolled over	Partially

C4.1.4 MAINTENANCE WORKS

Currently a routine road maintenance (RRM) contract is in progress along the route.

Maintenance of the road surface during construction and defects notification periods remains the responsibility of the Contractor. The defects liability period for asphalt is 3 years and 2 years for the asphaltic plug joints.

Six months after issue of the take-over certificate, hot applied thermoplastic and cold plastic materials paint with glass beads added will be applied.

C4.1.5 COMMERCIAL SUPPLIERS

Several commercial sources have been identified in the region, and these are summarized below:

- Much Asphalt located in Eikenhof, ±25 km from the centre of site – Asphalt.
- Much Asphalt located in Roodepoort, ±31 km from the centre of site – Asphalt.
- Much Asphalt located in Benoni, ±28 km from the centre of site – Asphalt, bituminous products.
- Gauteng Asphalt located in Diepsloot, ±53 km from the centre of site – Asphalt.
- National Asphalt located in Pretoria North, ±86 km from the centre of site – Asphalt.
- Afrisam Eikenhof Quarry located in Eikenhof, ±28 km from the centre of site – Readymix Concrete, Concrete aggregate.
- Afrisam located in Wynberg, ±22 km from the centre of site – Readymix concrete.
- Afrisam Jukskei Quarry located in Midrand, ±31 km from the centre of site – Readymix Concrete, Concrete aggregate.
- Afrisam Rooikraal Quarry located in Brakpan, ±24 km from the centre of site – Concrete aggregate.
- PPC Pronto Readymix Concrete located in Midrand, ±31 km from the centre of site – Readymix concrete.
- PPC Mooiplaas Quarry located in Laudiam, ±69 km from the centre of site – Concrete aggregate.
- Rossway Quarry located in Midrand, ±41 km from the centre of site – Concrete aggregate.
- PPC Laezonia Quarry located in Diepsloot, ±54 km from the centre of site – Road layerworks material (G1, G4 – G7), Concrete aggregate.
- Drift Laezonia Quarry located in Diepsloot, ±54 km from the centre of site – Road layerworks material (G1, G5 – G7), concrete aggregate and gabion stone.
- Afrisam located in Roodepoort, ±33 km from the centre of site – Cement.
- Afrisam located in Brakpan, ±24 km from the centre of site – Cement.
- Bitumen for Africa Supplies located in Alberton, ±21 km from the centre of site – Bituminous products.
- Kenzam Bitumen and Asphalt Products located in Brakpan, ±25 km from the centre of site – Bituminous products.

The use of materials are not limited to these suppliers and it is the Contractors prerogative which supplier to use.

C4.2 DRAWINGS

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

The contractor will be supplied with one set of paper prints plus a CD containing all the construction documentation.

Only figured dimensions may be used and drawings may not be scaled unless so instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.

The levels given on bridge drawings are subject to confirmation on site, and the contractor shall submit all levels to the engineer for confirmation before he commences any structural construction work. It is the contractor's responsibility to check all clearances given on the drawings and to inform the engineer of any discrepancies.

C4.3 CAMP ESTABLISHMENT, POWER SUPPLY AND OTHER SERVICES

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

The Contractor himself shall provide a suitable site for his camp and for accommodating his labourers.

C4.4 CONSTRUCTION IN CONFINED AREAS

It will be necessary for the contractor to work within confined 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.

Regardless, measurement and payment will be in accordance with the specified cross-sections and dimensions only, irrespective of the method used for achieving these cross-sections and dimensions. It is deemed that the rates tendered in the Pricing Schedule 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. No extra payment will be made nor will any claim for additional payment be considered in such cases. (Refer to standard specification sub-clause C1.1.3.2(b)).

C4.5 MANAGEMENT OF THE ENVIRONMENT

The contractor will be responsible for construction according to an environmental management plan in terms of Section C1000 Scope of Works.

The contractor must take the utmost care to minimise the impact of his establishment and other construction activities on the environment and must adhere to the requirements as set out in Section C of the Scope of Works. Where the contractor fails to adhere to these requirements the specifications in Section C of the Scope of Works provide the methodology and cost liability of remedy.

C4.6 TRAFFIC

The following traffic data and volumes was obtained from the existing SANRAL CTO stations and SANRAL freeway management system (FMS). Also, refer **Appendix 3**.

Table 8: Traffic Data

Interchange Name	Chainage	2019 AADT	2019 AADTT	% Heavies	AADT Growth Rate (%)	AADTT Growth Rate (%)
NORTHBOUND						
Heidelberg Road I/C	13,2 km	37037	4384	11,84%	1,59	3,83
Grey Avenue I/C	16,2 km	39069	4413	11,30%	0,75	2,97
N3/N17 I/C	18,0 km	45766	4603	10,06%	1,12	2,49
Rand Airport I/C	-					
Geldenhuys I/C	23,6 km	89728	10257	11,43%	1,57	3,11
SOUTHBOUND						
Heidelberg Road I/C*	13,2 km	**22452**	2449	10,91%	1,38	3,36
Grey Avenue I/C	16,2 km	**34201**	3858	11,28%	1,27	3,78
N3/N17 I/C	18,0 km	**37675**	4353	11,55%	1,06	4,62
Rand Airport I/C	20,4 km	**78760**	8134	10,33%	1,03	3,34
Geldenhuys I/C	23.6 km	**78771**	7782	9,88%	2,02	4,77

- No data available

C4.7 SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON

The South African National Roads Agency SOC Limited is committed to the implementation of Government's policies and in turn expects the same from its contractors. Accordingly, it is a requirement of this project that tenderers are familiar with the specifications that relate to the transformation of the construction industry through the following:

(i) adherence to the policies of the Reconstruction and Development Programme and other similar Government initiatives,
(ii) employment and/or creation of Targeted Enterprises,
(iii) arrangement of generic skills, engineering skills and entrepreneurial skills training programmes for which provision has been made in the Pricing Schedule,
(iv) construction using labour maximisation principles and,
(v) active participation with community-based structures.

Tenderers should note that liaison with Community Stakeholders via active participation with the Project Liaison Committee, as well as employment of people from within the community, are essential parts of the project. A provisional sum to cover costs incurred by members of the community in the liaison process has also been included in the Pricing Schedule.

Section D of the Scope of Works covers the contractor's requirements in detail, as well as defining the targets that comprise the Contract Participation Goal (CPG).

C4.8 CLIMATE

The project section's climate falls into the "moderate" region as classified in TRH4 (1996) with Weinert N-values of 2-5. The climate of the area is subtropical, with mild, sunny winters (however, nights are cold) and pleasantly warm summers, usually sunny, but with some afternoon thunderstorms.

Weather data has been obtained from the South African Weather Services for Johannesburg International WO station number 04763990 for the 20-year period from 2000 to 2020 (Refer **Appendix 2**).

The project is in a summer rainfall region with an average annual rainfall of approximately 744mm. Most of the rainfall occurs between the months of December and February (52%) with the highest average maximum monthly rainfall of 143mm (19%) reached in January. The driest months are June to August, contributing only 2% to the average rainfall. The highest rainfall intensity measured was 89.6mm in a 24-hour period on 9 November 2016.

The average monthly rainfall between 2000 and 2010 is indicated in **Figure 2:** Total Monthly Precipitation.

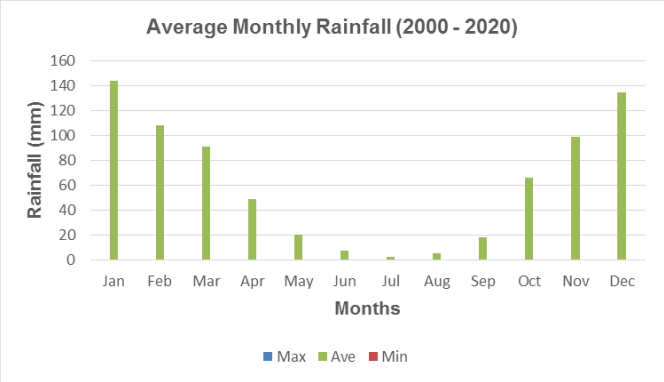


Figure 2: Total Monthly Precipitation

The number of days per month where the average annual daily rainfall exceeds 20mm is relatively low, with the highest number of days of 2 being experienced in December and January. The highest number of rain days per month is experienced during December and January with 5 days. Approximately half of the month experiences a rainy day. The number of days per month per given rain day is depicted in **Figure 3**.

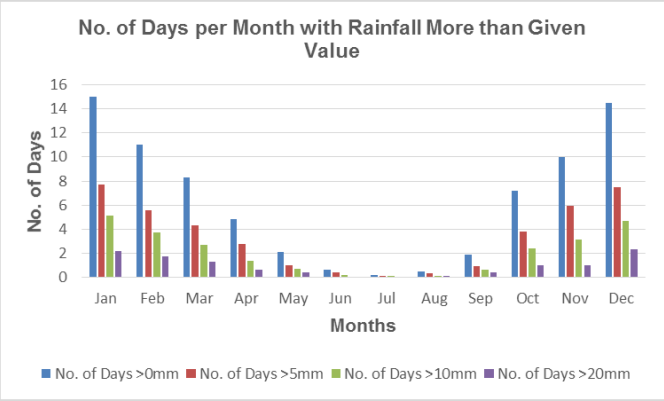


Figure 3: Average Rainfall Days per Month

The average annual temperature is 23 ºC during daytime and 11 ºC during nighttime. The average monthly maximum temperature during summer is 26 ºC with the minimum temperature during winter of 5 ºC. Refer to **Figure 4** for the graph indicating the average monthly minimum and maximum temperatures between 2000 and 2020.

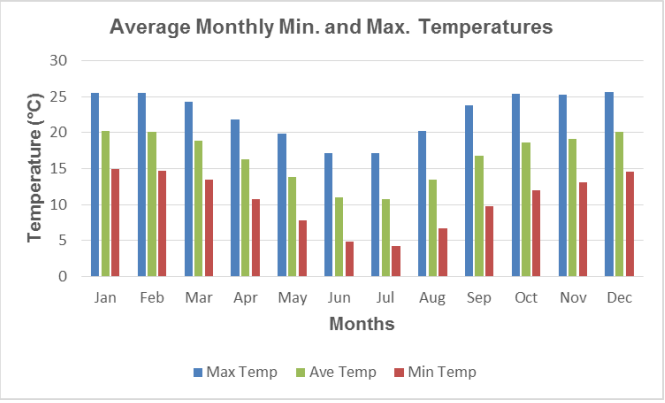


Figure 4: Average Daily Temperatures

As indicated in **Figure 5**, daily maximum temperature does not exceed 30 °C. Eight months of the year (September to April) experience more than 20 days of daily maximum temperatures above 20 °C.

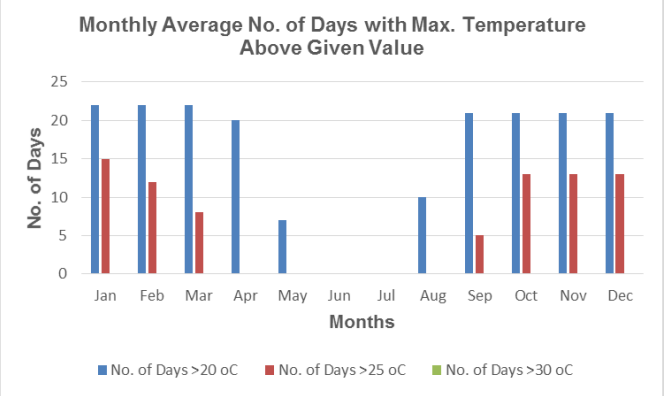


Figure 5: Maximum Temperature Above given Temperature

More than a third of the month of June (12 days) and July (15 days) experience night temperatures below 5 °C. The months between May and August experiences 20 days per month temperatures below 10 °C (Refer **Figure 6**).

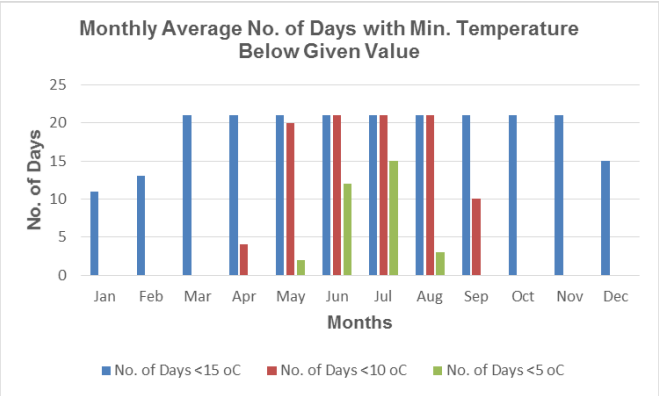


Figure 6: Minimum Temperature Below given Temperature

C4.9 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS 2014

Refer to Section E of the Scope of Works for general requirements in terms of the OH&S requirements.

The project specific hazards and other requirements are included in the baseline risk assessment included under E1018.

C4.10 SAFETY PROCEDURES

The Contractor must assist with the establishment and management of security measures during construction within the area and liaise with the local community representatives to put appropriate measures in place to reduce crime and related impacts which may result from construction activities. The appointed Contractor must also appoint a reputable security firm during construction to implement safety measures. An allowance has been made under pay-item C1.4.8 for security and armed response at the Engineer's facility. Any other security measures identified by the Contractor to secure the works shall be deemed included as general obligations of the Contractor.

The tenderer is reminded of his responsibility to provide guards and fences for the protection of the public i.t.o. Clause 4.8 of the conditions of contract.

C4.11 ROUGHNESS / IRI MEASUREMENTS

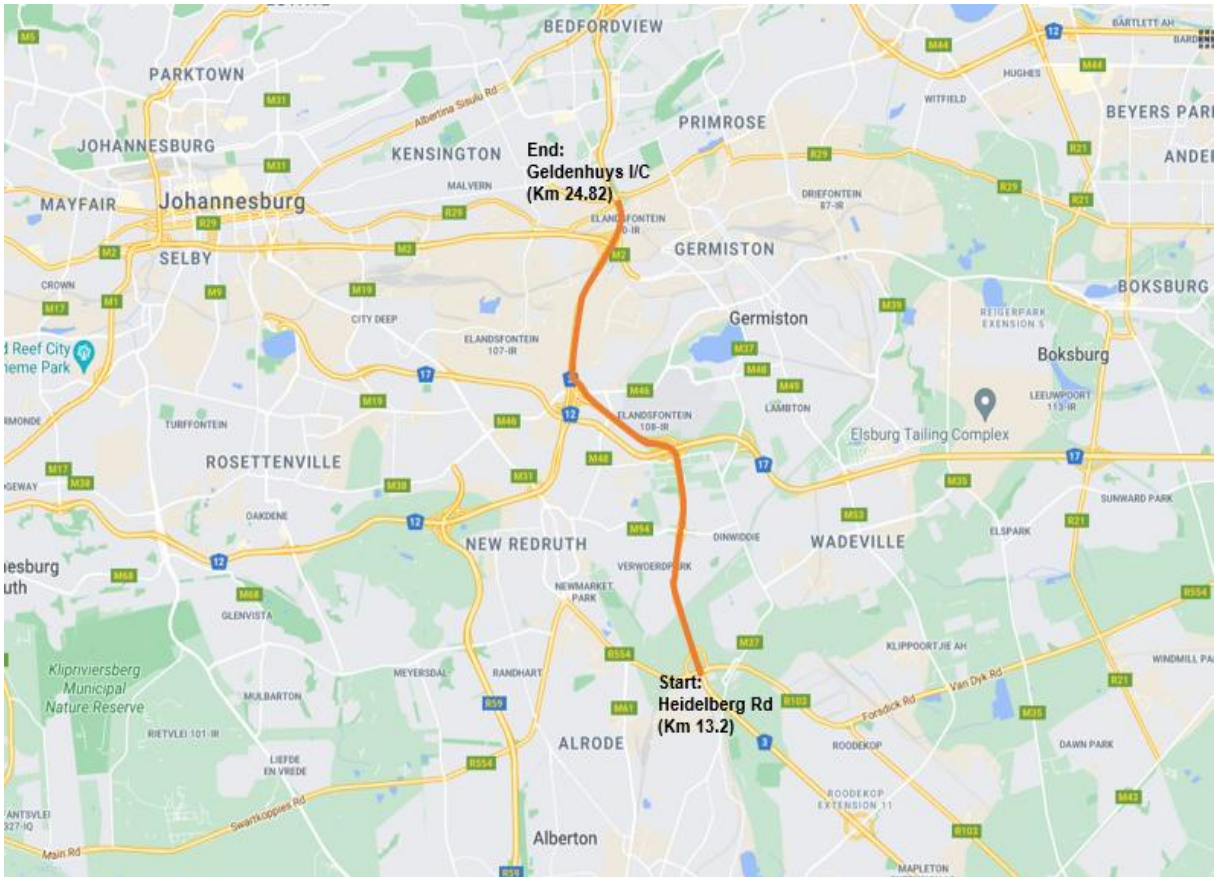
The 95th percentile IRI measurements indicate that the average riding quality for the entire road is generally good. Warning to severe riding conditions are found in local areas on sections of the road in both directions.

The 2019 IRI measurements are included under **Appendix 4**.

C4.13 APPENDICES

Appendix 1:	Locality Plan
Appendix 2:	Weather Data
Appendix 3:	Traffic Data
Appendix 4:	Roughness Data
Appendix 5:	Dispute Adjudication Agreement
Appendix 6:	Imported content
Appendix 7.1:	Contract Participation Goal (CPG) Plan format
Appendix 7.2:	Project Liaison Committee and Project Liaison Officer Forms
Appendix 7.3:	Proforma Sub-contract document for Targeted Enterprises
Appendix 7.4:	Acceptance to Advertise Sub-contract Tenders
Appendix 7.5:	Training and Skills Development Programme (TSDP)
Appendix 8:	Illustrative Programme

APPENDIX 1 LOCALITY PLAN



APPENDIX 2 WEATHER DATA

South African Weather Service
ISO 9001 Certified Organisation

CLIMATE OF SOUTH AFRICA WB 42 CLIMATE STATISTICS 1981 - 2010

Number: 0476399 0 Name: JOHANNESBURG INT WO ϕ = 26°09'S λ = 28°13'E HT: 1695 m Period: 1981-2010

TABLE 1 - AIR TEMPERATURE IN DEGREES CELSIUS

	AVERAGE OF DAILY				MAXIMUM (TX) P = 30 Years										MINIMUM (TN) P = 30 Years											
	MAX	MIN	MEAN	RANGE	HIGHEST (TXX)			AVERAGE NUMBER OF DAYS WITH TX						LOWEST (TXN)			HIGHEST (TNX)			AVERAGE NUMBER OF DAYS WITH TN					LOWEST (TNN)			
	$\overline{TX}$	$\overline{TN}$	$\overline{(TX+TN)/2}$	$\overline{TX}$ - $\overline{TN}$	MAX	YY/DD	MEAN	>=35	>=30	>=25	>=20	>=15	<10	MEAN	MIN	YY/DD	MAX	YY/DD	MEAN	>=20	<15	<10	<5	<0	<-5	MEAN	MIN	YY/DD	
J	25.7	14.9	20.3	10.8	33.7	93/08	30.1	0.0	2.0	20.6	29.3	30.8	0.0	19.1	13.4	00/14	23.0	07/27	18.1	0.2	15.9	0.4	0	0.0	0.0	11.1	6.0	93/12	J
F	25.5	14.4	19.9	11.0	33.5	83/25	29.7	0.0	1.7	17.0	26.7	28.2	0.0	19.4	14.8	88/10	20.4	87/20	17.8	0.1	16.6	0.4	0	0.0	0.0	10.9	6.0	90/24	F
M	24.3	13.2	18.7	11.1	32	99/01	28.5	0.0	0.6	13.8	28.5	30.8	0.0	17.4	10.8	08/17	21.2	84/02	16.9	0.0	24.9	2.0	0	0.0	0.0	8.4	4.0	92/04	M
A	22.0	10.4	16.2	11.6	29.3	87/02	25.9	0.0	0.0	4.6	23.2	29.4	0.0	15.7	10.9	89/27	19.0	87/07	14.6	0.0	28.9	12.4	1	0.0	0.0	4.3	-0.6	07/29	A
M	19.5	7.0	13.3	12.5	26.4	83/01	23.5	0.0	0.0	0.3	14.7	29.0	0.3	12.8	4.1	97/28	15.4	85/01	12.1	0.0	30.9	25.5	7	0.9	0.0	1.1	-3.5	07/23	M
J	16.9	4.1	10.5	12.9	24.1	98/25	21.3	0.0	0.0	0.0	3.3	23.4	0.6	10.8	5.4	84/14	11.8	09/03	9.4	0.0	30.0	29.5	17	3.2	0.1	-2.1	-7.0	92/26	J
J	17.1	3.7	10.4	13.4	24.4	88/17	21.7	0.0	0.0	0.0	4.3	25.0	0.6	10.7	6.0	96/17	11.5	08/31	9.0	0.0	31.0	30.7	19	3.9	0.1	-2.5	-6.3	95/19	J
A	19.8	6.1	12.9	13.7	26.5	91/29	24.9	0.0	0.0	1.1	16.3	28.6	0.4	12.1	3.1	10/11	14.3	86/27	11.7	0.0	31.0	27.6	10	1.5	0.0	-0.2	-7.0	03/21	A
S	23.3	9.3	16.3	14.0	31.2	97/29	29.0	0.0	0.3	12.6	24.1	28.8	0.4	13.5	7.3	01/13	20.0	08/09	15.1	0.0	28.9	16.3	4	0.3	0.0	2.5	-3.3	89/08	S
O	24.3	11.4	17.8	12.9	32.5	06/25	30.0	0.0	1.4	14.7	26.7	30.0	0.0	15.8	9.6	03/19	18.8	83/30	16.1	0.0	27.9	8.3	1	0.0	0.0	5.5	2.3	90/19	O
N	24.7	12.8	18.8	11.8	33.6	05/03	30.2	0.0	1.4	15.7	26.8	29.6	0.0	16.1	9.6	98/07	20.9	97/09	17.1	0.1	24.4	3.5	0	0.0	0.0	7.4	3.2	02/07	N
D	25.3	14.1	19.7	11.2	32.4	84/29	29.7	0.0	1.0	18.2	29.8	31.0	0.0	18.7	15.2	81/09	21.6	03/18	17.6	0.1	20.8	0.9	0	0.0	0.0	9.8	3.9	94/12	D
YR	22.3	10.1	16.2	12.3	33.7	93/08	31.8	0.0	8	119	254	344	2	7.9	3.1	10/11	23.0	07/27	19.2	1	311	157	60	10	0	-3.5	-7.0	92/26	YR

TABLE 2 - PRECIPITATION (and FOG), DRY- AND WETBULB TEMPERATURES, RELATIVE HUMIDITY and CLOUD COVER

	PRECIPITATION (R mm) P = 30 Years														P = 30 Years				TEMPERATURE (°C)						REL HUM (%)					CLOUD (eighths)			
	MONTH	24 HOUR MAX		TOTAL PER MONTH / YEAR				AVERAGE NO. OF DAYS WITH R (mm) >=							AVE NO OF DAYS WITH				MEAN on the hour			MEAN on the hour			MEAN on the hour			MEAN		MEAN on the hour			
	$\overline{TOT}$	RXX	YY/DD	MAX	YEAR	MIN	YEAR	AVE	MAX	MIN	1	5	10	30	TH	HA	SN	FOG	DRY BULB (P = 30 years)			WET BULB (P = 30 year)			P=30 Years			MAX	MIN	P=30 Years			
									0,1										8	14	20	8	14	20	8	14	20			8	14	20	
J	135	73	09/11	269	2010	61	1984	14.6	22	8	11.5	7.2	4.6	0.9	11.6	0.1	0.0	4.3	18.2	24.2	20.0	15.8	17.4	15.8	79	53	67	82	57	4.3	4.9	4.6	J
F	112	65	96/11	323	1996	13	1984	11.1	19	4	8.5	5.3	3.8	1.0	9.2	0.0	0.0	7.2	17.6	24.1	19.7	15.3	17.0	15.4	80	51	66	87	50	4.1	4.7	4.3	F
M	101	73	97/04	334	1997	22	1992	11.1	20	6	8.6	5.3	3.3	0.9	9.8	0.2	0.0	9.1	16.3	23.0	18.5	14.2	16.0	14.3	80	51	65	88	50	3.8	4.6	3.7	M
A	37	50	90/28	110	1990	1	2009	6.5	15	1	4.8	2.2	1.1	0.2	3.8	0.1	0.0	6.0	13.9	21.0	16.0	11.5	13.5	11.5	76	44	59	80	51	2.9	3.8	2.7	A
M	18	43	02/31	99	1997	0	1998	2.6	9	0	1.8	1.1	0.6	0.1	1.8	0.0	0.0	4.5	11.0	18.8	13.1	7.9	10.4	8.0	67	35	50	70	33	1.7	2.2	1.4	M
J	10	28	89/03	53	1989	0	1985	1.9	6	0	1.4	0.6	0.3	0.0	1.2	0.1	0.0	5.7	7.8	16.2	10.2	5.0	8.3	5.5	67	33	49	71	33	1.5	1.5	1.0	J
J	2	15	04/02	15	1984	0	1981	0.7	4	0	0.4	0.2	0.1	0.0	0.2	0.0	0.1	5.4	7.3	16.3	10.3	4.5	8.0	5.1	66	30	44	64	39	1.3	1.3	0.8	J
A	7	21	02/27	34	2006	0	2007	1.9	10	0	1.1	0.5	0.2	0.0	1.4	0.0	0.0	5.2	10.0	18.9	13.1	6.4	9.6	6.9	62	29	40	69	37	1.7	1.5	1.1	A
S	22	82	01/12	175	1987	0	1989	3.3	14	0	2.2	0.9	0.6	0.1	2.3	0.0	0.0	4.0	13.8	22.3	16.8	9.2	11.8	9.5	59	29	40	68	31	2.1	2.2	2.0	S
O	79	110	85/30	190	1985	15	1999	10.3	18	5	7.6	4.5	2.7	0.4	9.6	0.2	0.0	4.2	15.8	23.0	17.8	12.0	14.1	12.0	67	39	53	69	45	3.5	3.9	3.6	O
N	103	66	97/12	208	1998	0	1999	13.3	24	0	10.3	6.2	3.6	0.5	10.7	0.4	0.0	6.1	17.3	23.3	18.4	13.9	15.5	13.6	71	47	62	83	53	4.1	4.7	4.4	N
D	124	75	95/16	220	1995	45	2003	15.8	20	7	12.7	8.0	4.7	0.4	13.2	0.2	0.0	4.9	17.9	23.9	19.3	15.0	16.8	15.0	76	51	66	85	53	4.4	4.8	4.7	D
YR	750	110	85/30	1 089	2000	443	1984	93.0	120	64	71	42	26	5	69	1	0	61	13.9	21.2	16.1	10.8	13.2	11.0	71	41	55	71	50	3.0	3.3	2.9	YR

Period = years covering the data for all the columns of both tables. P = Average number of years covering the data in the columns concerned. $\overline{TX}$ = Average maximum, $\overline{TN}$ = Average minimum air temperature
TXX = Highest maximum, MAX = highest in P years. TXN = Lowest maximum, MIN = lowest in P years. TNX = Highest minimum, MAX = highest in P years. TNN = Lowest minimum, MIN = lowest in P years.
$\overline{\ }$ = MEAN = AVE = AVERAGE e.g. $\overline{08, 14, 20}$ = MEANS of observations which were made on these hours (SAST). YY/DD = Year/Day of occurrence of the extreme in the previous column.
(Number of days (NOD) with TX >= 10) = (NOD in the month - NOD with TX < 10). TH = Thunder, HA = Hail, SN = Snow, FOG = fog. > signifies greater than, >= signifies greater than or equal to.
(Number of days (NOD) with TN < 20) = (NOD in the month - NOD with TN >= 20). < signifies less than, <= signifies less than or equal to.

APPENDIX 3 TRAFFIC DATA

Table 1: AADT per Year Per Lane in the Northbound Direction

IC	Year	Mainline					Auxilliary Lane			Off-ramp		
		Lane 1	Lane 2	Lane 3	Lane 4	**Total Mainline**	Fast Onramp	Slow Onramp	**Auxilliary Lane**	Fast Off-ramp	Slow Off-ramp	**Off-Ramp**
Heidelberg Road IC	2013	11227	9997			**21224**	13084		**13084**	3196		**3196**
	2014	10277	8929			**19206**	11577		**11577**	2881		**2881**
	2015	11481	9959			**21440**	12243		**12243**	3758		**3758**
	2016	11834	9825			**21659**	12506		**12506**	3699		**3699**
	2017	12262	10010			**22272**	12871		**12871**	4051		**4051**
	2018	12305	10213			**22518**	13171		**13171**	3997		**3997**
	2019	12872	10562			**23434**	13050		**13050**	4194		**4194**
Grey Avenue IC	2013	7804	10403	6610	3020	**27837**	2801	4499	**7300**	6530		**6530**
	2014	7332	9856	6235	2852	**26275**	2658	4200	**6858**	4577		**4577**
	2015	8363	8524	8915	3180	**28982**	2827	4545	**7372**	4768		**4768**
	2016	8795	6868	10934	3294	**29891**	2826	4523	**7349**	4335		**4335**
	2017	9130	6976	11058	3377	**30541**	2831	4641	**7472**	4666		**4666**
	2018	9101	7174	11239	3515	**31029**	2877	4903	**7780**	4730		**4730**
	2019	9243	7122	11091	3616	**31072**	2946	5051	**7997**	4511		**4511**
N3/N17 IC	2013	7802	11543	8488	5376	**33209**	212	11727	**11939**	1929		**1929**
	2014	6768	10628	7629	4731	**29756**	202	10212	**10414**	3377		**3377**
	2015	7680	11557	8203	5274	**32714**	218	10725	**10943**	3640		**3640**
	2016	7902	11727	8364	5455	**33448**	205	10879	**11084**	3791		**3791**
	2017	8100	11844	8489	5600	**34033**	192	10993	**11185**	3978		**3978**
	2018	8314	12085	8684	5770	**34853**	284	10972	**11256**	3954		**3954**
	2019	8114	11918	8615	5844	**34491**	407	10868	**11275**	4575		**4575**
Rand Airpot IC		**										
Geldenhuys IC	2013	15602	18285	13744	12222	**59853**	21849		**21849**			
	2014	15765	18269	13740	12724	**60498**	22714		**22714**			
	2015	17317	19287	14448	13330	**64382**	23890		**23890**			
	2016	17916	19491	14559	13534	**65500**	24333		**24333**			
	2017	18401	19679	14549	13431	**66060**	24940		**24940**			
	2018	19373	20267	15132	14332	**69104**	19752		**19752**			
	2019	22239	21961	16555	16453	**77208**	12510		**12510**			

Table 2: AADTT per Year Per Lane in the Northbound Direction

IC	Year	Mainline					Auxilliary Lane			Off-ramp		
		Lane 1	Lane 2	Lane 3	Lane 4	**Total Mainline**	Fast Onramp	Slow Onramp	**Auxilliary Lane**	Fast Off-ramp	Slow Off-ramp	**Total Off-Ramp**
Heidelberg IC	2013	233	1883			**2116**	1294		**1294**	279		**279**
	2014	211	1744			**1955**	1554		**1554**	388		**388**
	2015	433	1882			**2315**	1805		**1805**	298		**298**
	2016	522	1827			**2349**	1781		**1781**	175		**175**
	2017	381	1867			**2248**	1794		**1794**	365		**365**
	2018	383	1950			**2333**	1856		**1856**	332		**332**
	2019	423	1963			**2386**	1882		**1882**	419		**419**
Grey Avenue IC	2013	72	696	1672	960	**3400**	97	253	**350**	24		**24**
	2014	65	633	1639	941	**3278**	100	243	**343**	245		**245**
	2015	200	1284	1192	1026	**3702**	67	207	**274**	437		**437**
	2016	244	1689	792	1023	**3748**	65	206	**271**	399		**399**
	2017	248	1703	803	1036	**3790**	65	229	**294**	272		**272**
	2018	248	1777	836	1082	**3943**	62	239	**301**	265		**265**
	2019	257	1852	856	1134	**4099**	64	250	**314**	84		**84**
N3/N17 IC	2013	60	553	1643	1274	**3530**	19	565	**584**	220		**220**
	2014	75	522	1585	1214	**3396**	19	554	**573**	223		**223**
	2015	204	674	1812	1276	**3966**	16	550	**566**	10		**10**
	2016	231	865	3017	1281	**5394**	18	585	**603**			
	2017	236	789	1684	1305	**4014**	16	610	**626**	71		**71**
	2018	252	727	1781	1344	**4104**	22	632	**654**	140		**140**
	2019	114	617	1870	1393	**3994**	29	580	**609**	420		**420**
	2020	61	529	1644	1263	**3497**	15	538	**553**	420		**420**
Rand Airport Road IC		**										
Geldenhuys IC	2013	171	969	2567	2077	**5784**	2751		**2751**			
	2014	154	910	2625	2172	**5861**	2844		**2844**			
	2015	377	1072	2790	2337	**6576**	2798		**2798**			
	2016	493	1103	2812	2356	**6764**	2750		**2750**			
	2017	538	1132	2869	2388	**6927**	2809		**2809**			
	2018	589	1193	3014	2589	**7385**	2419		**2419**			
	2019	809	1296	3328	3037	**8470**	1787		**1787**			

Table 3: AADT per Year Per Lane in the Southbound Direction

IC	Year	Mainline							Auxilliary Lane			Off-ramp		
		Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	**Total Mainline**	Fast Onramp	Slow Onramp	**Auxilliary Lane**	Fast Off-ramp	Slow Off-ramp	**Off-Ramp**
Heidelberg IC	2013	10037	7706	3185				**20928**				10946		**10946**
	2014	6809	8058	2647				**18114**				10039		**10039**
	2015	9977	8001	3073				**21051**				10127		**10127**
	2016	9902	8033	3063				**20998**				11128		**11128**
	2017	10189	8553	3288				**22030**				11301		**11301**
	2018	10309	8617	3161				**22087**				11974		**11974**
	2019	10364	8812	3276				**22452**				12154		**12154**
Grey Avenue IC	2012	5619	11091	7761	3534			**28005**	1668	2201	**3869**	7373		**7373**
	2013	6057	10977	7460	3496			**27990**	1656	2229	**3885**	7128		**7128**
	2014	5210	9992	6755	3189			**25146**	1265	1744	**3009**	6493		**6493**
	2015	6127	10939	7173	3470			**27709**	1486	1983	**3469**	6985		**6985**
	2016	6417	11078	7388	3570			**28453**	1581	2092	**3673**	7045		**7045**
	2017	6776	11328	7592	3737			**29433**	1676	2222	**3898**	7152		**7152**
	2018	6742	11524	7818	3860			**29944**	1808	2310	**4118**	7538		**7538**
	2019	6926	11350	7712	3810			**29798**	2052	2351	**4403**	7877		**7877**
N3/N17 IC	2012	6150	11478	9819	5629			**33076**	664	1638	**2302**	11797		**11797**
	2013	6565	11312	9316	5600			**32793**	679	1646	**2325**	11787		**11787**
	2014	5636	10309	8484	5045			**29474**	632	1534	**2166**	10709		**10709**
	2015	6548	11276	9036	5554			**32414**	679	1602	**2281**	11723		**11723**
	2016	6831	11418	9239	5703			**33191**	750	1557	**2307**	11984		**11984**
	2017	7267	11731	9415	5810			**34223**	799	1564	**2363**	12336		**12336**
	2018	7322	11893	9632	6018			**34865**	804	1813	**2617**	12254		**12254**
	2019	7466	11771	9605	6166			**35008**	765	1902	**2667**	12293		**12293**
Rand Airport Rd	2012	14099	17785	12485	12812	9763	2363	**69307**				4680		**4680**
	2018	19867	18697	13153	12929	10120	3566	**78332**				5443		**5443**
	2019	21126	19350	12856	12045	9844	3539	**78760**				5266		**5266**
	2020	15656	15590	10958	11235	8403	2954	**64796**				4758		**4758**
	2021	17505	16654	12068	11947	9224	3018	**70416**				5411		**5411**
Geldenhuys IC	2013	18355	19062	10902	3443			**51762**	11708		**11708**			
	2014	21160	20693	11331	4117			**57301**	12236		**12236**			
	2015	24386	22896	12188	5108			**64578**	13880		**13880**			
	2016	22898	21131	12467	5035			**61531**	12709		**12709**			
	2017	23536	21300	12541	5190			**62567**	12982		**12982**			
	2018	23800	21830	12865	5440			**63935**	11961		**11961**			
	2019	25069	22430	13298	5961			**66758**	12013		**12013**			

Table 4: AADTT per Year Per Lane in the Southbound Direction

SOUTHBOUND AADTT														
IC	Year	Mainline							Auxilliary Lane			Off-ramp		
		Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	**Total Mainline**	Fast Onramp	Slow Onramp	**Auxiliary Lane**	Fast Off-ramp	Slow Off-ramp	**Off-Ramp**
Heidelberg IC	2013	1041	109		803			**1953**				1488		**1488**
	2014	91	910		752			**1753**				1533		**1533**
	2015	1110	273		816			**2199**				15084		**15084**
	2016	1084	277		794			**2155**				1595		**1595**
	2017	1102	287		873			**2262**				1614		**1614**
	2018	1196	297		847			**2340**				1702		**1702**
	2019	1224	296		818			**2338**				1518		**1518**
Grey Avenue IC	2012	46	400	1309	1341			**3096**	162	132	**294**	187		**187**
	2013	48	429	1329	1346			**3152**	159	132	**291**	179		**179**
	2014	57	400	1245	1348			**3050**	137	100	**237**	120		**120**
	2015	170	542	1347	1478			**3537**	114	57	**171**	279		**279**
	2016	192	571	1339	1477			**3579**	113	60	**173**	323		**323**
	2017	218	598	1381	1507			**3704**	109	64	**173**	324		**324**
	2018	225	630	1466	1550			**3871**	105	66	**171**	324		**324**
	2019	122	538	1464	1561			**3685**	113	60	**173**	668		**668**
N3/N17 IC	2012	41	358	1296	1427			**3122**	47	114	**161**	461		**461**
	2013	42	382	1308	1440			**3172**	46	114	**160**	467		**467**
	2014	36	337	1223	1428			**3024**	47	100	**147**	490		**490**
	2015	182	504	1360	1589			**3635**	58	123	**181**	609		**609**
	2016	223	533	1365	1597			**3718**	68	117	**185**	726		**726**
	2017	233	549	1397	1644			**3823**	79	124	**203**	761		**761**
	2018	241	566	1466	1700			**3973**	92	131	**223**	696		**696**
	2019	256	582	1514	1778			**4130**	91	132	**223**	627		**627**
Rand Airport IC	2012	107	1035	2319	1425	900	192	**5978**				535		**535**
	2013	146	1206	2488	1416	971	272	**6499**				606		**606**
	2019	292	1414	3324	1453	1248	403	**8134**				671		**671**
	2020	607	1218	2815	1540	1243	430	**7853**				734		**734**
	2021	439	1264	3005	1622	1353	420	**8103**				796		**796**
Geldenhuys IC	2013	180	990	2666	913			**4749**	1252		**1252**			
	2014	207	1160	3005	1092			**5464**	1371		**1371**			
	2015	298	1233	3058	1215			**5804**	1569		**1569**			
	2016	298	1137	3076	1175			**5686**	1403		**1403**			
	2017	308	1165	3144	1193			**5810**	1441		**1441**			
	2018	312	1185	3286	1300			**6083**	1362		**1362**			
	2019	348	1228	3426	1395			**6397**	1215		**1385**			

APPENDIX 4 ROUGHNESS DATA

REFER ATTACHED IN TENDER CD

DISPUTE ADJUDICATION AGREEMENT

between

THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED
(Reg No. 1998/009584/06)

("**Employer**")

and

_____

(Reg No. _____)

("**Contractor**")

and

_____

("**Member**")

1. DEFINITIONS AND INTERPRETATIONS

1.1 In this Dispute Adjudication Agreement, unless the context otherwise indicates :

1.1.1 "**Contract**" means Contract SANRAL NRA 2025/0097for the RESURFACING OF NATIONAL ROUTE 3 SECTION 12 BETWEEN HEIDELBERG ROAD AND GELDENHUYS INTERCHANGES entered into between the Employer and the Contractor.

1.1.2 "**Contractor**" means … *(insert contractor's details)* appointed by the Employer under the Contract.

1.1.3 "**DAB**" means the three person Dispute Adjudication Board as contemplated in clause 20 of the Conditions of Contract for Construction for Building and Engineering Works designed by the Employer, published by the Fédération Internationale des Ingénieurs-Conseils (hereinafter referred to as "GCC"), in accordance with the terms and conditions as set out in this Dispute Adjudication Agreement.

1.1.4 "**Dispute Adjudication Agreement**" means the tripartite agreement between the Employer, Contractor and Member.

1.1.5 "**Effective Date**" means the date that this Dispute Adjudication Agreement shall take effect, and unless otherwise stated, it shall be the latest date when the Employer, the Contractor, Member and each of the Other Members have respectively signed a Dispute Adjudication Agreement.

1.1.6 "**Employer**" means the South African National Roads Agency SOC Limited, Registration No. 1998/009584/06

1.1.7 "**Engineer**" means … *(insert engineer's details)*.

1.1.8 "**Member**" means Mr _____, *Note to compiler: Insert the following: For the chairperson of a 3-person DAB:* who will act as chairperson of the DAB and who is one of the three persons who are jointly called the DAB. *For other members of a 3-person DAB:* who is one of the three persons who are jointly called the DAB.

1.1.9 "**Other Members**" means the persons other than the Member, forming part of the DAB, if/where applicable

1.1.10 "**Parties**" means the Employer, Contractor and Member

1.2 In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract

2. GENERAL PROVISIONS

2.1 Following the Effective Date, the Employer and the Contractor shall each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.

2.2 This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Adjudication Agreement shall terminate upon the expiry of this period.

2.3 No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the Parties to it and of the Other Members.

2.4 The Dispute Adjudication Agreement shall be governed by the law of the Republic of South Africa.

2.5 All disputes will be heard in *(insert location)*_____, Republic of South Africa, unless otherwise agreed by the Parties.

3. WARRANTIES

3.1 The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members, any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

3.2 When appointing the Member, the Employer and the Contractor relies upon the Members' representations that he/she is:
- a) experienced in the work which the Contractor is to carry out under the Contract,
- b) experienced in the interpretation of contract documentation, and
- c) fluent in the language for communications defined in the Contract.

4. APPOINTMENT

4.1 The Employer and the Contractor hereby jointly appoint the Member as a Member of a three-person DAB on the terms and conditions as set out in the Dispute Adjudication Agreement, which appointment the Member by his/her signature hereto accepts.

4.2 The conditions of the Dispute Adjudication Agreement comprise the following:
- a) The Dispute Adjudication Agreement together with any addenda or schedules hereto; including the procedural rules;
- b) The GCC, as amended by any particular conditions, to the extent that it is applicable to the DAB and the Member.

5. GENERAL OBLIGATIONS OF THE MEMBER

Note to compiler: Delete this clause for members other than the Chairperson's agreement

5.1 The Member shall act as chairperson of the DAB and shall; ensure smooth administration; keep all records; ensure compliance to procedural rules; ensure the ethics of the DAB remain unchallenged; coordinate between the Parties and the DAB; chair meetings and site visits; ensure procedural correctness of all recommendations and decisions of the DAB.

5.2 The Member shall have no interest financial or otherwise in the Employer, the Contractor or the Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement.

5.3 The Member shall not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement.

5.4 The Member shall have disclosed in writing to the Employer, the Contractor and the Other Members, before entering into the Dispute Adjudication Agreement and to his/her best knowledge and re-collection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part.

5.5 The Member shall not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer, the Contractor, any member/partner of the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members. Notwithstanding this restriction, the Member shall not be restricted to be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer on another contract or matter, but shall disclose to the Employer, the Contractor, and the Other Members, before he/she consult, advises or accepts any instructions from either the Employer, the Contractor, any member/partner of the Contractor, or the Engineer and confirming that such advice, consultation or other instruction taken from such person shall not affect the Member's ability to be unbiased in relation to his/her duties under the Dispute Adjudication Agreement.

5.6 The Member shall comply with the annexed procedural rules and Sub-Clause 20.4 of the conditions of Contract.

5.7 The Member shall not give advice to the Employer, the Contractor, the Employer's personnel or the Contractor's personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules.

5.8 The Member shall not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under this Dispute Adjudication Agreement.

5.9 The Member shall ensure his/her availability for all site visits and hearings as are necessary.

5.10 The Member shall become conversant with the Contract and with the progress of the Works (and of any parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file.

5.11 The Member shall treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members.

5.12 The Member shall be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members.

6. GENERAL OBLIGATIONS OF THE EMPLOYER AND THE CONTRACTOR

6.1 The Employer, the Contractor, the Employer's personnel and the Contractor's personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's personnel and the Contractor's personnel respectively.

6.2 The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members:

a) be appointed as an arbitrator in any arbitration under the Contract;
b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract;
c) be called as a witness or act on behalf of the Employer or Contractor, concerning any dispute that became the subject of litigation under the Contract; or
d) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Members functions unless the act or omission is shown to have been in bad faith.

6.3 The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he/she is relieved from liability under the preceding paragraph.

7. PAYMENT

7.1 The Member shall be paid a retainer fee of R… (excluding VAT) per calendar month, which shall be considered as payment in full for:

i) being available on 28 days' notice for all site visits and hearings;
ii) becoming and remaining conversant with all project developments and maintaining relevant files;
iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his/her duties; and
iv) all services performed hereunder except those referred to in sub-paragraphs 7.4, 7.5, 7.6 and 7.7 of this Clause.

7.2 The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Adjudication Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

7.3 With effect from the first day of the calendar month following the month in which the Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by 50%. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Adjudication Agreement is otherwise terminated.

7.4 The Member shall be paid a site visit daily fee of R… (excluding VAT), (reduced to an hourly fee of one eighth the daily fee, for part of a day), which shall be considered as payment in full for:
- i) each day or part of a day up to a maximum of one day's travel time in each direction for the journey between the Member's home and the site or another location of a meeting with the Other Members, as agreed by the Parties.
- ii) each working day or part of a day on site visits.

7.5 The Member shall be paid a dispute analysis daily fee of R… (excluding VAT), (reduced to an hourly fee of one eighth the daily fee, for part of a day), which shall be considered as payment in full for:
- i) each day or part of a day spent on dispute analysis, hearings or preparing decisions; and
- ii) each day or part of a day spent reading submissions in preparation for a hearing.

7.6 The Member shall be paid a pupillage daily fee of R… (excluding VAT), (reduced to an hourly fee of one eighth the daily fee, for part of a day), which shall be considered as payment in full for:
- i) each day or part of a day spent on preparation for pupillage.
- ii) each day or part of a day spent on offering practical experience and mentoring to assigned pupil.

7.7 The Member shall be paid all reasonable expenses incurred in connection with the Member's duties, including the cost of the following:
- i) Travel expenses :–
  - Own car - motor vehicle travel expenses will be recovered at the relevant South African Automobile Association rates,
  - Car hire – group B or similar,
  - Flights – economy class.
- ii) Accommodation – any type of accommodation up to R1,300.00 per day all inclusive,
- iii) Subsistence costs.

7.8 The Member shall be paid all Value Added Taxes as per the law.

7.9 The retainer fee and daily fees shall remain fixed for the 1st 24 calendar months and shall thereafter be adjusted by the twelve-month year on year CPI index (as published in the monthly bulletin P0141 of Statistics South Africa under table B) at each anniversary of the Effective Date. The base month shall be the 12th month following the Effective Date.

7.10 The Member shall be paid in South African Rands.

7.11 The member shall submit invoices for payment of the monthly retainer and may include an estimate of the next month's airfares which will be incurred (and which will be reconciled and adjusted in the subsequent invoice). Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a DAB fee claim containing records of previous fee claims and a breakdown of activities performed during the relevant period and shall be addressed to the Contractor.

7.12 Notwithstanding the fact that the appointment is of the Member in his/her personal capacity the Member may invoice and receive payment to a legal entity of which he/she is a member, shareholder or partner.

7.13 The Contractor shall pay the Member's invoices in full within 30 calendar days after receiving each valid invoice, half of which shall be recovered by the Contractor from the Employer.

7.14 If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received and/or (ii) resign his/her appointment by giving notice under Clause 8.

8. TERMINATION

8.1 At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Adjudication Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for under Clause 2.

8.2 If the member fails to comply with the Dispute Adjudication Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

8.3 If the Employer or the Contractor fails to comply with the Dispute Adjudication Agreement, the Member may, without prejudice to his/her other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

8.4 Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

9. DEFAULT OF THE MEMBER

9.1 If the Member fails to comply with any obligation under Clause 5, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members, for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.

10. DISPUTES

10.1 Any dispute or claim arising out of or in connection with the Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled by arbitration under the Rules of Arbitration of the Association of Arbitrators of Southern Africa by one Arbitrator appointed by agreement of the Member, the Employer and the Contractor or, failing such agreement, by the Chairman for the time being of the Association of Arbitrators.

11. DOMICILIA AND NOTICES

11.1 The Parties choose as their *domicilia citandi et executandi* for all purposes under the Dispute Adjudication Agreement, whether in respect of notices or other documents or communications of whatsoever nature (including the exercise of any option), the following addresses:

11.1.1 Employer (*domicilia citandi et executandi)*:

Address:	South African National Roads Agency SOC Limited 48 Tambotie Avenue, Val de Grace, Pretoria, 0184
Reference:	… CEO

Employer (*General Communication*)

Address:	South African National Roads Agency SOC Limited … Region, …, …, …
Fax Number:	…
Tel. Number:	…
Reference:	… Regional Manager, … Region

11.1.2 Contractor:

Address:	… …
Fax Number:	…
Tel. Number:	…
Reference:	…, Contract Director

11.1.3 Member:

Address: …
…
Fax Number: …
Tel. Number: …
Reference: …,

11.2 Any notice or communication required or permitted to be given in terms of the Dispute Adjudication Agreement shall be valid and effective only if in writing, but it shall be competent to give notice by telefax or registered mail.

11.3 Any Party may by notice to the other Party change the physical address chosen as its *domicilium citandi et executandi* vis-à-vis that Party to another physical address in the Republic of South Africa or its telefax number, provided that the change shall become effective vis-à-vis that addressee on the 7th business day from the deemed receipt of the notice by the addressee.

11.4 Notwithstanding anything to the contrary herein contained a written notice or communication actually received by a Party shall be an adequate written notice or communication to it notwithstanding that it was not sent to or delivered at its chosen *domicilium citandi et executandi*.

12. SIGNATORIES

12.1 Signed for and on behalf of the Employer by:

....
Name Signature of duly authorised representative

.....
Date

In the presence of Witness:

....
Name Signature

.....
Date

12.2 Signed for and on behalf of the Contractor by:

....
Name Signature of duly authorised representative

.....
Date

In the presence of Witness:

....
Name Signature

.....
Date

12.3 Signed by the Member:

....
Name Signature

.....
Date

In the presence of Witness:

....
Name Signature

.....
Date

PROCEDURAL RULES

1. Unless otherwise agreed by the Employer and the Contractor, the DAB shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DAB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

2. The timing of and agenda for each site visit shall be as agreed jointly by the DAB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DAB. The purpose of site visits is to enable the DAB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims.

3. Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DAB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

4. The Employer and the Contractor shall furnish to each member of the DAB one copy of all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DAB and the Employer or the Contractor shall be copied to the other Party.

5. If any dispute is referred to the DAB in accordance with Sub-clause 20.4 of the GCC, the DAB shall proceed in accordance with Sub-clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:
   a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
   b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

6. The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

7. Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party whom the DAB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

8. The Employer and the Contractor empower the DAB, among other things, to:
   a) establish the procedure to be applied in deciding a dispute,
   b) decide upon the DABs' own jurisdiction, and as to the scope of any dispute referred to it,
   c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
   d) take the initiative in ascertaining the facts and matters required for a decision,
   e) make use of its own specialist knowledge, if any,
   f) decide upon the payment of financing charges in accordance with the Contract,
   g) decide upon any provisional relief such as interim or conservatory measures, and
   h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.

9. The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties, unless requested by both the Employer and Contractor. Prior to giving notice to its decision:
   a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;

b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members' who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and

c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
   i) either the Employer or the Contractor does not agree that they do so, or
   ii) the absent Member is the chairman, and he/she instructs the other Members not to make a decision.

Thereafter, the DAB shall make and give notice to its decision in accordance with Sub-clause 20.4 or as otherwise agreed by the Employer and the Contractor in writing.

ANNEXURE 2

COMPULSORY DECLARATION (INCORPORATING SBD4)

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

Section 1: **Enterprise details**

Name of enterprise	
Contact person	
E-mail	
Telephone	
Cell	
Fax	
Physical address	
Postal address	

Section 2: **Particulars of companies and close corporations**

Company / Close Corporation registration number	

Section 3: **SARS information**

Tax reference number	
VAT registration number	(state Not Registered if not registered for VAT)

Section 4: **CIDB registration number**

CIDB Registration number	

Section 5: **Particulars of principals**

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

Full name of principal	Identity number	Personal tax reference number

Attach separate page if necessary.

Section 6: **Record in the service of the state**:

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

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

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

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

Insert separate page if necessary.

Section 7: **Record of family member in the service of the state**:

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

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

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

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

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

Insert separate page if necessary

Section 8: **Record of termination of previous contracts with an organ of state**

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

☐ Yes ☐ No (tick appropriate box)

If yes, provide particulars:

Insert separate page if necessary

Section 9: **Declaration**

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

i) neither the name of the tendering entity, nor any of its principals, appears on:
   a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004); or
   b) National Treasury's Database of Restricted suppliers (www.treasury.gov.za);

ii) the tendering entity or any of its principals has not been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa) within the last five years;

iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration);

iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers;

v) the tendering entity has not engaged in any prohibited restrictive horizontal practices, including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract, etc.) or intention to not win a tender;

vi) the tendering entity has no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;

vii) neither the tenderer nor any of its principals owes municipal rates and taxes or municipal service charges to any municipality or a municipal entity, and are not in arrears for more than three months;

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

I, the undersigned .....
certify that the information furnished in this form above is correct. I accept that the Employer may cancel this agreement should this declaration prove to be false.

....
Signature (duly authorised) Date

....
Position Name of Enterprise

NOTE 1: Section 30(1) of the Public Service Act, 1994, prohibits an employee (person who is employed in posts on the establishment of departments) from performing or engaging remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department. When in operation, Section 8(2) of the Public Administration Management Act, 2014, will prohibit an employee of the public administration (i.e. municipalities and all national departments, national government components listed in Part A of Schedule 3 to the Public Service Act, provincial departments including the office of the premier listed in Schedule 1 of the Public Service Act and provincial departments listed in schedule 2 of the Public Service Act, and provincial government components listed in Part B of schedule 3 of the Public Service Act) or persons contracted to executive authorities in accordance with the provisions of section 12A of the Public Service Act of 1994 or persons performing similar functions in municipalities, from conducting business with the State or to be a director of a public or private company conducting business with the State. The offence for doing so is a fine or imprisonment for a period not exceeding five years, or both. It is also a serious misconduct which may result in the termination of employment by the employer.
NOTE 2: Regulation 44 of Supply Chain Management regulations issued in terms of the Municipal Finance Management Act of 2003 requires that municipalities and municipal entities should not award a contract to a person who is in the service of the State, a director, manager or principal shareholder in the service of the State or who has been in the service of the State in the previous twelve months.
NOTE 3: Regulation 45 of Supply Chain Management regulations requires a municipality or municipal entity to disclose in the notes to the annual statements particulars of any award made to a close family member in the service of the State.
NOTE 4: Corrupt activities which give rise to an offence in terms of the Prevention and Combating of Corrupt Activities Act of 2004, include improperly influencing in any way the procurement of any contract, the fixing of the price, consideration or other moneys stipulated or otherwise provided for in any contract, and the manipulating by any means of the award of a tender.
NOTE 5: Section 4 of the Competition Act of 1998 prohibits restrictive horizontal practice, including agreements between parties in a horizontal relationship, which have the effect of substantially preventing or lessening competition, directly or indirectly fixing prices or dividing markets or constituting collusive tendering. Section 5 also prohibits restrictive vertical practices. Any restrictive practices that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties.

ANNEXURE 3

TAX COMPLIANCE PERMISSION DECLARATION

I, ... (name)
the undersigned in my capacity as ..... (position)
on behalf of .....
..... (name of company)
herewith grant consent that SARS may disclose to the South African National Roads Agency SOC Limited (SANRAL) our tax compliance status on an ongoing basis for the contract term.

For this purpose, our unique security personal identification number (PIN) is ....., our tax reference number is ……..….. and our tax clearance certificate number is .....

SIGNATURE: .....

DATE: .....

APPENDIX 6 IMPORTED CONTENT DECLARATION

Refer Excel files of Annex C, D and E in Tender CD

ANNEX D: IMPORTED CONTENT DECLARATION – SUPPORTING SCHEDULE TO ANNEX C

(D1)	Tender No.:							**Note: VAT to be excluded from all calculations**
(D2)	Tender Description:							
(D3)	Designated Product(s):							
(D4)	Tender Authority:							
(D5)	Tendering Entity Name:							
(D6)	Tender Exchange Rate:	Pula	P	EU	€	GBP	£	

A. Exempted imported content				**Calculation of imported content**						**Summary**	
Tender item no's	**Description of imported content**	**Local supplier**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Exchange Rate**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl. VAT**	**Tender Qty**	**Exempted imported value**
(D7)	*(D8)*	*(D9)*	*(D10)*	*(D11)*	*(D12)*	*(D13)*	*(D14)*	*(D15)*	*(D16)*	*(D17)*	*(D18)*
									(D19) Total exempt imported value		R0

This total must correspond with Annex C - C 21

B. Imported directly by the Tenderer				**Calculation of imported content**						**Summary**	
Tender item no's	**Description of imported content**	**Local supplier**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Exchange Rate**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl. VAT**	**Tender Qty**	**Exempted imported value**
(D33)	*(D34)*	*(D35)*	*(D36)*	*(D37)*	*(D38)*	*(D39)*	*(D40)*	*(D41)*	*(D42)*	*(D43)*	*(D44)*
									(D45) Total imported value by 3rd party		R0

C. Imported by a 3rd party and supplied to the Tenderer				Calculation of imported content						Summary	
Description of imported content	**Unit of measure**	**Local supplier**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Rate of Exchange**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl. VAT**	**Quantity imported**	**Total imported value**
(D33)	*(D34)*	*(D35)*	*(D36)*	*(D37)*	*(D38)*	*(D39)*	*(D40)*	*(D41)*	*(D42)*	*(D43)*	*(D44)*
									(D45) Total imported value by 3rd party		R 0

D. Other foreign currency payments			Calculation of foreign currency payments			Summary of payments
Type of payment	**Local supplier making the payment**	**Overseas beneficiary**	**Foreign currency value paid**	**Tender Rate of Exchange**		**Local value of payments**
(D46)	*(D47)*	*(D48)*	*(D49)*	*(D50)*		*(D51)*
					(D52) Total of foreign currency payments declared by tenderer and/or 3rd party	R 0

Signature of tenderer from Annexure B:
(SATS 1286.2011) _____

Date: _____

(D53) Total of imported content & foreign currency payments - *(D32), (D45) & (D52)* above **R 0**

This total must correspond with Annex C - C 23

ANNEX E: IMPORTED CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

(E1)	Tender No.:		**Note: VAT to be excluded from all calculations**
(E2)	Tender Description:		
(E3)	Designated Product(s):		
(E4)	Tender Authority:		
(E5)	Tendering Entity Name:		

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

(E10)	**Manpower costs**	(Tenderer's manpower cost)	R 0
(E11)	**Factory overheads**	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 0
(E12)	**Administration overheads and mark-up**	(Marketing, insurance, financing, interest etc.)	R 0
		***(E13)* Total local content**	R 0
		This total must correspond with Annex C - C24	

Signature of tenderer from Annexure B:
(SATS 1286.2011) _____

Date: _____

Process when requesting exemption letters

For exemption requests on designated products and the minimum threshold for local content cannot be met for various reasons, bidders must apply for exemption per tender. After checking with the industry, **the dti** will decide whether to grant an exemption or not.

In the official request (signed letter), the following information should be included:

- Procuring entity/government department/state owned company.
- Tender/bid number.
- Closing date.
- Item(s) for which the exemption is being requested for.
- Description of the goods, services or works for which the requested exemption item will be used for and the local content that can be met.
- Reason(s) for the request.
- Supporting letters from local manufacturers and suppliers.

NB - Exemption letters are tender specific and applications are not transferrable.

The turnaround time in response to emption letters for all designated products is five working days with the exception of rail and boats/vessels which is seven working days.

Request for exemption letters are to be directed to:
Dr Tebogo Makube
Chief Director: Industrial Procurement
Tel: 012 394 3927
E-mail: tmakube@thedti.gov.za.

The turnaround time in response to textile, clothing, leather and footwear exemption letters request is two working days and requests are to be directed to:

Patricia Khumalo
Tel: 012 394 1390
E-mail: khumaloP@thedti.gov.za.

the dti
Department:
Trade and Industry
REPUBLIC OF SOUTH AFRICA

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

Guidance Document for the Calculation of Local Content

1. DEFINITIONS

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

2. GENERAL

2.1. Introduction

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

The guideline consists of two parts, namely:

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

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

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

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

NOTE:

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

2.2. What is local content?

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

2.3. Categories: Imported and Local Content

The tenderer must differentiate between imported content and local content.

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

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

2.3.1. Imported Content

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

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

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

2.3.1.1. Imported directly by the tenderer:

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

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

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

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

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

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

2.3.1.3. Exempt Imported Content:

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

2.3.2. Local Content

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

3. ANNEXURE C

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

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

C1. Tender Number

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

C2. Tender description

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

C3. Designated products

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

C4. Tender Authority

Supply the name of the tender authority.

C5. Tendering Entity name

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

C6. Tender Exchange Rate

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

C7. Specified local content %

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

C8. Tender item number

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

C9. List of items

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

Calculation of local content

C10. Tender price

Provide the unit tender price of each item excluding VAT.

C11. Exempted imported content

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

C12. Tender value net of exempted imported content

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

C13. Imported value

Provide the ZAR value of the items' imported content.

C14. Local value

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

C15. Local content percentage (per item)

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

Tender Summary

C16. Tender quantity

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

C17. Total tender value

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

C18. Total exempted imported content

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

C19. Total imported content

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

C20. Total tender value

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

C21. Total exempted imported content

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

C22. Total tender value net of exempted imported content

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

C23. Total imported content

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

C24. Total local content

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

C25. Average local content percentage of tender

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

4. ANNEXURE D

4.1. Guidelines for completing Annexure D: "Imported Content Declaration – Supporting Schedule to Annexure C"

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

D1. Tender number

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

D2. Tender description

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

D3. Designated products

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

D4. Tender authority

Supply the name of the tender authority.

D5. Tendering entity name

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

D6. Tender exchange rate

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

Table A. Exempted Imported Content

D7. Tender item number

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

D8. Description of imported content

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

D9. Local supplier

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

D10. Overseas supplier

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

D11. Imported value as per commercial invoice

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

D12. Tender exchange rate

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

D13. Local value of imports

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

D14. Freight costs to port of entry

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

D15. All locally incurred landing costs and duties

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

D16. Total landed costs excl VAT

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

D17. Tender quantity

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

D18. Exempted imported value

Provide the imported value for each of the exempted imported product(s) by multiplying the total landed cost (excl. VAT) (D16) by the

tender quantity (D17). The values in column D18 must correspond with the values of column C18 of Annexure C.

D19. Total exempted imported value

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

Table B. Imported Directly By Tenderer

D20. Tender item numbers

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

D21. Description of imported content:

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

D22. Unit of measure

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

D23. Overseas supplier

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

D24. Imported value as per commercial Invoice

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

D25. Tender rate of exchange

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

D26. Local value of imports

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

D27. Freight costs to port of entry

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

D28. All locally incurred landing costs and duties

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

D29. Total landed costs excl VAT

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

D30. Tender quantity

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

D31. Total imported value

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

D32. Total imported value by tenderer

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

Table C. Imported by Third Party and Supplied to the Tenderer

D33. Description of imported content

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

D34. Unit of measure

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

D35. Local supplier

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

D36. Overseas supplier

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

D37. Imported value as per commercial invoice

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

D38. Tender rate of exchange

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

D39. Local value of imports

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

D40. Freight costs to port of entry

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

D41. All locally incurred landing costs and duties

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

D42. Total landed costs excluding VAT

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

D43. Quantity imported

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

D44. Total imported value

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

D45. Total imported value by third party

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

Table D. Other Foreign Currency Payments

D46. Type of payment

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

D47. Local supplier making the payment

Provide the name of the local supplier making the payment.

D48. Overseas beneficiary

Provide the name of the overseas beneficiary.

D49. Foreign currency value paid

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

D50. Tender rate of exchange

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

D51. Local value of payments

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

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

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

D53. Total of imported content and foreign currency payment

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

5. ANNEXURE E

5.1. Guidelines to completing Annexure E: "Local Content Declaration- Supporting Schedule to Annexure C"

The paragraph numbers correspond to the numbers in Annexure E

E1. Tender number

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

E2. Tender description

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

E3. Designated products

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

E4. Tender authority

Supply the name of the tender authority.

E5. Tendering entity name

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

Local Goods, Services and Works

E6. Description of items purchased

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

E7. Local supplier

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

E8. Value

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

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

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

E10. Manpower costs:

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

E11. Factory overheads:

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

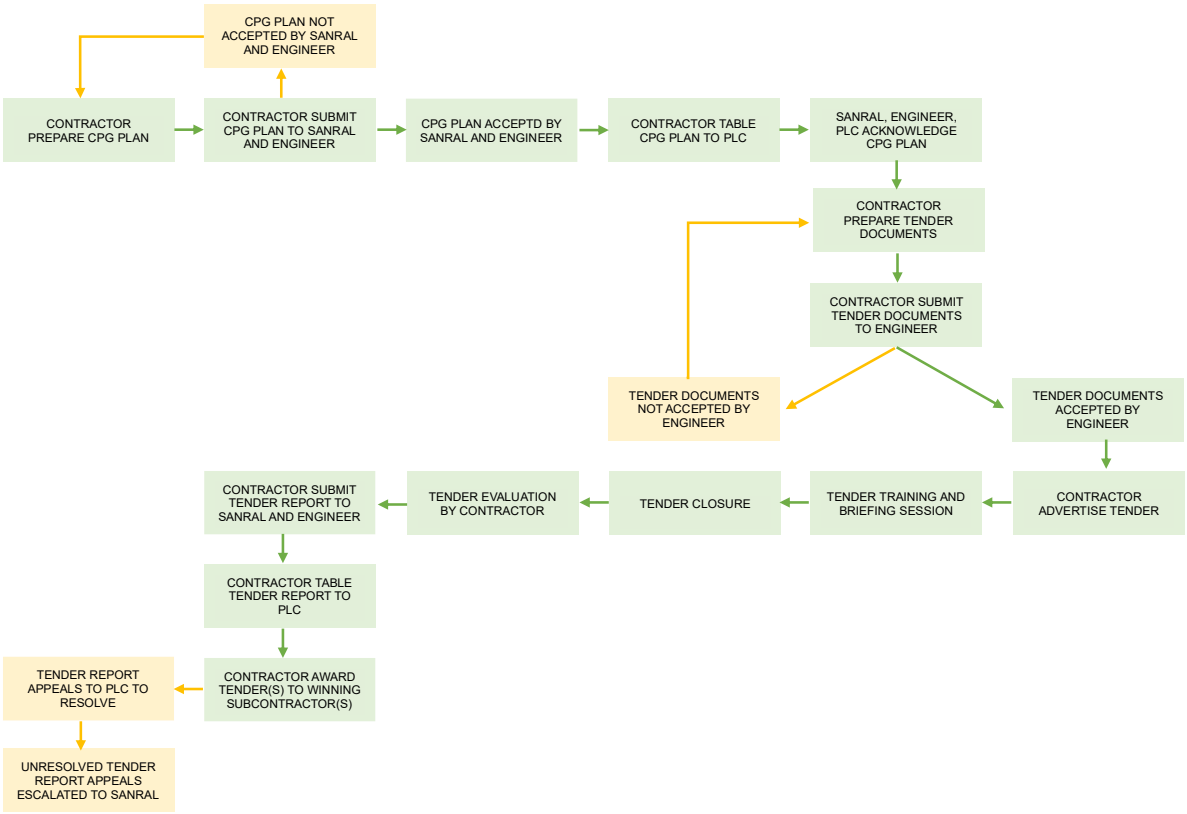
E12. Administration overheads and mark-up:

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

E13. Total local content:

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

APPENDIX 7.1 CONTRACT PARTICIPATION GOAL (CPG) PLAN FORMAT



Contractor Logo and details

Contract Participation Goal Plan

SANRAL Contract Number: XXXX

Contract Name: XXXX

(SANRAL Logo)

Author:
Date:
Version

1. INTRODUCTION

Xxx *(insert details)*
Xxx
Xxx

2. OBJECTIVE

Xxx *(insert details)*
Xxx
Xxx

3. TARGETED ENTERPRISES

1.1 List of Work Packages for Targeted Enterprises

1.2 List of Work Packages for Main Contractor

Table 1: CPG Expenditure Breakdown

Project Number				
Project Name				
Target Groups	**Final Contract Value**		**R**	
	Min (TE) CPG Target		**%**	
	Min (TE) CPG Target Amount		**R**	
Description of CPG Category	**CPG Target as per Contract**		**CPP Planned Achievement**	
	Min. Target % as per Contract	**Target Amount**	**Min. Allocated % as per Market Analyses**	**Expected Amount**
Targeted Labour (TL)	**Min. xx% of Final Contract Value**	**R**	**%**	**R**
Youth				
Women				
Disabled				
Other				
Targeted Enterprises (TEs)	**Min. xx% of Final Contract Value**	**R**	**%**	**R**
Youth				
Women				
Military Veterans				
Disabled				
CIDB 1 and 2				
CIDB 3 and 4				
Other				

1.3 Breakdown of Work Packages

The table below describes the work package breakdown with reference to Target Groups and Functionality:

Table 9: Breakdown of Work Packages

Project Number																
Project Name																
Contract Price																
CPG Target %																
CPG Target Value																
No.	**Type of Work Package**	**EME or QSE**	**TE Amount**	**% of CPG Value**	**Proposed CIDB Grading**	**Tender Value Limit**	**Proposed No. of Work Packages**	**Proposed TE Target Group Amount**					**CIDB Expenditure**			
								Black Youth	**Black Woman**	**Black Military Veterans**	**Black Disabled**	**Other**	**Black 1 & 2 CE**	**Black 3 & 4 CE**	**Comment**	
TE Subcontractors																
1																
2																
3																
TE Suppliers and Service Providers																
4																
5																
6																
TE Subcontractor Sub-total																
TE Supplier/Service Provider Sub-total																
Provisional Total																
Provisional %																
Target Amount																
Target %																

1.4 Schedule of works and CPG Expenditure Plan

1.4.1 Schedule of work (Insert Programme)

1.4.2 CPG Expenditure Plan

Table 3: Example: CPG Expenditure Plan

Planned CPG Expenditure					
Final Contract Value	R 100 000 000				
CPG (TE) Value	R 30 000 000				
Timeline	**2021/2022**	**2021/2022**	**2021/2022**	**2021/2022**	**Total**
Project Expenditure	R 20 000 000	R 30 000 000	R 30 000 000	R 20 000 000	R 100 000 000
Work Packages (CPG %) Expenditure	R 6 000 000	R 9 000 000	R 9 000 000	R 6 000 000	R 30 000 000
Cumulative % Spend	20%	50%	80%	100%	
Cumulative Amount Spend	R 6 000 000	R 6 000 000	R 6 000 000	R 6 000 000	R 6 000 000
Package 1	R 2 000 000				
Package 2	R 2 000 000				
Package 3	R 2 000 000				
Total	**R 6 000 000**	R	R	R	R

1.5 Targeted Enterprises Procurement Program

Table 4: Example: Targeted Enterprise Procurement Program

Item	**Activity Name**	**Duration (Days)**	**Start**	**Finish**

1.6 Procedures for Targeted Enterprises Subcontracting (*As Per Section D1000 of the Specifications*)

1.6.1 Tender Preparation

1.6.1.1 Compilation of TE Work Packages

1.6.1.2 Establishment of a Help Desk

1.6.1.3 Market Analysis and Resources and Skills Audit

1.6.1.4 Compilation of Tender Documents

1.6.2 Tender Process

1.6.2.1 Advertising of Works Packages

1.6.2.2 Tender Briefing Sessions

1.6.2.3 Minimum Tender Submission Documents

1.6.2.4 Tender Closure and Opening of Tenders

1.6.3 Tender Evaluation

1.6.3.1 Eligibility

1.6.3.2 Functionality

1.6.3.3 Price and Preference

1.6.3.4 Compliance Check

1.6.4 Appointment of Successful Targeted Enterprise

1.6.4.1 Price and Rates Discussion

1.6.4.2 Sub-contract Agreement

4. TARGETED LABOUR

4.1 Appointment of Targeted Labour

5. TRAINING DEVELOPMENT AND IMPLEMENTATION PLAN

5.1 General Overview

5.2 Purpose of the Training Interventions

5.3 Proposed Training for Targeted Enterprises and Targeted Labour

The table below depicts the proposed training for the Targeted Enterprises.

Table 5: Proposed Targeted Enterprise Training

Training Summary							
No.	**Course Content**	**Facilitator or Mentor**	**No. of Participants**	**Duration of the Course**	**Training Type**	**Start Date**	**Comments**
1							
2							
3							
4							
5							
Etc.							

The table below depicts the proposed training for the Targeted Labour.

Table 6: Proposed Targeted Labour Training

Training Summary							
No.	**Course Content**	**Facilitator or Mentor**	**No. of Participants**	**Duration of the Course**	**Training Type**	**Start Date**	**Comments**
1							
2							

3							
4							
5							
Etc.							

5.4 Training Methodology

5.5 Selection of Participants

5.6 Targeted Participants

5.7 Training Materials

5.8 Training Times

5.9 Training Implementation Plan

5.10 Supporting Documents

APPENDIX 7.2 SANRAL PROJECT LIAISON COMMITTEE AND PROJECT LIAISON OFFICER FORMS

FORM A1: PROJECT LIAISON COMMITTEE – MEMBER NOMINATION FORM

Notes to Nominators and Nominees:

a) General Principles of Membership:
   i) Membership is open to any person residing within the boundaries of the Project Area and that are duly nominated by their constituency.
   ii) Persons nominated as co-opted members do not necessarily have to reside within the boundaries of the Project Area (see explanation in c) below).
   iii) The nomination process will be conducted in consultation with the Local Municipalities within the Project Area.

b) Nominations for Membership
   i) Nominators will submit this prescribed nomination form and include the following information:
      a. Name of the nominee,
      b. Name of the proposer and five (5) seconders,
      c. Residential address of the nominee,
      d. Constituency whom the nominee will represent, and
      e. Acceptance of nomination by the nominee.

c) Co-opted Members
   i) Co-opted members are members that the PLC chooses to add in addition to PLC members selected through the representative nomination process.
   ii) Co-opted members may include a PLC member from the RRM PLC within the Project Area, and specialists such as environmental specialists, etc.
   iii) Co-opted members will have limited participation rights in PLC meetings, will not have voting rights and will not receive any reimbursement for participating in the PLC meeting.

d) Duration of Membership
   i) The duration of a nominee's membership of the PLC will depend on the duration of the project or the duration of the PLC, whichever occurs first.
   ii) A nominee's membership will end with immediate effect in terms of the Rules of Engagement for PLC members.

1. Details of individual or organisation making the nomination:

I, ……., representing ……

hereby nominate ……

to be a member of the PLC for Project

……

Signature …… Date ……..

2. Details of the seconders (individuals supporting the nomination):

	Name	Surname	Organisation	Signature
1				
2				
3				
4				
5				

3. Details of the individual accepting the nomination (nominee):

Name and Surname	
Organisation	
Residential Address	
Ward Number	
Municipality	

I, ……, I.D. number ……

hereby accept the nomination to be a member of the PLC for Project …….

……

I further accept to be bound by the rules, responsibilities and duties prescribed for the Project Liaison Committee Members and the Project Liaison Officers and will always act in good faith.

Signature …….. Date ……..

Witnesses:

Name and Surname …….. Signature ……..

Name and Surname …….. Signature ……..

FORM A2: PROJECT LIAISON COMMITTEE – RULES, RESPONSIBILITIES AND DUTIES (Derived from D1004.03)

The PLC is the official communication channel through which SANRAL, the Engineer, Contractor and project Stakeholders and affected Communities communicates on project matters. This platform is also used to communicate the impact that the project has or may have on project Stakeholders and the affected Communities. This Form describes the general processes pertaining to the PLC, as well as its role and responsibilities.

1. Establishment of the PLC

The PLC will be established prior to commencement of the Contract or as soon as possible by SANRAL. The PLC consists of SANRAL, the Engineer, Contractor and representatives of project Stakeholders and affected Communities. To ensure that all relevant Stakeholders are represented in the PLC, SANRAL did, or will, consult with the Executive Mayor's office, as well as with the LED Department of the Local Municipalities in the Project Area

Stakeholder representation on the PLC is project and project Area specific and may, amongst others, include:

a) Relevant provincial departments.
b) Relevant District and Local Municipal departments.
c) Traditional leadership representation.
d) Organised forums representing community interest groups.
e) Organised forums representing the youth, woman, and people with disabilities.
f) other structured community groups such as religion, education, farming, etc.
g) Organised forums representing the business sector.
h) Organised forums representing the transport sector.
i) Organised forums representing road users and road safety interest groups.
j) Organised forums representing environmental interest groups.
k) Any other relevant stakeholder forum or organisation recognised by the Employer and the District and/or Local Municipality.

Every forum/organisation/constituency may have one (1) representative on the PLC, which representation will be confirmed by a duly signed nomination form.

It should be noted that the PLC is not a political platform. While political office bearers may be invited to some PLC meetings, they may not be PLC members and hence, will not have voting rights when attending a PLC meeting.

2. Reimbursement of for PLC Members

PLC membership is voluntary, and PLC members will not be renumerated for any time spent in PLC meetings or work done outside of PLC meetings, which are associated with representing their constituencies on the PLC.

Provision has been made in the Contract to reimburse PLC members for actual costs incurred in executing their PLC duties (other than time spent in PLC meetings or work done outside of PLC meetings). The Contractor will determine and table to the PLC a realistic monthly, reimbursable amount which will be substantiated by an outline of the anticipated actual costs envisaged to be incurred by PLC members.

In establishing a reimbursement amount for PLC members, the factors listed below, as well as the Project Classification Table may be considered, but is not mandatory or conclusive:

i) Transportation costs.
ii) Sustenance (if not provided during meetings).
iii) Type, size, and complexity of the project.
iv) Facilitation of performance milestones.

Table D1004.03(a): Project Classification (Type, Size, Complexity)

Project Classification	Project Value (Rm)	Indicative PLC Reimbursement
Maintenance (M) (OPEX)	< R 100	R 585
	> R 100	R 585
Development (D) (CAPEX)	< R 100	R 585
	R 100 – R 300	R 705
	R 300 – R 500	R 820
	> R 500	R 935

PLC members will be reimbursed monthly, and the reimbursable amount may be revised bi-annually should the actual costs incurred by PLC members change during the project.

The PLC reimbursement amount will be increased annually, or twelve (12) months after the last bi-annual adjustment, based on the CPI figure contained in Table B2 of Statistical Release P0141 by StatsSA (base date JULY 2023).

3. Induction of the PLC

SANRAL will conduct an induction meeting with the PLC to acquaint PLC members with the following information:

a) SANRAL's Horizon 2030 Strategy.
b) SANRAL's Principles for Project Liaison.
c) The role and responsibilities of PLC members.
d) SANRAL's Transformation Policy.
e) How the Transformation Policy impacts on SMMEs.
f) Relevant details of the Contract, e.g.
    i) Start and end dates
    ii) Important milestones
    iii) CPG targets
    iv) Envisaged Targeted Enterprise packages
    v) Envisaged work for other SMMEs (non-CPG).

4. Rules of Engagement for the PLC

In the execution of their duties, members of the PLC shall adhere to the undertakings listed below and the Contractor shall inform the Engineer of any transgression of these undertakings.

a) <u>General Matters and Membership</u>

    i) A PLC member may not be a politically elected representative, and political party representation will not be allowed in the PLC.
    ii) Ward Councillors may interact with the PLC through the Mayor's Office and the PLC Chairperson (the Employer).
    iii) If required, and in consultation with SANRAL, a Political Steering Committee (PSC) may be established to address political matters.

b) <u>Term of Office for the PLC</u>

    i) The duration of PLC members' participating in the PLC (term of office) shall depend on the duration of the project.
    ii) If SANRAL finds the performance of a PLC member to be below expectation or their conduct to be unacceptable, the affected member will be discharged from their obligations and the constituency whom they represented will be requested to nominate a replacement member.

c) Targeted Enterprises and Targeted Labour

PLC members shall:

i) ensure that they, or companies in which they hold equity, do not tender for any work or on any subcontract that are issued for this Contract. Should a PLC member, or a company in which he/she holds equity, tender for such work or subcontract, it will be treated as a conflict of interest and the person shall cease to be a PLC member for this Contract, and the tender proposal submitted will not be evaluated.
ii) not have private or business interests in any of the sub-contract tenders tabled to the PLC or considered in this Contract.
iii) shall recuse themselves from discussions that deal with a sub-contract tender if any other member is of the opinion that a member's participation in deliberations, which is rightly or wrongly construe as improper or irregular, may lead to the award of a sub-contract to a tenderer known to the member.
iv) during the tender and tender evaluation processes, neither deliberately favoured nor prejudiced a person or tenderer, as intended, or contemplated in treasury Regulation 16, A8.3 (a), (b) & (c).
v) ensure that no conflict of interest arises from members' involvement in the PLC and potential involvement in targeted labour recruitment and/or targeted enterprises procurement and/or any other manufacturer/supplier/Subcontractor/service provider procurement or involvement in the contract.

d) Confidentiality

i) PLC members shall accept that all information, documentation, and discussions regarding any matter serving before the PLC are confidential and undertake not to communicate this information outside of the PLC meeting.
ii) Decisions of PLC meetings may not be disseminated to any party other than the constituency whom they are representing.
iii) Information for public dissemination shall be clearly documented in the minutes of the meeting of the PLC to ensure that sensitive information is disseminated to the correct audience.

e) Removal from Office

i) PLC members who violate the provisions of these Rules of Engagement for PLCs will be removed from their role as a PLC member at the sole discretion of SANRAL.
ii) SANRAL reserves the right to recover any costs from PLC members whose actions can be regarded as detrimental to SANRAL or to the execution of the project.
iii) SANRAL also reserves the right to recommend criminal prosecution if the offence warrants such action.
iv) SANRAL reserves the right to dissolve the entire PLC should it believes that such an action is in its best interest, or that of the project. SANRAL will not be obliged to reconstitute the PLC if such a dissolution occurs.

5. Responsibilities and Duties of the PLC

The PLC will execute specific duties during the design and construction phases of the project.

Some of the PLC's duties during the design and construction stages overlap and hence, for completeness, a description of the PLC's duties in both project stages is provided here.

The PLC will execute the following duties:

a) Project Design Stage

i) Meet as often as required to provide input to the project's design stage matters which are of interest or concern to the parties to the PLC.
ii) Peruse the Project Liaison Committee rules, responsibilities and duties outlined in this Form and agree on the rules, responsibilities, and duties of, and procedures to be followed by, the PLC to fulfil its duties.

Note: The principles outlined in this Form shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.

iii) Act in accordance with the agreed terms of reference for the PLC.
iv) Inform the Employer's Project Manager of any training that PLC members require to execute their duties.
v) Provide input to the Engineer in sourcing suitable candidates, based on SANRAL's qualifying criteria, for the position of PLO.
vi) Observe that the qualifying criteria and procedures applied by the Engineer to select and employ the PLO were executed in a fair and transparent manner and were within the prescripts of the relevant labour legislation and regulations.
vii) Provide input to the Engineer in identifying the project's Target and Project Area(s) from which Targeted Labour and Targeted Enterprises could be employed and sub-contracted, respectively.
viii) Provide input to the Engineer in identifying the project's Target Groups for inclusion in the Tender Documents.

b) Project Construction Stage

i) Meet formally prior to SANRAL's monthly site meeting, or as may be required, to discuss and resolve project matters which are of interest or concern to the parties to the PLC.
ii) Provide input to the Contractor in establishing the selection criteria and process to employ Targeted Labour
iii) Provide input to the Contractor in identifying the eligibility, functionality, preference, and compliance criteria to select and sub-contract Targeted Enterprises.
iv) Provide input to the Databases compiled by the PLO and the Contractor from which Targeted Labour will be selected and employed and Targeted Enterprises will be sub-contracted, respectively.
v) Observe that the criteria and methodologies applied by the Contractor to select and employ Targeted Labour and sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within Government legislation and regulations and SANRAL's Policies.
vi) Observe that the conditions of employment and the conditions of subcontracting, in the employment of Targeted Labour and subcontracting of Targeted Enterprises are applied in a fair and transparent manner and according to SANRAL's employment and subcontracting requirements.
vii) Provide input to the Contractor on the training needs, eligibility criteria and selection criteria for the provision of training to Targeted Labour, Targeted Enterprises, Target Groups, project Stakeholders and the affected Communities.
viii) Observe that training and skills development programmes, which the Contractor committed to, are implemented, and executed as approved and intended.
ix) Inform the constituency whom they represent of any project matters which the respective parties to the PLC wishes to communicate with each other.
x) Inform the constituencies whom they represent of any project matters that are impacting or may impact, either positively or negatively, on the respective parties to the PLC.
xi) Inform the SANRAL, the Engineer and Contractor of any road safety concerns within the Project Area(s) and provide input on possible mitigating measures and/or road safety programs that will be most suitable for acceptance by the affected Communities to promote road safety.
xii) Agree on a dispute resolution mechanism to resolve any disputes that may arise between the parties to the PLC.

xiii) Assist parties to the PLC to liaise with their respective constituencies to resolve any disputes amongst the parties which may occur due to the project.

6. PLC Meetings

a) Frequency
   i) Meetings will be conducted monthly or as required by the parties to the PLC based on the urgency of project matters.

b) Notice of meetings
   i) The notice of the PLC meeting shall be given at least seven (7) calendar days prior to the meeting date.
   ii) Where meetings have been diarised over a period by the PLC, it shall be the duty of each PLC member to ensure his/her attendance on the set dates.
   iii) Where a PLC member has been absent from a meeting, he/she bears the onus of acquiring the date and venue of the next meeting.

c) Venue
   i) The venue for PLC meetings shall be the project site office or any other venue agreed to by the members of the PLC and approved by SANRAL.
   ii) During the Covid 19 lockdown, or any other lockdown as announced by government, the meetings shall be held on an online platform such as WhatsApp, Teams, Zoom or similar.

d) Agenda
   i) An agenda shall be made available or displayed to PLC members at the commencement of such meetings or the minutes of the previous meeting will serve as the agenda of such meetings.
   ii) The agenda shall not be amended without prior approval from SANRAL.

e) Chairperson
   i) PLC meetings shall be chaired by SANRAL which will typically be the SANRAL's Project Manager, or a SANRAL staff member with decision--making delegation.
   ii) The Chairperson shall:
      a. chair all meetings of the PLC,
      b. co-ordinate all the activities of the PLC with the assistance of the PLO,
      c. monitor that PLC members are fulfilling their tasks as assigned by the PLC,
      d. see to the execution of decisions taken by the PLC,
      e. ensure, with the assistance of the Engineer, the validity of members' claims for reimbursement,
      f. monitor that all activities of the PLC comply with current laws, regulations, and SANRAL policies, and
      g. be a co-signatory to all official documents of the PLC.

f) Secretariate
   i) The Engineer's staff shall provide a secretarial service to take minutes of PLC meetings.
   ii) Secretarial support other than taking minutes at PLC meetings shall be provided by the PLO.

g) Quorum
   i) The quorum for PLC meetings shall be constituted by 50%+1 ratio excluding co-opted members.

h) Apologies and Non-attendance
   i) Apologies shall be in writing. In an emergency where a PLC member could not apologise in advance, a written apology must be submitted as soon as possible.
   ii) Apologies may be sent through any media agreed to by the PLC for example through SMS or WhatsApp messaging or similar application.
   iii) The constituency, represented by a PLC member who fails to attend three (3) consecutive meetings without an apology, will be informed in writing and requested to nominate a replacement member.

i) Language
   i) PLC meetings will be conducted in English to enable all participants to understand the discussions of the meeting.
   ii) However, care and consideration must be given to provide non-English speakers an opportunity to participate and hence, if agreed by all PLC members, any of the 11 official languages may be spoken and translated during the meeting. Even if a language other than English is used, the minutes of the meeting will be recorded in English.

j) Other
   i) Sustenance shall be provided at PLC meetings as per government policy.

7. Amendments or Additions

The rules, responsibilities, and duties for PLC members in this Form are adopted and will be in force with effect from this …….. day of ……... 20……

	Name and Surname	Signature	Date
Accepted for SANRAL			
Accepted for Engineer			
Accepted for Contractor			
Accepted for PLC			
Accepted by PLC			

FORM A3: CHECKLIST – PROJECT LIAISON COMMITTEE – MEMBER APPOINTMENT

Notes:
a) The checklist consists of several sections. Only print the relevant sections.
b) Indicate what has been completed and sign off at the end.
c) While other individuals can assist in this process, the Project Manager (PM) remains accountable for all deliverables.
d) All forms/records to be kept by the PM and availed to line management upon request.

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)
A3.1	**PLC Member Appointment:**				
1	**Nomination forms completed.**	a)	Form must indicate the nominee and the individual or organisation making the nomination.	Stakeholder Coordinator (SC) /Contracts Engineer (CE)	
		b)	Forms circulated with the assistance of Municipality's LED office.	SC/CE	
		c)	All completed forms collected from the Municipality's LED office.	SC/CE	
2	**Members selected.**	a)	Confirm the membership of the PLC.	SC/Project Management Team (PMT)	
		b)	Where there are multiple entries, the team can select the member with the highest number of nominations.	SC/PMT	
		c)	Where there is an equal number of nominations, the team will request the nominating organisation to confirm the member who should join the PLC.	SC/PMT	
		d)	The last alternative is to allow for a snap election in a community meeting.	SC/PMT	
		e)	Communicate the PLC membership to the affected stakeholders.	SC/PMT	
3	**Formal appointment to PLC signed.**	a)	Ensure that the PLC membership is confirmed in line with Form A3.2	SC/Project Manager (PM)	
		b)	All members must be provided with a copy of the PLC Duties and	SC/PMT	

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)
			Responsibilities (extract from D1004.03). The signed duties and responsibilities must be scanned and shared with all members. The PM retains a copy for future reference.		
		c)	Document must be signed again when the membership changes. The PM must add the version of the document to ensure that the various versions can be tracked.	PM	
Stakeholder Coordinator:					
Name		**Sign**		**Date**	
Project Manager:					
Name		**Sign**		**Date**	

FORM A3.2: PROJECT LIAISON COMMITTEE – MEMBER LIST

No.	Sector/Entity/Forum	Name and Surname	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

FORM A4: CHECKLIST – PROJECT LIAISON OFFICER – APPOINTMENT

Notes:
a) The checklist consists of several sections. Only print relevant sections.
b) Indicate what has been completed and sign off at the end.
c) While other individuals can assist in this process, the Project Manager (PM) remains accountable for all deliverables.
d) All forms/records to be kept by the PM and availed to line management upon request.

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)
A4	**PLO Appointment:**				
1	**Post advertised in local media.**	a)	Job profile prepared.	CE/PMT	
		b)	Post advertised in the media.	CE/PMT	
		c)	Copy of advert kept on file.	CE/PMT	
2	**Shortlisting completed.**	a)	All CVs received collated.	CE/PMT	
		b)	Shortlisting done by the PMT.	CE/PMT	
		c)	PLC provided with the final shortlist.	CE/PMT	
3	**Interviews held.**	a)	Candidates invited.	CE/PMT	
		b)	Interview grid prepared.	CE/PMT	
		c)	The PLC can nominate a member to sit on the interview panel as an observer to ensure transparency in the process.	CE/PMT	
		d)	Formal interviews carried out.	CE/PMT	
		e)	Interview scores collated.	CE/PMT	
4	**Formal appointment of PLO.**	a)	PLO appointment letter issued.	CE	
		b)	PLO employment contract signed.	CE	
		c)	PLO performance agreement signed.	CE	
Stakeholder Coordinator:					
Name		**Sign**		**Date**	
Project Manager:					
Name		**Sign**		**Date**	

FORM A5: CHECKLIST – PROJECT LIAISON COMMITTEE – MEETINGS

Notes:
a) The checklist consists of several sections. Only print relevant sections.
b) Indicate what has been completed and sign off at the end.
c) While other individuals can assist in this process, the Project Manager (PM) remains accountable for all deliverables.
d) All forms/records to be kept by the PM and availed to line management upon request.

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)
A5	**PLC Meeting Checklist:**				
1	**Attendance register completed.**	a)	All members of the PLC to sign the attendance register in ink.	PLO/PM	
		b)	Where meetings are on an online platform such as MS Teams, the attendance list must be downloaded from that platform.	PLO/PM	
2	**Quorum met.**	a)	The quorum for PLC meetings shall be constituted by 50% + 1 ratio excluding co-opted members.	PLO/PM	
3	**Agenda approved.**	a)		PM	
4	**Previous minutes approved.**	a)	Minutes must be prepared, signed off and dated by the Chairperson at the following meeting.	PLO/PM	
5	**Minutes and resolutions captured.**	a)		RE/PLO	
6	**Declaration of interest completed.**	a)	All members of the PLC to sign the DoL in ink.	PLO/PM	
Stakeholder Coordinator:					
Name		**Sign**		**Date**	
Project Manager:					
Name		**Sign**		**Date**	

FORM A6: PROJECT LIAISON COMMITTEE – DECLARATION OF INTEREST

Notes:
a) This declaration of interest shall be signed by all attendees at every PLC meeting.

THE SOUTH AFRICAN NATIONAL ROADS ANGECY LTD

PROJECT LIAISON COMMITTEE - DECLARATION OF INTEREST

We, as members of the PLC and persons present in the meeting, hereby solemnly swear and declare that we have no private or business interest or stake in any of the Work Packages or Tender Reports tabled here today or to be discussed in this project.

If one of us is of the opinion/view that some people may, rightly or wrongly construe as improper/irregular, his/her participation/involvement in deliberations that may lead to the award of a tender to a tenderer known to him/her, that person shall then recuse himself/herself from the proceedings/discussions that deal with that Work Package or Tender Report. Additionally, such a member shall recuse himself/herself from the operations of this PLC going forward and shall cease to be a PLC member for this project.

We certify that we, during the process neither deliberately favoured nor prejudiced and person or tenderer, as intended or contemplated in treasury Regulation 16, A8.3 (a), (b) & (c).

We further accept that all information, documentation, and decisions regarding any matter serving before the Committee are confidential. We, therefore, undertake not to communicate decisions/discussions of the meeting to external or internal parties unless so directed and approved by the Project Manager.

Members	**Signature**	**Date**

FORM B: CHECKLIST – TARGETED ENTERPRISE TENDERING PROCESS

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)	Source Document
B1	**Target Area:**					
1	**Target Area Defined by PLC.**	a)	Target Area for Targeted Labour and Targeted Enterprises identified and disseminated to the PLC.	PLO/PM		
		b)	Target Groups identified and disseminated to the PLC.	PLO/PM		
2	**Database of Contractors and Suppliers.**	a)	Database criteria setup and disseminated to the PLC.	PLO/PM		
		b)	Signed off database criteria handed over to PLC.	PLO/PM		
B2	**Tender Phase:**					
1	**Tender Advert.**	a)	Copy of advert on file.	Contractor		
		b)	Proof of publication in selected local publications.	Contractor		
		c)	Proof of publication on SANRAL website.	Contractor		
2	**Tender Document.**	a)	Copy of specification available on file, copy of the Tender CD, or printed.	Contractor		
3	**Clarification Meeting Attendance register.**	a)	Attendance register signed by all attendees of the clarification meeting	Contractor		
4	**Clarification Meeting Minutes.**	a)	Minutes must be prepared, signed off and dated by the Chairperson within 14 days of the date of the meeting	Contractor		

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)	Source Document
5	**Clarification Meeting Presentation.**	a)	Copy of the presentation on file.	Contractor		
6	**Addenda**	a)	All addenda issued must be recorded on the file.	Contractor		
		b)	Proof (e-mail) of those persons that the addenda was sent to (if applicable).	Contractor		
7	**Register of tenders issued (if applicable).**	a)	Record the names of persons / companies that collected tender documents (website/by hand).	Contractor		
B3	**Tender Opening:**					
1	**Register of Tenders Received.**	a)	Record the names of persons / companies that submitted tender offers.	Contractor		
2	**Tender Opening, Declaration of Interest.**	a)	Declaration by SANRAL officials at the opening.	Contractor		
3	**Tender Opening, Attendance Register.**	a)	Record the names of persons present at the opening of tenders.	Contractor		
4	**Register for late tenders received.**	a)	Record names and time of late tenders received.	Contractor		
5	**Tender Opening, Opening Data.**	a)	Register of the opening of the Technical Offer on the Tender Data sheet.	Contractor		
B4	**Tender Evaluation:**					
1	**Extension of validity period.**	a)	Confirmation of issue of letters of extension of validity period.	Contractor		
		b)	Confirmation of response on extension of validity period by the bidders.	Contractor		

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)	Source Document
2	**Declaration of Interest.**	a)	All members of the Bid Evaluation Committee to sign the DoI in ink.	Contractor		
3	**Attendance Register.**	a)	All members of the BEC to sign the attendance register in ink.	Contractor		
4	**Minutes**	a)	Minutes must be prepared, signed off and dated by the Chairperson within 14 days of the date of the meeting.	Contractor		
5	**Signed evaluation report.**	a)	Report signed by the Chairperson of the BEC detailing deliberations and discussions of the BEC meeting.	Contractor		
6	**PPPFA Scoring sheet**	a)	Scoring sheet detailing the scores of all tenders evaluated as per the PPPFA.	Contractor		
7	**CSD Compliance Report.**	a)	Printout of the CSD Report for compliance verification for the successful tenderer.	Contractor		
8	**CIDB grade confirmation (if applicable).**	a)	Verification of active status.	Contractor		
		b)	JV calculator for Joint Ventures.	Contractor		
9	**B-BBEE Certificate.**	a)	B-BBEE Certificate of winning tenderer on file for verification of preference points.	Contractor		
10	**SANRAL List of Restricted Bidders.**	a)	Verification that the winning tenderer is not restricted from doing business with SANRAL.	Contractor		
11	**Clarification correspondence after tender closing (individual tenderers or all).**	a)	All correspondence relating to RFT correction of arithmetic errors/balancing of rates etc.	Contractor		
12	**Report for the award of the contract.**	a)	Report detailing information from tender phase to evaluation phase, and a	Contractor		

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)	Source Document
			recommendation with motivation for the approval of the winning tenderer.			
13	**Review Report.**	a)	Receive high level reports and ensure transparency in the appointment of Targeted Enterprises. The reports must exclude sensitive evaluation information.	PLC /PLO/PM	Report not to be supplied to PLC*.	
B5	**Award of Contract:**					
1	**BAC Declaration of Interest.**	a)	All members of the BAC to sign the DoI in ink.	Project Bid Adjudication Committee Secretariat (PBAC)		
2	**BAC Attendance Register.**	a)	All members of the BAC to sign the attendance register in ink.	PBAC Secretariat		
3	**BAC Minutes.**	a)	Minutes must be prepared, signed off and dated by the Chairperson within 14 days of the date of the meeting.	PBAC Secretariat		

FORM C: CHECKLIST – TARGETED ENTERPRISE CONTRACT ADMINISTRATION

Form No.	Item	Explanatory Note for Compliance Check		Responsibility	Complete (Yes/No or N/A)	Source Document
C	**Contract Administration Phase**					
1	**Letter of award / Letter of Acceptance.**	a)	Copy of letter issued to the successful bidder.	Contractor		
2	**Letters to unsuccessful bidder(s).**	a)	Standard letter informing unsuccessful bidders of the tender outcome with proof of emails.	Contractor		
3	**Publication of award, within 7 working days from date of award.**	a)	Proof of publication on SANRAL website.	Contractor / PLO / Project Manager		
4	**Contract document.**	a)	Original signed contract on file.	End-User / Contractor		
5	**Closure of contract.**	a)	Copy of close-out report (SIPDM).	End-User / Contractor		
6	**Performance report (for Engineering contracts).**	a)	Copy of contractor performance report.	End-User / Contractor		
Project Manager:						
Name		**Sign**		**Date**		

APPENDIX 7.3 PROFORMA SUB-CONTRACT DOCUMENT FOR TARGETED ENTERPRISES

APPENDIX 7.4 ACCEPTANCE TO ADVERTISE SUBCONTRACT TENDER

Notes to Compiler:

1. *Delete all notes to Compiler (highlighted in yellow) before submitting for acceptance.*
2. *Every package to be tendered must appear in the table(s); Insert more tables if necessary.*
3. *Refer to the functionality points **guidelines** below and table to the PLC before submitting for acceptance by the PLC and the Employer.*
4. *Tables A and B are **guidelines**, and the Contractor must consult the Contract document or the relevant proforma subcontract agreements where applicable.*

Table A – Example of Maximum Points per Functionality Criteria

CIDB Grade (if applicable) and Package Value	Points Allocation			Total Points
	Locality	CIDB Grading (or other relevant sector criteria)	Target Groups	
1 - R 500 000	60	30	10	100
2 - R 1 000 000	60	30	10	100
3 - R 3 000 000	60	35	5	100
4 - R 6 000 000	60	35	5	100
5 - R 10 000 000	60	35	5	100
6 - R 20 000 000	60	30	10	100

Table B – Example of Allocation of Points for Functionality Criteria

	CIDB Package Category	1CE	2CE	3CE	4CE	5CE	6CE
	Typical Package Value	**Up to R 1 mill**		**R 1 - 6 mill**		**R 6 - 20 mill**	
Locality	*Tenderer is based in the Local Municipality(ies).*	60	60	60	60	60	60
	Tenderer is based outside the Local Municipality(ies), but in the District Municipality(ies).	45	45	40	40	40	40
	Tenderer is based outside the District Municipality(ies), but in the Province.	0	0	35	35	35	35
	Tender is based outside the Province, but in the RSA.	0	0	0	0	30	30
CIDB Grading (or other relevant sector criteria)	*Tenderer is registered as a CIDB 1*	30	30	0	0	0	0
	Tenderer is registered as a CIDB 2	30	30	30	0	0	0
	Tenderer is registered as a CIDB 3	0	0	35	30	0	0
	Tenderer is registered as a CIDB 4	0	0	30	35	30	0
	Tenderer is registered as a CIDB 5	0	0	0	30	35	30
	Tenderer is registered as a CIDB 6	0	0	0	0	30	35
	Tenderer is registered as a CIDB 7 - 9	0	0	0	0	0	30
Target Groups	*Tenderer is 51%+ owned by black youth.*	5	5	5	5	5	5
	Tenderer is 51%+ owned by black women.	5	5	5	5	5	5
	Tenderer is 51%+ owned by black people with disabilities.	5	5	5	5	5	5
	Tenderer is 51%+ owned by black military veterans.	5	5	5	5	5	5
	Maximum Total Points	**100**	**100**	**100**	**100**	**100**	**100**

Table 1: CPG Plan Tracker *(Example)*

Contract Value*	*e.g.* R 100 000 000						
Contract Data**	**Employer's Min CPG (%)****	**Packages Previously Let (No.)**	**Packages in this Form (No.)**	**Packages still to be Let (No.)**	**Total Packages to be Let (No.)**	**Contractor's Tendered CPG (%)**	**CPG Tendered Value (R)**
TEs	*e.g.* 30%	0	4	16	20	30%	R 30 000 000
TE Sub-Goals							
CIDB 1	9%	0	1	8	9	4,5%	R 4 500 000
CIDB 2		0	2	3	5	4,5%	R 4 500 000
CIDB 3	9%	0	0	1	1	3,0%	R 3 000 000
CIDB 4		0	0	1	1	6,0%	R 6 000 000
CIDB 5	N/A	0	0	1	1	10,0%	R 10 000 000
CIDB 6		0	0	0	0	0%	R 0
Other Sectors***	N/A	0	1	2	3	2,0%	R 2 000 000

* From Letter of Award

** From Contractor's Contract Document.

*** Manufacturers, Suppliers, Service Providers.

Table 2: Subcontract Packages for Targeted Enterprises

Package Number	**1** ***(Example)***	**2** ***(Example)***	**3** ***(Example)***
Package Description	General Maintenance	Repair Potholes	Install Culverts
Package Estimated Value	R 500 000	R 1 000 000	R 1 000 000
Target Group(s)			
a) Locality	Sundays River LM	Sundays River LM	Sundays River LM
b) CIDB Grade	1CE	2CE	2CE
Functionality Criteria			
a) Locality	60	60	60
b) CIDB Grade	30	30	30
c) Target Groups	20	20	20
d) Total	100	100	100
e) Threshold	75	75	75

Table 3: Sub-contract Packages for Targeted Enterprises

Package Number	**4** ***(Example)***	**5**	**6**
Package Description	Site Security		
Package Estimated Value	R 500 000		
Target Group(s)			
a) Locality	Sundays River LM		
b) CIDB Grade	N/A		
Functionality Criteria			
a) Locality	60		
b) PSIRA Registration *(E.g., security sector requirement.)*	30		
c) Target Groups	20		
d) Total	100		
e) Threshold	75		

The sub-contract packages in Tables 1 to x *(insert no. of tables)* for Targeted Enterprises and the accompanying Tender Notice have been perused and are supported.

RECOMMENDED:

NAME	DESIGNATION	SIGNATURE	DATE
	Contractor		
	Engineer		
	SANRAL Project Manager		
	PLC Representative *(other than above members)*		

ACCEPTED:

NAME[1]	DESIGNATION[1]	SIGNATURE	DATE
	SR Planning Manager		
	SR Construction Manager		
	SR CD Representative		
	SR Transformation Officer		

[1]Minimum 3 signatures required.

SANRAL

BUILDING SOUTH AFRICA THROUGH BETTER ROADS

Insert Main Contractor's Company Logo

SUB-CONTRACT NRA X.xxx-xxx-xxxx/x – XX *(Insert sub-contract project number.)*

SUB-CONTRACTS FOR THE XXX OF NATIONAL ROUTE Xxx SECTION xxx (KM xxx) TO SECTION xxx (KM xxx) BETWEEN XXX AND XXX *(Insert project description.)*

TENDER NOTICE

CLOSING DATE: XXXX, XX XXXX 20XX AT XX:00 *(Insert day, date and time.)*

Xxx *(insert Main Contractor company name)* invites experienced EME and QSE **sub-contractors** to a tender briefing session for Contract **X.xxx-xxx-xxx/x - XX** *(insert sub-contract project number)* for the **XXX OF NATIONAL ROUTE Xxx SECTION xx (KM xx) TO SECTION xx (KM xx) BETWEEN XXX AND XXX** *(insert project description)* on behalf of the South African National Roads Agency SOC Limited (SANRAL). This project is in the province of the Eastern Cape and in the district municipalities of Xxx and Xxx *(insert district municipality(ies))*.

Preferences are offered to prospective tenderers from the targeted area, namely the Xxx and Xxx Local Municipalities *(insert local municipality(ies))*, as well as the CIDB grades and classes indicated for each sub-contract package. This tender will be evaluated in terms of functionality as a criterion and the price and preference points system. Tenderers who satisfy the following criteria are eligible to submit tenders:

a) B-BBEE Level 1 or 2 contributor.
b) Exempted Micro Enterprise (EME) or Qualifying Small Enterprise (QSE).
c) Registered on the National Treasury Central Supplier Database (CSD).
d) Registered as "active" with the Construction Industry Development Board (CIDB) in the relevant contractor grade and class designation.

An award will only be made to preferred Tenderers that are:

e) Compliant with the Compensation for Occupational Injuries and Diseases Act (COID); and
f) Tax Compliant.

Sub-contractors are required for the following subcontracts: *(List sub-contract packages, e.g.:)*

1. **Package 1**
   1 x General Maintenance Package (CIDB 4CE PE)

2. **Packages 2 and 3**
   2 x General Maintenance Packages (CIDB 2CE PE)

Note to Tenderers:

a) Xxx *(insert Main Contractor company name)* will reserve the right to negotiate feasible rates with the preferred tenderers if necessary.
b) Tenderers may submit tenders for all sub-contracts in this Tender Notice, but only 1 (one) subcontract will be let per preferred Tenderer at any one time for this project.

A compulsory information briefing meeting, and a training session will take place at **Xxx** *(insert name of venue and physical address)* on **xxx** *(insert day)*, **xxx** *(insert date)* **at xxx** *(insert time)* where prospective Tenderers shall meet the Contractor.

Tender documents will be made available at the information briefing in the form of a CD. The CD will contain an electronic copy of the tender document, in PDF format. Only the documents within the folder named “Returnable Document” must be printed, bound and completed with all the relevant supporting documents attached.

Tenderers must be represented at the information briefing meeting by a representative who must be the Tenderer himself or an authorised person in the direct employment of the Tenderer.

Late arrivals to the compulsory information briefing meeting will not be allowed access, and therefore will not be allowed to submit a tender. Such tenders received, shall be deemed non-responsive.

The tender and supporting documents shall be sealed in an envelope and clearly marked:

“Sub-Contract NRA X.xxx-xxx-xxxx/x – XX *(insert sub-contract project number)* for … ” (relevant sub-contract name, e.g. xxx *(insert example name)* and shall be **delivered by hand** to Xxx *(insert name of venue and physical address)* between the hours 09:00 to 16:00.

Note: Telephonic, telegraphic, telex, facsimile, e-mailed or electronic applications will not be accepted.

The Tender Documentation for all packages in this Tender Notice shall reach the stipulated address no later than xxh00 *(insert time)* **on Xxx** *(insert day)***, xxx** *(insert date)***.**

Queries relating to issues arising from this document may be addressed to:

Contact:Xxx *(Insert Main Contractor’s contact person(s).)*
Company Name: Xxx *(Insert Main Contractor’s company name.)*
Tel No:xxx xxx xxx *(Insert contact person’s tel./cell phone number.)*
e-mail:xxx@xxx *(Insert contact person’s e-mail address.)*

APPENDIX 7.5 TRAINING AND SKILLS DEVELOPMENT PROGRAMME

Note to compiler: Insert form of tenderer's commitment in Book 1 here.

APPENDIX 8 ILLUSTRATIVE PROGRAMME

THE RESURFACING OF NATIONAL ROUTE 3 SECTION 21 BETWEEN HEIDELBERG ROAD (km 13.2) AND GELDENHUYS INTERCHANGES (km 24.82)
MONTHS
WORKS
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
Oct
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
MOBILISATION
3 months Start-Up
ALL REPAIRS AND SURFACING
7 months:- Work Zones
(4 closures, 2 NB and 2 SB)
Heidelberg Rd I/C
(3 for base repairs and surfacing)
Grey Avenue I/C
(1 for furniture and other repairs)
N3/N17 I/C
Rand Airport I/C
Geldenhuys I/C
TEMPORARY ROADMARKING
1 month shift
FINAL UTFC OVERLAY
6 months:- Work Zones
Heidelberg Rd I/C
Grey Avenue I/C
N3/N17 I/C
Rand Airport I/C
Geldenhuys I/C
FINAL ROADMARKING
1 month shift
TAKING OVER COMPLETION
3 months snags/clean-up
End of Year Shutdown
End of Year Shutdown

PART C5: ANNEXURES

Part C5 is only to be utilised after tender closure to include minutes of clarification meeting, correspondence with successful tenderer during the tender evaluation stage as well as Addenda issued

ANNEXURES

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ANNEXURE B: