

CONTRACT SANRAL R.336-010-2017/2

FOR THE UPGRADING OF NATIONAL ROUTE R336

BETWEEN

KIRKWOOD AND ADDO: PHASE 2 FROM Km 30.5 TO Km 48.2

TENDER CLARIFICATION BRIEFING PRESENTATION

JANUARY 2022





TENDER CLARIFICATION MEETING : AGENDA

1. WELCOME

2. INTRODUCTION OF PROJECT REPRESENTATIVES

3. LOCALITY MAP

4. BRIEFING ON TENDER AND CONTRACT DOCUMENTS

4.1 VOL. 3 BOOK 1: PART T1.1: TENDER NOTICE

4.2 VOL. 3 BOOK 1: PART T1.2: TENDER DATA

4.3 VOL. 3 BOOK 2: PART C1: AGREEMENTS AND CONTRACT DATA

4.5 VOL. 3 BOOK 3: PART C4: PROJECT INFORMATION

5. QUESTIONS

6. CLOSING

INTRODUCTION OF PROJECT REPRESENTATIVES

- **Welcome and Introduction**

- **Project Representatives**

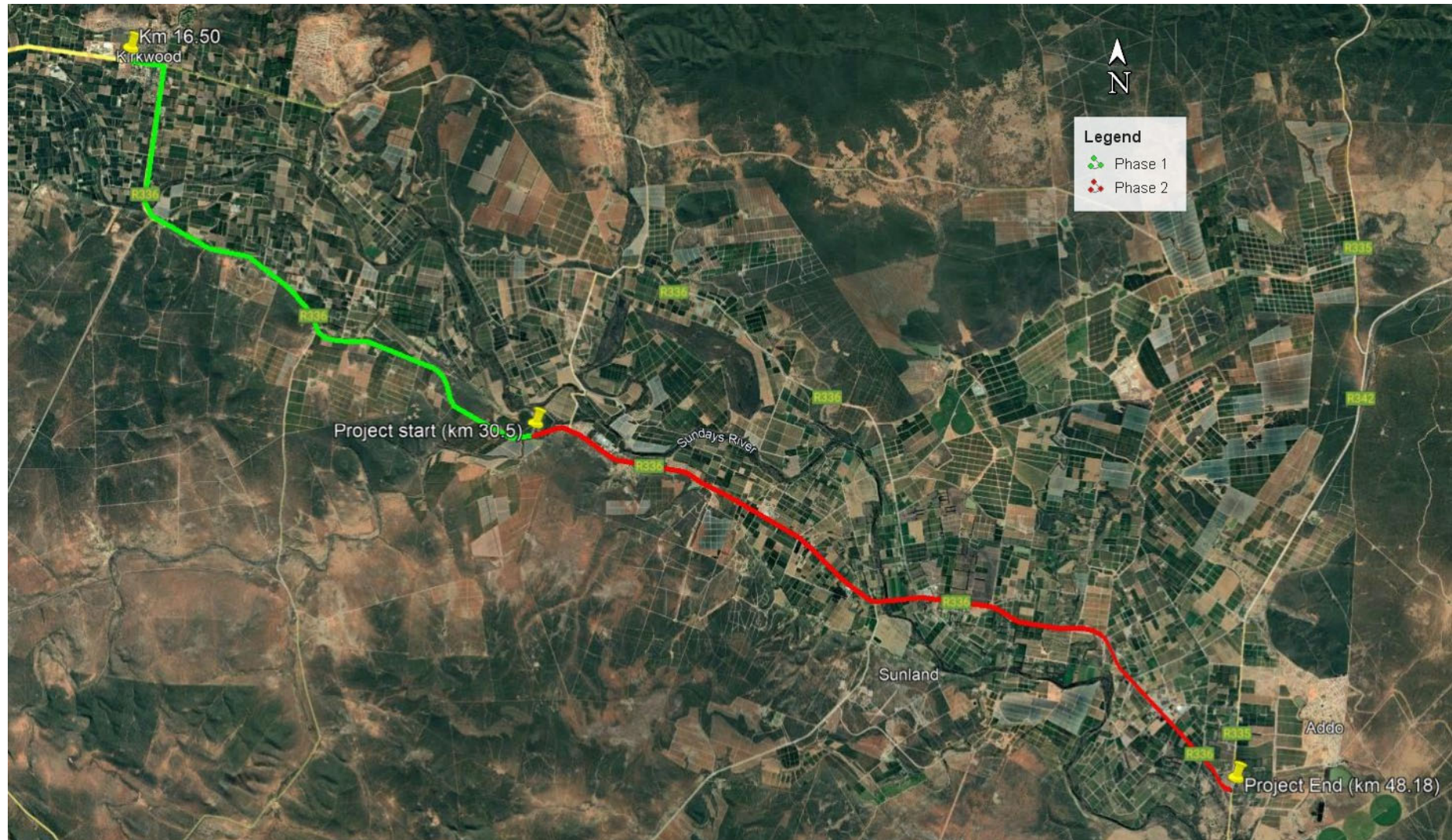
- **Employer:**
SANRAL SOC LIMITED (Southern Region)

Represented by
TBA - Project Manager

- **Consulting Engineer:**
Royal HaskoningDHV (Pty) Ltd

Represented by
Royal Chikwava - Contract Engineer/Project Leader
Andre Vermaak - Alternative Contract Engineer/Project Leader

LOCALITY MAP



KEY PLAN



PART T1.1: TENDER NOTICE

The South African National Roads Agency SOC Limited (SANRAL) invites tenders for the Upgrading of 17.70 km of National Route R336 between Kirkwood and Addo : Phase 2 – Km 30.5 to Km 48.20. This project is located in the province of the Eastern Cape, in the district municipality of Sarah Baartman and local municipality of Sundays River Valley. The approximate duration is 27 months including 3 Months for the Mobilisation Period.

CIDB Regulation 25(7A) will be applicable to this contract.

Only tenders with a B-BBEE contributor status level of 1, 2, 3 or 4, are eligible to tender.

Only tenderers who are registered on the National Treasury Central Supplier Database, are eligible to tender.

It is estimated that CIDB contractor grading designation of 9CE is required.

PART T1.1: TENDER NOTICE

❖ Tender Document

- Tender documents are available at no cost in electronic format downloaded from the SANRAL's website by the following link
<https://www.nra.co.za/service-provider-zone/tenders/open-tenders/>
- in electronic format on CD in MS Office ©2013 and Acrobat Adobe ©9.0.
- Tenderers are required to register in order to obtain the Tender document. The registration panel may be accessed by clicking on the File download folder at the bottom of the Tender advertisement:

	requirements for sealing, addressing, delivery, open
Closing Date:	Tenderers to note that the closing date is extended to
Queries To:	Procurement Office, Tel No: +27 41 398 3200, Fax No:
Download File: Tender Documents	

Please complete this form in order to download the selected items:

Company Name:	
Contact Person:	
E-mail Address:	
Telephone Number (country code/area code/number):	
Fax Number (country code/area code/number):	

PART T1.1: TENDERING PROCEDURE

T1.1 Tender Notice and Invitation to Tender

NO TENDER CLARIFICATION MEETING WILL BE HELD AND THERE WILL BE NO VIRTUAL CLARIFICATION MEETING BESIDES THIS PRESENTATION.

All enquiries relating to this tender must be directed to

Ms. Nozuko Ntsamba

Tel: +27 (041) 398 3200

Fax: +27 (041) 492 0201

Email: NtsambaN@nra.co.za

Failure to submit Form A1.1 within the required period will render the tender non-responsive and SANRAL does not accept responsibility for any communication not received by the tenderer timeously.

PART T1.1: TENDER NOTICE

- **Tender Closing Date**

The closing time and date of tenders: 11:00 on 25 February 2022.

- The physical address for CLOSING of tender documents is:
- The South African National Roads Agency Soc Limited
20 Shoreward Drive
Bay West
Port Elizabeth

- **Identification Details:**

Clearly marked :

“TENDER:
CONTRACT SANRAL R.336-010-2017/2: FOR THE UPGRADING OF NATIONAL
ROUTE R336 BETWEEN KIRKWOOD AND ADDO: PHASE 2 FROM Km 30.5 TO Km
48.2”

- Only tender offers submitted electronically on CD/flash drive and delivered to the address specified in the Tender Data will be accepted.
- Queries relating to issues arising from these documents may be addressed to:

BIDDING PROCEDURE AND TECHNICAL ENQUIRIES

Contact person: Procurement Office

Tel No: 041 398 3200

Fax No: 041 492 0201

E-mail: NtsambaN@nra.co.za

PART T1.2: TENDER DATA

Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:

2.1 a) CIDB registration (Form A12)

Registered with the CIDB, at close of tender, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(7A) of the Construction Industry Development Regulations, for a CE class of construction work.

It is estimated that CIDB contractor grading designation of 9CE is required

Tenders from tenderers registered as potentially emerging enterprises but with a CIDB contractor grading designation lower than “9CE” will not be accepted.

Joint Ventures are eligible to submit tenders provided that:

- every member of the joint venture is registered with the CIDB; and
- the lead partner has a contractor grading designation of not lower than “8CE” and possesses the required recognition status; and
- the combined contractor grading is equal to, or higher than, a contractor grading designation “9CE”.

2.1 b) Local production and content (Forms A3.5 and A3.6)

- i) Steel
Only locally produced or locally manufactured steel products and components for construction with a minimum threshold for local content and production as stipulated will be considered.

PART T1.2: TENDER DATA

- ii) Electrical and telecommunication cables

Only locally produced or locally manufactured steel products and components for construction with a minimum threshold for local content and production as stipulated will be considered.

- iii) Bagged and Bulk cement

Only locally produced or locally manufactured bagged and bulk cement produced using locally produced raw materials with the minimum threshold percentages for local production as stipulated will be considered.

- iv) Plastic Pipes

Only locally produced or locally manufactured Plastic Pipes with a minimum threshold for local content and production as stipulated will be considered.

- v) Textiles, Clothing, Leather and Footwear

Only locally produced or locally manufactured Textiles, Clothing, Leather and Footwear from local raw material or input, with a minimum threshold for local production and content of 100% will be considered.

Failure to meet the stipulated minimum threshold for local production and content will render the tender non-responsive .

PART T1.2: TENDER DATA

2.1 c) National Treasury Central Supplier Database (Form A3.4)

Tenderers, or in the event of a joint venture, each member of the joint venture, shall be registered on the National Treasury Central Supplier Database at the closing date for tender submissions.

2.1 d) Pre-qualification criteria for preferential procurement (Form C1.1)

Only tenders with a B-BBEE contributor status level of 1, 2, 3 or 4, are eligible to tender.

The tenderer shall submit a valid B-BBEE certificate in compliance with the requirements of Tender Data C.3.11.8 subclause 1 to 5, as proof of eligibility.

Failure to satisfy all the eligibility criteria will result in a non-eligible tender.

PART T1.2: TENDER DATA

2 Acknowledge Addenda

Failure to apply instructions contained in addenda may render a tenderer's offer non-responsive in terms of Condition of Tender C.3.8.

2.12 Alternative tenders

An alternative tender offer shall only be considered from a tenderer whose postulated tender offer is the preferred tender.

A tenderer wishing to submit an alternative offer (excluding alternative offers of different contract duration, retention guarantees, discounted offers or different compliant material sources) shall first apply to the Employer's agent for confirmation that the Employer's standards and requirements envisaged in the design are not compromised or reduced. Such confirmation must have been provided by the Employer's agent in writing within 5 working days after receipt of the application but not later than 7 working days before the date and time of tender closing given in Tender Data clause C.2.15, or as extended by an addendum sent to all tenderers.

Should an alternative structural design be proposed, the proposed alternative Pricing Data shall include an amount equal to 3% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.

PART T1.2: TENDER DATA

2.13 Tender Submissions

2.13.3 Only the following needs to be submitted:

a) Main Tender Offer

The following information to be submitted in printed and bound hard copy and electronically on CD / flash drive and marked Main Tender Offer followed by the “Tenderer name”, in the following order:

- Form of Offer (signed and scanned as .pdf and hard copy)
- All returnable schedules and attachments and certificates (signed and scanned as .pdf and hard copy)
- Completed pricing schedule (scanned copy in .pdf and copy in Excel and hard copy)

b) For alternative offers the tenderer shall submit the following additional documentation, electronically on separate CD / flash drive marked Alternative followed by the “Tenderer name”:

- Form of Offer (signed and scanned as .pdf and state “Alternative Form of Offer”
- All returnable schedules and attachments and certificates applicable to the alternative offer (signed and scanned as .pdf and hard copy)
- Alternative Pricing Schedule (scanned copy in .pdf and copy in Excel and hard copy)
- Other relevant information.

In the event of any discrepancy between the contents of the electronically priced schedule, and the electronically provided pricing schedule in .pdf format, and the printed and bound hard copy, the contents of the printed and bound hard copy shall be taken as the valid contents. For the information provided by the tenderer as part of his submission, e.g., rates, the signed schedule in the printed and bound hard copy shall be taken as the valid submission.

Submit the CD/flash drive in a sealed envelope marked with the tenderer’s company name, the project number and description.

PART T1.2: TENDER DATA

3.11 Evaluation of Tender Offers

The tender will be evaluated in terms of Preferential Procurement Regulations, 2017, Gazette 10684 issued by National Treasury in terms of Preferential Procurement Policy Framework Act (PPPFA, Act 5 of 2000).

http://ocpo.treasury.gov.za/Buyers_Area/Legislation/Pages/PPPFA---Regulations.aspx

- i. **80/20 preference point system for acquisition of goods and services for Rand value equal to or above R30 000 and up to R50 million**

The following formula will be used to calculate the points out of 80 for price:

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

Where-

P_s = Points scored for price of tender under consideration;

P_t = Price of tender under consideration; and

$P_{\min}$ = Price of lowest acceptable tender.

PART T1.2: TENDER DATA

ii. 90/10 preference point system for acquisition of goods and services for Rand value above R50 million

The following formula will be used to calculate the points out of 90 for price:

$$P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

P_s = Points scored for price of tender under consideration;

P_t = Price of tender under consideration; and

P_{min} = Price of lowest acceptable tender.

Points are based on a tenderer's scorecard measured in terms of the Broad-Based Black Economic Empowerment Act (B-BBEE, Act 53 of 2003 as amended in Act 46 of 2013) and the Regulations (2017) to the Preferential Procurement Policy Framework Act (PPPFA, Act 5 of 2000).

PART T1.2: TENDER DATA

The following table must be used to calculate the points out of 20 or 10 for B-BBEE:

B-BBEE Status Level of contributor	Number of Points for financial value up to and including R50 000 000	Number of Points for financial value above R50 000 000
1	20	10
2	18	9
3	14	6
4	12	5
5	8	4
6	6	3
7	4	2
8	2	1

PART T1.2: TENDER DATA

Eligibility for B-BEE points is subject to the following conditions:

1. A tenderer's scorecard shall be a B-BBEE Certificate issued in accordance with:
 - the amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry; or
 - in the event that the Measured Entity operates in more than one sector or a sub-sector, the scorecard for the sector or sub-sector in which the majority of its core activities (measured in terms of annual revenue) are located will be acceptable. The tenderer must comply with the annual revenue thresholds for EME or QSE or Generic in accordance with the amended Construction Sector Codes; and
2. The scorecard shall be submitted as a certificate attached to Returnable Schedule Form C1; and
3. The certificate shall:
 - be valid at the tender closing date; and
 - have been issued by a verification agency accredited by the South African National Accreditation System (SANAS); or
 - be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission in the case of an Exempted Micro Enterprise (EME) with a total annual revenue of less than R3 million if issued in accordance with the amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry; and
 - have a date of issue less than 12 (twelve) months prior to the original advertised tender closing date (see Tender Data C.2.15); and

PART T1.2: TENDER DATA

4. A valid Sworn Affidavit shall contain:

- Name/s of deponent as they appear in the identity document and the identity number.
- Designation of the deponent as either the director, owner or member must be indicated in order to know that person is duly authorised to depose of an affidavit.
- Name of enterprise as per enterprise registration documents issued by the CIPC, where applicable, and enterprise business address.
- Percentage black ownership, black female ownership and whether they fall within a designated group.
- Indicate total revenue for the year under review and whether it is based on audited financial statements or management accounts.
- Financial year-end as per the enterprise's registration documents, which was used to determine the total revenue. **The valid format of the Financial Year-End is Day/Month/Year.**
- B-BBEE status level. An enterprise can only have one status level.
- Date deponent signed, and date of Commissioner of Oath must be the same.
- Commissioner of Oath cannot be an employee or ex officio of the enterprise because, a person cannot by law, commission a sworn affidavit in which they have an interest, and

5. Compliance with any other information requested to be attached to Returnable Schedule Form C1; and

6. In the event of a Joint Venture (JV), a project-specific consolidated (SANRAL project number indicated) valid B-BBEE verification certificate in the name of the JV, issued by a verification agency accredited by the South African National Accreditation System (SANAS) shall be submitted; and

PART T1.2: TENDER DATA

Sub-Regulation 6(5) and 7(5)

If the tender documents indicate that the tenderer intends subcontracting more than 25% of the value of the contract to any other person not qualifying for at least the status level that the tenderer qualifies for, 0 (zero) points for preference shall be awarded, unless the intended subcontractor is an EME that has the capability to execute the subcontract and the value of the work is below the EME threshold.

Sub-Regulation 6(9) and 7(9)

- (9)(a) If the price offered by a tenderer scoring the highest points is not market-related, the organ of state may not award the contract to that tenderer.
- (b) The organs of state may-
 - (i) negotiate a market-related price with the tenderer scoring the highest points or cancel the tender;
 - (ii) if the tenderer does not agree to a market-related price, negotiate a market-related price with the tenderer scoring the second highest points or cancel the tender;
 - (iii) if the tenderer scoring the second highest points does not agree to a market-related price, negotiate a market-related price with the tenderer scoring the third highest points or cancel the tender.
- (c) If a market-related price is not agreed as envisaged in paragraph (b)(iii), the organ of state must cancel the tender.

PART T1.2: TENDER DATA

Criteria for breaking deadlock

If two or more tenders score the same number of points and these tenders are also the highest ranked tenders, the tender with the highest preference points will be recommended for award.

If functionality is part of the evaluation process and two or more tenders score equal total points and equal preference points, the tender that scored the highest points for functionality will be recommended for award.

If two or more tenders score the same number of financial points and preference points and these tenders are also the highest ranked tenders, the tenderer to be recommended for award will be decided by the drawing of lots.



PART C1: AGREEMENT AND CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

The Conditions of Contract for Construction (1999 edition) published by the Federation Internationale des Ingenieurs-Conseils (FIDIC), as amended, shall apply to this contract.

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

Notes to tenderer:

1. This form is the equivalent of the Appendix to Tender as defined in Sub-Clause 1.1.1.9 of the FIDIC Conditions of Contract.
2. Clause numbers (Cl. No.) refer to the FIDIC Conditions of Contract. The prefix A refers to an amendment to these conditions.

<u>Item</u>	<u>Cl No</u>	<u>Data</u>
Employer	1.1.2.2	means the South African National Roads Agency SOC Limited instituted in terms of the South African National Roads Agency Limited and National Roads Act (Act No. 7 of 1998) or a person delegated by the South African National Roads Agency SOC Limited to act on its behalf.

The Employer's address is:
The South African National Roads Agency SOC Limited
48 Tambotie Avenue
Val De Grace
Pretoria, 0184

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Engineer	1.1.2.4	means Royal HaskoningDHV (Pty) Ltd The engineer's address to be used for this contract is: Physical address: Royal HaskoningDHV House Tygerberg Park 163 Uys Krige Drive Plattekloof 7500 Postal Address: PO Box 5195 Tyger Valley, 7536 Western Cape South Africa

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Engineer	1.1.3.3	27 months maximum (including the contractor's holidays in December and January), of which 3 months maximum will be the Mobilisation Period
Defects notification period	1.1.3.7	12 Calender Months
Mobilisation Period	A1.1.3.10	3 months maximum commencing on the commencement date
Electronic transmission system	1.3	via Email

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Law and Language	1.4	The law governing this Contract is South African law and English shall be considered to be the language of communication
Access to site	2.1	As stated in the Form of Acceptance
Performance Security	A4.2	One Performance Security totalling 10% of the Accepted Contract Amount (excluding VAT) are required as follows:

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Contractor's Representative	4.3	A Construction Manager shall be employed full time on the Works the single point accountability and responsible for the management of the construction works and shall be registered with SACPCMP as Pr.CM or ECSA as Pr. Eng or Pr.Tech.Eng and have a minimum of 10 years experience.
Subcontractors and suppliers	A4.4	The percentage of the contract value that may be sublet shall not exceed 50% if the Targeted Enterprises subletting target is equal or less than 30% and not exceed 70% if the Targeted Enterprises subletting target is more than 30%.

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Rates of Wages and Conditions of Labour	A6.2	The Contractor and his Subcontractors shall be registered with the Bargaining Council for the Civil Engineering Industry (Government Notice R.490 – Part III contained in Government Gazette No. 37750) and rates for wages and conditions of labour agreed by the Bargaining Council for the Civil Engineering Industry shall apply to the Contractor and all his Subcontractors except where a specific industry publishes its own wage rates and conditions of labour

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Special non-working hours/days	A6.5	(a) All designated public holidays (including all foreseeable statutory declared election days). (b) The annual contractors shut-down period between December and January, unless approval is granted by the Employer (c) Day before the Easter Weekend (<i>The Thursday immediately preceding Good-Friday</i>) (d) Day of State school term closure and day prior to State school term start (e) Other non-working days and restricted working hours specified in Chapter 1, if applicable (f) Sundays (g) Between sunset and sunrise (h) The days of Municipal and National Elections (i) The days on which the Kirkwood Wildsfees

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Contractor's Personnel	A6.9	The Contractor shall provide the key personnel (as indicated in form C1.2.3 - Appendix to Tender: Contract Data – Information Provided by the Tenderer). Where the key personnel are no longer available to undertake the necessary work after the award of the contract, the Contractor shall within a period of 14 working days replace the key personnel stated in the Appendix to Tender with personnel with equivalent competencies and subject to approval by the Employer. Such approval shall not be unreasonably withheld.
Commencement Date	A8.1	As stated in the Form of Acceptance
Period in which Works must commence	A8.1	Not prior to the date of Access to Site and not later than 3 months after the commencement date

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Programme submission	A8.3	One paper copy and one electronic copy
Date(s) of access	A8.3(b)	As per clause 2.1 Access to site
Embargo hours and days	A8.3(l)	The embargo hours and days are listed
Restricted working conditions	A8.3(m)	The restricted working conditions as listed
Extension of time for completion	A8.4	An exceptional adverse climatic condition shall be considered where the return period of the climatic exceed a return period of 1:20

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Other Non-compliance Charges	A8.7(b)	i. Accommodation of traffic non-compliance as specified in Part 3 clause A1.5.3.4: (i) Occurrence – R20 000.00/number (ii) Time delay – R2000.00/hour ii. Overloading – 2 x Unit Rate of material hauled x overload factor x distance hauled as specified in Part 3 clause A1.7.7 in the Scope of Works. iii. Contract Participation Targets – Calculated as per D1003(e) iv. Contract Skills Development Goal – Calculated as per D1010 v. Subcontracting without disclosure or non-compliance to Subcontract agreement requirements – up to 10% of the Contract Price vi. Layer irregularities (i) Asphalt – quantity/100m x unit rate x payment adjustment factor (ii) Concrete – quantity/100m x unit rate x payment adjustment factor (iii) Base – quantity/100m x unit rate x payment adjustment factor

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Special Materials	A13.8	Bitumen binder extracted from petroleum-based products and used on site. Including that used in asphalt, irrespective of whether it is produced and/or placed by the contractor or an approved sub-contractor
Adjustments for Changes in Cost	A13.8	Roadworks x = 0.15 (a)=0.20 (b)=0.35 (c)=0.35 (d)=0.10 “L” is “Labour Index” and shall be the consumer price index for the Eastern Cape Province

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Retention money:		
Percentage	A14.3(c)	10% of value of completed work
Limit	A14.3(c)	R11,000 000.00
Guarantee	A14.3(c)	This will be considered provided that the tenderer submits his proposal as an alternative tender indicating what discount he proposes to give.
Minimum amount of interim payment certificate	A14.6	R2,100, 000.00 excluding payments during the Mobilisation Period

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Appointment of DAB	A 20.2	The DAB shall comprise of 1 Member and its appointment to be 60 days after the Commencement Date. The minimum requirements for the DAB member is as follows: <u>1 Member DAB</u> : Member to be a Pr.Eng with more than 20 years' experience in the type of construction involved in the Works, and with a formal qualification in adjudication, arbitration or contract law.

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Environmental Management Plan (EMPI)	C1004(d)	DEO means: Designated Environmental Officer
Target Area(s)	D1002.01 (p)	For Targeted Labour: Sundays River Valley Local Municipality
Target Group	D1002.01 (u)	Target Group for Targeted Labour: a. black designated groups; b. black people; c. black women; d. people with disabilities

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

<u>Item</u>	<u>CI No</u>	<u>Data</u>
Contract Participation Goals (CPG)	D1003.04	
Targeted Labour of which minimum contributions by Target Groups		Minimum of 8% of the Final Contract Value by the end of the contract to Targeted Labour
Targeted Enterprise of which minimum contributions by Target Groups		Minimum of (30%) of the Final Contract Value by the end of the contract to Targeted Enterprises

PART C1: AGREEMENT AND CONTRACT DATA

C1.2.2 APPENDIX TO TENDER: CONTRACT DATA INFORMATION PROVIDED BY THE EMPLOYER

Targeted Labour of which minimum contributions by the following Target Groups:

Minimum of 8% of the Final Contract Value by the end of the contract to Targeted Labour

a. Black designated groups:

- (i) Black people who are youth
- (ii) Black people with disabilities

30% of targeted labour value
0.5% of targeted labour value

b. Black women

30% of targeted labour value

Targeted Enterprise of which minimum contributions by the following Target Groups:

Minimum of (30%) of the Final Contract Value by the end of the contract to Targeted Enterprises

- (i) with $\geq 51\%$ ownership by Youth
- (ii) with $\geq 51\%$ ownership by Women
- (iii) with $\geq 51\%$ ownership by Military veterans
- (iv) with $\geq 51\%$ ownership by Disabled persons (Differently abled)
- (v) Targeted Enterprise with CIDB 1 or 2 grading
- (vi) Targeted Enterprise with CIDB 3 or 4 grading

Minimum of 5% of the Final Contract Value
Minimum of 5% of the Final Contract Value
Minimum of 1% of the Final Contract Value
Minimum of 0.5% of the Final Contract Value

Minimum of 1.5% of the Final Contract Value
Minimum of 1.5% of the Final Contract Value

PART C3: SCOPE OF WORKS

COTO CHAPTER 2: Services

All reference to services in this clause shall also mean:

- ❖ utility services – water, sewer and Telkom, and
 - ❖ traffic monitoring devices – Comprehensive Traffic Observation (CTO), Speed Measuring Device (SMD) and Weigh-in-Motion (WIM) stations.
-
- Services that have been identified, are listed in Appendix 9. The specifications relating to the location, identification, protection of and/or moving and reinstating of existing services that may be affected by the construction of the Works are given in Clause A2.1.3.2 b), c) & d) of Chapter 2.
 - All services shall be protected, and no services shall be removed unless otherwise instructed by the engineer. However, before any work can commence the contractor shall verify the actual position of each service and bring to the attention of the engineer any service that is not recorded.
 - Any delay resulting from the removal/replacement of a service shall not be the subject of a potential claim, unless the contractor can demonstrate that every effort has been made to timeously request and/or apply for the removal/replacement of the said service. In addition, the contractor shall be deemed to have employed the services of the service provider as a subcontractor for purposes of removing and/or replacing the relevant service.
 - The contractor is required to familiarise himself and comply with, the special requirements/conditions of service providers relating to working in close proximity of any existing service, listed in the tender document.

PART C3: SCOPE OF WORKS

COTO CHAPTER 1: A1.2.3.10 NOTICES, SIGNS AND ADVERTISEMENTS

All signboards erected in accordance with the drawings shall be removed at the same time as the de-establishment of the contractor's camp. Payment under subitem 13.01 for the final instalment of 15% of the tendered lump sum shall not be made unless all the advertisements, notices and temporary signs have been removed. A typical signboard layout is shown in Volume 4.

COTO CHAPTER 1: A1.2.7.2 THE SETTING OUT OF WORK AND PROTECTION OF BEACONS

Road markings, particularly the divergent/convergent lines of ramp interchanges and no overtaking barriers are also elements of the road that require proper setting out. The contractor shall prove to the engineer that critical reference points have been satisfactorily recorded for later reinstallation before any work commences that will obliterate the existing markings.

The contractor shall take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the engineer. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the contract without the consent of the engineer shall be the contractor's responsibility and included in the tender rates.

PART C3: SCOPE OF WORKS

COTO CHAPTER 1: C1.2 GENERAL REQUIREMENTS AND PROVISIONS PART C MEASUREMENT AND PAYMENTS

- VAT shall be excluded from the rates.
- The tendered rate for each item shall include full compensation for providing, operating, maintaining and decommissioning upon completion, of all the construction equipment, labour, tools, incidentals and supervision to carry out the activity or construct the works in the item, unless otherwise stated.
- Except where provided for in the specification and the Pricing Schedule no extra payment shall be made nor shall any claim for additional payment be considered for construction in confined areas. The omission of standard pay items from the schedule of quantities shall be taken to be deliberate and any additional costs incurred shall be included in the bulk rate.
- Wherever in the Pricing Schedule allowance has been made to price items of work for which a product or material is uncertain and quantities split between pricing items, the Employer reserves the right to choose whichever is the most appropriate or combination thereof, regardless of any adverse effect on the Contractor's costs and no claims for additional compensation shall be entertained.

PART C4: PROJECT INFORMATION

CONSTRUCTION PROGRAMME

a) **General requirements** In drawing up the programme the contractor shall make allowance for the following :

- All special non-working days defined in the Contract Data.
- The expected delays
- Extension of time resulting from inclement weather as a terminal float.
- Embargo hours and days.
- The following restricted working conditions:
 - During the contractor's annual shutdown period between December and January, the contractor shall maintain two-way traffic within the contract limits.
 - The contractor shall ensure that the period/duration for accommodation of traffic closures at the start and end limits of construction shall not overlap with adjacent contract closures.
 - The number and lengths of sections under construction (closures) at any given time shall be restricted to 2 No maximum and 4 km maximum sections respectively. The length of a closure may be changed by the Engineer to ensure safe sight distances or to accommodate steep slope alignment. A gap of 4 km shall be provided between the construction areas. Shoulder closures will not form part of the number of sections under construction.
 - Milled excavations shall not be left open to traffic unless longitudinal and transverse joints have been treated.
 - The BSM layer will not be trafficked within the first 24 hours after construction thereof.
 - The BSM shall not be surfaced before the moisture content in the upper 100mm of the layer has reduced to below 50% of OMC.
 - The maximum time allowed for chemical stabilization with cement is 6 hours.
 - The crushed-stone base shall not be primed before the moisture content of the upper 50 mm is below 50% of OMC.
 - Any stabilized layer will be cured for at least 7 days and no traffic will be allowed to travel on layers of cement stabilised material.
 - The surface temperature of a compacted stabilized layer shall not be allowed to fall below 1°C during the first three (3) days after stabilization.
 - No stabilization shall be done during windy conditions, wet weather or with falling air temperatures (7°C and dropping), or during rising air temperatures (when the air temperature is below 3°C).
 - Slushing of the crushed stone base shall be carried out within 48 hours after completion of the compaction.
 - Apart from the "no hot spray" seal embargo of May to September including, the conditions as set out in clause 4304 apply to all seal works.
 - All access for the construction works to the bridge shall be from the top of the deck. No access (i.e. scaffolding, etc) shall be permitted from the river bed.
- Meeting the requirements of the Environmental Management Plan (EMPI).
- The time needed for preparation and approval of the various mix designs specified in the relevant construction sections of the Scope of Works.

PART C4: PROJECT INFORMATION

CONSTRUCTION PROGRAMME

(b) Additional programme requirements

In addition to the requirements of the FIDIC Conditions of Contract, the programme of work shall include the following details:

- A work breakdown structure that identifies all major activities.
- Scheduled start and end dates for each activity.
- Linkages between activities that clearly identify sequence, floats and critical path.
- Intended working hours and resource allocations (plant and labour).
- Production rates.
- Monthly cashflow projections.
- Key dates in respect of information required or due delivery.”
- The contractor’s payment weekends
- A risk assessment schedule with mitigating plans of issues that could prevent the due completion date being met.
- The principle of penalties being imposed for extended lane closures shall be applied whenever the contractor fails to complete work zones within the periods allocated for completion according to the initial approved programme provided in terms of clause 8.3.

Should the engineer require an electronic version of the programme for review purposes, the contractor shall supply the programme in a format compatible with the engineer’s software.

(c) Programme revisions

The programme will be reviewed at the monthly site meetings at which the contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the current programme. The contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind. The engineer may demand from the contractor a major revision of the programme. Such a revision shall be submitted for comment within 14 days of the demand.”

PART C4: PROJECT INFORMATION

WEATHER DATA

- Delays caused by inclement weather events may be considered as extension to the time for completion only if the engineer agrees that the event and caused all progress on the critical path of the contractor's approved programme (including revisions thereof) brought to a halt. Each day, or portion of a day so agreed will accrue as 'n' days of delay over the duration of the contract. The summary of accrued agreed 'n' delays shall be recorded at each site meeting.
- Exceptional climatic condition shall be measured shall be considered for delay under the general conditions of contract clause 8.4. Expressly excluded from the measurement of 'n' days are consequential delays.
- Any extension to the time for completion caused by inclement weather delays will only be considered once the agreed cumulative 'n' delays exceed $N = \sum n$ working days and if completion for the purposes of sub-clause 10.1 [*Taking Over of the Works and Sections*] is or will be delayed by inclement weather, and if the inclement weather delay occur prior to the approved Time for Completion. On this contract $N = 15$.

TABLE B1215/1: AVERAGE DELAYS DUE TO INCLEMENT WEATHER

[illegible]

PART C4: PROJECT INFORMATION

MAINTENANCE WORKS

The Contractor shall take over the maintenance responsibility on the date of Access to site but may liaise with the routine maintenance contractor by arranging a transition period immediately after the Access to site to allow sufficient time to muster his resources required for routine maintenance of the road.

- The Routine Road Maintenance Consultants details are as follows:
GG&G Consulting Engineers
Mr Naas van Zyl (Contract Engineer)
Contact No. 082 852 7695.
- The Routine Road Maintenance Contractor's details are as follows:
TBA
- Routine road maintenance will apply until the road is handed over to the contractor during the construction stage. This section will need a substantially treatment to reduce the deterioration rate and keep the road surface intact during the construction phase.

PART C4: PROJECT INFORMATION

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

Upgrading of National Route R336 between Kirkwood and Addo : Phase 2 – Bezuidenhouts River (km 30.5) to the intersection of R335 at Addo (km 48.18). This project is in the province of the Eastern Cape in the district municipality of Sarah Baartman and local municipality of Sundays River Valley.

The project upgrade improvements entail the following main components:

- a) Half-width construction using Stop & Go traffic accommodation.
- b) Road widening and recycling of existing base and subbase.
- c) Protection and replacement of services where required.
- d) Addition of climbing lanes and left and or right turn lanes.
- e) Construction of two roundabouts.
- f) Geometric improvements to the existing alignment.
- g) Construction of taxi embayment's where required.
- h) Construction of one new bridge with associated approach roads and the widening of two other bridges.
- i) Widening of exiting culverts where needed.
- j) Other ancillary road improvement elements include installation of service ducts, kerbs, sidewalks, guardrails, road marking, road signs and roadstuds

PART C4: SITE INFORMATION

C4.1.1 PROJECT INFORMATION ON EXISTING ROAD

a) Existing and new cross-section

The existing cross-section is a single carriageway with varying surfaced lanes widths in each direction.

The existing road widths include:

- a) km 30.50 – km 31.00: 6.8 m wide surfaced lanes, with 1.4 m surface shoulders.
- b) km 31.00 – km 34.30: 6.0 m wide surfaced lanes, with 1.5 m gravel shoulders.
- c) km 34.30 – km 48.20: 6.8 m wide surfaced lanes, with 1.4 m surfaced shoulders.

PART C4: SITE INFORMATION

Lane Widths:

km 30.50 to km 31.00

2 x 3.4 m surfaces lanes with single seal and a 1.4 m surfaced shoulder either side



PART C4: SITE INFORMATION

Lane Widths:

km 31.00 to km 34.30

2 x 3.0 m surfaces lanes with single seal and a 1.5 m gravel shoulder either side



PART C4: SITE INFORMATION

Lane Widths:

km 34.30 to km 48.20

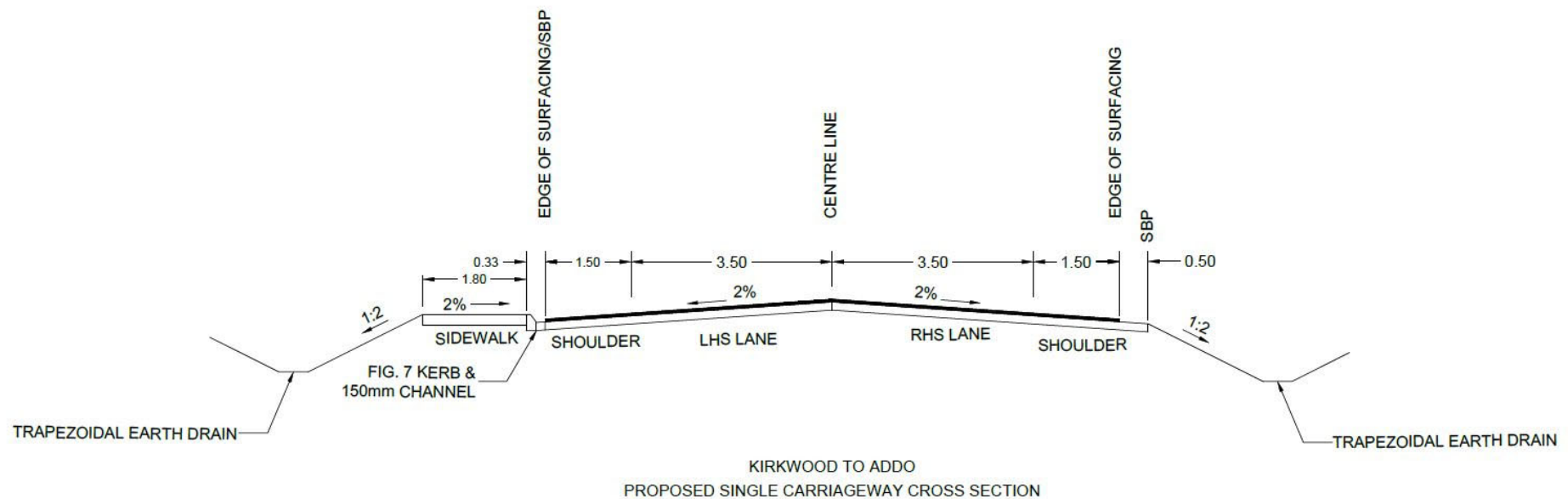
2 x 3.4 m surfaced lanes with single seal and a 1.4 m surfaced shoulder either side



PART C4: SITE INFORMATION

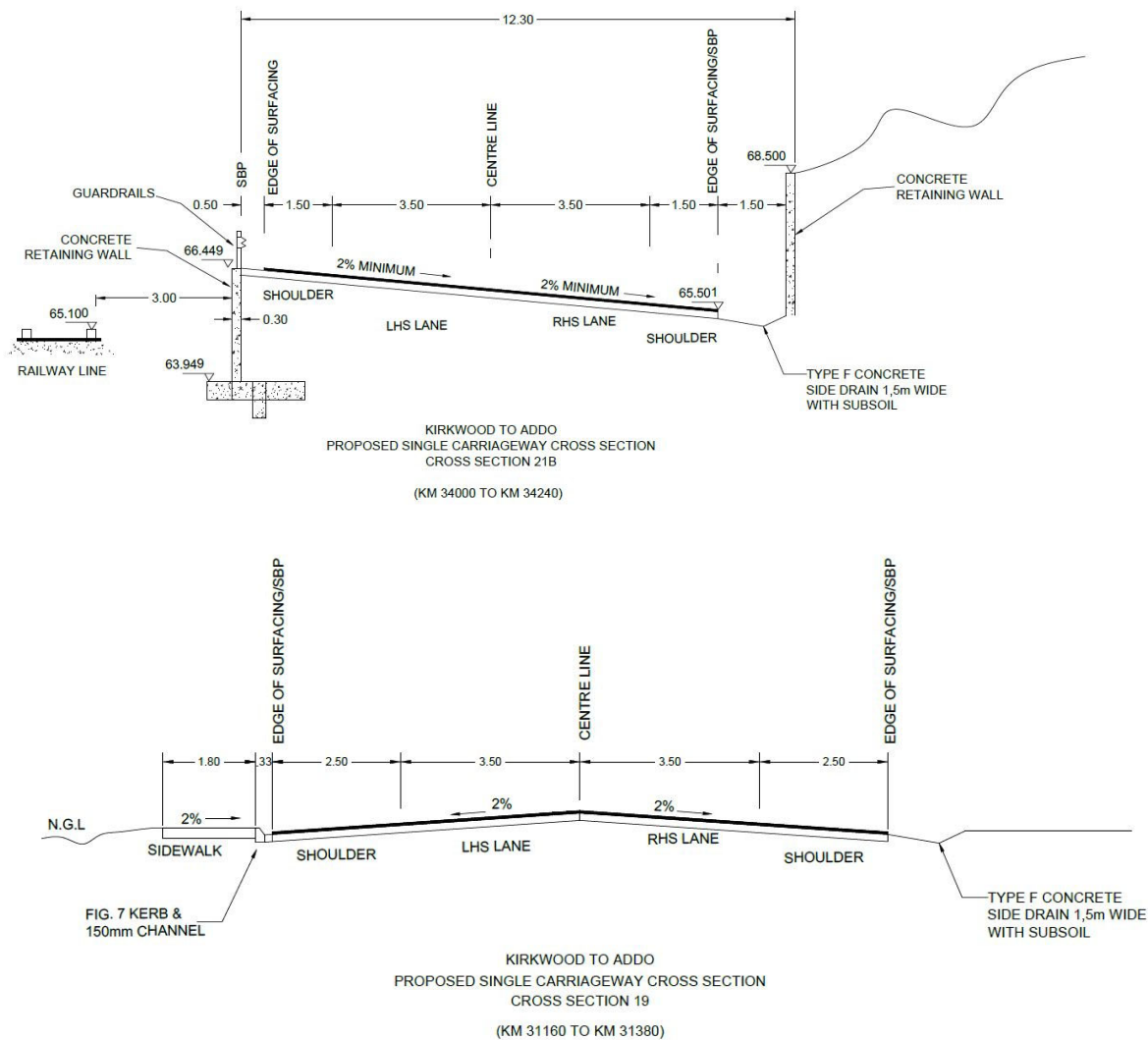
a) Existing and new cross-section (urban)

The new cross-section in the urban area varies along the road but generally consist of 3.5 m lane widths and 1.5 m shoulder in each direction with the cross-section in the urban area generally consisting of 3.5 m lane widths with varying shoulders and sidewalk widths and on-street parking.



PART C4: SITE INFORMATION

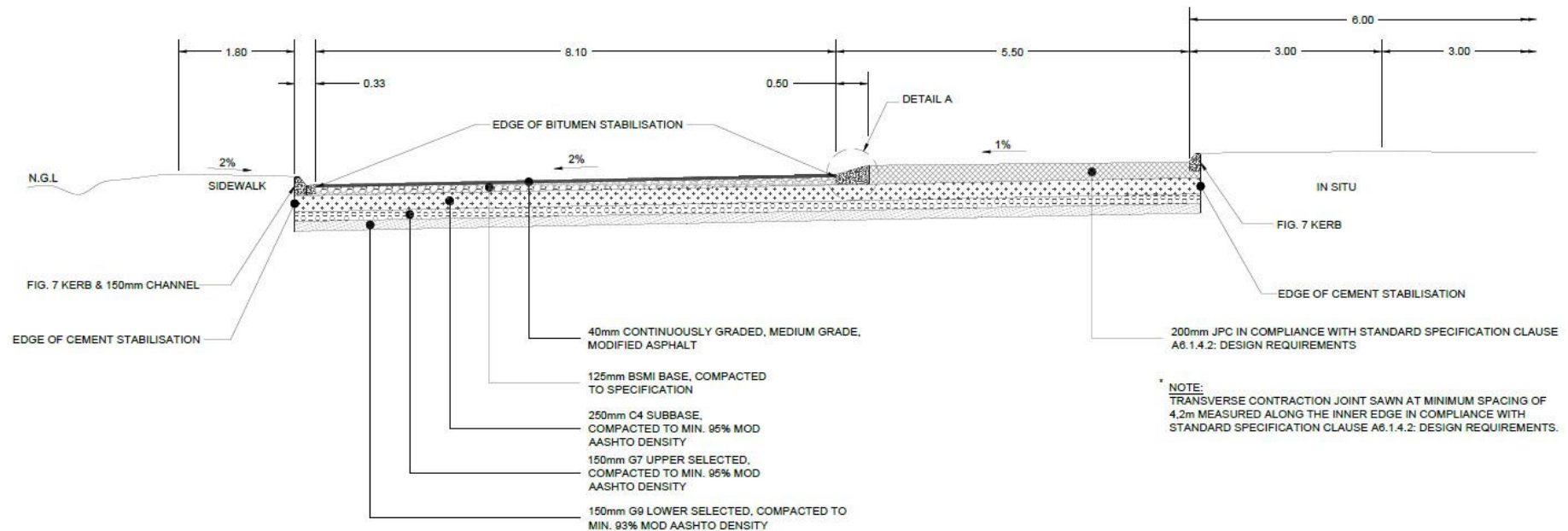
a) Existing and new cross-section (rural)



PART C4: SITE INFORMATION

a) Existing and new cross-section

New Roundabout at Sunland (km 39.930) and Hermitage (km 46.262)



ROUNDABOUT CROSS SECTION

N.T.S

PART C4: SITE INFORMATION

b) Existing Pavement

Based on the test pit profiles, the existing pavement was divided into the following two uniform sections:

A Km 30.5 to Km 34.5

- The pavement layer thicknesses vary considerably over this section of road.
- The base was constructed of a G4/G6 material with thickness varying between 140 and 180 mm.
- The subbase has an average thickness of 125 mm (90-160 mm) with material properties varying between a G10 to G6 material
- Soil profiles indicate that two selected layers were constructed with similar material characteristics.

B Km 34.5 to Km 48.2

- The test pit profiles on the shoulders and roadway show that the pavement structure is more uniform over these sections.
- The base was constructed of a G4 material with thickness varying between 100 and 185 mm.
- It is not always possible to differentiate between the subbase and selected layers in as they were constructed from similar material. The subbase generally conforms to a G4/G5 material type.
- Deductions from the soil profiles indicate that two selected layers were constructed with a G7 material.

PART C4: SITE INFORMATION

C4.1.2 ROADWORKS

a) Geometric Alignment

The gradients on the exiting road are relatively flat but reaches a maximum gradient of 4.6% between km 38.10 to km 41.0.

Minor adjustment to the centerline to tie the road width back into the existing road
There is a horizontal re-alignment between km 30.60 to 31.80 and km 33.70 to km 34.20. At re-alignment of km 30.60 to km 31.80 is to accommodate the road over the newly constructed Bezuidenhout River bridge and at km 33.60 to km 34.40 is to accommodate a geometric improvement in the road alignment.

The existing cross section is an 2% camber and with a maximum superelevation of 10%.

There would be dedicated turn lanes, taper constructed and roundabouts constructed to improve the safety along the road.

PART C4: SITE INFORMATION

b) Sidewalks

Sidewalks will be provided at the following locations along R336:

Start Km	End Km	Length (m)	Area (m ²)	Class area	Commend
30.800	31.400	600	1070	Rural	Bezuidenhouts Bridge
38.960	40.900	1940	3630	Urban	Sunland community
42.600	43.200	600	1070	Rural	Coerney Bridge
44.900	47.280	2380	4600	Urban	Hermitage

Total length of sidewalk is 5520m

PART C4: SITE INFORMATION

c) Main intersections and accesses

There are numerous intersections and accesses between Kirkwood and Addo. Turning traffic includes busses and large interlink trucks, especially at citrus packing facilities, creating problems for through traffic. Maintaining access during construction operations will require careful planning.

Provincial Roads	km Distance	Road No. and Destination	Improvements
	km 35.835 - LHS	Kloof Way	Construction of tapers.
	km 36.840 – LHS and RHS	Opskop Way	Construction of tapers.
	km 38.955 – RHS and LHS	MR 470 Uitenhage DR 1992 Prospect Avenue	Construction of dedicated left turn lane for MR 470 and tapers
	km 39.932 – LHS and RHS	DR 1983 Rietfontein Way	Construction of roundabout
	km 43.337 – LHS	DR 1990 Carlton Weg	Construction of tapers.
	km 44.041 - LHS	DR 1988 Jan Smuts	Construction of tapers.
	km 46.262 - LHS	DR 4626	Construction of roundabout
	km 47.310 - RHS	Kimberley Way	None

PART C4: SITE INFORMATION

d) Traffic Accommodation

Traffic accommodation will be implemented by means of construction under traffic:

i) General

The safe and effective accommodation of traffic during the construction phase will be a major aspect in the implementation of the project. Due to the amount of traffic generated along the route, and due to vested business interests, closing the road during construction is not practical.

There are a railway line running on the LHS side of R336 within the road reserve and the tenderer needs to take care while working between the LHS road edge and the railway line. The tenderer need to apply for wayleave before any work starts as Transnet would like to be present while working close to the railway.

ii) Construction under Traffic

- a) As the road is used as a short haul between farms, and from farms to packing sheds, construction under traffic will be necessary.

Access to adjacent properties must be maintained if there is no alternative access and local traffic may have to cross the lane under construction. Safety measures at each access in the form of flagmen must be implemented to ensure safe crossing of traffic and to prevent conflicts on sections of the road under Stop / Go conditions.

Effective STOP / GO control and the use of traffic signals will be required.

- b) Km 30.50 to km 33.00 and km 34.2 to km 48.18

Half width traffic accommodation will be required for the construction of these sections. Special care will be required for the construction works at the accesses to local farms and communities as well as provincial roads.

PART C4: SITE INFORMATION

d) Traffic Accommodation

iii) Alternative routes and bypasses

There are alternative routes available for through traffic which should be encouraged so that traffic along the R336 is reduced. Heavy vehicles will be encouraged by signage not to use the road through town and to make use of alternative routes.

a) Kirkwood to Port Elizabeth

- 1) Vehicles from Kirkwood travelling to Port Elizabeth (PE) should be diverted along the R336 at km 20.80 to the R75. From there the road to PE bypasses Uitenhage and Despatch.
- 2) There is also a link from R336 to the R75 at km 25.18 via Bluecliff, namely DR1976. The gravel road may require some blading and shaping to improve the rideability.
- 3) A further link is available to the R75 along MR470 from km 38.90. It is understood that MR470 will be surfaced as part of the Motherwell to Addo project. Depending on construction timing, it could also be used as an alternative route for the R336 project. However, if the Motherwell to Addo road is closed while it is being reconstructed, then traffic on the Kirkwood to Addo road would increase.

b) Kirkwood to Paterson (and Addo) – DR2006

- 4) There is an alternative gravel road, DR2006, which runs due east from Kirkwood past Enon and Slagboom, eventually intersecting with MR450 approximately 10 km north of Addo Village. Whereas this road bypasses the R336, it is unlikely that fruit transporters would use it as the fruit could be damaged due to undulations in the gravel surface and dust.

The road is in a reasonable condition, but regular blading and reshaping would be required.

PART C4: SITE INFORMATION

d) Traffic Accommodation: Vehicle Detour Routes



PART C4: SITE INFORMATION

e) Road Drainage

Minor Culverts

- This section of R336 has approximately 25 existing culverts. The culvert sizes range between 900- and 1200 mm diameter and 900 mm X 450mm BC. See Table C4.5 under section C4.1.4 Structural Works for a list of the existing culverts.
- Removal and disposal of / extension of existing minor culverts.
- The construction of erosion protection measures where required.
- Culverts to be extended where road is widened.

Major Drainage Structures

- Major drainage structures are covered under section C4.1.4 Structural Works.

Side drains

- New concrete lined side drains and subsurface drains to be constructed along R336

PART C4: SITE INFORMATION

f) Fencing

- New fence line between the road and railway line needs to be erected before any road construction starts.
- New 9 strand stock proof fencing to be constructed on road reserve boundary,
- Old fencing to be taken down and material removed from site

g) Road Signs

- All road signs shall be replaced

PART C4: SITE INFORMATION

j) Guardrails

- All guardrails to be remove and replaced
- A minimum length of 110m will be installed per guardrail section
- Total length of guardrail to be replaced is 4230m

Guardrails					
Left			Right		
From (Km)	To (Km)	Length (m)	From (Km)	To (Km)	Length (m)
30.950	31.270	320	30.500	31.160	660
34.350	34.550	200	34.350	34.550	200
34.900	35.050	150	39.060	39.500	440
38.550	38.860	310	42.600	42.930	330
39.060	39.500	440	43.180	43.840	660
42.600	42.930	330	44.000	44.190	190

PART C4: SITE INFORMATION

k) Utility Services

There are various service providers along this section of road. Before any construction to start, approval must be obtained from the various service providers below:

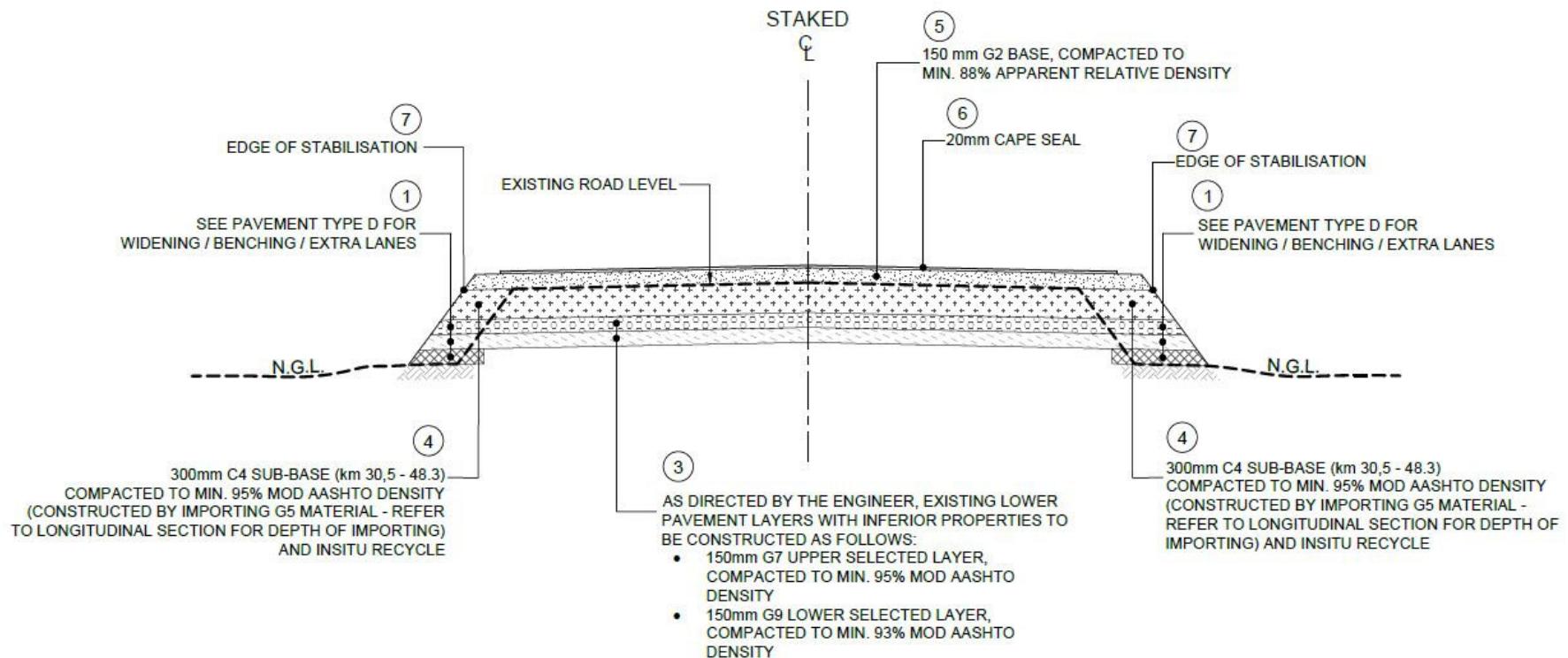
- Eskom - Electrical
- Sunday River Municipality – Electrical, Water and Sewer & Stormwater
- Lower Sundays River Water Use Association – Water
- Telkom – Telecommunication
- Transnet – Railway infrastructure

Transnet Requirements:

- Appointment of a Responsible Representative in conformance with Transnet's requirements.
- Arrangement with Transnet for protection and periodic occupation(s) of rail track, and for work permit(s).
- A detailed method statement to be submitted to the Engineer by the Contractor prior to work adjacent the rail track – purpose; to mitigate risk on rail operations.

PART C4: SITE INFORMATION

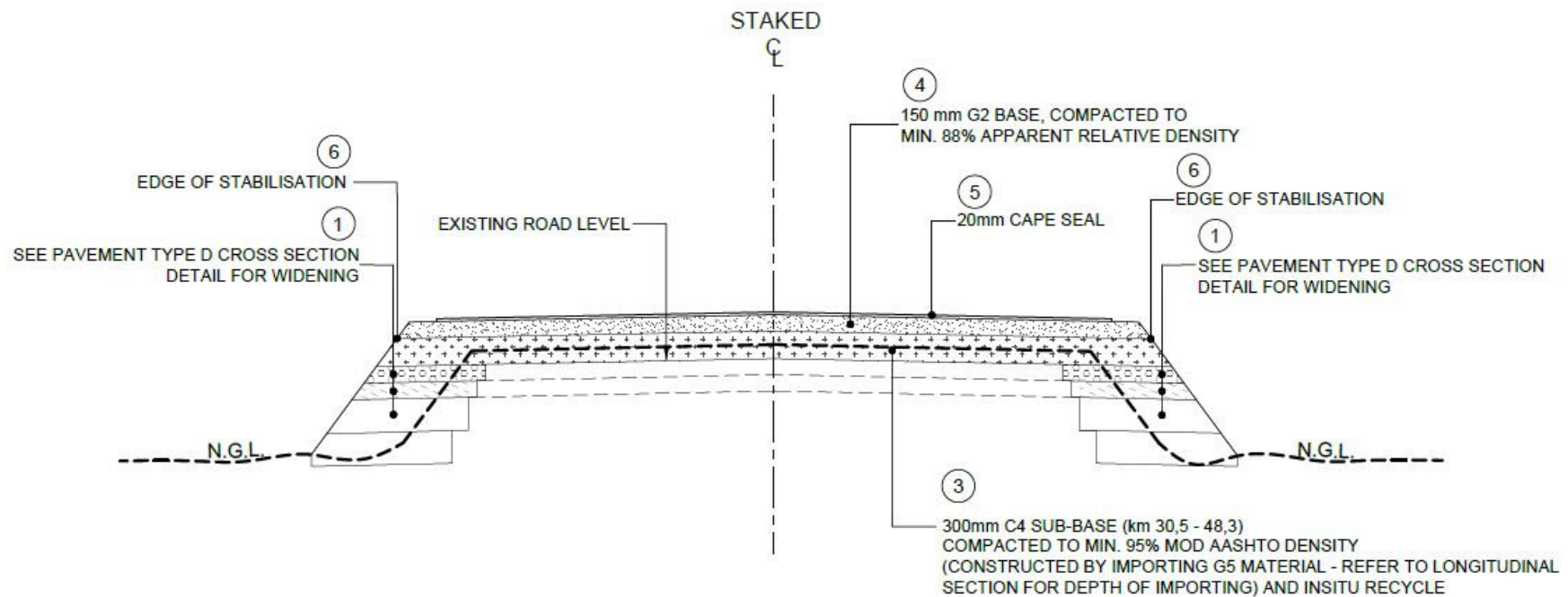
Typical rehabilitation pavement structure



TYPE A: TYPICAL REHABILITATION PAVEMENT STRUCTURE

PART C4: SITE INFORMATION

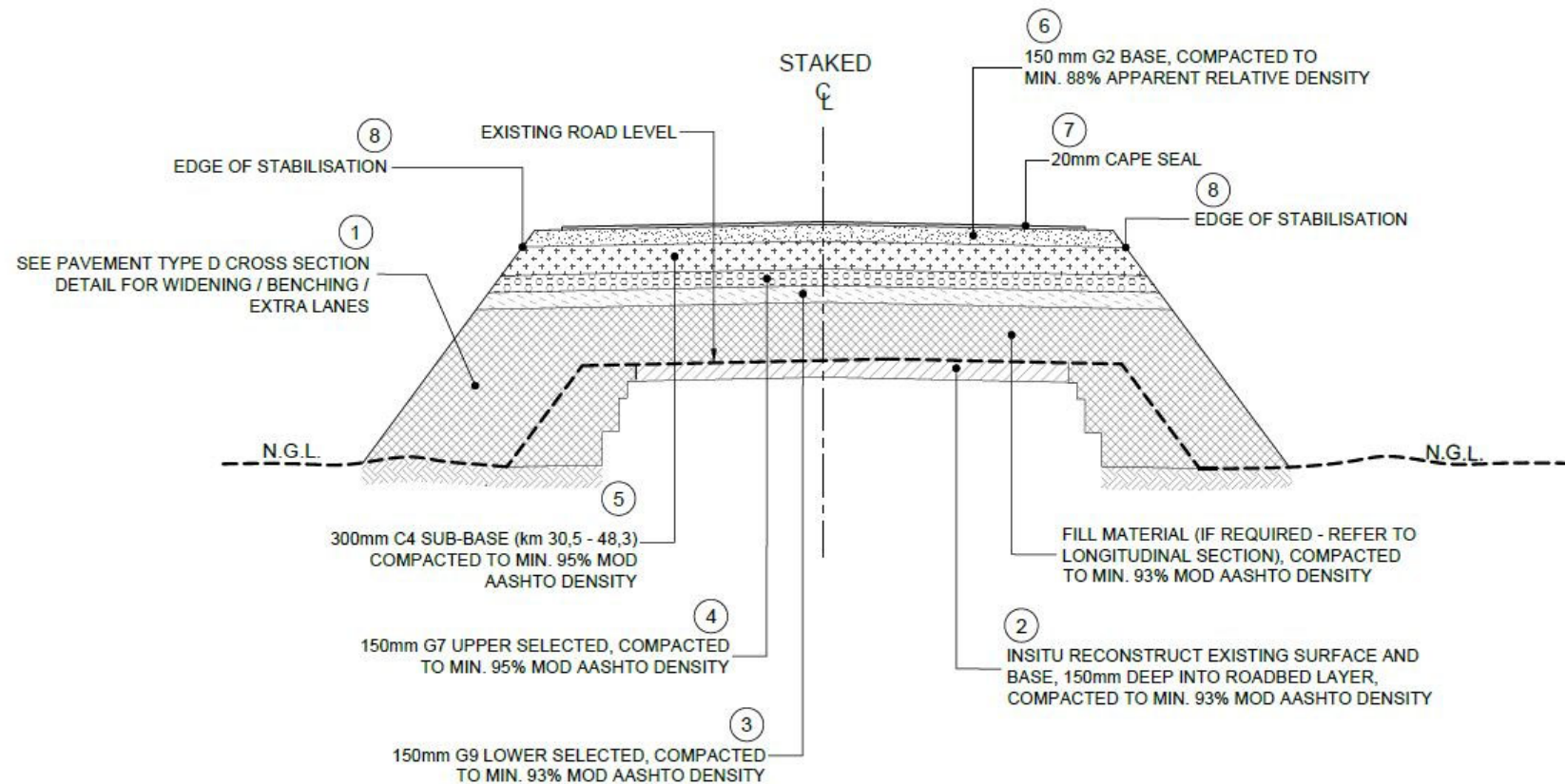
Rehabilitation in low fill conditions



TYPE B: TYPICAL REHABILITATION
PAVEMENT STRUCTURE IN LOW FILL

PART C4: SITE INFORMATION

Rehabilitation in high fill conditions



TYPE C: TYPICAL REHABILITATION
PAVEMENT STRUCTURE IN HIGH FILL

PART C4: SITE INFORMATION

Km 30.5 to 33.0	Importing and Rehabilitation
Preparation	Remove the Sealgrid
Surfacing	20mm Cape Seal 40mm Asphalt Surfacing at intersections
Base	150mm G2 crushed stone
Subbase	Imported nominal 170 mm G5 material, mix, recycled and stabilise with insitu existing 130 mm base and construct 300 mm C4 stabilised subbase. Refer to the longitudinal sections for the depth of import.
Upper Selected	150mm G7 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Lower Selected	150mm G9 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Fill	Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Shoulders	Surfaced shoulders or unsurfaced shoulders and sidewalks were indicated

PART C4: SITE INFORMATION

Km 34.2 to 38.4	Rehabilitation
Preparation	Remove the Sealgrid
Surfacing	20mm Cape Seal 40mm Asphalt Surfacing at intersections
Base	150mm G2 crushed stone
Subbase	Recycled and stabilise insitu existing 150 mm base and 150 mm subbase and construct 300 mm C4 stabilised subbase.
Upper Selected	150mm G7 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Lower Selected	150mm G9 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Fill	Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Shoulders	Surfaced shoulders or unsurfaced shoulders and sidewalks were indicated

PART C4: SITE INFORMATION

Km 38.4 to 43.8	Importing and Rehabilitation
Surfacing	20mm Cape Seal 40mm Asphalt Surfacing at intersections
Base	150mm G2 crushed stone
Subbase	Imported nominal 50 mm G5 material, mix, recycled and stabilise with insitu existing surfacing, 250 mm base and subbase and construct 300 mm C4 stabilised subbase. Refer to the longitudinal sections for the depth of import.
Upper Selected	150mm G7 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Lower Selected	150mm G9 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Fill	Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Shoulders	Surfaced shoulders or unsurfaced shoulders and sidewalks were indicated

PART C4: SITE INFORMATION

Km 43.8 to 48.2	Rehabilitation
Surfacing	20mm Cape Seal 40mm Asphalt Surfacing at intersections
Base	150mm G2 crushed stone
Subbase	Recycled and stabilise insitu existing surfacing, 150 mm base and 150 mm subbase and construct 300 mm C4 stabilised subbase.
Upper Selected	150mm G7 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Lower Selected	150mm G9 imported material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Fill	Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Shoulders	Surfaced shoulders or unsurfaced shoulders and sidewalks were indicated

PART C4: SITE INFORMATION

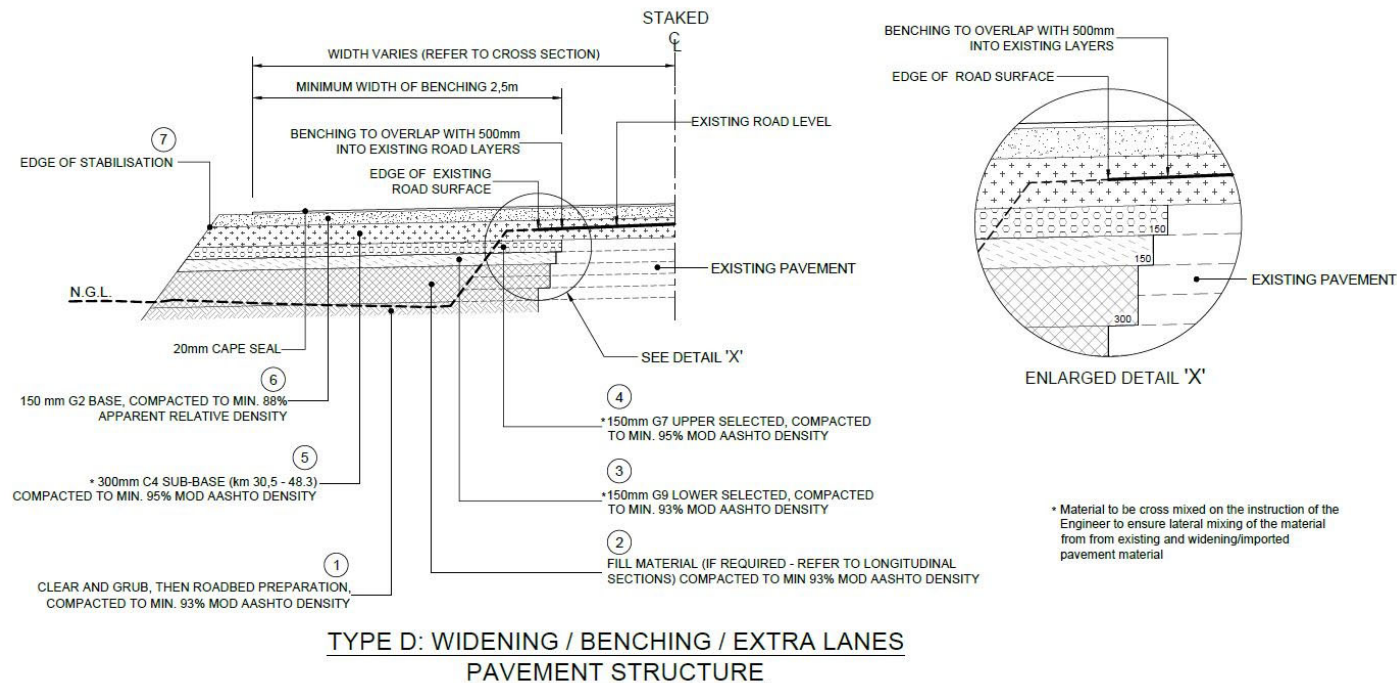
Km 30.5 to 31.1 and Km 34.2 to 48.2	Road Widening
Surfacing	20mm Cape Seal
Base	150mm G2 crushed stone
Subbase	300 mm C4, imported, benched and laterally mixed with existing material where possible
Upper Selected	150 mm G7 (benched into existing and imported)
Lower Selected	150 mm G9 (benched into existing and imported)
Fill	Fill material (benched into existing and imported)

PART C4: SITE INFORMATION

C4.1.3 Pavement design for all parts of the various roads

Widening of the exiting road:

- Benching to overlap new layers with 500mm into existing layers;
- Minimum width of benching to be 2.5m.
- New surfacing to tie into an equal level to ensure a smooth transition between new and old surfacing.

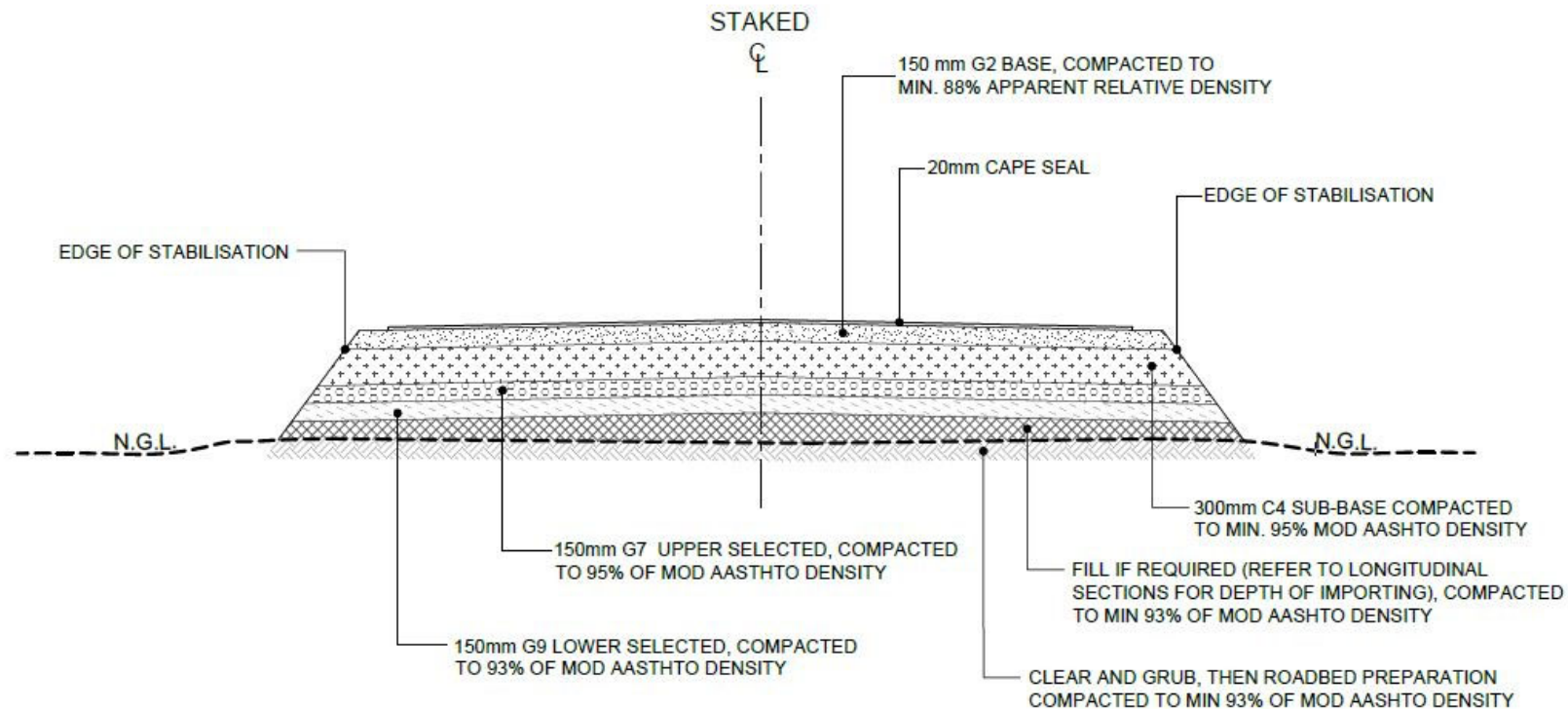


PART C4: SITE INFORMATION

Km 33.0 to 34.2	New Construction (horizontal re-alignment)
Surfacing	20mm Cape Seal 40mm Asphalt Surfacing at intersections
Base	150mm G2 crushed stone
Subbase	300mm C4 imported material
Upper Selected	150mm G7 imported material
Lower Selected	150mm G9 imported material
Fill	Fill material
Shoulders	Surfaced shoulders or unsurfaced shoulders and sidewalks were indicated

PART C4: SITE INFORMATION

Pavement structure for realignment (Km 33+000 – Km 34+200)



HORIZONTAL RE-ALIGNMENT PAVEMENT
KM 33,0 TO 34,2

PART C4: SITE INFORMATION

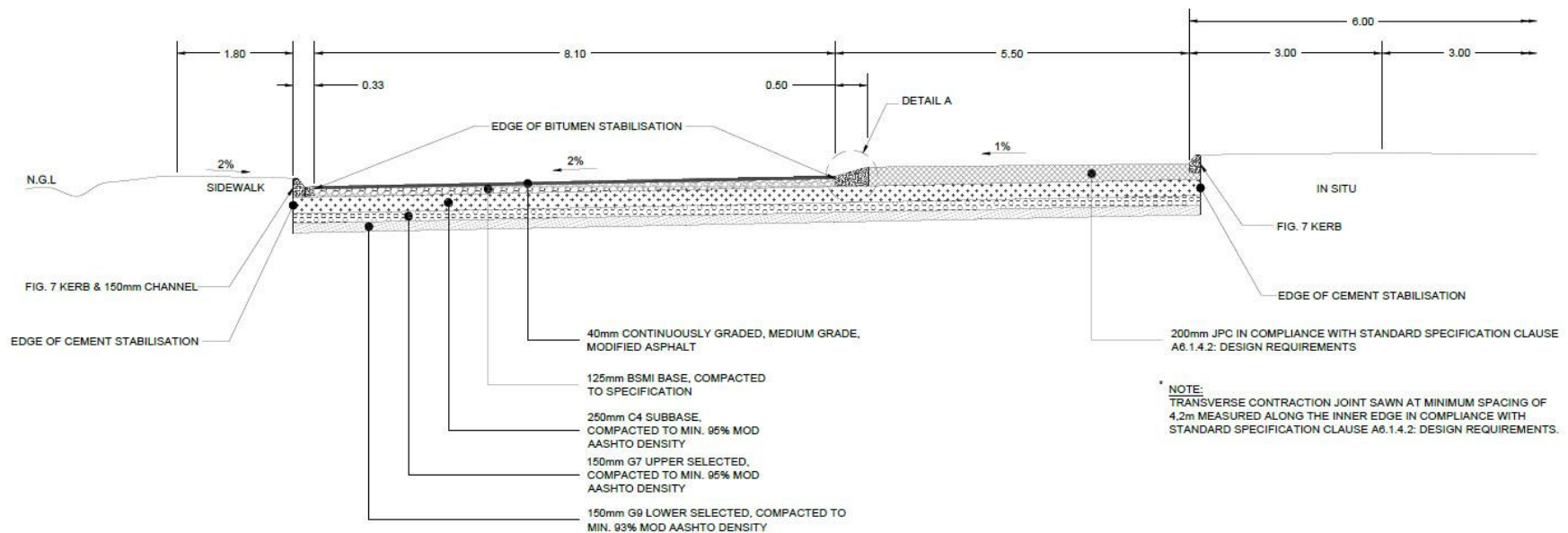
Km 39.93 and 46.26	Roundabout (Flexible Pavement Outer Ring)
Surfacing	40mm Asphalt surfacing
Base	125mm BSM 1 bituminous stabilised crushed stone
Subbase	250mm C4 subbase stabilised subbase
Upper Selected	150 mm G7 imported gravel material
Lower Selected	150 mm G9 imported gravel material
Fill	Fill material (benched into existing and imported) Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Shoulders	sidewalk

PART C4: SITE INFORMATION

Km 39.93 and 46.26	Roundabout (Rigid Pavement Inner Ring)
Base	200 mm Plain Jointed Concrete Pavement (diamond plate dowels)
Subbase	250mm C4 subbase stabilised subbase
Upper Selected	150 mm G7 imported gravel material
Lower Selected	150 mm G9 imported gravel material
Fill	Fill material (benched into existing and imported) Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)

PART C4: SITE INFORMATION

Pavement structure for roundabouts



ROUNDABOUT CROSS SECTION

N.T.S

PART C4: SITE INFORMATION

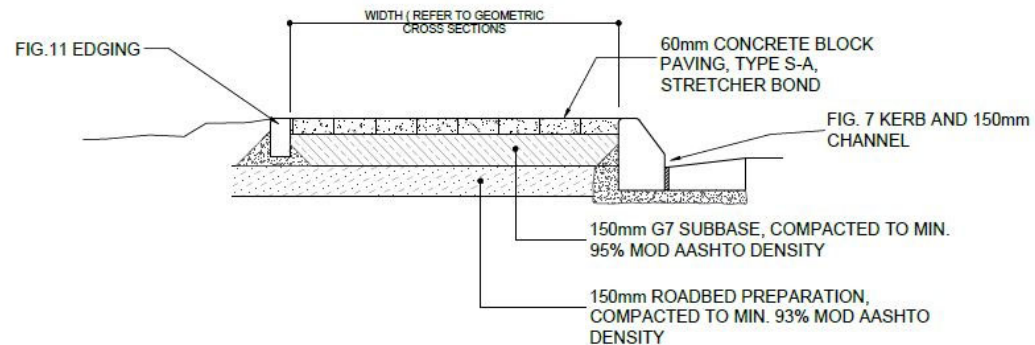
Sidewalk	
Surfacing	60mm Concrete Block Paving, Type S-A, Stretcher Bond
Base	150 mm G7 subbase imported gravel material
Fill	Fill material (benched into existing and imported) Fill material (at widening/extra lanes/tie in sections/inferior sections/where necessary)
Roadbed	150 mm Roadbed Preparation

PART C4: SITE INFORMATION

Pavement structure - sidewalk

Sidewalk

- Pedestrian sidewalk consist of 60mm thick segmental block paving.



CONCRETE BLOCK PAVING
SIDEWALK PAVEMENT STRUCTURE

PART C4: SITE INFORMATION

Pavement structure – selected and fill

The selected and fill layers will only be constructed in the following cases:

- Where the road is intended to be widened;
- Extra lanes are added;
- Where the new pavement needs to tie in at the existing pavement at the end or at the railway crossings;
- Test pits at Km 31+000 indicate that the existing selected layers are inferior quality, which shall be replaced with approved quality material;
- At deep cuts where the pavement structure needs to be reconstructed or as indicated by the Engineer.

PART C4: SITE INFORMATION

Pavement structure – compaction requirements

The following compaction is required:

- G2 Base – 88% of Apparent Relative Density
- BSM1 Base – 100% of MDD
- C4 Subbase – 95% of MDD
- In situ gravel subbase – 95% of MDD
- Upper selected widening – 95% of MDD
- Lower selected widening – 93% of MDD
- Gravel shoulder – 95% of MDD (also refer Table A5.3.5-1)
- Benching fill – 93% of MDD (also refer Clause A5.2.3.4 (iii))
- Normal fill – 90% of MDD (also refer Clause A5.2.3.4 (ii))
- Widening fill - 93% of MDD
- Roadbed compaction:
 - Under normal fill – 90% of MDD
 - Under selected/subbase – 93% of MDD
 - Under widening – 93% of MDD
 - Floor of clay undercut – three roller-pass compaction with pad foot roller

PART C4: SITE INFORMATION

Pavement structure – summary of major quantities

Pavement Layers	Layer Thickness (mm)	Approximate Required Quantity (m ³)	Material Type
Asphalt surfacing	40	300 t	3 x Bridge decks:
	50	130 t	2 x Roundabout:
20mm Surfacing Stone	20	2 600 @ 70 m ² /m ³	Typical surfacing aggregate is either Dolerite or Quartzite of which only the latter is available in this geological area
G2 Basecourse	150	27 400	Quartzite from commercial sources.
C4 Subbase (G5 material)	300	60 000	Including 20 000 m ³ imported make-up G5 material is required to construct the subbase layer
G7 Upper Selected	150	10 400	Including 11 400 m ³ from borrow be used as the upper selected layer. The material quantity is only required for areas where widening occurs and the tie in sections.
G9 Lower Selected	150	5 200	
Gravel shoulder and wearing course	150/200	5 200	From borrow
G9 Fill	-	69 000	Including 36 000 m ³ from borrow. Fill material is required at isolated locations where existing fill embankments are widened
Concrete pavement	200	46	Plate dowel jointed concrete pavement for two roundabouts
BSM1 Basecourse	125	160	A Bitumen stabilised base layer will be constructed at two roundabouts
Block paving	60	10 400 m ²	60mm Concrete Block Paving, Type S-A, Stretcher Bond

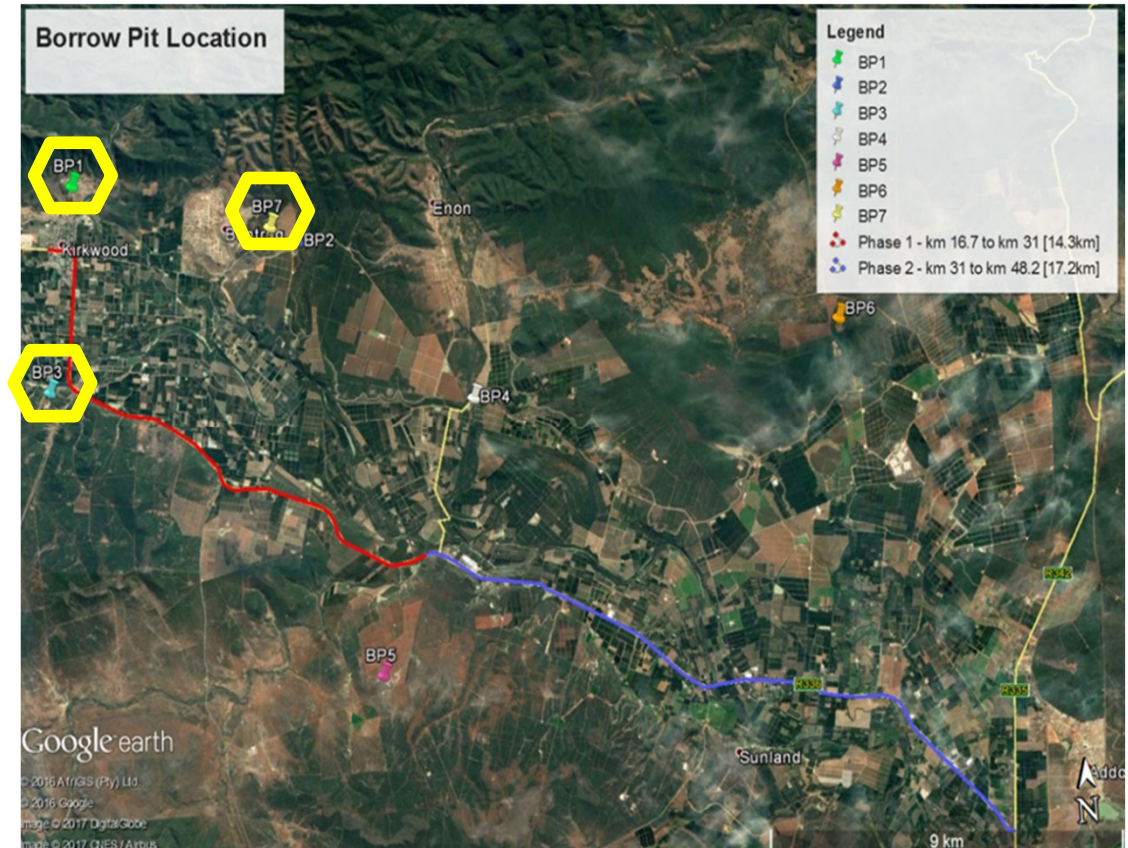
PART C4: SITE INFORMATION

❖ Construction Materials

The mining permits, arising from submitted and approved environmental management programmes (EMPR) and environmental authorisations from the linked Environmental Impact Assessments (EIAs), for five Borrow Pits were approved and are still valid.

Borrow Pits 1, 3 and 7 are earmarked for mining for this contract.

BP 7 to be extended



PART C4: SITE INFORMATION

❖ Construction Materials

- BP1
 - located on municipal land approximately 1.5 km north of Kirkwood
 - Quarzitic sandstone pebble and cobble matrix.
 - approximately 60 000 m³ of G5/G6 quality material is available
 - poor ITS results – not suitable for stabilisation
 - Crushing and screening of BP material maybe required.
- BP7
 - located on municipal land approximately 6 km east of Kirkwood
 - Quarzitic sandstone
 - approximately 43 000 m³ of G5/G6 quality material is available
 - 2,5% cement required to achieve C4 quality material (see adjacent results)
 - Crushing and screening of BP material required to improve quality of mixed stabilised subbase. Mix design necessary.
- BP3
 - Located on private land – 3km south of Kirkwood
 - Calcrete suitable for fill and selected
 - Approximately > 37 000 m³ G7/G8 material

Stabilised Testing of Borrow Pit 7							COLTO Requirements	
	TP 1 (100% compaction)			TP 2 (100% compaction)			C3	C4
Cement Content (%)	1.5%	2.0%	2.5%	1.5%	2.0%	2.5%		
Unconfined Compressive Strength (UCS)	1.4	1.8	2.3	1.0	1.2	1.5	1.5 - 3.0	0.75 - 1.5
Indirect Tensile Strength (ITS)	135	273	343	124	209	320	> 250	> 200
COLTO Classification	-	C3	C3	-	C4	C3		
	TP 3 (100% compaction)			TP 4 (100% compaction)			C3	C4
Cement Content (%)	1.5%	2.0%	2.5%	1.5%	2.0%	2.5%		
Unconfined Compressive Strength (UCS)	1.0	1.6	2.0	1.2	1.8	2.4	1.5 - 3.0	0.75 - 1.5
Indirect Tensile Strength (ITS)	118	212	310	85	179	246	> 250	> 200
COLTO Classification	-	C4	C3	-	-	C4		
	TP 5 (100% compaction)			TP 6 (100% compaction)			C3	C4
Cement Content (%)	1.5%	2.0%	2.5%	1.5%	2.0%	2.5%		
Unconfined Compressive Strength (UCS)	1.6	2.2	2.8	0.9	1.9	2.5	1.5 - 3.0	0.75 - 1.5
Indirect Tensile Strength (ITS)	136	243	301	87	138	233	> 250	> 200
COLTO Classification	-	C4	C3	-	-	C4		

PART C4: SITE INFORMATION

❖ Construction Materials – Source allocation

Material	Total Required from source (m³)	Total Available (m³)	Comments
20mm Aggregate	2 350		Hard rock to be sourced from commercial quarries.
G2 Base	20 000		
G5 for Subbase	10 300	BP 1&7: 56 000 (after allocating 46 000 to Phase 1) Quantity for BP 7 extension still to be confirmed. BP 3: 37 500 m³	The make-up material required to be mixed with the existing base layer to construct the in-situ subbase will be sourced from BP 1 and BP 7 or commercial sources.
G7 for USSG	4 800		Existing subbase layer will be used as selected layers.
G9 for LSSG	5 600		Material required for widening or tie in sections of selected layers may be sourced from BP 1, BP 3 and BP 7.
G7 for gravel shoulder and wearing course	5 200		Material required for widening of fill will be sourced from BP 1 and BP 3 and BP 7.
G9 for FILL	36 000		Material required for widening of fill will be sourced from BP 1 and BP 3 and BP 7.

Available commercial sources

QUARRY	TYPE OF AGGREGATE	CONTACT PERSON	CONTACT NUMBER
Coega Quarry	Quartzite	Patrick Ndlwala	083 657 0592
Moregrove Quarry	Quartzite	Patrick Ndlwala	083 657 0592
Muller Quarry	Sandstone	Boetie Muller	082 566 1231

PART C4: SITE INFORMATION

C4.1.4. Structural Works

a) Culverts

- This section of road have 25 exiting culvert and listed below.
- Remedial action was discussed in section C4.1.2 Roadworks.

Location (km)	Pipe Sizes / Portal culverts	Number of Barrels	Skew Angle (°)	Approx. Length (m)	Location (km)	Pipe Sizes / Portal culverts	Number of Barrels	Skew Angle (°)	Approx. Length (m)
30.568	900mm dia	1	270	20.795	36.559	900 x 450mm	1	90	13.280
31.520	900 x 450mm	1	90	15.400	37.581	1200mm dia	1	90	12.780
31.930	900mm dia	1	90	15.660	41.420	900 x 450mm	1	270	12.880
32.050	900 x 450mm	1	90	17.400	42.270	900 x 450mm	1	270	11.840
33.980	900 x 450mm	1	90	12.940	42.360	900 x 450mm	1	270	6.140
34.451	900mm dia	5	90	20.180	42.498	900 x 450mm	1	270	13.560
34.757	900mm dia	1	90	16.740	43.200	900 x 450mm	1	300	19.460
34.903	900mm dia	1	90	15.860	43.499	900 x 450mm	1	270	17.550
34.980	900mm dia	1	90	15.880	44.030	900mm dia	1	270	23.160
35.397	900 x 450mm	1	90	15.480	44.768	900 x 450mm	1	270	15.350
35.519	900 x 450mm	1	90	12.400	44.868	900 x 450mm	1	270	19.010
35.902	900mm dia	1	90	14.160	47.272	900 x 450mm	1	270	17.710
36.162	900 x 450mm	1	90	16.320					

PART C4: SITE INFORMATION

b) Bridges

- The three bridges on this section of road are listed below:

STRUCTURE NAME	STRUCT. No.	CHAINAGE (km)	COMMENTS / RECOMMENDATIONS
i) Bezuidenhouts River Bridge	B0498	31,0	New continuous 3-span bridge with 45 degree skew on piles.
ii) Sundays River Bridge	B9057	39,2	Widen 5,275m on LHS and 2,975m on RHS.
iii) Coerney River Bridge	B9058	42,9	Widen 3,675m on LHS and 1,375m on RHS.

PART C4: SITE INFORMATION

i) Bezuidenhouts River Bridge (B0498)

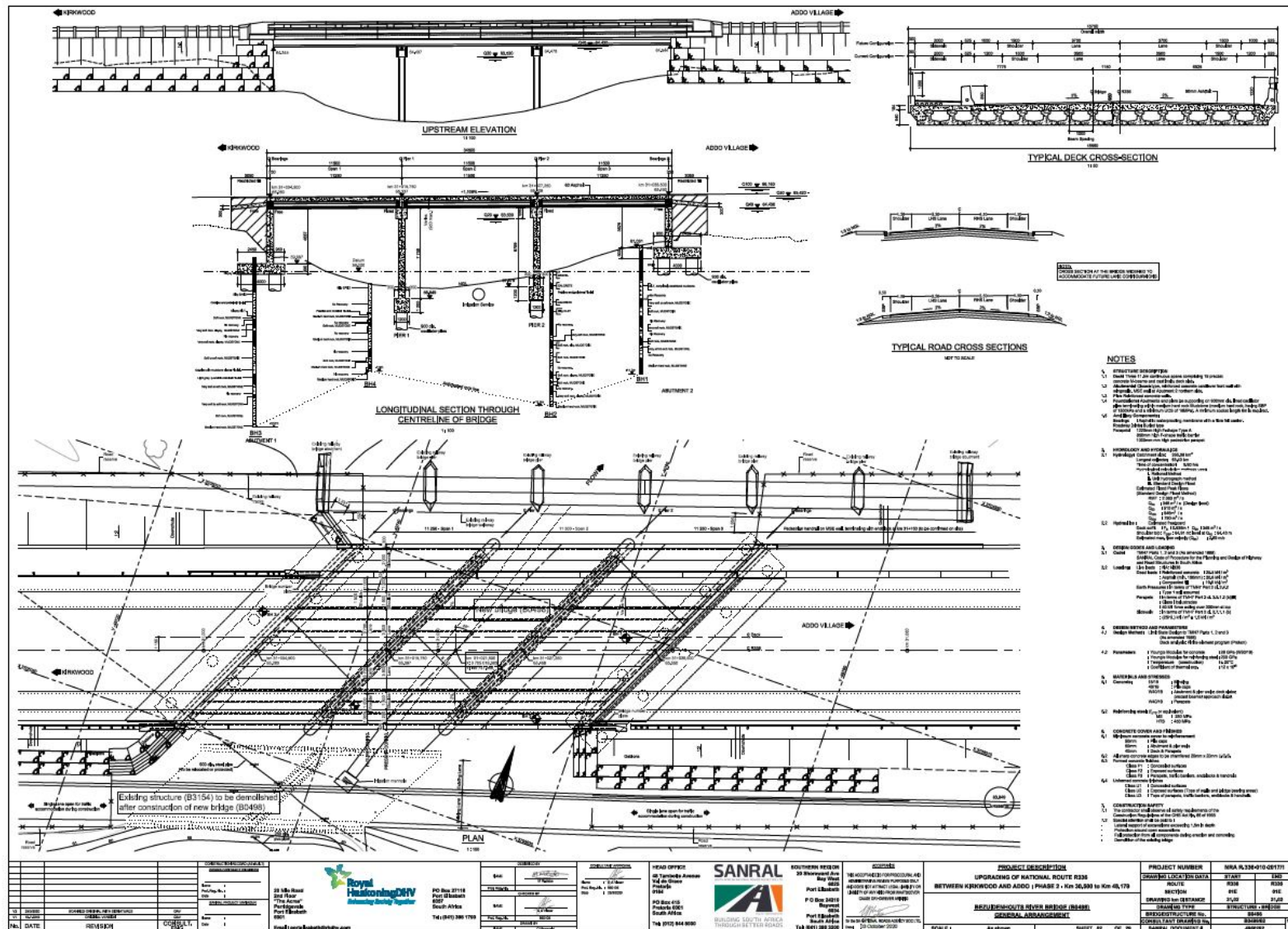
- Existing bridge built in 1950 - a 2 span simply supported reinforced concrete slab decks.
- Road to be re-aligned over the Bezuidenhouts River to improve the road geometry.
- Old bridge – used for traffic accommodation - to be demolished.

- New voided deck:
 - Three spans of 11.25m each.
 - Composite reinforced concrete precast M-beams and top slab.
 - Continuous over the supports
 - Roll over expansion joint at both abutments.

- New abutments and piers:
 - Reinforced concrete.
 - Founded on 900mm diameter oscillator piles with 6.0m deep sockets.

- Existing 900mm diameter steel water pipe under the bridge to be either be relocated or protected during construction.
- Irrigation manhole to be protected during construction.

i) Bezuidenhouts River Bridge (B0498)

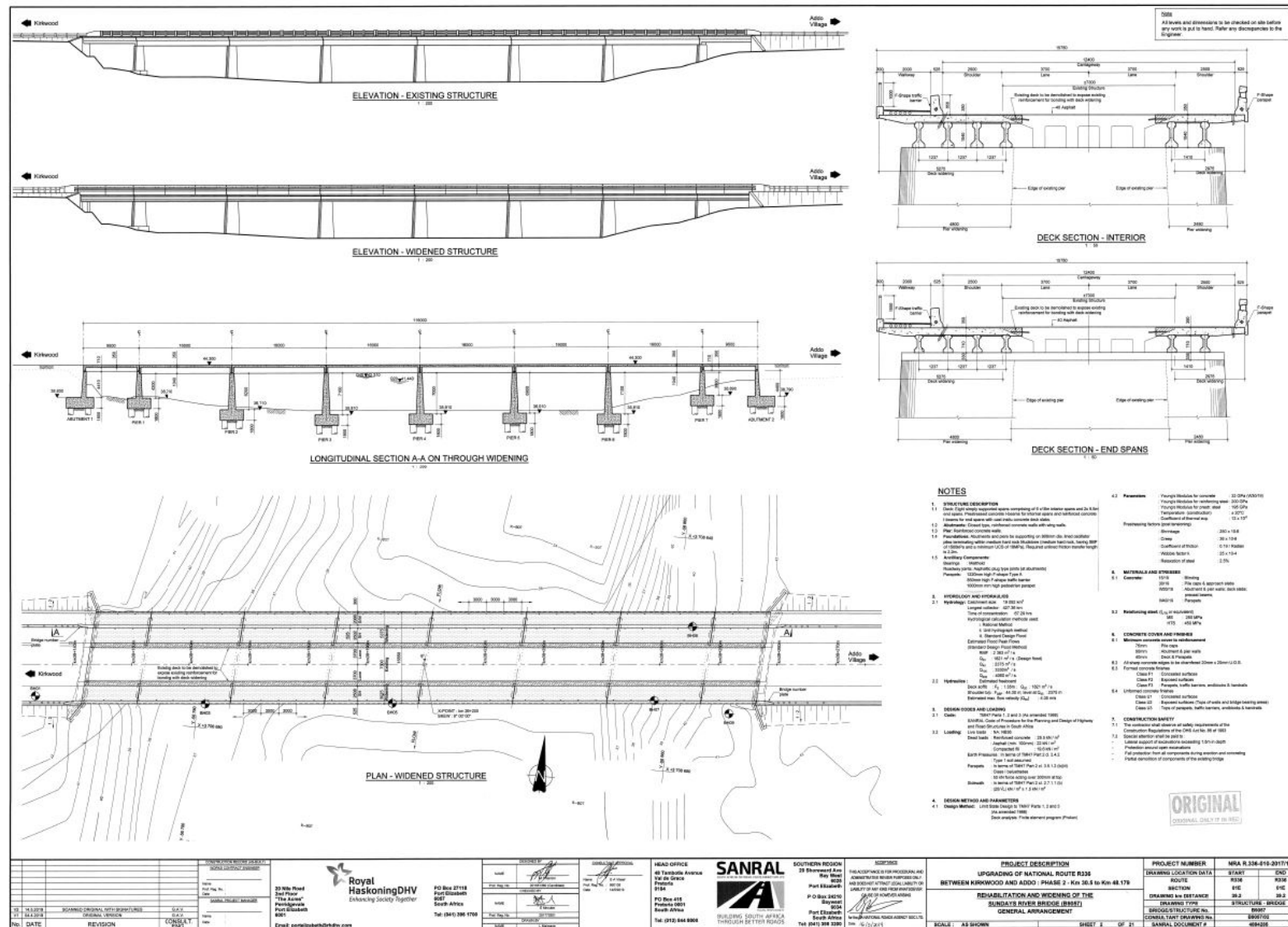


PART C4: SITE INFORMATION

ii) Sundays River Bridge (B9057)

- Existing bridge built in 1952 - 115m long - 8 spans – simply supported reinforced concrete decks (2 x 9.5m and 6 x 16m spans).
- Widenings:
 - 5.275m on LHS and
 - 2.975m on RHS.
 -
- Deck widening:
 - I-beams and top slab - both reinforced concrete.
- Abutments and piers widening:
 - Cast-in-situ reinforced concrete
 - Matching existing structures.
 - Dowels to connect new and old concrete.
 - Founded on 900mm diameter lined oscillator piles with 2.2m sockets in hard rock Mudstone.

ii) Sundays River Bridge (B9057)



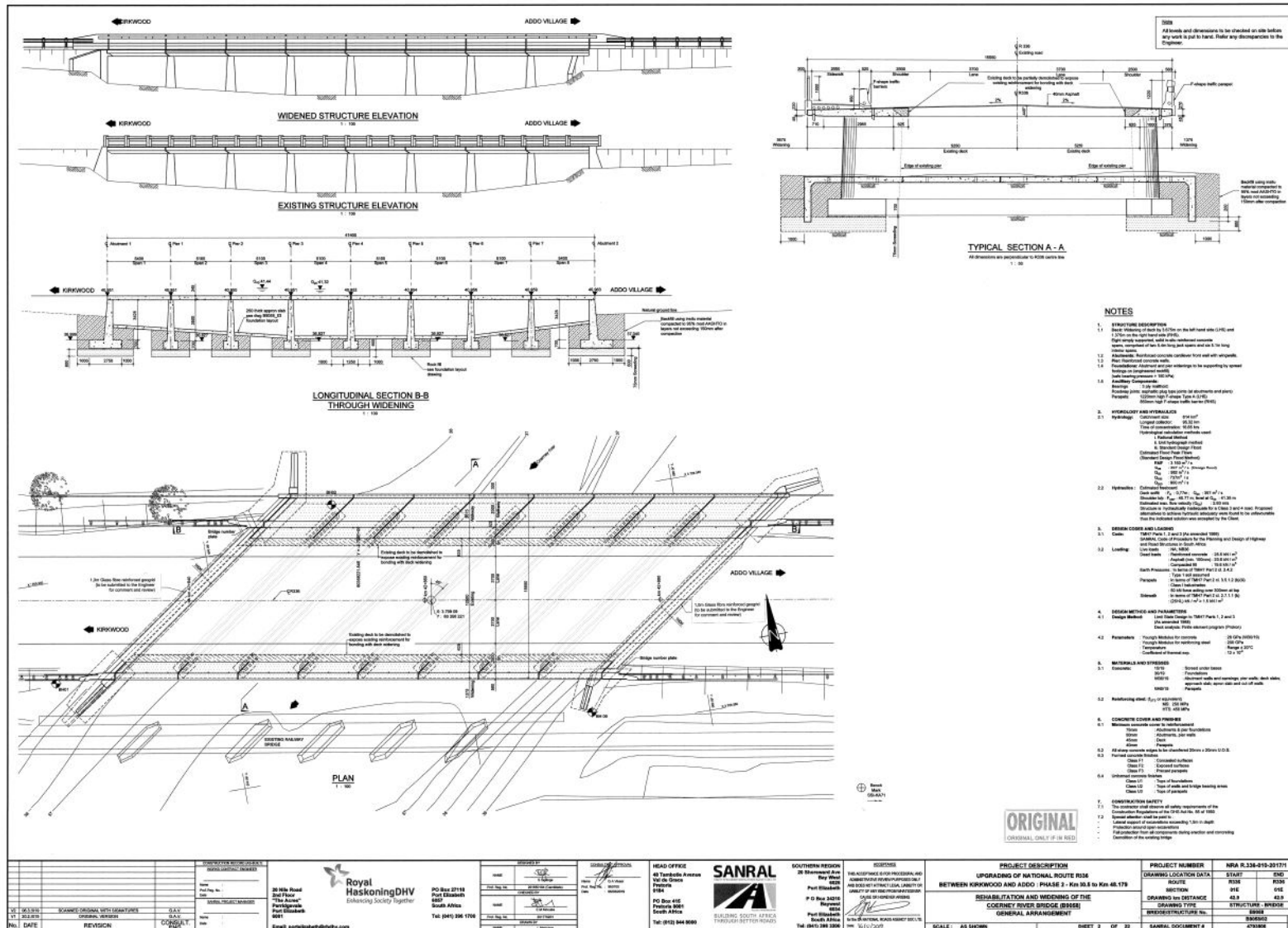
PART C4: SITE INFORMATION

iii) Coerney River Bridge (B9058)

- Existing bridge built in the 1950s – 45 degrees skew - 41,4m long - 8-span – simply supported reinforced concrete decks (2 x 5,4m and 6 x 5,1m spans).
- Wall type piers - cantilever wall abutments with wingwalls - assumed spread footings.
- Widening:
 - 3.675m on LHS and
 - 1.375m on RHS.
- Deck widening:
 - Cast in-situ reinforced concrete.
- Abutments and piers widening:
 - Cast in-situ reinforced concrete.
 - Matching existing structures.
 - Dowels to connect new and old concrete.
 - Founded on an Engineered Rock Fill.

PART C4: SITE INFORMATION

iii) Coerney River Bridge (B9058)



PART C4: SITE INFORMATION

C4.1.5 Maintenance works

- The contractor will be liable for maintenance works of all road sections including those sections not under construction
- Contact information for the current Routine Road Maintenance Contract is:
 - a) Route Manager: Mr. Naas van Zyl (Contact Engineer)
GG&G Consulting Engineers
E-mail: naas@ggandg.co.za
Cell: 082 852 7695
 - b) Contractor: To be appointed
 - c) Project Liaison Officer (PLO): Mr. Mpho Dijane
Cell: 079 999 0167

PART C4: SITE INFORMATION

C4.6 Traffic

- **Farming Activities:**

- The section of the R336 from Kirkwood to Addo, provides a linkage between the town of Kirkwood and the villages located at Sunlands and Addo.
- Peak harvesting time between March and September, heavy vehicle increases by 30%.
- Disruptions of farming activates along R336 to be minimised.
- Access to warehouses and cold storages along R336 to be provided at all times.
- Liaison with the farming community is essential

PART C4: SITE INFORMATION

C4.6 Traffic

- **Festivals and Holiday Activities:**

- Kirkwood Wildsfees takes place annually between June / July and attracts high traffic volumes.
- The contractor shall liaise with the Engineer and organising committee of the Kirkwood Wildsfees to ensure safe vehicular access to the Wildsfees venue and parking areas.
- Higher than normal traffic volumes can be expected during the Easter weekend and over December holiday period.

PART C4: SITE INFORMATION

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:

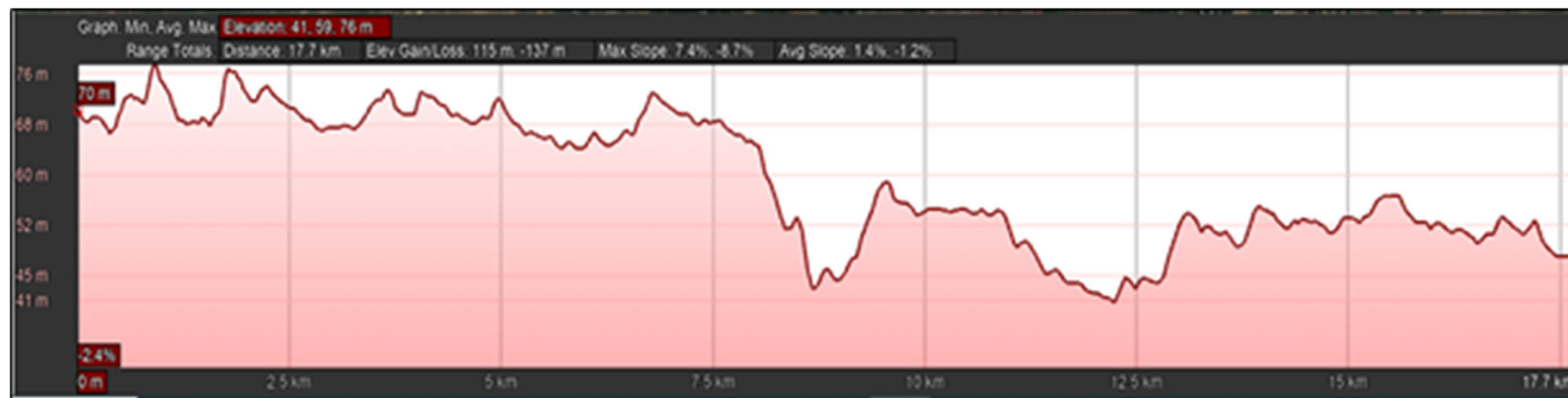
- adherence to the policies of the Reconstruction and Development Programme and other similar Government initiatives,
- employment and/or creation of Targeted Enterprises,
- arrangement of generic skills, engineering skills and entrepreneurial skills training programmes for which provision has been made in the Pricing Schedule,
- construction using labour maximisation principles and,
- 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

VOLUME 6: MATERIALS REPORT

PHYSICAL CHARACTERISTICS OF THE STUDY AREA

Topography



PHYSICAL CHARACTERISTICS OF THE STUDY AREA

CLIMATE

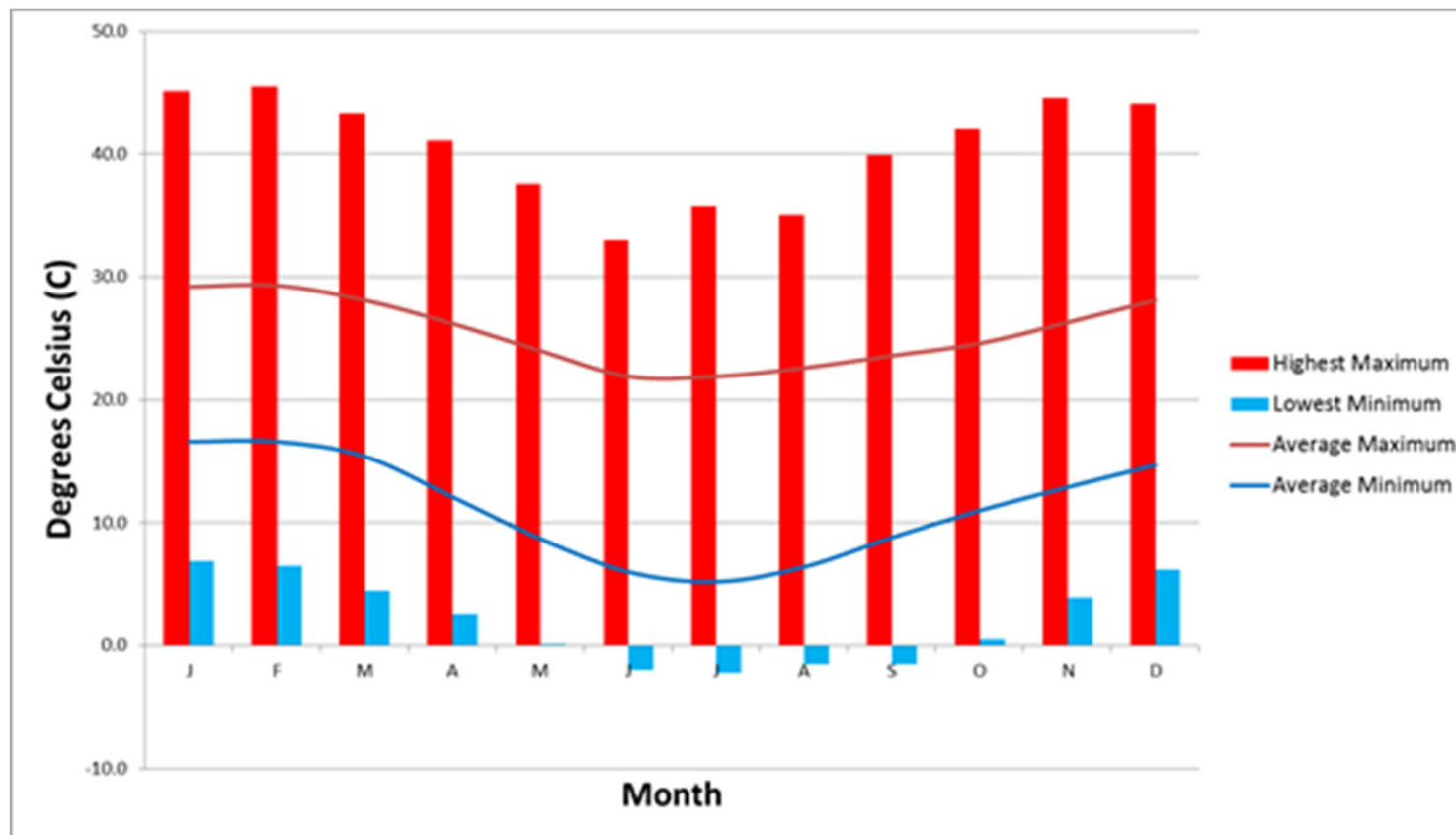
Average rain days

				Average Number of Rain Days per Range:						
Month	Average Monthly Rainfall (mm)	Standard Deviation	Average Number of Rain Days per Month	1 - 5 mm	5 - 10mm	10 - 20mm	20 - 50mm	50 - 100 mm	> 10 mm	Maximum 24-hour Rainfall (mm)
JAN	27.4	14.9	9.9	2.8	1.5	0.5	0.1	0	0.6	33
FEB	49.9	27.4	10.4	4	1.2	0.5	0.6	0.1	1.2	59
MAR	53.4	41	10.7	3.6	1.3	1.2	0.1	0.2	1.5	72
APR	54.3	31.5	11.4	3.6	1.1	0.9	0.5	0.1	1.5	57
MAY	21.4	20.9	7.7	1.7	1.1	0.4	0.1	0	0.5	51
JUN	29.9	23.4	9	3	0.8	0.7	0.2	0	0.9	39
JUL	38.1	36.9	7.8	3.1	1	0.7	0.4	0	1.1	45
AUG	33.5	32.3	8.5	3.4	0.6	0.5	0.3	0.1	0.9	56
SEP	20.2	20.5	5.9	2.1	1.3	0.2	0.1	0	0.3	30
OCT	58.4	50.2	11.9	3.5	1.5	0.9	0.5	0.1	1.5	100
NOV	42.5	31.6	9.4	2.8	1.3	0.8	0.5	0	1.3	48
DEC	36	25.3	10.7	4.5	1.5	0.5	0.2	0	0.7	41
YR	465		113.2	38.1	14.2	7.8	3.6	0.6	12	

PHYSICAL CHARACTERISTICS OF THE STUDY AREA

CLIMATE

Monthly average temperatures



Note: SANRAL “hot spray” seal embargo will apply i.e., no hot spray seal work for the five months between May and September

PHYSICAL CHARACTERISTICS OF THE STUDY AREA

GEOLOGY

- The geology of the area falls into the formations known as the **Uitenhage Group**. This group includes the Kirkwood formation, the Enon Conglomerates and the Sundays River formation.
- The alignment of the road generally follows a **band of alluvium and alluvial sheet gravel** with a width of approximately 4 km across the valley bottom.
- A band of the **Enon Conglomerate, consisting of quartzite cobbles** in a silty matrix, occurs immediately north of Kirkwood. It is this conglomerate which offers **potential sources of pavement layers for road construction**.
- The same conglomerate occurs in the alluvium deposits along the valley bottom. This material is excavated on a commercial basis by **Mullers Quarry which is on the Dunbrody district road off Km 31.4**. This material was used in the construction of the existing road.
- The sandstones and mudstones do not offer potential as sources of hard rock aggregates.
- The **conglomerates would require crushing to meet the requirements** for selected layers and sub-base.
- A hard rock aggregates would have to be sourced from **commercial sources in the Port Elizabeth area**.
- **Calcrete deposits provide potential sources of selected layers**. However, only BP 3 has been identified as possible source of calcrete construction material.
- The conglomerate material near Kirkwood is considered to be of better quality than the calcrete.

VOLUME 6: MATERIALS REPORT

6. MATERIAL INVESTIGATION

6.1 Geotechnical Investigation

The geotechnical investigation of the route has been conducted in several phases, namely:

- A centreline pavement materials investigation.
- A borrow pit investigation where material samples were collected at areas that have potential to produce adequate quality and quantity of gravel material needed to construct the road.
- A Commercial Quarry investigation that included the identification of possible hard rock quarries to obtain material for the upper pavement base layers and surfacing.
- Geotechnical investigations for the construction of the new Bezuidenhoutss river bridge, the widening of the Coerneys river and Sundays river bridge, the retaining wall between km 33+093 and km 34+060 and the possible extension of BP 7.

VOLUME 7: ENVIRONMENTAL ASPECTS

- No work may proceed within 32 metres of a watercourse without prior authorisation from the Department of Environmental Affairs.
- The following plans need to be developed by the Contractor and form part of the final EMP to be implemented on site:
 - Erosion Management Plan
 - Rehabilitation Management Plan; and
 - Alien Vegetation Management Plan.
- In addition the following must be undertaken by the Contractor as seven (7) Species of Conservation Concern were identified during the vegetation survey of the project area:
 - Conduct Search and Rescue (S&R) along the entire Phase 2 of the R336 road.
 - S&R must be conducted by a qualified botanist.
 - An S&R Report must be submitted on completion of all S&R on site.
 - Obtain all relevant relocation permits from DEDEAT prior to commencement of construction.
- Three pockets of natural Albany Alluvial Vegetation occur along the road, contains 7 Species of Conservation Concern:
 - where disturbed by project works it will be necessary to obtain a permit for removal or transplant prior to construction.
 - Search and Rescue requires a permit and must be conducted by qualified botanist.

VOLUME 7: ENVIRONMENTAL ASPECTS

Small pockets within the road reserve along Phase 2 of the R336 contain intact thicket vegetation (called intact thornveld).

Intact Vegetation Pocket 1	(Northern section of road only) 33° 28.175'S 25° 32.255'E	(Northern section of road only) 33° 28.308'S 25° 32.576'E	
Intact Vegetation Pocket 2	(Southern section of road only) 33° 28.460'S 25° 32.804'E	(Southern section of road only) 33° 28.568'S 25° 33.044'E	

VOLUME 7: ENVIRONMENTAL ASPECTS

Small pockets within the road reserve along Phase 2 of the R336 contain intact thicket vegetation (called intact thornveld).

Natural Vegetation Pocket 3	(Both sides of road) 33° 28.903'S 25° 34.384'E	(Both sides of road) 33° 28.958'S 25° 34.504'E	
------------------------------------	--	--	--

VOLUME 7: ENVIRONMENTAL ASPECTS

Two sections along the R336 Phase 2 contains dense riparian vegetation associated with river crossings.

Riparian vegetation Pocket 1	(Both sides of the road) 33° 28.229'S 25° 32.062'E	(Both sides of the road) 33° 28.206'S 25° 32.142'E	
Intact Vegetation Pocket 2	(Both sides of the road) 33° 30.169'S 25° 36.624'E	(Both sides of the road) 33° 30.156'S 25° 36.733'E	



TENDER CLARIFICATION BRIEFING CLOSURE

- QUESTIONS
- MINUTES OF PROCEEDINGS
- ADDENDA PROCEDURES
- CLOSING DATE