THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

CONTRACT SANRAL X.003-038-2019/1

ROUTINE ROAD MAINTENANCE OF NATIONAL ROUTE N9 SECTION 6 (KM62.97) TO SECTION 7 (KM 28.82) AND NATIONAL ROUTE N10 SECTION 4 (KM 0.0) TO SECTION 5 (KM 6.34) AND NATIONAL ROUTE R56 SECTION 1 (KM 1.11 TO KM 58.78)

ROAD CONDITION REPORT

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DISCLAIMER

This report has been compiled for the South African National Roads Agency SOC Limited for the use of its Routine Road Maintenance contracts on the national road network.

The information provided in this report is based on data which has been collected on the Routine Road Maintenance contracts over the past three years.

The South African National Roads Agency SOC Limited takes no responsibility for the accuracy or adequacy of each item, which is offered in good faith.

1. INTRODUCTION

The intention of this report is to provide information to the Contractors who are interested in tendering for the routine road maintenance contracts. The information given is based on actual maintenance data and experience gained on maintenance done over the last 4.8 years.

This information will assist the Contractor in his tendering process and carrying out of the routine road maintenance.

The nature of work to be carried out under this contract includes inter alia:

- Establishment of camps on site
- Inspection of the road during the day and night
- Accommodation of traffic
- Pavement layers repairs
- Edge build-up removal
- Repair of potholes, edge breaks and surface failures
- Crack sealing and patching of asphalt pavements
- Repair of slope failures and washaways
- Stabilisation of cuttings
- Cleaning of all drainage structures, including removal of grass and debris from grids, as well as clearing bridge drainage ports and scuppers
- Repairing damaged fencing
- Shoulder repairs
- Clearing refuse from the road reserve, lay-byes and interchanges
- Repairing damaged road signs
- Cleaning of road signs
- Installation and replacement of road studs
- Repairing damaged guardrails
- Road marking
- Gabion protection
- Regular mowing of grass in the road reserve including the median and the removal of grass cuttings
- Application of herbicide on road edges and around road signs
- Eradication of weeds and undesirable plant growth
- Emergency assistance
- Minor road works done under dayworks

The full scope of works is presented as a bill of quantities in Volume 3 (Contract Documentation).

2. SCOPE

The primary aim of this report is to provide general and historic routine maintenance data to the Contractor.

The topics covered falls under the following broad categories:

- General information
- General as built information
- Traffic information
- Road furniture information
- Historic routine road maintenance information
- Proposed future rehabilitation projects
- Subcontractors involved with routine road maintenance

3. DETAIL DESCRIPTION

3.1 GENERAL

The following National Routes are included in this Contract:

- N9 Section 6 from Lootsberg Pass (km 62.97) to Middelburg (km 103.29).
- N9 Section 7 from Middelburg (km 0.00) to the Carlton Heights Northern Cape Border (km 28.82).
- N10 Section 4 from Cradock (km 0.00) to Middelburg (km 95.26).
- N10 Section 5 from (km 0.00) to the Northern Cape border (km 6.34).
- R56 Section 1 from Middelburg (km 1.11) to (km 58.78).

The site comprises of the following route sections with a total length of approximately 228.41 kilometres.

3.1.2 DISTRICT MUNICIPALITY

This project is located in the Eastern Cape Province of South Africa, within the Chris Hani District municipality and the Inxuba Yethemba Local Municipality.

3.1.3 CLIMATE

Middelburg has a Mid-latitude steppe climate. The district's yearly temperature is 17.12ºC and it is -4.1% lower than South Africa's averages. Middelburg typically receives about 85.0 millimeters of precipitation and has 126.22 rainy days (34.58% of the time) annually.

Table 1: Route information

Route	Section	Chainage (km)		Length (km)	Road Pavement Area * (m^2)	Road Reserve Area * (ha)
		Start	End			
N9	6	62.97	103.29	40.32	467.712	0.121
N9	7	0.00	28.82	28.82	432.3	0.101
N10	4	0.00	95.26	95.26	952.6	0.429
N10	5	0.00	6.34	6.34	63.4	0.019
R56	1	1.11	58.78	57.67	576.7	0.173
Totals				**228.41**	**2492.712**	**0.843**

* ***Areas excluding cross roads***

The Original Contract period for construction monitoring is three (3) years. The contract has been extended from 03 December 2024 to 30 November 2026.

The site office is in the town of **Middelburg,** in the Eastern Cape, under **Inxuba Yethemba Local Municipality** in the **Chris Hani District Municipality.**

A Locality Plan is included in **Annexure 1**.

3.2 INTERCHANGES AND INTERSECTIONS

3.2.1 Interchanges

There are no interchanges included under this contract.

3.2.2 Intersections

The following intersections occur along the National Routes.

Table 2: Intersection information

Route	Interchanges		Chainage	Destination
	Latitude	Longitude	km	
N9 Section 6	31°31'08.92"S	25°00'58.67"E	103.00	Middelburg
	31°33'04.52"S	25°00'36.01"E	99.90	Wolvevlei
	31°40'03.52"S	24°58'19.19"E	86.40	Esesvlei
	31°46'00.55"S	24°54'56.32"E	73.90	Wapelberg
	31°47'09.64"S	24°53'50.86"E	71.80	Mazeppa
Route	**Interchanges**		**Chainage**	**Destination**
N9 Section 7	31°29'34"S	25°00'58.50"E	2.90	Middelburg town
	31°28'57.34"S	25°00'36.42"E	4.20	Meintjies Street
	31°29'58.75"S	25°00'51.38"E	5.90	Agricultural College
	31°26'16.95"S	25°01'18.83"E	9.5	Bangor
	31°21'39.81"S	25°00'58.26"E	19.04	Sherborne Farm
	31°19'48.02"S	24°58'26.61"E	24.50	De Aar/N10-5
	31°19'16.35"S	24°57'52.9"E	25.63	Beskuitfontein
Route	**Interchanges**		**Chainage**	**Destination**
N10 Section 4	32°10'8.61"S	25°37'1.29"E	0.05	Durban Street
	32°10'3.13"S	25°36'58.97"E	0.2	Victoria Street
	32° 9'54.08"S	25°36'56.17"E	0.65	N10/ R390 junction
	32°09'56.12"S	25°36'48.12"E	0.85	Trim Park, Dundas Street
	32°09'58.64"S	25°36'37.94"E	1.0	Station Road
	32°09'57.62"S	25°36'37.16"E	1.23	Diamant Strt
	32°09'53.33"S	25°36'58.69E	1.35	Meliahthus Street
	32°09'52.32"S	25°36'21.64E	1.47	Celtis Strt
	32°09'38.72"S	25°36'08.42"E	2.0	Correctional Services
	32°08'43.87"S	25°34'45.32"E	5.05	Graaff-Reniet/R61
	32°04'34.25"S	25°31'34.36"E	14.2	Kaptein
	32°00'43.21"S	25°29'37.48"E	22.2	Baroda
	31°47'24.41"S	25°17'36.62"E	54.9	Bloukrans
	31°47'13.59"S	25°17'26.38"E	55.27	Conway
	31°44'39.19"S	25°14'50.83"E	61.7	Spitskopvlei/ Hofmeyer Junction
	31°32'31.98"S	25°03'06.16"E	92.03	Tafelberg

Route	Interchanges		Chainage	Destination
N10 Section 5	-	-	-	-
Route	**Interchanges**		**Chainage**	**Destination**
R56 Section 1	31°29'44.28"S	25° 0'54.78"E	1.15	Van Der Walt Street
	31°29'40.96"S	25° 0'55.96"E	1.24	Du Plessis Street
	31°29'39.45"S	25° 0'57.27"E	1.27	N9-7
	31°29'36.31"S	25° 1'10.93"E	1.70	Rivier Road
	31°29'35.22"S	25° 1'14.30"E	1.78	Agricultural College
	31°29'35.73"S	25° 1'16.00"E	1.82	Middelburg Waste Management
	31°29'35.13"S	25° 2'39.38"E	4.15	Brulberg
	31°29'2.02"S	25° 6'35.11"E	10.4	DR02630
	31°28'55.62"S	25° 6'58.12"E	11.04	Rosmead
	31°28'18.34"S	25°10'17.73"E	16.43	Suurberg/DR02631
	31°27'1.56"S	25°29'17.64"E	47.44	Oorlogspoort Macasserfontein
	31°26'57.52"S	25°29'34.97"E	47.9	Schoombee Teviot

3.3 ROAD FURNITURE AND CONCRETE DRAINS INFORMATION

3.3.1 Concrete Drains

The table below provides a summary of concrete drains along the National Routes.

Table 3: Concrete drain information

Route and Section	Total Length (m)	Description
N9 Section 6	6714.69	Concrete side drains
N9 Section 7	6525.9	Concrete side drains
N10 Section 4	18205	Concrete side drains
N10 Section 5	1173	Concrete side drains
R56 Section 1	1380	Concrete side drains
Total	**33998.59**	

3.3.2 Guardrail Barriers

A summary of the guardrails occurring along the National Routes is provided below.

Table 4: Guardrail information

Route	Total Length (m)	Comment
N9 Section 6	6714.69	Armco Guardrails
N9 Section 7	14866.62	Armco Guardrails
N10 Section 4	6819.9	Armco Guardrails
N10 Section 5	7966.71	Armco Guardrails
R56 Section 1	2811.78	Armco Guardrails
Total	**39179.7**	

3.3.3 **Traffic Signs**

The traffic signs are generally in a good condition. Warning signs are positioned at the required locations and danger plates have been erected at the culverts.

Road signs are replaced or repaired as and when they are damaged. The position of reference markers on N9 section 6 and N10 section 4 position was verified and rectified. Reference markers on the N9 section 6 have wooden posts and reference markers on the rest of the routes are placed on steel posts. New GD signs from the previous project have been erected and overlays were used for town name changes.

3.3.4 **Culverts**

Culverts along all routes are in a good to fair condition and most of the culverts allow for the flow of water. Culverts are being maintained by the subcontractors. Some of the culverts that required erosion protection at the inlets and outlets was done during the course of the contract.

4. PAVEMENT MANAGEMENT SYSTEM INFORMATION

The information presented in the following paragraphs includes all on-ramps and off-ramps as well as overpasses and underpasses within the National Road reserve up to the limits of the South African National Roads Agency's responsibility.

Excluded are provincial, municipal and private cross roads, which are not accessible from the National Road reserve.

A Locality Plan is included in **Annexure 1**.

The total distance is approximately 228.41 kilometres.

4.1 DESCRIPTION OF INFORMATION

4.1.1 National Route N9 Section 6

The Route description of the national route N9 Section 6, from Lootsberg Pass (km 62.97) to Middelburg (km 103.29), consists of the following:

This section of route N9 commences at Lootsberg Pass in the southwest direction of Middelburg towards Graaff-Reinet and continues northeast towards Middelburg.

- Type of carriageway = Single (S) carriageway
- Surfacing = Single seal
- Interchanges = None
- Shoulders = Paved (P)
- Toll Plazas = None
- Carriage width = 11.6m
- Road reserve width = Approximately 30m
- Median description = None
- Topography = Rolling to Mountainous
- Climate (Weinert) = Dry

4.1.2 National Route N9 Section 7

The Route description of the national route N9 Section 7, from Middelburg (km 0.00) to the Northern Cape border (km 28.82), consists of the following:

This section of route N9 commences in Middelburg and continues northeast towards the Northern Cape border at Carlton Heights

- Type of carriageway = Single (S) carriageway
- Surfacing = Single seal
- Interchanges = None
- Shoulders = Paved (P)
- Toll Plazas = None
- Carriage width = 15 m
- Road reserve width = Approximately 35m
- Median description = None
- Topography = Flat
- Climate (Weinert) = Dry

4.1.3 National Route N10 Section 4

The Route description of the national route N10 Section 4, from Nxuba (Cradock) km 0.00 Middelburg km 95.26 consists of the following:

This section of route N10 commences in Nxuba (Cradock) just before the Stockenstroom Street and Church Street intersection and continues in a northwestern direction towards Middelburg. This section terminates at km 95.26 after Middelburg Golf Club.

- Type of carriageway = Single (S) carriageway
- Surfacing = Multiple seals
- Interchanges = None
- Shoulders = Paved (P)
- Toll Plazas = None
- Carriage width = 10 m
- Road reserve width = Approximately 45m
- Median description = None
- Topography = Rolling to Mountainous
- Climate (Weinert) = Dry

4.1.4 National Route N10 Section 5

The Route description of the national route N10 Section 5, from (km 0.00) to the Northern Cape border (km 6.34) consists of the following:

This section of route N10 commences at the intersection of N9 and continues in a southwestern direction towards Hanover and terminates at the Northern Cape border (km 6.34).

- Type of carriageway = Single (S) carriageway
- Surfacing = Multiple seals
- Interchanges = None
- Shoulders = Paved (P)
- Toll Plazas = None
- Carriage width = 10 m
- Road reserve width = Approximately 30m
- Median description = None
- Topography = Rolling to Mountainous
- Climate (Weinert) = Dry

4.1.5 National Route R56 Section 1

The Route description of the national route R56 Section 1, from km 1.11 to km 58.78 consists of the following:

This section of route R56 commences in Middelburg on R56 between Smid Street and Van Der Walt Street at km 1.11 and continues eastwards in the direction of Steynsburg and terminates at km 58.78.

- Type of carriageway = Single (S) carriageway
- Surfacing = Multiple seals
- Interchanges = None
- Shoulders = Unpaved (U)
- Toll Plazas = None
- Carriage width = 10 m
- Road reserve width = Approximately 30m
- Median description = None
- Topography = Rolling
- Climate (Weinert) = Dry

4.2 DEFINITION OF CODES USED

The table below provides detail on pavement material descriptions and abbreviated specifications.

Table 5: Material descriptions and specifications

Code	Material	Abbreviated Specification
G1	Graded crushed stone	86 – 88 % of apparent density; PI < 4.5
G2	Graded crushed stone	100 – 102 % mod. AASHTO; PI < 6
G3	Graded crushed stone	Min. 98 % mod. AASHTO; PI < 6
G4	Natural gravel	CBR > 80; PI < 6
G5	Natural gravel	CBR > 45; PI < 10
G6	Natural gravel	CBR > 25; PI < 10
G7	Gravel – soil	CBR > 15
G8	Gravel – soil	CBR > 10, in-situ
G9	Gravel – soil	CBR > 7, in-situ
G10	Gravel – soil	CBR > 3, in-situ
BC	Hot-mix Asphalt	Continuously graded
BS	Hot-mix Asphalt	Semi-gap graded
TC	Tar hot-mix	Continuously graded
TS	Tar hot-mix	Semi-gap graded
PCC	Portland cement concrete	Mod. rupture > 4,5 MPa
CRC	Continuously reinforced concrete	
C1	Cemented crushed stone or gravel	UCS 6 – 12 MPa at 100 % mod. AASHTO
C2	Cemented crushed stone or gravel	UCS 3 – 6 MPa at 100 % mod. AASHTO
C3	Cemented natural gravel	UCS 1.5 – 3 MPa at 100 % mod. AASHTO
C4	Cemented natural gravel	UCS 0.75 – 1.5 MPa at 100 % mod. AASHTO
AG	Asphalt surfacing	Gap-graded
AC	Asphalt surfacing	Continuously graded
AS	Asphalt surfacing	Semi-gap-graded
AO	Asphalt surfacing	Open-graded
AP	Asphalt surfacing	Porous
S1	Surface treatment	Single seal
S2	Surface treatment	Multiple seal
S3	Sand seal	
S4	Cape seal	
S5	Slurry	Fine grading
S6	Slurry	Coarse grading
S7	Surface renewal	Rejuvenator
S8	Surface renewal	Diluted emulsion
WM1	Water-bound macadam	PI < 6, 88 – 90 % of apparent density
WM2	Water-bound macadam	PI < 6, 86 – 88 % of apparent density
PM	Penetration macadam	Coarse stone with bitumen or tar
DR	Dump rock	Ungraded waste rock

4.3 PMS – ROAD INFORMATION

No PMS data is available for the National Routes included in this Contract.

5. TRAFFIC INFORMATION

The traffic indicates the annual average daily traffic (AADT) in both directions, as well as the number of 680 kN axle loads, the year in which it was observed and if it was counted (T) or estimated (B). This information is obtained from the Department's CTO system (Comprehensive Traffic Observations).

Table 6: Available CTO information

Route	Section	Station	Km	ADT	ADTT	Daily E80 kN Axle Loads on Road	Year	Counted (T) or Estimated (B)
Information will be provided by SANRAL								

6. HISTORIC ROAD MAINTENANCE INFORMATION

6.1 GENERAL

Maintenance information is based on data gathered during visual inspection as no historic road maintenance information could be obtained from previous maintenance contracts.

Detailed road condition sheets were compiled during the visual inspection for each National Route and are attached in **Annexure 3**. The condition sheets give an indication on the general condition for various objects within the road reserve.

6.1.1 National Route N9 Section 6

The National Route is generally in a good riding condition. The shoulders are mainly surfaced shoulders and are in a good condition. Bleeding was observed in localised areas along the route.

Fencing is present along the entire section. Certain sections of fencing close to Middelburg have been stolen.

Culverts along the route are generally clean. Some of the culverts contain a lot of silt due to high water volumes during rain seasons. Erosion protection was constructed at the inlet and outlet some of the structures that required intervention.

Cut slopes are in a good condition, no sign of failure was observed during the visual inspection. Gabions are also in good condition.

Reference markers are on wooden posts. Some of these markers are damaged and need to be repaired. Road signs are in fair to good condition. Reflective stickers were applied to the back of the traffic signs where they were missing. Road markings, road studs, guardrails and rest areas are in fair to good condition. Some of the guardrails need to be re-aligned.

Vegetation in the road reserve is generally in a good condition. The grass is up kept to spec.

6.1.2 National Route N9 Section 7

The National Route is generally in a good riding condition. The shoulders are both surfaced and gravel, with both surfaced and gravel shoulders being in a good condition. No severe pavement defects were observed along the route during visual inspections.

Fencing is present along the entire section. Culverts along the route are generally clean.

Reference markers and road signs are generally in a good condition. Reflective stickers were applied to the back of the traffic signs where they were missing. Road markings and road studs are in fair to good condition. Some of the road studs need to be replaced. Guardrails and rest areas are also in a good condition.

Vegetation in the road reserve is generally in a good condition, the grass is mowed and maintained according to specification.

6.1.3 National Route N10 Section 4

The National Route is generally in a fair riding condition. The shoulders are both surfaced and gravel, with surfaced shoulders being in a fair to good condition and gravel shoulders being in a fair to bad condition. Certain sections of gravel shoulders need repairs.

Crocodile cracks and potholes were observed in portions of the route.

Fencing is present along the route. Fence outside the peri-urban area is continuously stolen.

Most culverts along the route are clean, but some require cleaning, especially around the inlet and outlet structures.

Shoulder drop offs were noted at rest areas and at some places along the route on which maintenance was done.

Reference markers and road signs are in fair to good condition. Some require replacement due to damage. Some W401 sign poles are cracking due to weathering and need to be replaced. It is proposed that a detailed survey be conducted to verify the position of the reference markers. Reflective stickers were applied to the back of the traffic signs where they were missing.

Slope failures that were identified during the course of the project were addressed. A Slope Stabilization Project was undertaken at Witkransnek Pass.

Road markings, guardrails and road studs are in fair to good condition.

Vegetation in the road reserve is in a good condition. The bushes and trees are continuously maintained.

6.1.4 National Route N10 Section 5

The National Route is generally in a good riding condition. A Special Maintenance Project was undertaken on the N10/5 during the course of the RRM project. The shoulders are both surfaced and gravel, with surfaced shoulders being in a fair to good condition and gravel shoulders being in a fair condition. Surface repairs are continuously needed on this route due to the high amount of heavy motor vehicle traffic present on this route

Fencing is present along the entire section.

Kerb-channels are being maintained. Culverts along the route are generally in a good condition.

Road markings and road studs are in fair to good condition. Guardrails are in a good condition.

Vegetation in the road reserve is generally well maintained.

6.1.5 National Route R56 Section 1

The National Route is generally in a fair to good riding condition. The shoulders are gravel and are in a fair condition.

Surface repairs were observed in localised areas along the route. Surface repairs are required.

Fencing is present along the entire section with local repairs required. Large portions of fencing is rusted with missing or damaged droppers and/or standards.

Gravel shoulders are being damaged by animals burrowing in them. These need to be closely monitored as it causes weak spots in the shoulder. The holes and/or tunnels are constantly repaired.

Culverts are being maintained by subcontractors and are a generally good condition.

Reference markers and road signs are in fair to good condition. Road markings and road studs are in fair to good condition. Guardrails are also in a fair to good condition.

6.2 DESCRIPTION OF INFORMATION

6.2.1 General Information

6.2.1.1 Area Classification

The National Routes included in this Contract run through a number of areas with different area classifications. The National Routes also alternate between single and divided carriageways in certain areas.

Each National Route was assigned a carriageway description (single or divided) passing through an area with classification as rural, urban or peri-urban.

Refer to the tables below for the description and area classification of the different National Routes.

Table 7: Peri-urban – Single Carriageway

Route	Section	Chainage (km)		Length (km)
		Start	End	
N9	6	62.97	103.29	40.32
N9	7	0.00	28.82	28.82
N10	4	0.00	95.26	95.26
N10	5	0.00	6.34	6.34
R56	1	1.11	58.78	57.67
Totals				**228.41**

Table 8: Rural – Single Carriageway

Route	Section	Chainage (km)		Length (km)
		Start	End	
N9	6	62.97	103.29	40.32
N9	7	0.00	28.82	28.82
N10	4	0.00	95.26	95.26
N10	5	0.00	6.34	6.34
R56	1	1.11	58.78	57.67
Totals				**228.41**

6.2.1.2 Cut

When apparent cut slopes exist within the road reserve, the National Routes are categorized as being in cut conditions. To properly handle storm runoff from the road reserve, the cut sections may include concrete or gravel side drains. In general, the drains in cut sections are in good shape.

Certain mountainous cut slopes need to be remedied since they are unstable and have experienced material slippage where loose rocks are deposited into the side drains. In order to hold onto large boulders in areas where instabilities have occurred, gabions must be erected as a maintenance measure. At the time of compiling this report, some cuts had been remedied by erection of gabions.



Figure 1: Gabion protection required along National Route N10 Section

6.2.1.3 Illegal signs

Illegal signs are continuously surveyed and reported. These surveys are then submitted to SANRAL to determine the legality of each sign. All signs considered illegal are removed from the road reserve by the maintenance teams. All new signs erected in the road reserve by third parties are removed unless there has been prior approval from SANRAL.

Illegal signs were observed along the N10 section 4 and have been reported to SANRAL.



Figure 2: Illegal sign on N10 Section 4

6.2.2 Pavement Condition Information

Pavement condition surveys were conducted at several locations along the National Routes. It was noted that the routes receive a lot of heavily loaded traffic. Pavement repairs are continuously carried out by the maintenance teams.

The following failure and distress mechanisms were observed:

- Bleeding
- Potholes
- Edge breaks
- Crocodile cracking
- General fatigue

The failures identified are repaired by means of surface/base repairs, crack sealing, bleeding repair and surface treatment. Pothole repairs are carried out on a continuous basis along all National Routes by the Route Patrol team.

The photos below illustrate distressed areas identified along the National Routes.



Figure 3: Surface failure along National Route N10 Section 4.



Figure 4: Surface failure along National Route N10 Section 5 after Special Maintenance Project.

6.2.3 **Drainage Information**

6.2.3.1 Culverts

Culverts are located at frequent intervals along the National Routes. Most of the culverts are kept clean and drain sufficiently. Debris in culverts are limited along the project route, due to proper maintenance applied to the culverts by the subcontractors. The maintenance of culverts is an ongoing activity and is a priority before the rain season.

The photographs below show areas which receive large quantities of rain water as well as a damaged culvert.



Figure 5: Culvert along National Route N9 Section 6



Figure 6: Flooding problem on National Route N10 Section 4



Figure 7: Culvert with severe soil erosion which led to damaged apron on N9 Section 6

6.2.3.2 Gabions

Gabions are present in local areas along the National Routes. Gabions are used to protect against erosion. They are used for inlets or outlets of structures, cuts, embankments, etc.

The gabions were observed to be mostly in good structural condition. These gabions have been utilised as retaining walls to stabilise areas where slope instabilities have occurred.

The photo below shows a typical example of a gabion structure found along the National Route.



Figure 8: Gabion structure along National Route N9 Section 6

6.2.3.3 Concrete channels and kerbs

Concrete channels are usually found in areas where the roadway is in cut, so that storm water can be directed away from the pavement structure. To prevent soil erosion where storm water velocities are relatively high, concrete channels are also found in areas with mountainous or rolling topography.

Please Refer to **Table 3** for a summary of the lengths present along the National Routes.

Concrete channels are in a good to fair condition. Some of the concrete channels have been damaged by heavy traffic parking on the concrete channels.

The photos below illustrate of concrete channel and kerb maintenance.



Figure 9: Damaged kerb inlet on National Route N10 Section 4



Figure 10: Typical Kerb-channel along National Route R56 Section 1

6.2.3.4 Earth channels

Earth channels are located in local areas along the National Routes. Earth channels are effective at managing storm water in areas where the topography is relatively flat and also where water runoff has relatively low velocities and low erosion potential.

Earth channels are cleaned and cleared of all debris and litter on a monthly basis. Earth channel repairs or reconstruction is done when and where required.

6.2.3.5 Subsoil drains

There are a limited number of subsoil drainage systems along the N10 Section 5 and N9 Section 7.



Figure 11: Sub-soil drainage along National Route N10 Section 5

6.2.4 **Fencing**

Fencing is present along all of the project routes. There are several types of fencing present. The majority of fence are vermin proof fence, nine strands stock proof fence and six strands stock proof fence. Fence which were observed less frequently were game fences, pedestrian fences, security fences and palisade fences. There were also areas in which the fence is missing completely, especially in the peri-urban areas.

The condition of the fences ranges from good to poor and require maintenance in some instances. In areas where fencing is in a poor condition replacement is done as needed.

The image below shows a section of fencing which is in a poor condition.



Figure 12: Old fence along National Route R56 Section 1

6.2.5 Debris and Litter

Debris and litter collection is a continuous maintenance activity carried out by subcontractors along all the National Routes on this project. The table below shows information relating to the frequency of debris and litter collection along the National Routes.

Table 9: Debris and litter information

Route	Chainage (km)		Frequency of Cleaning (Per Month)
	Start	End	
N9 Section 6	62.97	103.29	1
N9 Section 7	0.00	28.82	1-2
N10 Section 4	0.00	95.78	1-2
N10 Section 5	0.00	6.34	1-2
R56 Section 1	1.11	58.78	1

6.2.6 Shoulders

It was noted that all of the project routes included in this contract have either a paved or unpaved (gravel) shoulder at varying widths. Shoulders are in a poor to good condition depending on the amount of heavy motor vehicles creating illegal rest areas. Some sections of gravel shoulders require shoulder repairs due to the extreme drop-off depths and burrowed holes/tunnels. The shoulders are clean and the grass on the shoulder is mowed.



Figure 13: Gravel loss on N10 Section 4



Figure 14: Holes burrowed by animals in the shoulders on R56 Section 1

6.2.6.1 Type

Some of the project routes in this contract have unpaved (gravel) shoulders on certain sections. The width of the shoulders vary between 1m and 3m in most cases.

6.2.6.2 Edge breaks

Minor edge breaks are present along the National Routes.

Edge breaks are usually caused by erosion and traffic movement on the road shoulder or near the shoulder on the surface edge. Edge breaks are repaired where necessary in order to increase road safety.

6.2.6.3 Gravel loss

Gravel loss on the road shoulders were found to be limited along the project routes of this contract as a lot of it has been repaired. At certain rest areas, minimal gravel loss is expected.

Gravel loss is addressed by means of shoulder repairs with imported material and/or blading with in-situ material where possible.

6.2.6.4 Edge build-up

Edge build-up is removed as and when necessary. Due to continuous maintenance, edge build-up is minimal.

6.2.7 **Road Studs**

6.2.7.1 Type and condition at inspection

Road studs were present on most portions of the project routes.

Roads studs are generally in a fair condition. It is recommended that road studs be maintained and replaced where required. Road studs should also be installed in areas where there are safety concerns or in areas which are prone to accidents.

The photograph below illustrates the type of road studs present along the project routes included in this contract.



Figure 15: Old road stud along National Route N10 Section 4

6.2.8 **Road Markings**

Road markings exist on all the project routes.

The road marking range in visibility from fair to good. Some areas have been re-painted recently giving good visibility.

Areas in which the road markings are faded will be remarked by maintenance teams to improve safety along the National Routes. Sandblasting is also required on certain sections. Cosby line was painted on the N10/4 between km 1.1 and 2 to give extra warning for the stop ahead. Center lines, islands and stop ahead markings was also recently painted.

The photograph below shows type of road markings present along the project routes in this contract.



Figure 16: Road marking present on N9 Section 6

6.2.9 Guardrails

Guardrails are in a fair to good condition along the National Routes. Guardrails are generally located at areas where the road fill height is higher than 3m, as well as at bridges, large culverts and protected pedestrian walkways along the National Routes. Some of the guardrails need to be lifted to the correct specification.

Please refer to **Table 4** for a summary on guardrail lengths along the project routes

The photo below illustrates examples of existing guardrail along the National Routes.



Figure 17: Typical guardrail along National Route N10 Section 4

6.2.10 Traffic Signs

Traffic signs have been erected along all of the project routes.

The traffic signs are in a good to fair condition. Most signs are relatively new and still provide adequate reflectivity during the night time, some road signs require reflective stickers to be placed at the back to reduce risk to the road users.

Damaged road signs are repaired or replaced as and when necessary. There are some instances where road signs poles are being stolen. These signs are replaced, but get stolen each time. Road signs are repaired, realigned and replaced by maintenance teams to improve their general condition and improve safety along the routes.

A detailed survey needs to be conducted on km-marker positions, during visual inspection it was observed that some km-makers were placed incorrectly.

On the N9 Section 6, the km-markers are on wooden posts.

The photos below show the general condition of traffic signs along the National Routes.



Figure 18: Road sign on R56 Section 1



Figure 19: Damaged traffic sign along National Route N9 Section 6

6.2.11 **Vegetation**

6.2.11.1 Grass

Grass is regarded as being in a fair to good condition, No tall grass within the road reserve was observed along the project routes. Grass is maintained continuously in the form of monthly shoulder mows and general mows when instructed by the Engineer.

The photograph below shows a typical example of mowed grass in the road reserve.

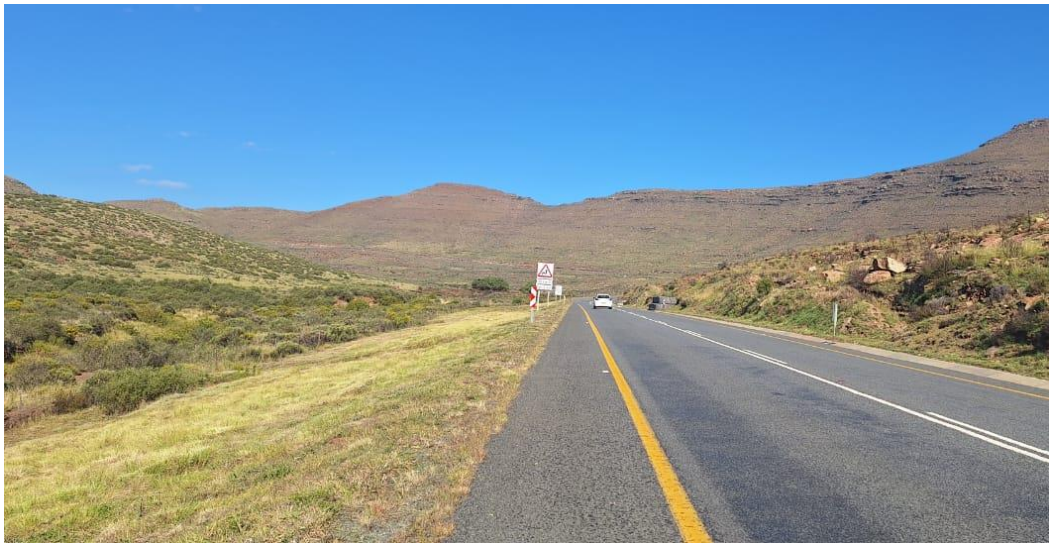


Figure 20: Grass re-growth along National Route R56 Section 1

6.2.11.2 Trees and Shrubs

Trees and shrubs within the reserve are continuously maintained. Undesirable vegetation (i.e. alien trees and shrubs) within the road reserve may be considered dangerous to road users as they obstruct sight distances and are removed when needed.

Physical eradication and chemical control of undesirable vegetation is carried out in the road reserve along all National Routes.

6.2.12 **Rest areas**

There are several rest areas along the project routes. These rest areas are well maintained and tidy. The rest areas consist of all the required signage, rubbish bins and seating. Some rest areas require edge beams in order to protect the edge of the surfacing to prevent edge breaks.

The photograph below illustrate the status of rest area along the N9 Section 6.



Figure 21: Status of rest area along National Route N9 Section 6

6.3 MAINTENANCE INFORMATION

Detailed condition sheets for all National Routes were compiled and are attached in **Annexure 2**. The condition sheets give an indication on the current condition of the routes.

DESCRIPTION OF SECTIONS

M0100 Definitions and terms
M0200 General Requirements and provisions
M0300 Contractor's establishment on site and general obligations
M0500 Accommodation of traffic
M1100 Pavement layers and surface repair
M1200 Surface patching and surfaced roads
M1300 Crack sealing
M1400 Bleeding repair
M1600 Surface treatment of surfaced roads
M2100 Prefabricated culvert installation and maintenance of existing culverts
M2200 Construction and maintenance of inlet, outlet and other structures
M2300 Subsoil drain installation and maintenance
M2400 Cleaning of waterway structures
M2500 Cleaning of prefabricated culverts
M2600 Cleaning of concrete drains and channels
M2700 Cleaning and maintenance of existing earth channels
M2800 Concrete channel construction and maintenance of existing channels
M3100 Fencing
M3200 Collection and removal of debris and litter
M3300 Shoulder repairs and edge build-up removal
M4100 Erection and repair of permanent road traffic signs
M4200 Road sign cleaning and removal of illegal signs
M4300 Road studs
M4400 Guard-rail erection and maintenance
M4600 Road markings
M5100 General Erosion protection
M5200 Gabion protection
M6100 Controlling vegetation growth: mowing and cutting
M6200 Chemical control of vegetation and eradication of undesirable vegetation
M6300 Removal of undesirable vegetation: physical eradication
M6400 Maintenance and establishment of plants, trees and shrubs
M7100 Emergency standby team
M7200 All-emergency normalisation
M9100 Day works schedule

7. SUBCONTRACTORS INFORMATION

7.1 SUBCONTRACTORS

The following subcontractors are appointed on this project at the time of compiling this report:

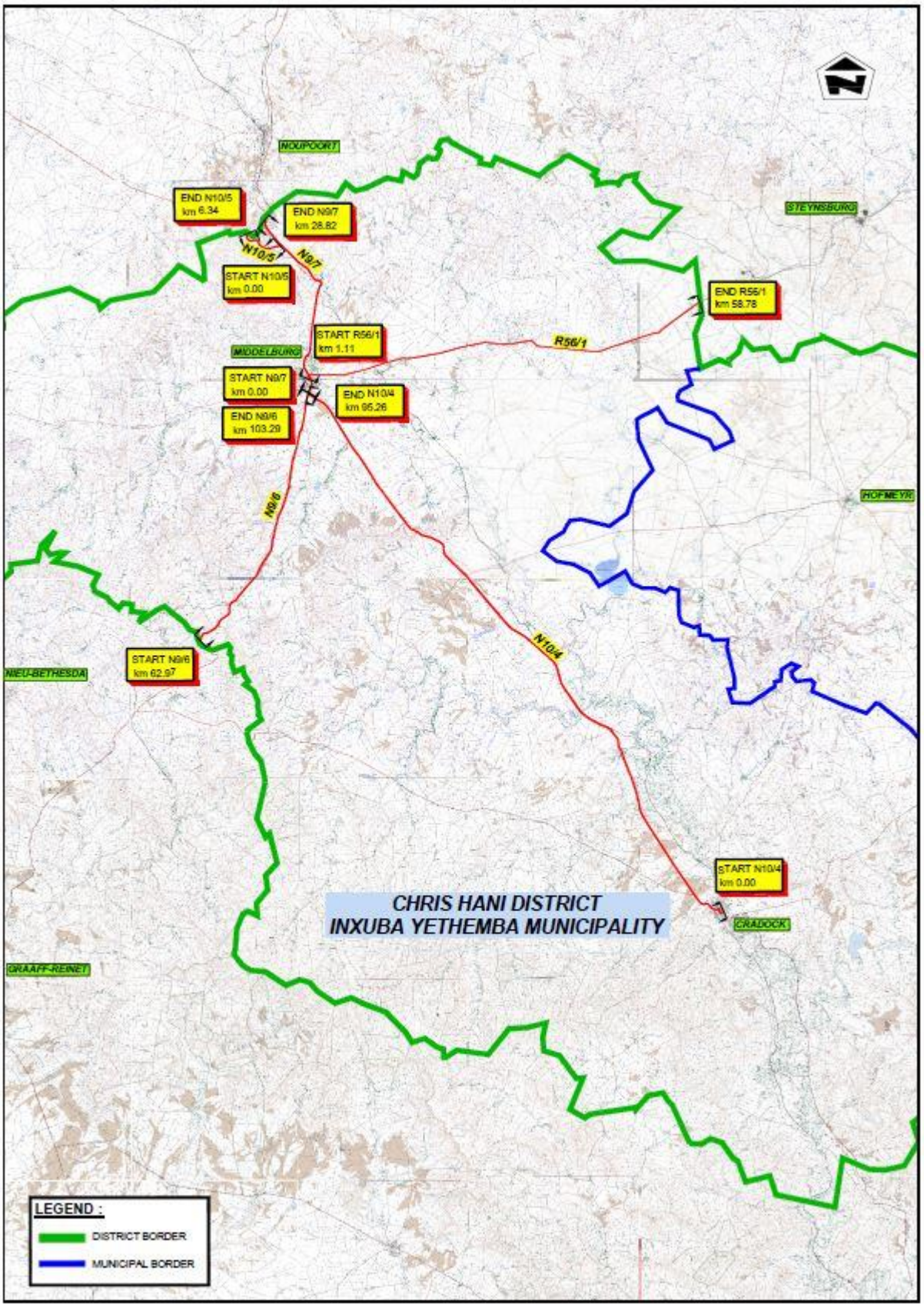
1. K2013230263 SA
2. Hilmer General Trading
3. Sino in Trading
4. Samlande General Trading
5. Mhlatyana Investments
6. Midvest Solutions

8. FUTURE MAINTENANCE AND REHABILITATION PROJECTS

On 05 August 2026, No new Periodic Maintenance Contracts were granted Access to Site.

ANNEXURE 1:

Locality Plan


MOUPOORT
END N10/5
km 6.34
END N9/7
km 28.82
N10/5
N9/7
START N10/5
km 0.00
STEYNSBURG
END R56/1
km 58.78
START R56/1
km 1.11
R56/1
MIDDELBURG
START N9/7
km 0.00
END N10/4
km 95.26
END N9/6
km 103.29
HOFMEYR
N9/6
N10/4
START N9/6
km 62.97
NIEU-BETHESDA
START N10/4
km 0.00
CRADOCK
CHRIS HANI DISTRICT
INXUBA YETHEMBA MUNICIPALITY
GRAAFF-REINET
LEGEND :
DISTRICT BORDER
MUNICIPAL BORDER

ANNEXURE 2:

Detailed Road Condition Sheets
(refer to accompanying Excel sheets)

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)			
SUMMARY			
ITEM	**LHS/POS**	**RHS/NEG**	**TOTAL**
Guardrails (m)	4060.20	2,654.49	6714.69
Concrete side drains (m)	5039.7	1844	6883.7
Culverts Major (No)	-	-	20
Culverts Minor (No)	-	-	296
Fencing (m)	40,630	40630	81,260
Bridges (No)	-	-	5
Lay Byes (No)	5	3	8
Intersections (No)	3	2	5
Farm accesses (No)	21	25	46

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)							
ACCESSES		**NORTH**			**SOUTH**		
Position		**INTERSECTIONS**					
		POSITIVE			**NEGATIVE**		
Chainage	**Direction (NB or SB)**	**Type**	**Name**	**Surface**	**Type**	**Name**	**Surface**
103.000	NB	Intersection	Middelburg	Asphalt			
102.500	NB	Entrance	Hebron	Asphalt			
101.600	NB	Entrance	Farm	Gravel			
101.300	SB				Entrance	Farm	Gravel
101.000	SB				Entrance	Farm	Gravel
100.340	NB	Entrance	Farm	Gravel			
98.900	SB				Intersection	Wolwevlei	Gravel
99.460	NB	Entrance	Farm	Gravel			
99.300	SB				Entrance	Farm	Gravel
98.700	SB				Entrance	Farm	Gravel
98.500	NB	Entrance	Farm	Gravel			
98.200	NB	Entrance	Farm	Gravel			
97.350	SB				Entrance	Farm	Gravel
96.400	SB				Entrance	Farm	Gravel
95.900	SB				Entrance	Farm	Gravel
94.650	NB	Entrance	Greystone	Gravel			
94.100	Both	Entrance	Farm	Gravel	Entrance	Erlin	
92.850	NB	Entrance	Farm	Gravel			
90.770	NB	Entrance	Farm	Gravel			
90.780	SB				Entrance	Farm	Gravel
90.700	SB				Entrance	Dwarsvlei	Gravel
89.900	SB				Entrance	Farm	Gravel
88.750	Both	Entrance	Dwarsvlei	Gravel	Entrance	Farm	Gravel
86.480	NB	Intersection	Eselvlei	Asphalt			
85.250	SB				Entrance	Farm	Gravel
84.700	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
83.700	NB	Entrance	Farm	Gravel			
82.800	SB				Entrance	Farm	Gravel
82.500	NB	Entrance	Farm	Gravel			
81.500	Both	Entrance	Farm	Gravel	Entrance	Wolveberg	Asphalt
79.800	NB	Entrance	Farm	Gravel			
79.590	SB				Entrance	3 Fontein	Asphalt
78.250	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
76.440	NB	Entrance	Farm	Gravel			
76.350	SB				Entrance	Farm	Gravel
76.580	SB				Entrance	Farm	Gravel
75.500	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
74.500	NB	Entrance	Rooihoogte	Asphalt			
73.900	SB				Intersection	Wapelberg	Asphalt
72.730	SB				Entrance	Farm	Gravel
72.300	SB				Entrance	Farm	Gravel
71.800	NB	Intersection	Mazeppa	Asphalt			
66.700	SB				Entrance	Farm	Gravel
68.280	Both	Entrance	Jagpoort	Asphalt	Entrance	Ventershoek Schoombie	Asphalt

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)

BRIDGES

Position Chainage	Bridge No	Structure Name	GPS Coordinates				No of Spans	Last date of safety Inspection	Comment
			Start Latitude (south)	Start Longitude (east)	End Latitude (south)	End Longitude (east)			
67.800	5898	Fouche River Bridge	31°48'33,95"	24°52'45,45"	31°48'33,04"	24°52'45,91"	2	13-Oct-23	
72.500	5899	Ventershoek River Bridge	31°46'37,36"	24°54'21"	31°46'36,26"	24°54'22,41"	4	13-Oct-23	
83.600	2153	Oompies South River Bridge	31°41'34,11"	24°57'48,43"	31°41'32,55"	24°57'48,71"	2	13-Oct-23	
84.900	2154	Oompies North River Bridge	31°40'51,12"	24°57'59,94"	31°40'52,53"	24°57'59,57"	3	13-Oct-23	
103.800	B1870/2012	Road Underpass Bridge	31°31'1,52"	25°1'4,87"	31°31'0,92"	25°1'5,18"	1	13-Oct-23	

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)							
GUARDRAILS							
POSITIVE (EASTBOUND)				**NEGATIVE(WESTBOUND)**			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
98.780	98.714	66.10	Fair	98.796	98.730	66.10	Fair
86.180	86.091	89.00	Fair	84.887	84.904	16.70	Fair
84.855	84.877	22.00	Fair	84.916	84.953	36.60	Fair
84.916	84.933	16.60	Fair	83.600	83.644	44.10	Fair
83.607	83.624	17.00	Fair	83.563	83.580	17.00	Fair
83.562	83.606	43.50	Fair	80.319	80.559	240.10	Fair
80.319	80.508	189.00	Fair	78.955	79.170	214.90	Fair
78.913	79.184	271.00	Fair	76.456	76.521	64.80	Fair
76.506	76.561	54.70	Fair	76.158	76.232	73.70	Damaged guardrails
76.196	76.269	72.60	Fair	75.867	75.929	61.60	Fair
75.882	75.947	64.50	Fair	74.335	74.393	58.10	Fair
74.330	74.388	58.10	Fair	72.626	72.718	91.50	Fair
72.818	73.118	299.90	Fair	72.496	72.567	71.00	Fair
72.631	72.736	104.50	Fair	72.352	72.430	78.40	Fair
72.487	72.531	44.10	Fair	70.911	70.950	38.70	Fair
72.383	72.423	39.60	Fair	67.015	67.059	43.80	Fair
71.195	72.119	924.00	Fair	67.724	67.787	63.20	Fair
70.914	70.953	38.70	Fair	65.511	65.577	65.78	Fair
69.930	70.112	181.90	Fair	64.979	65.044	65.11	Fair
69.131	69.482	351.00	Fair	64.855	65.363	508.30	Fair
68.637	68.954	317.40	Fair	64.322	64.776	454.00	Fair
67.830	67.909	79.10	Fair	63.677	63.958	281.00	Fair
67.738	67.801	63.20	Fair				
67.329	67.439	110.30	Fair				
65.844	65.691	153.40	Fair				
63.352	63.173	179.30	Fair				
63.211	63.397	185.70	Fair				
62.970	62.994	24.00	Fair				
TOTAL(m):		**4060.20**		**TOTAL(m):**		**2,654.49**	

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)							
CONCRETE SIDE DRAINS							
POSITIVE (EASTBOUND)				**NEGATIVE(WESTBOUND)**			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
90.403	90.080	323.0	Fair	90.350	89.983	367	Fair
82.786	82.504	282.0	Fair	82.816	82.564	252	Fair
81.408	80.960	447.7	Fair	72.658	72.043	615	Fair
69.930	69.476	454.0	Fair	71.154	71.045	109	Fair
67.716	67.333	383.0	Fair	70.478	69.977	501	Fair
67.215	65.748	1467.0	Fair				
63.900	63.587	313.0	Fair				
65.343	63.973	1370.0	Fair				
TOTAL(m):		**5039.7**		**TOTAL(m):**		**1844**	

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)							
MAJOR CULVERTS							
Position Chainage	**Culvert No**	**No. of box or pipe**		**Box**		**Pipe**	**Comment**
		Box	**Pipe**	**H(mm)**	**W(mm)**	**ø (mm)**	
65.010	5-7-9-5	1		2400	2400		1 Box.
65.700		1		2400	2400		1 Box. Vegetation.
69.950		1		2100	2100		1 Box. Dirty.
72.700		3		2100	3400		3 Boxes
74.370		1		2100	2100		1 Box.Slight soil erosion.
75.950		1		2800	4700		1 Box. Slight soil erosion.
76.480		1		1600	2400		1 Box. Slight soil erosion.
77.490		1		1800	2400		1 Box. Slight soil erosion.
78.760		1		1300	1800		1 Box. Guardrails required on positive side.
79.080		1		1400	2400		1 Box.
80.370		1		1900	2400		1 Box.
80.970		1		1800	1800		1 Box.
66.170		2		1600	2400		2 Boxes.
86.950		1		1800	1800		1 Box. Slight soil erosion.
89.405		3		1600	2400		3 Boxes. Slight soil erosion.

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)

CULVERTS

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
63.300		1			600	1 Pipe.
63.730		2			600	2 Pipes. Dirty.
63.830		2			600	2 Pipes.
63.930		2			600	2 Pipes. Dirty.
63.980	2		600	1200		2 Pipes. Dirty.
64.120	2		450	900		2 Pipes. Dirty.
64.230		1			600	Soil erosion.
64.260		2			600	2 Pipes. Soil erosion.
64.415		2			600	2 Pipes.
64.555		1			1100	1 Pipe.
64.685	1		600	1200		1 Box. Dirty.
64.777	1		500	1800		1 Box. Vegetation.
64.815	1		600	1200		1 Box. Dirty.
64.900	1		500	1800		1 Box. Silt.
64.980	1		600	1200		1 Box. Silt. 2 Missing 401s.
65.100		3			600	3 Pipes.
65.040		2			600	2 Pipes. Slight soil erosion.
65.400	1		900	1800		1 Box.
65.430	1		600	1800		1 Box.
65.600		1			600	1 Pipe.
65.750		2			600	2 Pipes.
65.800	1		600	1800		1 Box.
66.010		2			600	2 Pipes. Dirty.
66.080		1			600	1 Pipe.
66.120		3			600	3 Pipes.
66.200		2			600	2 Pipes.
66.230		2			600	2 Pipes.
66.260	2		450	900		2 Boxes. Dirty.
66.300	2		560	900		2 Boxes.
66.370	1		900	1900		1 Box. Vegetation. Soil erosion.
66.510	1		600	900		Soil erosion.
66.690		2			600	2 Pipes. Silt.
66.790	1		1150	2100		1 Box. Vegetation.
66.900		1			600	1 Pipe. Vegetation
67.000		2			600	2 Pipes. Missing W401
67.040		1			600	1 Pipe.
67.120		1			600	1 Pipe.
67.215		1			600	1 Pipe.
67.280		2			600	2 Pipes. Shoulder repairs needed.
67.500		1			600	1 Pipe. Dirty.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
67.760	1		2400	2400		1 Box. Water in channel.
67.900		1			600	1 Pipe.
68.025		1			600	1 Pipe.
68.120	4		600	1800		4 Boxes.
68.250	2		500	900		2 Boxes.
68.380		2			600	2 Pipes.
68.500	1		600	1200		1 Box.
68.640		1			600	1 Pipe.
68.640		1			600	1 Pipe.
68.760		1			600	1 Pipe.
68.900		1			600	1 Pipe.
70.500		1			600	1 Pipe. Dirty.
70.385		1			600	1 Pipe.
70.320		1			600	1 Pipe.
70.240		1			600	1 Pipe.
70.140		2			600	2 Pipes.
70.023		2			600	2 Pipes.
70.570		2			600	2 Pipes.
70.660		2			600	2 Pipes. Dirty.
70.720		1			600	1 Pipe.
70.825		2			600	2 Pipes. Silt.
71.150		3			600	3 Pipes. Dirty.
71.270		1			600	1 Pipe.
71.412		1			600	1 Pipe. Vegetation.
71.500		1			600	1 Pipe. Dirty.
71.620		1			600	1 Pipe. Dirty.
71.770		1			600	1 Pipe. Dirty.
71.870		2			600	2 Pipes. Vegetation.
72.350	1		1200	1200		1 Box. Stream.
73.060	1		1200	1200		1 Box.
73.590		1			600	1 Pipe.
73.760		2			600	2 Pipes.
73.975		2			600	2 Pipes.
74.160	1		600	1200		1 Box. Vegetation.
74.210	3		450	900		3 Boxes. Vegetation.
74.500		1			600	1 Pipe.
74.700	1		600	1200		1 Box. Loose W401.
74.815	1		450	900		1 Box. Vegetation.
74.910	1		450	900		1 Box. Soil erosion.
74.975		1			600	1 Pipe.
75.090	1		600	600		1 Box. Soil erosion.
75.130		1			600	1 Pipe. Vegetation.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
75.207	1		900	2400		1 Box.
75.360		3				3 Pipes.
75.430		2			600	2 Pipes. Vegetation.
75.680	1		450	900		1 Box. Vegetation.
75.780		1			600	1 Pipe. Vegetation.
75.850		1			600	1 Pipe. Vegetation.
76.000		1			600	1 Pipe. Vegetation.
76.080	1		450	900		1 Box. Vegetation.
76.180	1		1350	2400		Slight soil erosion.
76.315		2			600	2 Pipes. Vegetation. Slight soil erosion.
76.570		2			600	2 Pipes. Vegetation.
76.580		1			600	1 Pipe.
76.610		2			600	2 Pipes. Vegetation.
76.980		1			600	1 Pipe. Loose W401
76.793	1		450	900		1 Box. Missing W401
76.920	2		450	900		2 Boxes.
77.070	1		450	900		1 Box. Vegetation.
77.230	1		600	1200		1 Box. Vegetation.
77.585		1			600	1 Pipe. Vegetation.
77.670		1			600	1 Pipe. Vegetation.
77.960		1			600	1 Pipe. Vegetation. Slight soil erosion.
78.045	1		1100	1800		1 Box. Loose W401. Vegetation.
78.250		1			600	1 Pipe. Vegetation.
78.340	1		1400	1800		1 Box.
78.423	1		450	900		1 Box.
78.670	1		450	900		1 Box. Vegetation.
78.970		1			600	1 Pipe. Vegetation.
79.080	1		1400	2400		1 Box.
79.550	1		1200	1200		1 Box. Vegetation. Slight soil erosion.
79.150		1			600	1 Pipe. Vegetation.
79.798		1			600	1 Pipe. Vegetation.
79.825	1		1000	1800		1 Box.
80.070	1		900	1800		1 Box.
81.400		1			600	1 Pipe.
81.440		1			600	1 Pipe. Vegetation.
81.635	1		450	900		1 Box.
81.825	1		1200	1500		1 Box.
81.070		1			600	1 Pipe.
82.623		1			600	1 Pipe. Vegetation.
82.648		1			600	1 Pipe. Vegetation.
82.673		1			600	1 Pipe. Vegetation.
83.435	1		450	900		1 Box. Dirty.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
83.660		1			600	1 Pipe.
84.110	1		450	900		1 Box.
84.280	2		600	1200		2 Boxes. Vegetation. Slight soil erosion.
84.401	1		450	900		1 Box.
84.520	1		450	900	600	1 Box under road and 1 pipe at rest area.
84.610	1		450	900		1 Box.
84.720	1		450	900		1 Box.
84.980	1		900	2100		1 Box.
85.100	1		450	900		1 Box.
85.230	1		450	900		1 Box.
85.370	1		450	900		1 Box.
85.480	1		450	900		1 Box.
85.580		1			600	1 Pipe.
85.680		1			600	1 Pipe. Vegetation.
85.710		1			600	1 Pipe.
85.800	1		450	900		1 Box.
86.350	1		900	1800		1 Box. Silt. Water ponds during rainfalls.
86.423	1		450	900		1 Box. Dirty. Silt. Water ponds during rainfalls.
80.473	1		450	900		1 Box.
86.597	1		1300	1800		1 Box. Dirty. Silt. Water ponds during rainfalls.
86.640		1			600	1 Pipe. Vegetation.
87.070		1			600	1 Pipe.
87.193		1			600	1 Pipe.
87.470	1		900	1200		1 Box. Vegetation.
87.500	1		450	900		1 Box.
87.520	1		800	1200		1 Box.
87.830	3		1400	2100		3 Boxes. Vegetation.
87.940	1		450	900		1 Box.
87.980		1			600	1 Pipe.
88.190	1		450	900		1 Box.
88.220		1			600	1 Pipe. Slight soil erosion. Vegetation.
88.245	1		900	1200		1 Box. Slight soil erosion.
88.300	1		600	1800		1 Box. Vegetation.
88.625	1		450	900		1 Box.
88.629	1		450	900		1 Box.
88.700	1		600	1200		1 Box. Vegetation.
89.020	2		600	3000		2 Boxes. Blocked.
89.340	2		1400	2400		2 Boxes.
89.550		1			850	1 Pipe.
89.680	1		900	3600		1 Box.
89.740	1		450	900		1 Box.
89.775	1		450	1800		1 Box.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
91.415	1		1000	2400		1 Box. Silt.
91.545		1			600	1 Pipe. Vegetation.
91.606		1			600	1 Pipe.
91.700	3		1200	2400		3 Boxes. Dirty.
91.905		1			600	1 Pipe.
92.040	1		900	1200		1 Box. No apron slab.
92.150	2		900	2400		2 Boxes.
92.191	1		900	1800		1 Box.
92.230	1		600	1200		1 Box. Blocked.
92.250	1		450	900		1 Box. Vegetation.
92.470		1			600	1 Pipe. 2 Missing W401s.
92.530	1		450	900		1 Box. Vegetation.
92.610	1		450	900		1 Box. Vegetation.
92.700	1		450	900		1 Box. Vegetation.
92.800	1		450	900		1 Box. Vegetation.
92.982	1		450	900		1 Box. Vegetation.
93.078	1		450	900		1 Box. Vegetation.
93.165	1		450	900		1 Box. Slight concrete erosion.
93.240	1		450	900		1 Box. Vegetation.
93.330	1		450	900		1 Box.
93.540	1		450	900		1 Box.
93.775	1		900	1200		1 Box. Vegetation.
93.840		1			600	1 Pipe. Vegetation.
93.960	1		450	900		1 Box.Vegetation.
94.207	3		600	1200		3 Boxes.
94.407		1			600	1 Pipe.
94.612	1		900	1800		Silt
94.845	1		450	900		1 Box.
94.950	1		450	900		1 Box.
95.010		1			600	1 Pipe.
95.100	1		450	900		1 Box.
95.220		1			600	1 Pipe.Vegetation.
95.363		1			600	1 Pipe.Vegetation.
95.490		1			600	1 Pipe.Vegetation.
95.595		1			600	1 Pipe.Vegetation. Silt.
95.720		1			600	1 Pipe. Silt. Slight concrete erosion.
95.804		1			600	1 Pipe.Vegetation.
95.950	1		900	1800		1 Box. Vegetation.
96.030		1			600	1 Pipe.Vegetation.
96.177		1			600	1 Pipe.
96.300		1			600	1 Pipe.
96.418	1		450	900		1 Box.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
96.570	1		900	1500		1 Box.
96.670		1			600	1 Pipe.
96.770	3		1000	2400		3 Boxes.
97.965	1		1200	1500		1 Box. Vegetation.
97.000		1			600	1 Pipe.
97.880	1		450	1200		1 Box.
97.970	1		450	900		1 Box.
98.540	1		600	2400		1 Box.
98.760		1			600	1 Pipe.
98.775		1			600	1 Pipe.
99.006	2		450	900		2 Boxes.
99.200	1		450	900		1 Box.
99.416	1		1200	2400		1 Box.
99.550		1			600	1 Pipe.
100.360	1		450	900		1 Box.
100.575	2		900	2400		2 Boxes.
100.770	2		1200	2400		2 Boxes. Vegetation.
101.140	1		900	2400		1 Box. Silt.
101.650	1		450	900		1 Box.
101.700	1		450	1500		1 Box.
102.210	2		1000	2400		2 Boxes.
102.245	2		1000	2400		2 Boxes. Blocked.
102.670	2		900	2400		2 Boxes.
103.230		2			600	2 Pipes.

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)

FENCING

POSITIVE (EASTBOUND)					NEGATIVE(WESTBOUND)				
Start (km)	End (km)	Length (m)	Type of Fencing	Condition	Start (km)	End (km)	Length (m)	Type of Fencing	Condition
103.600	102.550	1,050	Stock-proof	No fence - Bad	103.600	102.550	1,050	Stock-proof	No fence - Bad
102.550	68.000	34,550	Vermin-proof	Good	102.550	66.500	36,050	Vermin-proof	Good
68.000	62.970	5,030	Vermin-proof	Burned - Bad	66.500	62.970	3,530	Vermin-proof	Burned - Bad
TOTAL(m)		**40,630**			**TOTAL(m)**		**40630**		

SANRAL X.003-038-2019/1F - N9/6 km 62.97 - 103.29 (40.32km)

LAY BYES

Position		Facilities					Road Signage					Surface	Comment/ Damages
Chainage	Direction (NB or SB)	Trees (No)	Shelters (No)	Tables (No)	Chairs (No)	Bins (No)	No Fires (No)	Lay bye Turn in GF6 (No)	Yield R2 (No)	No Littering (No)	No Entry R3 (No)	Paved/Unpaved	
103.000	SB	6	0	2	4	2	0	1	0	0	0	Paved	
92.400	SB	1	1	1	2	1	0	1	0	0	0	Paved	
92.000	NB	1	1	1	2	1	0	1	0	0	0	Paved	
84.450	SB	1	1	1	2	1	0	1	0	0	0	Paved	
76.600	NB	4	1	1	2	1	0	0	0	0	0	Paved	
68.000	SB	6	1	2	4	0	0	1	0	0	0	Paved	
67.000	SB	5	3	3	6	3	0	1	0	0	0	Paved	
63.000	NB	11	3	3	6	3	0	1	0	0	0	Paved	

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)			
SUMMARY			
ITEM	**LHS/POS**	**RHS/NEG**	**TOTAL**
Guardrails (m)	7246.62	7,620.00	14866.62
Concrete side drains (m)	4111.9	2414	6525.9
Culverts Major (No)	-	-	10
Culverts Minor (No)	-	-	142
Fencing (m)	28,820	28820	57,640
Bridges (No)	-	-	9
Lay Byes (No)	0	3	3
Intersections (No)	3	4	7
Farm accesses (No)	14	10	24

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)

ACCESSES

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (NB or SB)	Type	Name	Surface	Type	Name	Surface
2.900	NB	Intersection	Middelburg	Asphalt			
4.200	NB	Intersection	Meintjies Street	Asphalt			
5.800	NB	Entrance	Alma	Gravel			
5.900	SB				Intersection	Agricultural College	Asphalt
6.200	NB	Entrance	Farm	Gravel			
7.500	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
8.900	NB	Entrance	Farm	Gravel			
9.500	SB				Intersection	Bangor	Asphalt
11.700	Both	Entrance	Farm	Gravel	Entrance	1B	Gravel
13.070	NB	Entrance	Suidenhof	Gravel			
13.250	SB				Entrance	Farm	Gravel
14.330	SB				Entrance	Farm	Gravel
15.470	SB				Entrance	Flonkers Station	Gravel
16.600	SB				Entrance	Welvanplaas	Gravel
17.010	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
17.590	NB	Entrance	Danoher	Gravel			
18.450	NB	Entrance	Farm	Gravel			
19.040	Both	Entrance	Farm	Gravel	Intersection	Sherborne Farm	Asphalt
19.590	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
21.000	NB	Entrance	Sherborne Station	Gravel			
22.180	NB	Entrance	Farm	Gravel			
23.570	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
24.000	SB				Entrance	Farm	Gravel
24.500	NB	Intersection	De Aar/ N10-5	Asphalt			
24.560	Both	Entrance	Farm	Asphalt	Entrance	Vlakfontein	Asphalt
25.630	SB				Intersection	Beskuitfontein	Asphalt
28.180	NB	Entrance	Carlton	Asphalt			

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)

BRIDGES

Position Chainage	Bridge No	Structure Name	GPS Coordinates				No of Spans	Last date of safety Inspection	Comment
			Start Latitude (south)	Start Longitude (east)	End Latitude (south)	End Longitude (east)			
0.500	B8136	River Bridge	31°30'49,53"	25°1'10,33"	31°30'46,14"	25°1'11,31"	5	14-Oct-23	
2.000	B8137	Road Underpass Bridge	31°30'1,16"	25°1'16,74"	31°29'59,74"	25°1'15,533"	2	14-Oct-23	
2.620	B1767/1961/2016	Rail Underpass Bridge	31°41'34,11"	24°57'48,43"	31°41'32,55"	24°57'48,71"	1	14-Oct-23	
2.800	B0274/2016	Road Underpass Bridge	31°29'38,42"	25°1'1,41"	31°29'37,07"	25°1'0,85"	1	14-Oct-23	
7.000	B0275/2016	River Bridge	31°30'1,16"	25°1'16,74"	31°29'59,74"	25°1'15,53"	9	14-Oct-23	
9.100	B0276/2016	River Bridge	31°26'30,9"	25°1'16,94"	31°26'29,45"	25°1'17,02"	9	14-Oct-23	
17.800	B1840/1949/2016	Road Overpass Bridge	31°22'13,9"	25°1'21,19"	31°22'12,8"	25°1'20,59"	1	14-Oct-23	
23.200	B0277/2016	Ludlowspruit River Bridge	31°20'15,69"	24°59'0,33"	31°20'14,42"	24°58'58,4"	4	14-Oct-23	
28.200	B1842/2010	Rail Underpass Bridge	31°17'55,69"	24°57'7,77"	31°17'53,6"	24°57'7,35"	1	14-Oct-23	

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)							
GUARDRAILS							
POSITIVE (NORTHBOUND)				**NEGATIVE(SOUTHBOUND)**			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
0.000	4.301	4301.49	Good	0.000	3.189	3,188.97	Good
4.200	5.000	800.10	Good	7.115	6.780	335.28	Good
6.810	7.115	304.80	Good	9.211	8.975	236.22	Good
8.903	9.158	255.27	Good	13.139	13.181	41.91	Good
13.139	13.181	41.91	Good	16.860	17.051	190.50	Good
16.860	16.921	60.96	Good	17.654	17.940	285.75	Good
17.620	17.951	331.47	Good	19.800	19.701	99.06	Good
19.800	19.899	99.06	Good	22.590	22.510	80.01	Good
22.590	22.670	80.01	Good	23.391	23.251	140.97	Good
23.140	23.250	110.49	Good	24.980	24.580	400.05	Good
24.980	25.380	400.05	Good	16.100	15.601	499.11	Good
26.874	26.931	57.15	Good	15.640	15.171	468.63	Good
28.300	28.620	320.04	Good	14.770	14.572	198.12	Good
28.746	28.830	83.82	Good	6.400	6.061	339.09	Good
				4.815	4.583	232.41	Good
				27.920	28.202	281.94	Good
				28.220	28.822	601.98	Good
TOTAL(m):		**7246.62**		**TOTAL(m):**		**7,620.00**	

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)

CONCRETE SIDE DRAINS

POSITIVE (NORTHBOUND)				NEGATIVE(SOUTHBOUND)			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
27.805	27.977	172.4	Good	19.540	19.680	140	Good
6.000	6.111	110.5	Good	17.692	18.066	374	Good
13.390	13.859	469	Good	17.350	17.500	150	Good
13.090	13.640	550	Good	16.550	16.100	450	Good
14.785	15.030	245	Good	14.270	14.000	270	Good
15.185	15.640	455	Good	13.840	14.370	530	Good
15.795	16.700	905	Good	9.900	10.170	270	Good
17.700	18.300	600	Good	4.230	4.000	230	Good
19.270	19.700	430	Good				
27.805	27.980	175	Good				
TOTAL(m):		**4111.9**		**TOTAL(m):**		**2414**	

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)							
MAJOR CULVERTS							
Position Chainage	**Culvert No**	**No. of box or pipe**		**Box**		**Pipe**	**Comment**
		Box	**Pipe**	**H(mm)**	**W(mm)**	**ø (mm)**	
3.100		1		1800	2800		1 Box.
19.900		3		2200	1800		3 Boxes.
22.620		2		2200	4400		2 Boxes.
25.180		1		2200	1200		1 Box.
26.950		1		2400	2400		1 Box. Soil erosion.
27.190		1		2100	2100		1 Box. Silt.
27.500		1		3000	1900		1 Box. Silt.

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)						
CULVERTS						
Position	**No. of box or pipe**		**Box**		**Pipe**	**Comment**
Chainage	**Box**	**Pipe**	**H(mm)**	**W(mm)**	**ø (mm)**	
2.900		1			800	1 Pipe.
3.180		1			800	1 Pipe.
3.430		1			800	1 Pipe.
3.700		1			800	1 Pipe.
4.880		1			800	1 Pipe.
5.030		1			800	1 Pipe.
5.190		1			800	1 Pipe.
5.300		1			800	1 Pipe.
5.500		1			800	1 Pipe.
5.785		1			800	1 Pipe.
5.801		1			800	1 Pipe.
5.900		1			800	1 Pipe.
5.910		1			800	1 Pipe.
6.100		1			800	1 Pipe.
6.210		1			800	1 Pipe.
6.300		1			800	1 Pipe.
6.450		2			800	2 Pipes.
6.601		2			800	2 Pipes.
7.100		2			800	2 Pipes.
7.270		2			800	2 Pipes.
7.442		1			800	1 Pipe.
7.550		2			800	2 Pipes.
7.570		2			800	2 Pipes.
7.700		2			800	2 Pipes.
7.860		2			800	2 Pipes.
8.020		1			800	1 Pipe.
8.170		1			800	1 Pipe.
8.350		1			800	1 Pipe.
8.450		1			800	1 Pipe.
8.620		1			800	1 Pipe.
8.770		1			800	1 Pipe.
8.940		1			800	1 Pipe.
8.950		1			800	1 Pipe.
9.215		1			800	1 Pipe.
9.380		1			800	1 Pipe.
9.500		1			800	1 Pipe.
9.900		1			800	1 Pipe.
10.100		1			800	1 Pipe.
10.210		1			800	1 Pipe.
10.370		1			800	1 Pipe.
10.500		1			800	1 Pipe.
11.050		1			800	1 Pipe.
11.300		1			800	1 Pipe.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
11.500		1			800	1 Pipe.
11.720		1			800	1 Pipe.
11.760		1			800	1 Pipe.
11.830		1			800	1 Pipe. W401 MISSING
11.990		1			800	1 Pipe.
12.100		1			800	1 Pipe.
12.300		1			800	1 Pipe.
12.440		1			800	1 Pipe.
12.570		1			800	1 Pipe.
12.700		1			800	1 Pipe.
13.070		1			800	1 Pipe.
13.180	1		1200	1400		1 Box.
13.300		1			800	1 Pipe.
13.960		1			800	1 Pipe.
14.270		1			800	1 Pipe.
13.395		1			800	1 Pipe.
14.560		1			800	1 Pipe.
14.700		1			800	1 Pipe.
14.850	1		1200	1400		2 Boxes.
15.015		1			800	1 Pipe.
15.180		1			800	1 Pipe.
15.300		1			800	1 Pipe.
15.650		1			800	1 Pipe.
15.800		1			800	1 Pipe.
16.590		1			600	1 Pipe.
16.630		1			800	1 Pipe.
16.710		1			800	1 Pipe.
16.700		1			800	1 Pipe.
16.850	2		1200	1400		2 Boxes.
17.001		1			600	1 Pipe.
17.001		1			600	1 Pipe.
17.230		1			800	1 Pipe.
18.060		1			800	1 Pipe.
18.202		1			800	1 Pipe.
18.380		1			800	1 Pipe.
18.470		1			600	1 Pipe.
18.480		1			800	1 Pipe.
18.700		1			800	1 Pipe.
18.830		1			800	1 Pipe.
19.012		1			800	1 Pipe. Vegetation.
19.015		1			600	1 Pipe. Vegetation.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
19.180		1			800	1 Pipe. Vegetation.
19.270		1			800	1 Pipe. Vegetation.
20.100		1			600	1 Pipe. Vegetation.
20.300		1			600	1 Pipe. Vegetation.
20.440		1			600	1 Pipe. Vegetation.
20.590		1			600	1 Pipe. Vegetation.
20.760		1			600	1 Pipe. Vegetation.
20.900		1			600	1 Pipe. Vegetation.
21.000		1			600	1 Pipe. Vegetation.
21.060		1			600	1 Pipe. Vegetation.
21.150		1			600	1 Pipe. Vegetation.
21.260		1			600	1 Pipe. Vegetation.
21.300		1			600	1 Pipe. Vegetation.
21.590		1			600	1 Pipe. Vegetation.
21.700		1			600	1 Pipe. Vegetation.
21.950		1			600	1 Pipe. Vegetation.
22.180		1			600	1 Pipe. Vegetation.
22.360		1			800	1 Pipe. Vegetation.
22.500		1			800	1 Pipe. Vegetation.
22.815		1			600	1 Pipe. Vegetation.
22.970		1			600	1 Pipe. Vegetation.
23.560		1			600	1 Pipe. Vegetation.
23.195		1			600	1 Pipe. Vegetation.
24.195		2			600	2 Pipes.
24.250		2			600	2 Pipes. Silt.
24.580		1			600	2 Pipes. Silt.
24.790		1			600	1 Pipe. Vegetation.
25.170	1		1200	2000		1 Box.
25.450		1			600	1 Pipe. Vegetation.
25.650		2			600	2 Pipes. Missing W401.
25.840		1			600	1 Pipe. Vegetation.
26.040	1		1350	1200		1 Box. Vegetation.
26.170		1			600	1 Pipe. Silt.
26.290	1		1200	1800		1 Box. Silt.
26.500		2			600	2 Pipes.
26.600		2			600	2 Pipes. Vegetation.
26.750		1			600	1 Pipe. Vegetation.
26.890	1		1200	1200		1 Box. Silt.
27.150	1		1200	1200		1 Box.
27.350	1		850	1200		1 Box. Dirty.
27.630	1		1460	1820		1 Box. Vegetation.
27.950		1			600	1 Pipe.
28.190		1			600	1 Pipe.
28.195	1		1200	2470		1 Box.

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)

FENCING

POSITIVE (NORTHBOUND)					NEGATIVE(SOUTHBOUND)				
Start (km)	End (km)	Length (m)	Type of Fencing	Condition	Start (km)	End (km)	Length (m)	Type of Fencing	Condition
0.000	3.900	3,900	Vermin-proof	No Fence	0.000	3.100	3,100	Vermin-proof	No Fence
3.900	28.820	24,920	Vermin-proof	Good	3.100	28.820	25,720	Vermin-proof	Good
TOTAL(m)		**28,820**			**TOTAL(m)**		**28820**		

SANRAL X.003-038-2019/1F - N9/7 km 0.0 - 28.82 (28.82km)

LAY BYES

Position		Facilities					Road Signage					Surface	Comment/ Damages
Chainage	Direction (NB or SB)	Trees (No)	Shelters (No)	Tables (No)	Chairs (No)	Bins (No)	No Fires (No)	Lay bye Turn in GF6 (No)	Yield R2 (No)	No Littering (No)	No Entry R3 (No)	Paved/Unpaved	
9.700	SB	0	0	1	6	1	0	0	0	0	0	Paved	
11.820	SB	0	1	1	6	1	0	1	0	0	0	Paved	
22.000	SB	0	1	1	6	1	0	1	0	0	0	Paved	

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)			
SUMMARY			
ITEM	**LHS/POS**	**RHS/NEG**	**TOTAL**
Guardrails (m)	4434.84	2,385.06	6819.90
Concrete side drains (m)	8750	9455	18205
Culverts Major (No)	-	-	41
Culverts Minor (No)	-	-	787
Fencing (m)	95,520	95520	191,040
Bridges (No)	-	-	7
Lay Byes (No)	9	5	14
Intersections (No)	9	12	21
Farm accesses (No)	61	60	121

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

ACCESSES

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (NB or SB)	Type	Name	Surface	Type	Name	Surface
94.780	NB	Entrance	Middelburg Golf Course	Asphalt			
95.750	SB				Entrance	Farm	Gravel
94.250	SB				Entrance	Farm	Gravel
93.960	SB				Entrance	Farm	Gravel
93.100	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
92.030	SB				Intersection	Tafelberg	Asphalt
91.420	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
89.900	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
88.210	SB				Entrance	Farm	Gravel
88.660	Both	Entrance	Witkrans GF	Gravel	Entrance	Farm	Gravel
88.400	NB	Entrance	Farm	Gravel			
84.420	SB				Entrance	Farm	Gravel
82.000	NB	Entrance	Morgezon	Gravel			
81.700	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
80.060	SB				Entrance	Farm	Gravel
79.230	NB	Entrance	Farm	Gravel			
78.650	SB				Entrance	Farm	Gravel
77.810	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
76.300	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
75.300	Both	Entrance	Farm	Gravel	Entrance	Tafelberg Hall	Gravel
74.700	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
72.300	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
72.100	NB	Entrance	Farm	Gravel			
70.950	NB	Entrance	Farm	Gravel			
66.980	Both	Entrance	Doringhoek	Asphalt	Entrance	Farm	Gravel
63.870	NB	Entrance	Farm	Gravel			
63.440	SB				Entrance	Farm	Gravel
62.250	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
61.700	Both	Intersection	Spitskopvlei	Asphalt	Intersection	Hofmeyer	Asphalt
60.350	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
59.980	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
58.070	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
56.810	NB	Entrance	Standen	Gravel			
55.270	Both	Entrance	Farm	Gravel	Intersection	Conway	Gravel
54.900	NB	Intersection	Bloukrans	Asphalt			
53.280	SB				Entrance	Farm	Gravel
52.180	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
51.640	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
51.170	SB				Entrance	Farm	Gravel
48.950	Both	Entrance	Farm	Gravel	Entrance	Cypress Grove	Gravel
48.100	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
45.870	SB				Entrance	Farm	Gravel
44.850	NB	Entrance	Farm	Gravel			
42.990	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
42.780	SB				Entrance	Farm	Gravel
40.820	NB	Entrance	Farm	Gravel			

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (NB or SB)	Type	Name	Surface	Type	Name	Surface
39.600	Both	Entrance	Farm	Gravel	Entrance	Prospect	Gravel
37.400	SB				Entrance	Fish River	Gravel
36.900	Both	Entrance	Aloedale	Gravel	Entrance	Fish River	Gravel
36.200	Both	Entrance	Retreat Farming Trust	Gravel	Entrance	Farm	Gravel
36.050	NB				Entrance	Lowlands Country House	Gravel
35.700	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
35.550	SB				Entrance	Farm	Gravel
34.000	NB	Entrance	Farm	Gravel	Entrance	Freddie & Michelle van Zy	Gravel
33.350	SB				Entrance	Farm	Gravel
32.550	NB	Entrance	Farm	Gravel			
30.870	SB				Entrance	Farm	Gravel
30.500	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
29.200	SB				Entrance	Farm	Gravel
28.500	SB				Entrance	Knutsford	Asphalt
28.350	NB	Entrance	Farm	Gravel			
28.160	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
28.040	SB				Entrance	Farm	Gravel
28.000	NB	Entrance	Farm	Gravel			
27.680	NB	Entrance	Jordaan	Gravel			
27.300	NB	Entrance	Farm	Gravel			
27.160	NB	Entrance	Farm	Gravel			
26.880	NB	Entrance	Farm	Gravel			
26.380	Both	Entrance	Farm	Gravel	Entrance	Burnside	Gravel
25.650	NB	Entrance	Farm	Gravel			
24.950	Both	Entrance	Mountainside	Gravel	Entrance	Farm	Gravel
23.290	NB	Entrance	Farm	Gravel			
22.820	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
22.090	SB				Intersection	Baroda	Gravel
21.880	NB	Entrance	Farm	Gravel			
19.870	NB	Entrance	Farm	Gravel			
19.550	Both	Entrance	Spekboomberg Boerdery	Gravel	Entrance	Farm	Gravel
19.010	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
18.870	SB				Entrance	Farm	Gravel
18.420	SB				Entrance	Salem	Gravel
18.110	NB	Entrance	Spekboomberg	Gravel			
18.100	SB				Entrance	Farm	Gravel
18.000	SB				Entrance	Aarbeidsgenot	Gravel
17.000	NB	Entrance	Farm	Gravel			
14.200	SB				Intersection	Kaptein	Gravel
11.600	Both	Entrance	Tam Game Farm	Gravel	Entrance	Farm	Gravel
10.180	SB				Entrance	Farm	Gravel
9.300	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
8.500	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
7.180	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
7.050	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
5.050	NB	Intersection	Graaff-Reinet/ R61	Asphalt			
2.000	SB				Intersection	Correctional Services	Gravel
1.590	SB				Entrance	Petrol station	Asphalt

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (NB or SB)	Type	Name	Surface	Type	Name	Surface
1.500	SB				Entrance	Petrol station	Asphalt
1.470	NB	Intersection	Celtis Street	Asphalt			
1.460	SB				Entrance	Petrol station	Asphalt
1.360	SB				Entrance	Petrol station	Asphalt
1.350	SB				Intersection	Meliahthus Street	Asphalt
1.230	Both	Intersection	Diamant Street	Asphalt			
1.000	Both	Intersection	Station Road	Asphalt	Intersection	Station Road	Asphalt
0.850	Both	Intersection	Dundas Street	Asphalt	Intersection	Trim Park	Asphalt
0.650	Both	Intersection	N10 / R390 Junction	Asphalt	Intersection	N10 / R390 Junction	Asphalt
0.200	Both	Intersection	Victoria Street	Asphalt	Intersection	Victoria Street	Asphalt
0.050	SB				Intersection	Durban Street	Asphalt

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

BRIDGES

Position Chainage	Bridge No	Structure Name	GPS Coordinates				No of Spans	Last date of safety Inspection	Comment
			Start Latitude (south)	Start Longitude (east)	End Latitude (south)	End Longitude (east)			
0.950	B2042	Frans Lootsbrug River Bridge	32°9'58,71"	25°36'42,72"	32°9'57,46"	25°36'38,4"	4	16-Oct-23	
1.200	N/A	Rail Overpass Bridge	32°9'56,71"	25°36'33,37"	32°9'55,89"	25°36'33,77"	1	16-Oct-23	
18.650	B2040	Pauls River Bridge	32°2'32,88"	25°30'10,12"	32°2'29,55"	25°30'8,95"	3	16-Oct-23	
27.800	B5474	Fortuinplaas River Bridge	31°57'51,57"	25°28'34,01"	31°57'51,52"	25°28'33,91"	2	16-Oct-23	
35.800	B134/1941	Great Fish River Bridge	31°27'38,64"	25°1'8,93"	31°27'36,91"	25°1'8,73"	3	16-Oct-23	
61.100	B0009	Venterspos River Bridge	31°44'37,6"	25°14'48,7"	31°44'35,62"	25°14'46,55"	5	16-Oct-23	
87.200	B0213/2012	Oompies River Bridge	31°34'43,31"	25°4'39,8"	31°34'41,39"	25°4'38,33"	5	16-Oct-23	

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

GUARDRAILS

POSITIVE (EASTBOUND)				NEGATIVE(WESTBOUND)			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
2.220	3.119	899.16	Good	18.559	18.800	243.84	Good
18.539	18.741	201.93	Good	24.280	24.505	224.79	Good
24.280	24.440	160.02	Good	27.670	27.601	68.58	Good
27.513	27.597	83.82	Good	27.897	28.042	144.78	Good
30.581	30.631	49.53	Good	27.870	27.950	80.01	Good
35.810	35.950	53.34	Good	27.954	28.160	205.74	Good
40.450	40.496	45.72	Good	30.585	30.657	72.39	Good
61.800	61.930	53.34	Good	32.200	32.238	38.10	Good
68.500	68.805	304.80	Good	35.825	35.965	53.34	Good
69.200	70.815	1615.44	Good	61.815	61.945	53.34	Good
69.900	70.110	209.55	Good	71.750	71.098	651.51	Good
70.000	70.225	224.79	Good	83.570	83.136	434.34	Good
83.581	84.000	419.10	Good	87.177	86.599	114.30	Good
87.177	86.599	114.30	Good				
TOTAL(m):		**4434.84**		**TOTAL(m):**		**2,385.06**	

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

CONCRETE SIDE DRAINS

POSITIVE (EASTBOUND)				NEGATIVE(WESTBOUND)			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
83.560	83.000	560	Good	83.560	84.050	490	Good
71.900	75.060	3160	Good	71.900	74.750	2,850	Good
61.670	61.390	280	Good	66.350	65.830	520	Good
55.260	55.000	260	Good	65.600	6.790	190	Good
50.430	49.600	830	Good	65.870	66.290	420	Good
48.960	49.460	500	Good	64.470	63.960	510	Good
47.280	46.760	520	Good	61.670	61.340	330	Good
43.800	43.650	150	Good	55.260	55.000	260	Good
43.200	43.550	350	Good	50.460	49.600	860	Good
43.650	43.800	150	Good	48.955	48.460	495	Good
29.180	28.970	210	Good	47.280	46.770	510	Good
21.880	21.400	480	Good	43.410	43.210	200	Good
3.640	3.240	400	Good	29.180	28.780	400	Good
2.210	3.110	900	Good	3.700	2.280	1,420	Good
TOTAL(m):		**8750**		**TOTAL(m):**		**9455**	

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

MAJOR CULVERTS

Position Chainage	Culvert No	No. of box or pipe		Box		Pipe	Comment
		Box	Pipe	H(mm)	W(mm)	ø (mm)	
7.438		3		1800	2400		3 Boxes.
7.830		1		1800	2400		1 Box.
23.180		2		1500	2400		2 Boxes.
24.360		1		2900	3100		1 Box.
30.600		1		2400	1800		1 Box.
39.990		1		1800	4600		1 Box. Missing W401.
46.710		1		1800	1800		1 Box.
49.050		2		2300	2400		2 Boxes. Soil erosion.
57.590		1		1800	1800		1 Box.
62.385		1		1500	2500		1 Box.
65.110		2		1500	5800		2 Boxes. Vegetation. Silt.
65.640		1		1600	3200		1 Box. Soil erosion.
69.780		1		3000	5100		1 Box. Soil erosion.
69.750		1		2100	1800		1 Box. Dirty.
73.350		2		2200	3000		2 Boxes. Soil erosion. Missing W401.
73.600		1		1800	1800		1 Box. Soil erosion. Silt.
75.240		1		1000	4100		1 Box. Silt.
78.223		1		2100	2100		1 Box.
83.750		1		2300	3100		1 Box.
87.550		6		1800	3000		6 Boxes.
87.600		6		1800	3000		6 Boxes.
90.080		4		1500	2500		4 Boxes.

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)						
CULVERTS						
Position	**No. of box or pipe**		**Box**		**Pipe**	**Comment**
Chainage	**Box**	**Pipe**	**H(mm)**	**W(mm)**	**ø (mm)**	
1.100	1					1 Box. Water channel, no access.
1.300	1					1 Box. Water channel, no access.
1.600	1		400	900		1 Box.
1.700	4		400	900		4 Boxes.
1.790	1		400	900		1 Box.
1.978	1		400	900		1 Box.
2.025	1		400	900		1 Box.
2,21/2,232		2			600	2 Pipes on positive side, but one pipe on negative side.
2.550		1			600	1 Pipe.
2.710		1			600	1 Pipe. Dirty.
2.800		2			600	2 Pipe. Dirty.
2.670		3			600	3 Pipe. Dirty.
2.570		1			600	1 Pipe.
4.425	4		1200	2400		4 Boxes.
4.633	4		1500	2400		4 Boxes.
4.700		1			600	1 Pipe.
4.750		1			600	1 Pipe. Missing W401.
4.875		1			600	1 Pipe.
4.980		1			900	1 Pipe.
5.100		1			900	1 Pipe.
5.158		2			600	2 Pipes.
5.330		2			600	2 Pipes.
5.587		1			900	1 Pipe.
5.900		2			600	2 Pipes.
6.030		1			600	1 Pipe.
6.100		2			600	2 Pipes.
6.240		1			900	1 Pipe.
6.430		1			600	1 Pipe.
6.600		2			900	2 Pipes.
6.743		2			900	2 Pipes.
6.900		2			600	2 Pipes.
7.070		2			900	2 Pipes.
7.360		3			600	3 Pipes.
7.540		3			600	3 Pipes.
7.670		3			600	3 Pipes.
7.730		3			600	3 Pipes.
7.900		1			900	1 Pipe.
8.020	1		1200	2800		1 Box.
8.070		4			900	4 Pipes.
8.255		4			900	4 Pipes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
8.350		2			900	2 Pipes.
9.850		1			450	1 Pipe. Vegetation.
10.250		1			600	1 Pipe. Damaged wing wall.
10.430		2			600	2 Pipes.
10.510	2		1200	1800		2 Boxes. 2 Missing W401s.
10.613		4			900	4 Pipes.
10.811		1			900	1 Boxes.
11.500		1			900	1 Boxes.
11.530	3		1200	2400		3 Boxes.
11.690		4			900	4 Pipes.
11.870		1			600	1 Pipe.
11.940		1			600	1 Pipe.
12.070		1			600	1 Pipe.
12.160		1			600	1 Pipe. Vegetation.
12.330		1			600	1 Pipe.
12.520		1			600	1 Pipe.
12.670		1			600	1 Pipe.
12.840		1			600	1 Pipe.
13.027		1			600	1 Pipe.
13.194		1			600	1 Pipe.
13.374		4			900	4 Pipes.
13.550		1			600	1 Pipe.
13.755		1			600	1 Pipe.
13.867		1			600	1 Pipe.
14.069		1			600	1 Pipe.
14.280		1			900	1 Pipe. Dirty.
14.450		1			900	1 Pipe.
14.590		1			900	1 Pipe.
14.790		4			900	4 Pipes.
14.840		1			600	1 Pipe.
15.030		1			900	1 Pipe.
15.193		4			900	4 Pipes.
15.436		2			600	2 Pipes.
15.600		1			600	1 Pipe.
15.700		1			900	1 Pipe.
15.860	3		900	1800		3 Boxes.
16.000	1		500	900		1 Box.
16.200	1		500	900		1 Box.
16.300	1		500	900		1 Box. Silt.
16.500	1		500	900		1 Box. Silt.
16.650	1		500	900		1 Box. Silt.
16.810	1		500	900		1 Box. Silt.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
16.945	1		500	900		1 Box. Silt.
17.120	1		500	900		1 Box. Silt.
17.300	1		500	900		1 Box. Silt.
17.470		1			600	1 Pipe. Vegetation.
17.740		1			600	1 Pipe. Vegetation.
18.075	1					1 Box. No access.
18.220		1			900	1 Pipe. Vegetation.
18.770		2			600	2 Pipes. Vegetation.
18.900		2			900	2 Pipes. Vegetation.
19.065		1			450	1 Pipe. Vegetation.
19.300		3			900	3 Pipes. Vegetation.
21.100		3			600	3 Pipes. Vegetation.
20.300		1			600	1 Pipe.
20.462		2			900	2 Pipes.
20.012	1			2000		1 Box. No access.
20.630		4			600	4 Pipes. 1 Missing W401.
20.890		3			900	3 Pipes. Vegetation.
21.300		1			600	1 Pipe. Vegetation.
21.330	1			2200		1 Box. No access.
21.400		2			900	2 Pipes. Vegetation.
21.720		1			600	1 Pipe. Vegetation.
21.865		4			900	4 Pipes. Vegetation.
22.077		1			600	1 Pipe. Vegetation.
22.285	1		500	550		1 Box.
22.415	2		1200	2400		2 Boxes. 1 Missing W401.
22.560		1			600	1 Pipe.
22.615	1					1 Box. No access.
22.712	1		500	550		1 Box.
22.870	1		500	550		1 Box.
23.400		3			900	3 Pipes.
23.635		1			600	1 Pipe.
23.855		1			600	1 Pipe.
24.140	3		440	880		3 Boxes.
25.500		2			900	2 Pipes.
25.500		2			900	2 Pipes.
25.672		2			900	2 Pipes.
25.788		1			900	1 Pipe.
25.945		2			900	2 Pipes.
26.125		1			600	1 Pipe.
26.330		2			600	2 Pipes.
26.470	1		500	900		1 Box.
26.660		1			600	1 Pipe.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
26.817		1			600	1 Pipe.
26.935		2			600	2 Pipes.
27.090		2			600	2 Pipes.
27.330		1			600	1 Pipe.
27.530		1			600	1 Pipe.
27.550		1			600	1 Pipe.
27.600		1			600	1 Pipe.
27.645		1			600	1 Pipe. Missing W401.
27.782		1			600	1 Pipe.
27.870		1			600	1 Pipe.
27.940		1			600	1 Pipe. Vegetation.
28.070		1			600	1 Pipe.
28.175		1			900	1 Pipe.
28.375		1			600	1 Pipe.
28.550		2			900	2 Pipes.
28.725		1			900	1 Pipe. Silt.
29.265		1			600	1 Pipe.
29.460		2			600	2 Pipes.
29.940		1			600	1 Pipe.
30.520		1			600	1 Pipe. Vegetation.
31.600		4			600	4 Pipes. Vegetation.
31.620		4			600	4 Pipes. Vegetation. Soil erosion.
31.670		4			600	4 Pipes. Soil erosion.
31.700		4			500	4 Pipes. Soil erosion.
31.741		4			600	4 Pipes. Vegetation.
31.755		4			600	4 Pipes. Vegetation.
31.800		4			600	4 Pipes. Vegetation.
31.845		4			600	4 Pipes. Vegetation.
31.870		4			600	4 Pipes. Vegetation. Missing W401.
31.900		4			600	4 Pipes. Vegetation.
31.945		4			600	4 Pipes. Vegetation.
32.450	1		450	900		1 Box.
32.650	1		450	900		1 Box.
33.440		1			600	1 Pipe.
33.725		2			600	2 Pipes.
34.370		4			600	4 Pipes.
34.530		4			600	4 Pipes.
35.000		2			600	2 Pipes. Holes in shoulder.
35.270		2			600	2 Pipes.
35.560		2			600	2 Pipes. Vegetation.
35.800	1		900	1800		1 Box.
36.145	1		900	1800		1 Box.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
36.413		2			600	2 Pipes.
36.525		1			600	1 Pipe.
36.600	1		900	1800		1 Box.
36.740	1		900	1800		1 Box. Blocked.
36.650		1			600	1 Pipe.
36.600	1		900	1800		1 Box.
37.500		1			600	1 Pipe.
37.576		2			600	2 Pipes.
37.632		1			600	1 Pipe.
37.856		1			600	1 Pipe.
38.055		1			600	1 Pipe.
38.375		2			600	2 Pipes.
39.040		1			600	1 Pipe. Soil erosion.
40.550		1			600	1 Pipe. Damaged.
41.100		2			600	2 Pipes.
42.180		4			600	4 Pipes.
42.890		1			600	1 Pipe.
43.050		2			600	2 Pipes.
43.597		1			600	1 Pipe. Soil erosion. Cracked culverts.
43.930	1		1200	1200		1 Box. Silt.Vegetation.
44.050	1		1200	1200		1 Box. Silt. Soil erosion.
44.300		1			600	1 Pipe.
44.400		1			600	1 Pipe. Soil erosion.
44.500		2			600	2 Pipes. Soil erosion.
44.640	1		1200	1200		1 Box. Silt.Vegetation. Missing W401.
44.790	1		1200	1200		1 Box. Missing W401.
45.812		2			600	2 Pipes.
45.910		1			600	1 Pipe.
45.950		1			600	1 Pipe.
46.000		1			600	1 Pipe.
46.050		2			600	2 Pipes. Soil erosion.
46.110		1			600	1 Pipe.
46.145		2			600	2 Pipes.
46.200	3		1200	1800		3 Boxes.
46.330		2			600	2 Pipes.
46.410		1			600	1 Pipe.
46.450		1			600	1 Pipe.
47.420		1			600	1 Pipe. Silt.
47.475		1			600	1 Pipe.
47.550		2			600	2 Pipes.
47.630		1			600	1 Pipe.
47.690		2			600	2 Pipes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
47.740		2			600	2 Pipes.
47.810		2			600	2 Pipes.
47.870		1			600	1 Pipe.
47.925		2			600	2 Pipes.
48.025		1			600	1 Pipe.
48.120		2			600	2 Pipes. Silt.
48.385		1			600	1 Pipe. Vegetation.
49.393		1			900	1 Pipe. Vegetation.
49.540		1			600	1 Pipe. Silt.
50.500		1			600	1 Pipe. Soil erosion. Vegetation.
50.560		1			600	1 Pipe. Vegetation.
51.050	1		900	1500		1 Box. Vegetation.
51.100	1		600	1500		1 Box. Vegetation.
51.182		1			600	1 Pipe. Vegetation.
51.188		2			900	2 Pipes. Vegetation
51.500	2		900	1800		2 Boxes. Vegetation.
51.300	2		900	1500		2 Boxes. Vegetation.
51.350	3		600	1800		3 Boxes. Vegetation.
51.390	2		600	1800		2 Boxes. Vegetation.
51.455	2		600	1500		2 Boxes. Vegetation.
51.527	2		600	1500		2 Boxes. Vegetation.
51.567	5		600	1800		5 Boxes. Vegetation.
51.660		2			600	2 Pipes. Missing W401.
51.768		2			600	2 Pipes.
51.865	2		600	1200		2 Boxes.
51.965		1			600	1 Pipe.
52.100	6		600	1500		6 Boxes.
52.210		1			600	1 Pipe. Vegetation.
52.250		1			600	1 Pipe.
52.300	3		900	1800		3 Boxes.
52.305	2		900	1800		2 Boxes.
52.445	2		1200	1800		2 Boxes. Vegetation.
52.530	2		900	1200		2 Boxes. Broken wing wall.
52.610	3		900	2100		3 Boxes.
52.650	1		900	2100		1 Box
52.700	1		900	2100		1 Box
52.760	2		1200	3000		2 Boxes.
52.800	5		600	3000		5 Boxes. Vegetation.
52.822	5		600	3000		5 Boxes. Vegetation.
55.790		2			600	2 Pipes. Soil erosion.
56.010		2			600	2 Pipes.
56.320		2			600	2 Pipes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
56.600		2			600	2 Pipes.
56.650		1			600	1 Pipe
56.700		1			600	1 Pipe
57.280		2			600	2 Pipes. Missing W401.
57.740	2		600	1800		2 Boxes.
57.865		2			600	2 Pipes.
57.910		2			600	2 Pipes.
58.010		2			600	2 Pipes.
58.055		2			600	2 Pipes.
58.070		2			600	2 Pipes.
58.190	2		1100	3400		2 Boxes.
58.230	2		1000	3300		2 Boxes.
58.360		1			600	1 Pipe.
59.700		1			600	1 Pipe.
59.920		1			600	1 Pipe.
60.232		1			600	1 Pipe. Missing W401.
60.700		1			600	1 Pipe.
60.980		1			600	1 Pipe.
61.320		1			600	1 Pipe.
61.640	1		600	1200		1 Box. Missing W401.
61.820		1			600	1 Pipe.
62.183		1			600	1 Pipe.
62.325		1			600	1 Pipe. Missing W401.
62.575		1			600	1 Pipe.
62.230		1			600	1 Pipe. Vegetation.
62.710		1			600	1 Pipe.
62.770		1			600	1 Pipe.
62.840		1			600	1 Pipe.
62.920		1			600	1 Pipe.
63.955		1			600	1 Pipe.
63.180		1			600	1 Pipe.
63.128		1			600	1 Pipe.
63.178		1			600	1 Pipe.
63.310		1			600	1 Pipe. Vegetation.
63.265		1			600	1 Pipe.
63.410	2		900	1500		2 Boxes
63.520		2			600	2 Pipes. Vegetation.
63.670	1		550	1800		1 Box.
63.835	2		600	1500		2 Boxes. Soil erosion.
64.180		1			600	1 Pipe. Missing W401. Silt.
64.520		1			600	1 Pipe.
64.600	2		600	1500		2 Boxes. Silt.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
64.900	2		1200	2400		2 Boxes.
65.220	2		1200	1200		2 Boxes. Vegetation.
65.350		1			600	1 Pipe.
65.520	1		1200	1500		1 Box.
65.590		1			600	1 Pipe. Vegetation. Silt.
65.780	1		1100	1800		1 Box.
66.200	1		1300	1900		1 Box. Soil erosion.
66.450	1		1200	1200		1 Box.
66.520		1			600	1 Pipe.
66.630		1			600	1 Pipe.
66.720		1			600	1 Pipe. Missing W401.
66.818		1			600	1 Pipe. Missing W401.
66.870		1			600	1 Pipe.
66.920		1			600	1 Pipe.
67.000		2			600	2 Pipes.
67.060		1			600	1 Pipe. Vegetation.
67.145		2			600	2 Pipes.
67.250		1			600	1 Pipe.
67.345		1			600	1 Pipe.
67.389		1			600	1 Pipe.
67.450		1			600	1 Pipe.
67.475	1		600	1800		1 Box.
67.500		1			600	1 Pipe. Missing W401.
67.570		1			600	1 Pipe.
67.628	1		900	1800		1 Box.
67.730	1		600	1200		1 Box.
67.840	1		600	1100		1 Box.
67.950		1			600	1 Pipe.
68.700		1			600	1 Pipe.
68.190		1			600	1 Pipe. Missing W401.
68.245		1			600	1 Pipe.
68.460		1			900	1 Pipe.
68.500		1			900	1 Pipe. Silt.
69.350	1		1200	1200		1 Box. Soil erosion.
69.590		1			600	1 Pipe.
69.640		2			600	2 Pipes. Missing W401.
70.230	1		1160	1300		1 Box.
70.500	1		600	600		1 Box. Missing W401.
70.650		1			600	1 Pipe. Missing W401.
70.710		1			700	1 Pipe. Missing W401.
71.385	1		1200	2400		1 Box. Missing W401. Soil erosion.
71.700	1		900	1500		1 Box. Damaged stone pitching.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
71.720	1		1200	2400		1 Box. Soil erosion. Vegetation. Silt.
71.940	1		900	1800		1 Box. Soil erosion. Silt.
72.065	1		1200	1800		1 Box. Silt. Vegetation.
72.145	3		900	900		3 Boxes. Vegetation.
73.100		2			600	2 Pipes. Vegetation. Dirty.
73.165		1			600	1 Pipe. Vegetation. Missing W401.
73.225		1			600	1 Pipe. Vegetation.
73.392		1			600	1 Pipe. Soil erosion. Vegetation.
73.540		1			600	1 Pipe. Vegetation. Silt.
73.650		1			900	1 Pipe. Vegetation. Blocked.
73.755		1			600	1 Pipe. Vegetation.
74.024		1			600	1 Pipe. Vegetation. Dirty
74.250	1		1250	1250		1 Box. Vegetation. Silt
74.360		1			600	1 Pipe. Vegetation. Silt. Soil erosion.
74.623		1			650	1 Pipe. Vegetation.
74.822		1			600	1 Pipe. Soil erosion.
74.900		2			600	2 Pipes.
75.000		1			600	1 Pipe.
75.070		1			600	1 Pipe.
75.240	1		1000	4100		1 Box. Silt.
75.300		1			600	1 Pipe. Vegetation. Dirty.
75.470		1			600	1 Pipe.
75.625		1			600	1 Pipe.
75.660		1			600	1 Pipe. Vegetation. Missing W401.
75.700		1			600	1 Pipe. Vegetation. Silt.
75.770		1			600	1 Pipe.
75.810		1			600	1 Pipe. Dirty. Missing W401.
75.860		1			600	1 Pipe. Dirty.
75.900		1			600	1 Pipe.
75.930		1			600	1 Pipe.
75.988		1			600	1 Pipe. Missing W401.
76.035		1			700	1 Pipe.
76.060		2			600	2 Pipes.
76.100		1			600	1 Pipe.
76.165		1			600	1 Pipe.
76.250		1			600	1 Pipe. Vegetation.
76.430		1			600	1 Pipe.
76.540		1			600	1 Pipe. Vegetation.
76.800		2			600	2 Pipes.
77.013		1			600	1 Pipe. Vegetation.
77.125		1			600	1 Pipe.
77.270		1			600	1 Pipe. Vegetation.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
77.380		1			600	1 Pipe. Vegetation.
78.515		1			600	1 Pipe. Vegetation.
78.530		1			600	1 Pipe. Vegetation.
78.755		1			600	1 Pipe. Vegetation.
77.860		1			600	1 Pipe.
78.182		1			600	1 Pipe.
78.185		1			600	1 Pipe.
78.470		1			600	1 Pipe.
78.535		1			600	1 Pipe. Vegetation.
78.600		1			600	1 Pipe.
78.645		1			600	1 Pipe. Vegetation.
78.730		1			700	1 Pipe. Vegetation.
78.780		1			700	1 Pipe. Vegetation.
78.845		1			700	1 Pipe. Vegetation.
78.915		1			700	1 Pipe. Vegetation. Silt.
78.965		1			730	1 Pipe. Vegetation.
78.965		1			730	1 Pipe. Vegetation.
79.100		2			700	2 Pipes. Slight soil erosion.
79.170		1			700	1 Pipe.
79.401		1			700	1 Pipe. Slight soil erosion.
79.620		1			700	1 Pipe.
79.720		1			900	1 Pipe. Vegetation.
79.977		1			700	1 Pipe.
80.100		1			700	1 Pipe.
80.222			1400	2400		1 Box.
80.300		2			700	2 Pipes.
80.720		3			700	3 Pipes.
80.800		1			700	1 Pipe.
81.300		2			900	2 Pipes.
82.390		2			600	2 Pipes.
82.460		1			600	1 Pipe.
82.540		1			600	1 Pipe.
82.635		1			600	1 Pipe.
82.740		1			600	1 Pipe.
82.815		2			600	2 Pipes.
84.603		2			700	2 Pipes. Silt.
84.755		1			600	1 Pipe.
84.835		1			600	1 Pipe.
84.985		1			600	1 Pipe.
85.050	1		1300	1200		1 Box. Silt.
85.100		1			600	1 Pipe.
85.540		1			600	1 Pipe.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
85.778		1			600	1 Pipe.
86.380		5			600	5 Pipes.
86.628		4			600	4 Pipes.
86.680		2			600	2 Pipes.
86.720		2			600	2 Pipes.
86.765		2			600	2 Pipes.
86.812		2			600	2 Pipes.
86.825		2			600	2 Pipes.
86.900		1			600	1 Pipe.
86.950		1			600	1 Pipe.
86.989		1			600	1 Pipe.
87.045		1			600	1 Pipe.
88.580		1			600	1 Pipe.
88.690		1			550	1 Pipe. Silt.
88.730		1			600	1 Pipe. Missing W401.
88.030		1			700	1 Pipe.
88.500		1			600	1 Pipe. Missing W401.
88.900		1			600	1 Pipe. Silt.
88.965		1			600	1 Pipe.
89.025		1			500	1 Pipe.
89.060		1			600	1 Pipe.
89.135		1			600	1 Pipe.
89.210		1			600	1 Pipe.
89.700		1			600	1 Pipe.
89.330		1			600	1 Pipe. Missing W401.
89.365		1			600	1 Pipe.
89.477		1			600	1 Pipe.
89.525		1			600	1 Pipe.
89.613		1			600	1 Pipe.
89.600		1			600	1 Pipe.
89.650		1			600	1 Pipe.
89.765	4		1200	2400		4 Boxes.
89.790		1			600	1 Pipe.
89.840		1			600	1 Pipe.
89.800	4		1200	2400		4 Boxes.
89.987	4		1300	2400		4 Boxes.
90.035		2			600	2 Pipes. Vegetation.
90.228	4		1200	2400		4 Boxes. Vegetation.
90.360	7		1400	2400		7 Boxes.
90.465	4		1170	2400		4 Boxes.
90.788		2			600	2 Pipes.
90.645		2			600	2 Pipes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
90.730		2			600	2 Pipes.
90.820		2			600	2 Pipes.
90.900		2			600	2 Pipes.
90.973		2			600	2 Pipes.
91.040		2			600	2 Pipes.
91.100		2			600	2 Pipes.
91.202		2			600	2 Pipes.
91.270		2			600	2 Pipes.
91.355		2			400	2 Pipes.
91.400		2			600	2 Pipes.
91.440		2			600	2 Pipes.
91.470		2			600	2 Pipes.
91.588		2			600	2 Pipes. Vegetation. Missing W401.
91.635		2			600	2 Pipes.
91.680		2			600	2 Pipes.
91.720		2			600	2 Pipes.
91.765		2			600	2 Pipes.
91.820		2			600	2 Pipes.
91.860		2			600	2 Pipes.
91.910		2			600	2 Pipes.
91.960		2			600	2 Pipes.
92.000		2			600	2 Pipes. Missing W401.
92.165		1			900	1 Pipe.
92.215		2			600	2 Pipes.
92.365		1			600	1 Pipe. Dirty.
92.470		1			700	1 Pipe. Missing W401.
93.010		1			900	1 Pipe. Vegetation. Missing W401.
93.201		1			600	1 Pipe. Vegetation.
93.412		1			600	1 Pipe. Vegetation. Silt. Dirty.
93.510		2			600	2 Pipes. Vegetation. Missing W401.
93.560	2		1000	1800		2 Boxes. Vegetation.
93.545	3		1200	1820		3 Boxes. Vegetation.
94.175		1			600	1 Pipe. Silt. Missing W401.
94.212		1			600	1 Pipe. Silt.
94.300		1			750	1 Pipe. Silt.
94.360		1			600	1 Pipe. Silt.
94.435		2			600	2 Pipes. Silt.
94.700	3		1100	2700		3 Boxes. Vegetation. Dirty.
95.930		1			600	1 Pipe. Missing W401.
	2		1300	1200		2 Boxes. N10-4 Off-ramp. Loose retaining wall. Silt.

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

FENCING

POSITIVE (EASTBOUND)					NEGATIVE(WESTBOUND)				
Start (km)	End (km)	Length (m)	Type of Fencing	Condition	Start (km)	End (km)	Length (m)	Type of Fencing	Condition
95.520	95.200	320	Stock-proof	Bad	95.520	94.450	1,070	Stock-proof	Bad
95.200	0.000	95,200	Vermin-proof	Good	94.450	0.000	94,450	Vermin-proof	Good
TOTAL(m)		**95,520**			**TOTAL(m)**		**95520**		

SANRAL X.003-038-2019/1F - N10/4 km 0.0 - 95.52 (95.52km)

LAY BYES

Position		Facilities					Road Signage					Surface	Comment/ Damages
Chainage	Direction (NB or SB)	Trees (No)	Shelters (No)	Tables (No)	Chairs (No)	Bins (No)	No Fires (No)	Lay bye Turn in GF6 (No)	Yield R2 (No)	No Littering (No)	No Entry R3 (No)	Paved/Unpaved	
3.200	NB	7	0	1	4	3	0	0	0	1	0	Paved	Damaged chairs
15.600	SB	9	0	2	6	2	0	1	0	1	0	Paved	
30.610	NB	0	0	1	5	1	0	1	0	1	0	Unpaved	Damaged chair
32.200	SB	2	0	2	10	1	0	0	0	1	0	Unpaved	Damaged chairs
40.450	NB	5	0	2	11	2	0	1	0	1	0	Unpaved	Damaged chair
45.000	NB	4	0	1	5	1	0	1	0	1	0	Unpaved	Damaged chair
53.400	NB	3	0	2	10	1	0	1	0	1	0	Unpaved	Damaged chairs
69.800	NB	1	0	1	6	1	0	1	0	0	1	Paved	
70.000	SB	5	0	2	12	2	0	1	0	1	1	Paved	
73.000	NB	0	0	1	3	1	0	1	0	1	0	Unpaved	Damaged chairs
75.800	SB	5	0	1	6	1	0	1	0	1	0	Unpaved	
84.350	NB	0	0	1	6	1	0	1	0	1	0	Unpaved	
86.550	SB	0	0	1	4	1	0	1	0	1	0	Unpaved	Damaged chairs
88.400	NB	0	0	1	5	1	0	1	0	1	0	Unpaved	Damaged chair

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)			
SUMMARY			
ITEM	**LHS/POS**	**RHS/NEG**	**TOTAL**
Guardrails (m)	3566.16	4,400.55	7966.71
Concrete side drains (m)	966.1	206.9	1173
Culverts Major (No)	-	-	1
Culverts Minor (No)	-	-	15
Fencing (m)	6,320	6320	12,640
Bridges (No)	-	-	2
Lay Byes (No)	0	0	0
Intersections (No)	0	0	0
Farm accesses (No)	2	1	3

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)

ACCESSES

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (WB or EB)	Type	Name	Surface	Type	Name	Surface
2.630	WB	Entrance	Farm	Gravel			
3.380	EB				Entrance	Skaduhewul	Asphalt
5.700	WB	Entrance	Farm	Gravel			

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)

BRIDGES

Position Chainage	Bridge No	Structure Name	GPS Coordinates				No of Spans	Last date of safety Inspection	Comment
			Start Latitude (south)	Start Longitude (east)	End Latitude (south)	End Longitude (east)			
1.900	N/A	Rail Underpass Bridge	31°20'4.61"	24°57'28.29"	31°20'5.13"	24°57'25.94"	4	14-Oct-23	
2.400	N/A	River Bridge	31° 20' 5.69"	24° 57' 10.31"	31° 20' 4.96"	24° 57' 7.75"	8	14-Oct-23	Erosion and water damage under the deck and on piers needs repairs.

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)							
GUARDRAILS							
POSITIVE (EASTBOUND)				**NEGATIVE(WESTBOUND)**			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
0.900	2.500	1600.20	Good	0.890	2.502	1,611.63	Good
2.850	3.932	1082.04	Good	2.850	3.372	521.97	Good
4.404	4.629	224.79	Good	3.380	4.272	891.54	Good
4.870	4.980	110.49	Good	4.107	4.370	262.89	Good
5.100	5.302	201.93	Good	4.667	4.789	121.920	Good
5.362	5.434	72.39	Good	4.681	5.100	419.10	Good
5.750	6.024	274.32	Good	6.320	5.749	571.50	Good
TOTAL(m):		**3566.16**		**TOTAL(m):**		**4,400.55**	

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)							
CONCRETE SIDE DRAINS							
POSITIVE (EASTBOUND)				NEGATIVE(WESTBOUND)			
Start (km)	End (km)	Length (m)	Condition	Start (km)	End (km)	Length (m)	Condition
3.910	4.400	490	Good	5.527	5.736	206.9	Good
4.747	4.717	96.6	Good				
4.910	5.060	149.5	Good				
5.300	5.330	30	Good				
5.797	5.997	200	Good				
TOTAL(m):		966.1		TOTAL(m):		206.9	

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)

MAJOR CULVERTS

Position Chainage	Culvert No	No. of box or pipe		Box		Pipe	Comment
		Box	Pipe	H(mm)	W(mm)	ø (mm)	
6.000		1					No access

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)						
CULVERTS						
Position	**No. of box or pipe**		**Box**		**Pipe**	**Comment**
Chainage	**Box**	**Pipe**	**H(mm)**	**W(mm)**	**ø (mm)**	
0.000		5			600	5 Pipes. Silt.
0.300		4			900	4 Pipes. Vegetation.
0.800		1			900	1 Pipe.
3.930		1			900	1 Pipe. Vegetation. Dirty.
4.100		1			600	1 Pipe.
4.185		1			600	1 Pipe.
4.750		1			900	1 Pipe.
6.110		1			900	1 Pipe.

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)

FENCING

POSITIVE (EASTBOUND)					NEGATIVE(WESTBOUND)				
Start (km)	End (km)	Length (m)	Type of Fencing	Condition	Start (km)	End (km)	Length (m)	Type of Fencing	Condition
0.000	0.400	400	Vermin-proof	Good	0.000	0.400	400	Vermin-proof	Good
0.400	6.320	5,920	Vermin-proof	Fair	0.400	5.400	5,000	Vermin-proof	Fair
					5.400	6.320	920	Vermin-proof	Good
TOTAL(m)		**6,320**			**TOTAL(m)**		**6320**		

SANRAL X.003-038-2019/1F - N10/5 km 0.0 - 6.32 (6.32km)

LAY BYES

Position		Facilities					Road Signage					Surface	Comment/ Damages
Chainage	Direction (WB or EB)	Trees (No)	Shelters (No)	Tables (No)	Chairs (No)	Bins (No)	No Fires (No)	Lay bye Turn in GF6 (No)	Yield R2 (No)	No Littering (No)	No Entry R3 (No)	Paved/Unpaved	

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)			
SUMMARY			
ITEM	**LHS/POS**	**RHS/NEG**	**TOTAL**
Guardrails (m)	1082.04	1,729.74	2811.78
Concrete side drains (m)	680	700	1380
Culverts Major (No)	-	-	4
Culverts Minor (No)	-	-	162
Fencing (m)	46,970	49940	96,910
Bridges (No)	-	-	5
Lay Byes (No)	2	1	3
Intersections (No)	7	6	13
Farm accesses (No)	30	29	59

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

ACCESSES

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (WB or EB)	Type	Name	Surface	Type	Name	Surface
1.150	Both	Intersection	Van Der Walt Street	Asphalt	Intersection	N/A	Asphalt
1.240	EB	Intersection	Du Plessis Street	Asphalt			
1.270	EB	Intersection	N9/7	Asphalt			
1.700	WB				Intersection	Rivier Road	Asphalt
1.780	EB	Entrance	Agricultural College	Asphalt			
1.820	WB				Intersection	delburg Waste Managem	Asphalt
1.900	WB				Entrance	N/A	Gravel
2.100	Both	Entrance	Farm	Gravel	Entrance	N/A	Gravel
4.150	EB	Intersection	Brulberg	Gravel			
5.970	WB				Entrance	Farm	Gravel
5.970	EB	Entrance	Farm	Gravel			
7.180	EB	Entrance	Farm	Gravel			
7.700	WB				Entrance	Farm	Gravel
8.290	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
9.650	EB	Entrance	Farm	Gravel			
10.400	WB				Intersection	DR02630	Asphalt
11.040	WB				Intersectiion	Rosmead	Asphalt
11.050	EB	Entrance	Farm	Gravel			
11.370	WB				Entrance	Farm	Gravel
12.590	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
14.600	Both	Entrance	Farm	Gravel	Entrance	Harmonie	Gravel
15.360	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
16.430	EB	Intersection	Suurberg/ DR02631	Gravel			
22.370	EB	Entrance	Farm	Gravel			
23.990	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
24.250	EB	Entrance	Farm	Gravel			
26.950	WB				Entrance	Farm	Gravel
29.540	Both	Entrance	Skelmkoppies	Gravel	Entrance	Farm	Gravel
30.100	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
31.430	EB	Entrance	Askania Nova	Gravel			
31.530	Both	Entrance	Farm	Gravel	Entrance	Rooispruit Stud	Gravel
31.900	WB				Entrance	Farm	Gravel
33.100	WB				Entrance	Harveya	Gravel
33.970	EB	Entrance	Farm	Gravel			
34.180	WB				Entrance	Farm	Gravel
35.520	Both	Entrance	Rooispruit Stud 12	Gravel	Entrance	Farm	Gravel
38.390	Both	Entrance	Alandale	Gravel	Entrance	Farm	Gravel
40.050	EB	Entrance	Farm	Gravel			
40.140	WB				Entrance	Farm	Gravel
40.500	EB	Entrance	Farm	Gravel			
42.700	WB				Entrance	Manor Holme	Gravel
45.650	Both	Entrance	Mount Melsetter	Gravel	Entrance	Farm	Gravel
47.380	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
47.440	EB	Intersection	Oorlogspoort Macasserfontein	Asphalt			
47.900	Both	Entrance	Farm	Gravel	Intersectiion	Schoombee JTviot	Gravel
48.360	WB				Entrance	Farm	Gravel
48.860	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel

Position		INTERSECTIONS					
		POSITIVE			NEGATIVE		
Chainage	Direction (WB or EB)	Type	Name	Surface	Type	Name	Surface
50.600	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
51.460	Both	Entrance	Farm	Gravel	Entrance	Farm	Gravel
52.360	EB	Entrance	Farm	Gravel			
53.940	WB				Entrance	Lucerndale	Gravel
55.980	EB	Entrance	Farm	Gravel			
57.260	EB	Entrance	Kinross	Gravel			
57.270	WB				Entrance	Springbok	Gravel

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

BRIDGES

Position Chainage	Bridge No	Structure Name	GPS Coordinates				No of Spans	Last date of safety inspection	Comment
			Start Latitude (south)	Start Longitude (east)	End Latitude (south)	End Longitude (east)			
1.900	1960/1953	River Bridge	31°29'37,04"	25°1'3,47"	31°29'36,52"	25°1'6,73"	3	15-Oct-23	
10.800	4387	Rail Underpass Bridge	31°28'58,95"	25°6'45,99"	31°28'58,77"	25°6'46,91"	1	15-Oct-23	
33.700	N/A	River Bridge	31°27'18,67"	25°20'53,31"	31°27'19,86"	25°20'55,08"	3	15-Oct-23	
45.790	4430	River Bridge	31°20'4,61"	24°57'28,29"	31°20'5,13"	24°57'25,94"	5	15-Oct-23	
51.200	N/A	Rail Underpass Bridge	31°26'22,66"	25°31'31,15"	31°26'22,92"	25°31'31,52"	1	15-Oct-23	

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

GUARDRAILS

POSITIVE (EASTBOUND)				NEGATIVE(WESTBOUND)			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
10.682	10.768	68.58	Good	10.768	10.700	68.58	Good
33.651	33.784	133.35	Good	33.651	34.352	701.04	Good
45.690	45.816	80.01	Fair	45.816	45.690	80.01	Fair
50.670	51.470	800.10	Good	50.680	51.560	880.11	Good
TOTAL(m):		**1082.04**		**TOTAL(m):**		**1,729.74**	

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

CONCRETE SIDE DRAINS

POSITIVE (EASTBOUND)				NEGATIVE(WESTBOUND)			
Start (km)	**End (km)**	**Length (m)**	**Condition**	**Start (km)**	**End (km)**	**Length (m)**	**Condition**
1.110	1.790	680.000	Good	1.110	1.810	700.000	Good
TOTAL(m):		**680**		**TOTAL(m):**		**700**	

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

MAJOR CULVERTS

Position Chainage	Culvert No	No. of box or pipe		Box		Pipe	Comment
		Box	Pipe	H(mm)	W(mm)	ø (mm)	
47.840			1	2200	3000		1 Box.
46.560			3			1520	1 Pipe. Soil erosion.

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

CULVERTS

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
1.293	1		800	800		1 Box. Silt.
1.300	1		800	800		1 Box. Silt.
2.350	1		600	600		1 Box. Silt.
2.620	1		600	600		1 Box. Silt. Vegetation.
3.150	1		550	600		1 Box. Silt.
3.435	1		600	600		1 Box. Silt. Vegetation.
3.971	1		500	1000		1 Box. Silt.
3.982	1		500	1000		1 Box. Silt.
3.933	1		500	900		1 Box. Blocked.
4.245	1		550	900		1 Box. Silt.
4.200	1		550	900		1 Box. Silt.
4.420	1		550	900		1 Box. Dirty. Silt.
4.680	1		550	900		1 Box. Silt.
5.100	1		520	900		1 Box.
6.195	1		650	700		1 Box.
6.250	1		600	720		1 Box.
6.440	1		680	600		1 Box.
6.582	2		650	900		2 Boxes. Vegetation.
6.980	1		450	550		1 Box. Blocked.
7.210	1		600	600		1 Box.
7.385	1		600	620		1 Box.
7.620	1		530	600		1 Box.
7.750	1		550	550		1 Box.
7.830	1		550	650		1 Box.
7.830	2		600	900		2 Boxes.
8.110	1		650	1000		1 Box.
8.875	1		600	700		1 Box.
8.900	1		1200	3000		1 Box.
9.385		1			450	1 Pipe. Vegetation.
9.700	1		520	650		1 Box.
9.730	1		530	630		1 Box.
10.390	2		600	900		2 Boxes. Concrete erosion. Missing W401.
10.390	1		600	1200		1 Box. Concrete erosion
10.700		1			450	1 Pipe. Dirty.
11.030		1			450	1 Pipe. Missing W401.
11.100	1		550	900		1 Box.
11.240	1		550	900		1 Box.
11.426	1		500	930		1 Box.
11.555	1		530	920		1 Box.
11.625	2		600	900		2 Boxes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
11.632	2		600	900		2 Boxes.
11.812	1		540	940		1 Box.
12.050	1		580	900		1 Box.
12.300	1		800	1100		1 Box. Concrete erosion.
13.230	1		580	900		1 Box.
13.330	1		400	900		1 Box.
13.700	1		500	900		1 Box. Concrete erosion.
15.560	5		900	1800		5 Boxes.
16.230	1		300	600		1 Box.
16.405		1			450	1 Pipe.
16.520		1			450	1 Pipe.
19.585		2			400	2 Pipes.
19.585		2			600	2 Pipes.
20.555		2			450	2 Pipes.
20.555		2			600	2 Pipes.
24.260	1		900	3000		1 Box. Shoulder has mole holes.
24.785	1		1260	1270		1 Box.
25.050	1		800	1500		1 Box.
26.260	2		1200	1800		2 Boxes
26.550	1		700	2000		1 Box.
26.680		2			400	2 Pipes. Shoulder has mole holes. Missing W401.
27.045	1		700	2000		1 Box.
27.330	1		700	2000		1 Box.
27.470	1		700	2100		1 Box.
28.040	1		700	2200		1 Box.
28.610	2		700	2200		2 Boxes. Shoulder has mole holes. Silt.
29.300		2			600	2 Pipes
30.060	2		700	1800		2 Boxes. Silt.
30.670	2		700	1500		2 Boxes.
32.130	1		600	1500		1 Box.
32.385	2		500	1400		2 Boxes.
32.730	1		500	1850		1 Box.
32.985	2				600	2 Pipes.
33.104	1		700	3000		1 Box.
33.565	1		900	460		1 Box.
33.820		1			600	1 Pipe.
34.390	1		900	3100		1 Box. Add 2 W401s.
35.175	2		900	3100		2 Boxes.
35.470	1		1000	3000		1 Box.
35.575		2			450	2 Pipes.
35.730	1		900	1800		1 Box.
36.730	2		700	3100		2 Boxes.

Position	No. of box or pipe		Box		Pipe	Comment
Chainage	Box	Pipe	H(mm)	W(mm)	ø (mm)	
37.020	1		700	3100		1 Box.
37.600	1		700	3100		1 Box.
38.035	2		700	3100		2 Boxes.
38.320		1			450	1 Pipe.
38.605	2		700	3100		2 Boxes.
40.185	2		950	3000		2 Boxes.
41.290	2		700	3000		2 Boxes.
41.250		1			450	1 Pipe.
41.010		1			450	1 Pipe.
42.208	3		900	3100		3 Boxes.
42.625	3		650	3100		3 Boxes.
43.595	2		900	3000		2 Boxes.
45.180		3			600	3 Pipes. Silt.
45.225		3			600	3 Pipes.
46.030		1			900	1 Pipe.
46.390		1			900	1 Pipe.
46.425		1			900	1 Pipe.
46.900		1			900	1 Pipe.
47.150		3			900	3 Pipes.
47.160		3			900	3 Pipes.
47.235		1			900	1 Pipe.
47.555		2			800	2 Pipes.
48.820		1			300	1 Pipe.
50.588		2			900	2 Pipes.
50.645		2			900	2 Pipes.
51.345		1			600	1 Pipe.
52.140		3			600	3 Pipes.Shoulder has mole holes.
53.480	1		670	3000	600	1 Box. Shoulder has mole holes.
56.380	1		600	1900		1 Box.
56.584	1		800	1200		1 Box.

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

FENCING

POSITIVE (EASTBOUND)					NEGATIVE(WESTBOUND)				
Start (km)	End (km)	Length (m)	Type of Fencing	Condition	Start (km)	End (km)	Length (m)	Type of Fencing	Condition
58.870	57.830	1,040	Stock-proof	Good	58.870	50.400	8,470	Stock-proof	Bad
57.830	53.960	3,870	Vermin-proof	Good	50.400	50.200	200	Stock-proof	Good
53.960	51.790	2,170	Stock-proof	Good	50.200	48.300	1,900	Stock-proof	Bad
51.790	47.960	3,830	Stock-proof	Bad	48.300	47.960	340	Stock-proof	Good
47.960	47.300	660	Vermin-proof		47.960	47.300	660	Vermin-proof	Bad
47.300	46.000	1,300	Stock-proof	Good	47.300	33.700	13,600	Stock-proof	Good
46.000	45.000	1,000	Stock-proof	Good	33.700	33.500	200	Vermin-proof	Good
45.000	43.400	1,600	Stock-proof	Bad	33.500	33.300	200	Stock-proof	Good
43.400	33.700	9,700	Vermin-proof	Bad	33.300	31.500	1,800	Stock-proof	Fair
33.700	33.400	300	Stock-proof	Good	31.500	30.800	700	Vermin-proof	Bad
33.400	30.100	3,300	Vermin-proof	Good	30.800	30.400	400	Vermin-proof	Good
30.100	28.700	1,400	Vermin-proof	Bad	30.400	28.700	1,700	Vermin-proof	Bad
28.700	28.500	200	Vermin-proof	Good	28.700	28.500	200	Vermin-proof	Good
28.400	28.100	300	Vermin-proof	Bad	28.500	26.610	1,890	Vermin-proof	Bad
28.100	27.830	270	Vermin-proof	Good	26.610	26.300	310	Vermin-proof	Good
27.830	26.610	1,220	Vermin-proof	Bad	26.300	26.250	50	Vermin-proof	Bad
26.610	26.300	310	Vermin-proof	Good	26.250	14.150	12,100	Stock-proof	Good
26.300	14.100	12,200	Vermin-proof	Bad	14.150	13.600	550	Vermin-proof	Good
14.10	11.80	2,300	Stock-proof	Good	13.600	8.930	4,670	Stock-proof	Good
11.800	10.750	1,050	Vermin-proof	Bad	8.930	6.050	2,880	Vermin-proof	Good
10.750	10.200	550	Vermin-proof	Good	6.050	2.100	3,950	Stock-proof	Good
10.200	7.850	2,350	Vermin-proof	Bad					
7.850	7.750	100	Vermin-proof	Good					
7.750	1.600	6,150	Vermin-proof	Bad					
TOTAL(m)		**46,970**			**TOTAL(m)**		**49940**		

SANRAL X.003-038-2019/1F - R56/1 km 1.1 - 58.78 (km)

LAY BYES

Position		Facilities					Road Signage					Surface
Chainage	**Direction** (WB or EB)	**Trees (No)**	**Shelters (No)**	**Tables (No)**	**Chairs (No)**	**Bins (No)**	**No Fires** (No)	**Lay bye Turn in GF6** (No)	**Yield R2** (No)	No Littering (No)	**No Entry R3** (No)	**Paved/Unpaved**
4.400	EB	8	0	3	18	2	0	1	0	0	0	Unpaved
15.500	EB	9	0	2	12	2	0	1	0	0	0	Unpaved
15.500	WB	32	0	2	12	2	0	1	0	0	0	Unpaved