



**DRAFT BASIC ASSESSMENT  
REPORT**

**THE PROPOSED REHABILITATION  
OF THE N2 SECTION 19 BETWEEN  
NQADU (KM 22.0) AND MZEKE  
RIVER (KM 55.4)**

**Prepared for the South African  
National Roads Agency Soc Limited**

**February 2017**



# BASIC ASSESSMENT REPORT

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## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

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### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.

15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

**SECTION A: ACTIVITY INFORMATION**

Has a specialist been consulted to assist with the completion of this section? 

YES x	NO
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 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

**1. PROJECT DESCRIPTION**

**a) Describe the project associated with the listed activities applied for**

**1. Introduction**

The project is located on National Road N2, Section 19 between Nqudu (km 22.0) and Mzeke River (km 55.4).

**2. Scope of Works**

The scope of works for the project entails the following:

- The rehabilitation of the portion of N2 Section 19 between km 22.0 and km 55.4 and re-surfacing thereof;
- Construction of five service roads for consolidation of accesses to the N2 at the following locations:
  - Km22.3 – km24.2 (on the eastern side of the N2 – 900m length)
  - Km33.5 – km34.2 (on the eastern side of the N2 – 700m length)
  - Km49.6 – km51.7 (on both sides of the N2 – 2 100m x2 length)
  - Km51.7 – km52.6 (on eastern side of the N2 – 900m length)
  - Km35.6 – km36.8 (on the north-western side of the N2 – 1200m length)
- Widening of the current road prism to a design standard commensurate with that of other sections of the N2 to a standard cross section;
- Upgrading of major intersections at km 33,2 and km 44,5;
- Replacement of concrete lined drains to suit new design levels.

**3. Bridges and Culverts**

The following major bridges and major culverts will be widened and lengthened respectively as part of this project:

No	Structure Description	Chainage (km)	Name of Watercourse
1	Culvert	24.7	Wolo Wolo River
2	Culvert	24.9	Tributary of Wolo Wolo River
3	Culvert	26.6	Tributary of Wolo Wolo River
4	Culvert	28.7	Tributary of Wolo Wolo River
5	Culvert	33.1	Tributary of Wolo Wolo River
6	Culvert	33.5	Tributary of Wolo Wolo River
7	Bridge	27.6	Mbokotwana river Bridge
8	Culvert	40.8	Tributary of Tsitsa River
9	Bridge	44.4	Tsitsa River Bridge
10	Culvert	48.4.	Tributary of Tsitsa River
11	Bridge	55.4	Mzeke River Bridge

**4. Borrow Pits and Quarries**

There are various borrow pits and quarries associated with this project. The mining areas are assessed in a Scoping-EIA process for submission to the DMR for authorisation.

## BASIC ASSESSMENT REPORT

- b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 734, 735 and 736	Description of project activity
<p><b>Example:</b>  <b>GN 734 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</b></p>	<p><b>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</b></p>
<p>GN R. 983, Item 19:                      The infilling or depositing of any material of more than 5 cubic metres into, or removal or moving of soil from a:                      (i) A watercourse.</p>	<p>Material of more than 5m<sup>3</sup> will be excavated from a water course.</p>
<p>GN R. 983, Item 56:                      The widening of a road by more than 6 m or the lengthening of a road by more than 1 km-                      (i) where existing reserve is wider than 13.5m</p>	<p>The current N2 will be widened by 6.2 m and the road reserve is wider than 50 m.</p>

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

## BASIC ASSESSMENT REPORT

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**a) Site alternatives**

In the case of linear activities: **There is only 1 site alternative as the N2 is an existing road**

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred)		
• Starting point of the activity	31° 23' 42.975" S	28° 50' 13.457" E
• Middle/Additional point of the activity	31° 11' 38.420" S	28° 51' 49.519" E
• End point of the activity	31° 9' 12.043" S	28° 52' 0.766" E

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

**b) Lay-out alternatives - NONE**

**c) Technology alternatives - NONE**

**d) Other alternatives - DESIGN ALTERNATIVES**

<b>Alternative A1 (preferred alternative)</b>
This alternative entails the widening and rehabilitation of the current N2 on one side only to achieve the desired road cross section width, with the preference being on the right hand side.
<b>Alternative A2</b>
This alternative entails the widening and rehabilitation of the current N2 on both sides of the road to meet the desired minimum road cross section width.
<b>Alternative A3</b>
None

**e) No-go alternative**

Should the road not be rehabilitated, the traffic on the N2 could experience increasingly unsafe driving conditions. The road's width and many intersections on this section of the road are not adequate to provide for the heavy traffic experienced in the area, especially during the peak holiday periods. The vertical and horizontal alignment and intersections of the road need to be upgraded to ensure the safety of the traveling public. This will also accommodate the predicted increase in traffic volume and avoid high driver frustration and fatigue. Should the road not be rehabilitated, high maintenance cost of the road pavement repairs and the heavily trafficked slow lane are foreseen.
The current high volumes of heavy vehicle traffic are a major safety and capacity concern. The volume

## BASIC ASSESSMENT REPORT

of heavy vehicles is expected to increase significantly over the next 20 years. Traffic volumes and design principals determine that the road needs to be rehabilitated to ensure the safety of the traveling public. If this is not done, it is anticipated that accidents on this road will increase in future.

**Indirect impacts:**

Possible traffic accidents as a result of poor driving conditions.  
Possible injury and death of travelling public.

**Cumulative impacts:**

High health care costs as a result of traffic accidents.

**Paragraphs 3 – 13 below should be completed for each alternative.**

**THE INFORMATION PERTAINING TO 3-13 IS SIMILAR FOR BOTH ALTERNATIVES**

**3. PHYSICAL SIZE OF THE ACTIVITY**

**a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):**

For linear activities:

**Alternative:**

Alternative A1 (preferred activity alternative)  
Alternative A2 (if any)  
Alternative A3 (if any)

**Length of the activity:**

	33400 m
	33400 m
	none

**b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):**

**Alternative:**

Alternative A1 (preferred activity alternative)  
  
Alternative A2 (if any)  
  
Alternative A3 (if any)

**Size of the site/servitude:**

Alternative A1 (preferred activity alternative)	1,670,000 m <sup>2</sup> (33400m x 50m)
Alternative A2 (if any)	1,670,000 m <sup>2</sup> (33400m x 50m)
Alternative A3 (if any)	None

**4. SITE ACCESS**

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
	m

Describe the type of access road planned:

There is no access road planned. This project entails the rehabilitation the existing N2 road.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.



### 5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

### 6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

### 7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

## BASIC ASSESSMENT REPORT

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

### 8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

### 9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

### 10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

<b>1. Is the activity permitted in terms of the property's existing land use rights?</b>	YES x	NO	Please explain
The rehabilitation of the N2 is undertaken in terms of the South African National Roads Agency Soc Limited (SANRAL's) mandate in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The declaration of the N2 as a national road under section 40(1) of the Act creates the land use right within the declared road reserve.			
<b>2. Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	YES x	NO	Please explain
The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL and the development is not bound by the Municipality's PSDF in order to continue.			
<b>(b) Urban edge / Edge of Built environment for the area</b>	YES x	NO	Please explain
The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL and the development is not bound by the Municipality's urban edge in order to continue as it is not a residential development or municipal road development.			

BASIC ASSESSMENT REPORT

<p><b>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</b></p>	YES x	NO	Please explain
<p>The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL and the development is not bound by the Municipality's IDP in order to continue as it is not a residential development or municipal roads development.</p>			
<p><b>(d) Approved Structure Plan of the Municipality</b></p>	YES x	NO	Please explain
<p>The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL and the development is not bound by the Municipality's approved structure plan in order to continue as it is not a residential development or municipal roads development.</p>			
<p><b>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</b></p>	YES	NO x	Please explain
<p>The approval of this application will not compromise the integrity of the existing environmental management priorities for the area and it can be justified in terms of sustainability considerations. No significant long term impact is foreseen as a result of the rehabilitation of the road.</p>			
<p><b>(f) Any other Plans (e.g. Guide Plan)</b></p>	YES	NO x	Please explain
<p>No significant long term impact is foreseen as a result of the rehabilitation of the N2.</p>			
<p><b>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</b></p>	YES x	NO	Please explain
<p>The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL. The development is not bound by the Municipality's approved SDF in order to continue as it is not a residential development or municipal roads development.</p>			

## BASIC ASSESSMENT REPORT

<b>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</b>	YES x	NO	Please explain
The area is in dire need of this project and it is a societal priority as numerous accidents occur on the N2 in this area every year with associated loss of lives.			
<b>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b>	YES x	NO	Please explain
The contractor, once appointed through the tender process with SANRAL, will decide on the water, sewage and waste disposal services during the time of construction. The relevant contractor will negotiate with the relevant local Municipality for provision of these services.			
<b>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b>	YES x	NO	Please explain
The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL. The development is not bound by the Municipality's infrastructure planning in order to continue.			
<b>7. Is this project part of a national programme to address an issue of national concern or importance?</b>	YES	NO x	Please explain
The rehabilitation of the N2 became important as a result of the deterioration of the road and the numerous accidents that occur in this area every year with associated loss of lives.			
<b>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</b>	YES x	NO	Please explain
The N2 is an existing national road and will be widened in terms of SANRAL's mandate in terms of the South African National Roads Agency Limited and National Roads Act, 1998.			
<b>9. Is the development the best practicable environmental option for this land/site?</b>	YES x	NO	Please explain
The rehabilitation of the N2 will be conducted within the N2 road reserve. The potential impacts related to the activity were assessed together with specialist engineering and environmental input and the best practicable environmental option and mitigation measures recommended in the report.			

## BASIC ASSESSMENT REPORT

<b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b>	YES x	NO	Please explain
The benefits of the proposed development will outweigh the negative impacts as the local communities and road users are in dire need of this project as a result of the severe safety risk if the N2 is not widened with associated loss of lives. The N2 will, therefore, be widened with a low impact to the environment but a high positive impact to the community and traveling public.			
<b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b>	YES	NO x	Please explain
The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL. This development will therefore not set a precedent for similar activities as it is not bound by the Municipality's infrastructure planning in order to continue.			
<b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b>	YES	NO x	Please explain
It is not foreseen that any person's rights will be negatively affected by the proposed activity as no community displacement will take place. A public participation process was followed and the comments and concerns taken into account during the environmental process.			
<b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b>	YES	NO x	Please explain
The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa in terms of the South African National Roads Agency Limited and National Roads Act, 1998. The N2 is a national road and falls within the jurisdiction of the SANRAL and the development is not bound by the Municipality's urban edge in order to continue as it is not a residential development or municipal road development.			
<b>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</b>	YES	NO x	Please explain
This project is not included in any of the SIP projects.			
<b>15. What will the benefits be to society in general and to the local communities?</b>	Please explain		
<p>The rehabilitation of the N2 offer several benefits to society in general, including:</p> <ul style="list-style-type: none"> <li>• Safer driving conditions for the road users;</li> <li>• Less traffic accidents;</li> <li>• Improved drainage and other services;</li> <li>• Less traffic congestion and driver frustration.</li> </ul>			
<b>16. Any other need and desirability considerations related to the proposed activity?</b>	Please explain		
<ul style="list-style-type: none"> <li>• Employment opportunities for the local residents during construction.</li> <li>• Less accidents and associated loss of lives.</li> <li>• Improved drainage and other services.</li> <li>• Drainage channels will be improved.</li> </ul>			

<b>17. How does the project fit into the National Development Plan for 2030?</b>	Please explain
<p>The SANRAL is given the power to perform all strategic planning, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of all national roads in South Africa. The N2 is a national road and falls within the jurisdiction of the SANRAL in terms of the South African National Roads Agency Limited and National Roads Act, 1998.</p>	
<b>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</b>	
<p>The following general objectives of integrated environmental management have been taken into account:</p> <ul style="list-style-type: none"> <li>a) Identified, predicted and evaluated the actual and potential impact on the environment as a result of the rehabilitation of the N2 as well as the socio-economic conditions and cultural heritage,</li> <li>b) Investigated alternatives and options for mitigation of activities, with a view to minimizing negative impacts.</li> <li>c) Maximizing benefits to the environment as a result of the rehabilitation of the N2;</li> <li>d) Ensured that the effects of activities on the environment received adequate consideration before actions are taken in connection with them;</li> <li>e) Ensured adequate and appropriate opportunity for public participation in decisions that may affect the environment;</li> <li>f) Ensured the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and</li> <li>g) Identified and employed the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2 of the NEMA.</li> </ul>	

**19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.**

The following have been taken into account:

- Identified all potential activities and associated environmental risks associated with the proposed project;
- Consideration of all relevant ecological, social and economic factors in development;
- Minimised adverse environmental impacts, pollution or degradation of the environment;
- Avoiding or minimising the disturbance to ecosystems;
- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;
- That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.
- Promotion of community participation through an extensive and open public participation process with I&APs;
- Delivery of high quality information to government and other decision-makers in order to enable them to make informed decisions regarding the project and avoid unnecessary project delays.

**11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES**

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
<b>EIA Regulations GN R. 983</b> Activities 19, 24 and 56.	Listed activities triggered in terms of the EIA Regulations, 2014	Department of Environmental Affairs	8 December

BASIC ASSESSMENT REPORT

<p><b>Department of Environmental Affairs</b>  <b>Departmental Guidelines under</b>  <a href="http://www.environment.gov.za">www.environment.gov.za</a></p>	<p>Guidance with regard to the execution of the Basic Assessment process</p>	<p>Department of Environmental Affairs</p>	<p>2010</p>
<p><b>National Environmental Management Act, 1998 (Act No. 107 of 1998)</b></p> <p>The National Environmental Management Act, 1998 (Act No. 107 of 1998): [NEMA] was enacted in November 1998. NEMA provides for cooperative governance by establishing principles for decision-making on matters affected the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions, public participation and sustainable development.</p>	<p>General objectives of Integrated Environmental Management as set out in section 23 of NEMA taken into account</p>	<p>The National Department of Environmental Affairs</p>	<p>27 November 1998</p>
<p><b>National Water Act (Act No. 36 of 1998)</b></p> <p>The application for a Water Use License in terms of the National Water Act, 1998.</p>	<p>Stream crossings and possible application of Water Use License or general authorization at the Department of Water and Sanitation</p>	<p>Department of Water and Sanitation</p>	<p>20 August 1998</p>
<p><b>National Heritage Resource Act 1999 (Act No. 25 of 1999)</b></p> <p>In terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) comment will be obtained from SAHRA.</p>	<p>Any linear activity that exceeds 300 m in extent requires input from SAHRA.</p>	<p>South African Heritage Resources Agency (SAHRA)</p>	<p>1999</p>
<p><b>Regulation 15 of the Conservation Act of Agricultural Resources Act, 1983 (Act 43 of 1983)</b></p>	<p>Ecological study          Alien vegetation identification on site</p>	<p>Department of Agriculture</p>	<p>1983</p>



**12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT**

**a) Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?

YES x	NO
Appr 10 m <sup>3</sup>	

If YES, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

Waste skips will be provided at the construction camp site and strategically at the N2 construction site. These waste bins will be regularly emptied by a contractor who in turn will dispose of the waste at a recognized waste disposal site. The relevant appointed contractor will negotiate with the relevant local Municipality for provision of these services.

Where will the construction solid waste be disposed of (describe)?

The solid waste will be disposed of at a recognized waste disposal site. Waste will feed into the Local Municipality municipal waste stream. The relevant appointed contractor will negotiate with the relevant local Municipality for provision of these services.

Will the activity produce solid waste during its operational phase?

YES	NO x
m <sup>3</sup>	

If YES, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

n/a

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

The solid waste will be disposed of at the landfill site at the Local Municipality in King Sabata Dalindyebo Local Municipality, Mthatha or Mhlontlo Municipality, Qumbu. The contractor, once appointed through the tender process with SANRAL, will decide on the water, sewage and waste disposal services during the time of construction. The relevant contractor will negotiate with the relevant local Municipality for provision of these services.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

n/a

*If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.*

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO x
-----	------

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO x
-----	------

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

## BASIC ASSESSMENT REPORT

### b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO x
-----	------

If YES, what estimated quantity will be produced per month?

m <sup>3</sup>
----------------

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO x
-----	------

*If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.*

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO x
-----	------

If YES, provide the particulars of the facility:

<b>Facility name:</b>	NOT APPLICABLE		
<b>Contact person:</b>			
<b>Postal address:</b>			
<b>Postal code:</b>			
<b>Telephone:</b>		<b>Cell:</b>	
<b>E-mail:</b>		<b>Fax:</b>	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Recycling of wastewater will be undertaken if an asphalt plant with a wet scrubber system will be utilised for the production of asphalt for the rehabilitation of the N2.

### c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO x
-----	------

If YES, is it controlled by any legislation of any sphere of government?

YES	NO
-----	----

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

During the construction phase some dust might be generated in low concentrations. Dust will be suppressed through regular water spraying of surfaces as indicated in the EMPr.

### d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO x
-----	------

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

### e) Generation of noise

Will the activity generate noise?

YES x	NO
-------	----

If YES, is it controlled by any legislation of any sphere of government?

YES x	NO
-------	----

## BASIC ASSESSMENT REPORT

Describe the noise in terms of type and level:

Construction noise will be generated during normal working hours. Mitigation measures for noise generated during construction are included in the EMPr.

### 13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal x	Water board	Groundwater	River, stream, dam or lake	Other x	The activity will not use water
-------------	-------------	-------------	-------------------------------	---------	------------------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

If YES, please provide proof that the application has been submitted to the Department of Water Affairs. To be applied for.

litres	
YES x	NO

### 14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The following energy efficient measures will be taken on the project:

- Equipment generating energy will be properly insulated to prevent energy loss.
- Compact fluorescent lights will be installed in the site offices.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

The use of solar geysers will be investigated for use at the contractor camp site during construction. Compact fluorescent lights will be installed in the site offices.

## SECTION B: SITE/AREA/PROPERTY DESCRIPTION

#### Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

**A1  
and  
A2**

2. Paragraphs 1 - 6 below must be completed for each alternative. **The information pertaining to paragraphs 1-6 is similar for both alternatives.**

## BASIC ASSESSMENT REPORT

3. Has a specialist been consulted to assist with the completion of this section?  YES  NO  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

**Property description/physical address:**

<b>Province</b>	Eastern Cape
<b>District Municipality</b>	OR Tambo District Municipality
<b>Local Municipality</b>	King Sabata Dalindyebo Local Municipality Mhlontlo Municipality
<b>Ward Number(s)</b>	Ward 13 King Sabata Dalindyebo Local Municipality Ward 14 Mhlontlo Municipality
<b>Farm name and number</b>	N2 road reserve
<b>Portion number</b>	N2 road reserve
<b>SG Code</b>	N2 road reserve

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

**Current land-use zoning as per local municipality IDP/records:**

N2 road reserve
-----------------

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?  YES  NO

### THERE IS ONLY 1 SITE ALTERNATIVE APPLICABLE TO THIS PROJECT

#### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

##### Alternative S1:

Flat	1:50 – 1:20 x	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	------------------	-------------	-------------	--------------	-------------	------------------

##### Alternative S2 (if any): NONE

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

##### Alternative S3 (if any): NONE

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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## BASIC ASSESSMENT REPORT

### 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

### 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO x	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO x	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO x	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO x	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO x	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO x	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO x	YES	NO	YES	NO
An area sensitive to erosion	YES x	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

### 4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup> x	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land x	Paved surface x	Building or other structure x	Bare soil x

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

## 5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES x	NO	UNSURE
Non-Perennial River	YES x	NO	UNSURE
Permanent Wetland	YES	NO x	UNSURE
Seasonal Wetland	YES	NO x	UNSURE
Artificial Wetland	YES	NO x	UNSURE
Estuarine / Lagoonal wetland	YES	NO x	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

### AQUATIC ECOLOGY

#### Watercourses in the study area

Three main rivers are found in the study area. These are the large perennial iTsitsa River and the smaller Mzeke and Ngcolora Rivers. A number of small semi-perennial and seasonal streams and drainage lines are found throughout the study area.

#### Drainage regions

The study area is situated within the primary drainage area (PDA) of T and the quaternary drainage areas (QDA) of T35K and T35L.

The study area is within the Mzimvubu to Keiskamma Water Management Area (WMA 12) and under the jurisdiction of the newly proposed Eastern Cape Coastal Rivers Catchment Management Agency (CMA 7).

#### PES of watercourses in the study area

Criteria	Identified Watercourses			
	iTsitsa River	Mzeke River	Ngcolora River	Streams / Drainage lines
Category:	C/D	D	D	D
Integrity (PES):	Low	Low	Low	Low
PES Description	Moderately Modified	Largely Modified	Largely Modified	Largely Modified
Recommended EMC	C	C	C	C

#### EIS of watercourses in the study area

Determinant	iTsitsa River	Mzeke River	Ngcolora River	Streams/ Drainage lines	Confidence
Overall EIS	B	B	B	C	-
Description	High	High	High	Moderate	-

All three main rivers are viewed as sensitive. All seasonal and semi-perennial streams and drainage lines are viewed as sensitive. There are numerous dongas (erosion gullies) along the route of the study area. These are not sensitive, but care must be taken during rehabilitation activities not to aggravate erosion.

Source: Flori, 2016

## BASIC ASSESSMENT REPORT

### 6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station <sup>H</sup>
Medium density residential	School	Landfill or waste treatment site
High density residential x	Tertiary education facility	Plantation
Informal residential <sup>A</sup> x	Church	Agriculture x
Retail commercial & warehousing x	Old age home	River, stream or wetland x
Light industrial	Sewage treatment plant <sup>A</sup>	Nature conservation area
Medium industrial <sup>AN</sup>	Train station or shunting yard <sup>N</sup>	Mountain, koppie or ridge x
Heavy industrial <sup>AN</sup>	Railway line <sup>N</sup>	Museum
Power station	Major road (4 lanes or more) <sup>N</sup> x	Historical building
Office/consulting room	Airport <sup>N</sup>	Protected Area
Military or police base/station/compound	Harbour	Graveyard x
Spoil heap or slimes dam <sup>A</sup>	Sport facilities	Archaeological site
Quarry, sand or borrow pit x	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The potential environmental impacts relating to the rehabilitation of the N2 is addressed in this report.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

No impact

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

No impact

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES x	NO
Core area of a protected area?	YES	NO x
Buffer area of a protected area?	YES	NO x
Planned expansion area of an existing protected area?	YES	NO x
Existing offset area associated with a previous Environmental Authorisation?	YES	NO x
Buffer area of the SKA?	YES	NO x

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

**7. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES x	NO
Uncertain	

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Chameleon Environmental Services to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to maintain the section of the N2 National road. Please refer to the findings of the specialist consultant below.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

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## BASIC ASSESSMENT REPORT

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

- **Old concrete road bridge (-31.28540, 28.80999)**
  - It is judged that this feature is located inside the road reserve and it is possible that any work in its vicinity might have an impact on it.
  - It is recommended that this feature is retained and that it is fenced off with danger tape if road construction activities take place in its vicinity. If that is not possible and the bridge must be demolished, it should be documented in full prior to construction taking place.
- **Metal truss road bridge (-31.23716, 28.84636)**
  - This feature is located some distance from the road reserve and will therefore not be impacted on by the proposed development.
  - As it is very unlikely that there will be an impact on this structure, no further action is required.
- **Small, informal family cemetery (-31.29940, 28.79865)**
  - This site borders on the road reserve fence and it is possible that some of the graves might even be located inside the reserve. Any work taking place here might therefore have an impact on the site.
  - If the burial place is retained, it should be fenced off for the duration of the road rehabilitation, leaving a buffer zone of at least five metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only on condition of following the correct procedures (see Appendix 3).
- **A large community cemetery with more than 100 graves (-31.16690, 28.86653)**
  - This site borders on the road reserve fence. Any work taking place here might therefore have an impact on the site.
  - If the burial place is retained, it should be fenced off for the duration of the road rehabilitation, leaving a buffer zone of at least five metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only on condition of following the correct procedures as per the specialist study included in Appendix D.

(Source: Van Schalkwyk, 2016)

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES x	NO
YES x	NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

**8. SOCIO-ECONOMIC CHARACTER**

**a) Local Municipality**

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

**King Sabata Dalindyebo (KSD) Municipality**

In 2007 the KSD labour force (15-64) was made up of roughly 229 668 people or 53% of the total population. Of these, 28% (66 158) were employed; while only 15% (35 944) fell in the category of the unemployed. A staggering 127 566, or some 55% of the labour force was classified as not economically active. The latter is matter of grave concern to the municipality especially because the youth and women constitute a considerably large majority of the labour force.

Government and the Community Services sectors accounted for the largest share (54%) of employment in 2008, followed by the Finance and Wholesale and Trade sectors which respectively accounted for 9 and 8 percentage points.

Source: King Sabata Dalindyebo Municipality Integrated Development Plan: 2015/16

**Mhlontlo Local Municipality**

The largest employer in the Mhlontlo Local Municipality is the Community services sector (that largely consists of government) which employed 6 416 in 2011. The second largest employer is the Household sector, which employs 1 840 people. The third largest employer is the trade which employed 1 251 people. Relative to employment in the Eastern Cape the, O.R. Tambo District Municipality employs 9.5% of the total employment in the Eastern Cape, with 13.2% of total Eastern Cape employment in the Community sector being employed in O.R. Tambo District Municipality.

Source: Mhlontlo Local Municipality, Integrated Development Plan 2015/2016

Economic profile of local municipality:

**King Sabata Dalindyebo Municipality**

According to the 2015/2016 IDP, approximately 2,7% of the households receive less than R500 per month, 44,9% of households receive R1001 to R3500 per month and 1,4% of households receive R50000+ per month.

According to Gaffney's Local Government in South Africa - update April 2012, approximately 158 098 (35%) people of the KSD population is dependent on social grants. 65% of that is receiving child support grant, followed by the old age grant being 17% and the disability grant being at 7%. Approximately only 4689 people are receiving either foster care, multiple social, Institutions, social relief, granting aid, and care dependency grant. The number of people receiving grants is fluctuating every month.

Source: King Sabata Dalindyebo Municipality Integrated Development Plan: 2015/16

**Mhlontlo Local Municipality**

It was estimated that 82.0% of all households in O.R. Tambo District Municipality were classified as living on R38 200 or less per annum in 2011. In 2001, 93.0% of all households were classified as living below the R38 200 per annum line. The total number of households without any income in O.R. Tambo District Municipality is at a concerning 17%. Dependency on subsistence farming could be a substitute for income as a means of survival as subsistence farming is not reported or understood as income by households and is therefore not reported. This may result in an increased burden on state to provide health, education and safety.

Source: Mhlontlo Local Municipality, Integrated Development Plan 2015/2016

Level of education:

**King Sabata Dalindyebo Municipality**

KSD is depicted as being 61.9% as at 2010 in terms of literacy rate. KSD is also depicted as being 43.5% of people with matric and just above the District Municipality which is at 47.3%. KSD is depicted as 8.9% with people holding BA/HON While the District is shown as 7.2% which is less than KSD municipality. KSD is shown as at 0, 3% MA/PHD while the District is way low in this respect. It is clear that the level of education in the OR Tambo municipal jurisdiction is very low, with illiteracy rate standing at 20.8 % which is a huge gap in comparison to the level of people with Post graduate qualifications. An alarming number of people quit while in high school which is a cause for concern given the serious need for skills in the area.

Source: King Sabata Dalindyebo Municipality Integrated Development Plan: 2015/16

**Mhlontlo Local Municipality**

According to Statistics South Africa data 2011, roughly 27, 669 or 14.7% of the population has no education. Another 4894 or 2.6% has higher education or gone beyond grade 12 or matriculation. Also 23152 or 12.3% has grade 12 or matriculation and 179 191 or 95.2 has Primary Education Enrolment (aged 6-13).

**Table 1: Level of Education**

Description	Census 2001	Census 2011
No Schooling	35.8	14.7
Higher Education	4.1	2.6
Matric	8.6	12.3
Primary Educational Enrolment (aged 6-13)	94.0	95.2

According to the SSA 2011, the Mhlontlo Local Municipality has 67,9% of people that completed grade 7 or higher in 2011 compared to 2005 where the literacy rate of people who completed the same

## BASIC ASSESSMENT REPORT

grade is 55,7% which shows an increase in people completed grade 7 or higher.

Source: Mhlontlo Local Municipality, Integrated Development Plan 2015/2016

### b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	Approximately R400 million.	
What is the expected yearly income that will be generated by or as a result of the activity?	R 0	
Will the activity contribute to service infrastructure?	YES x	NO
Is the activity a public amenity?	YES x	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Approximately 80 per day over a 30 month construction period	
What is the expected value of the employment opportunities during the development and construction phase?	Approximately R14 million	
What percentage of this will accrue to previously disadvantaged individuals?	Approximately 80 %	
How many permanent new employment opportunities will be created during the operational phase of the activity?	None	
What is the expected current value of the employment opportunities during the first 10 years?	None	
What percentage of this will accrue to previously disadvantaged individuals?	None	

## 9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or [BGIShelp@sanbi.org](mailto:BGIShelp@sanbi.org). Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
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## BASIC ASSESSMENT REPORT

Critical Biodiversity Area (CBA) x	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	Within Mthatha Moist Grassland which is a T2 CBA - endangered veld type or threatened ecosystem.
				Although within Mthatha Moist Grassland 90% of the study area is a tarred road (N2), gravel shoulder & regularly mowed grass areas in road reserve.
				According to Mucina & Rutherford (2006) - EN, but according to ECBCP & SANBI Maps – VU.

**b) Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0 %	No natural veld in terms of pristine areas.
Near Natural (includes areas with low to moderate level of alien invasive plants)	30 %	Near natural are areas where there is more floral richness with less impacts. However, even these areas are regularly grazed by local free-ranging cattle and goats.
Degraded (includes areas heavily invaded by alien plants)	20 %	Includes old and occasionally cultivated lands that have grassed over at time of field investigations.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50 %	Transformed areas include the road itself, gravel road shoulders and regularly mowed road verges and road reserves

**c) Complete the table to indicate:**

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems		
<b>Ecosystem threat status as per the National Environmental Management:</b>	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline
	Endangered			
	Vulnerable x			
	Least			

## BASIC ASSESSMENT REPORT

Terrestrial Ecosystems		Aquatic Ecosystems						
<b>Biodiversity Act (Act No. 10 of 2004)</b>	Threatened	YES	NO x	UNSURE	YES	NO x	YES	NO x

- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

### TERRESTRIAL ECOLOGY

#### Vegetation

The vegetation of the study area is a species-poor area, which is characterised by sour, wiry grassland dominated by grasses such as *Eragrostis plana*, *Sporobolus africanus* and *Themeda triandra*. Indigenous trees are very rare to absent with undulating plains and hilly country covered by grassland. Patches of bush clumps with *Leucosidea sericea* (wet sites) or *Acacia karroo*, *Diospyros lycoides* and *Ziziphus mucronata* in low-lying, dry sites occur. Although the central part of the study area runs through Eastern Valley Bushveld, it has many grassland characteristics, including the lack of many trees.

The study area is predominantly found within Mthatha Moist Grassland, East Griqualand Grassland.

#### Priority species

No Red Data species were observed during field investigations.

*Aloe ferox* is the only priority species encountered during field investigations.

#### Protected trees in the study area

No protected trees were observed during field investigations and none are expected to occur.

#### Fauna

No Red Data species were observed during field investigations. The likelihood of many Red Data faunal species or priority species, apart from bird species is scarce.

### AQUATIC ECOLOGY

#### Watercourses in the study area

Three main rivers are found in the study area. These are the large perennial iTsitsa River and the smaller Mzeke and Ngcolora Rivers. A number of small semi-perennial and seasonal streams and drainage line are found throughout the study area.

#### Drainage regions

The study area is situated within the primary drainage area (PDA) of T and the quaternary drainage areas (QDA) of T35K and T35L.

The study area is within the Mzimvubu to Keiskamma Water Management Area (WMA 12) and under the jurisdiction of the newly proposed Eastern Cape Coastal Rivers Catchment Management Agency (CMA 7).

Source: Flori Horticultural Services, 2016.

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT AND NOTICE

<b>Publication name</b>	Daily Dispatch	
<b>Date published</b>	4 April 2016	
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Start of Project</b>	31° 23' 42.975" S	28° 50' 13.457" E
<b>Middle of Project</b>	31° 11' 38.420" S	28° 51' 49.519" E
<b>End of Project</b>	31° 9' 12.043" S	28° 52' 0.766" E
<b>Date placed</b>	11 March 2016	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

### 2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

<b>Title, Name and Surname</b>	<b>Affiliation/ key stakeholder status</b>	<b>Contact details (tel number or e-mail address)</b>
Mr. Mvuyisi Nofemele	Acting Municipal Manager King Sabata Dalindyebo Local Municipality	Tel: 047 501 4000/4238 E-mail: <a href="mailto:ksd@ksd.gov.za">ksd@ksd.gov.za</a>
Mr S Sotshongaye	Municipal Manager Mhlontlo Local Municipality	Tel: 047 553-7000 E-mail: <a href="mailto:Sg648@yahoo.co.uk">Sg648@yahoo.co.uk</a>
Councillor A Dawedi	Ward Councillor Ward 14 Mhlontlo Local Municipality	Tel:047 553-7000/ 0716796440 E-mail: <a href="mailto:mekodawedi@gmail.com">mekodawedi@gmail.com</a>
Councillor NV Roji	Ward Councillor Ward 13 King Sabata Dalindyebo Local Municipality	Tel: 047 501 4000/ 0839511954 E:mail: <a href="mailto:noluvuyom@ksd.gov.za">noluvuyom@ksd.gov.za</a>

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- any other proof as agreed upon by the competent authority.

### 3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

<b>Summary of main issues raised by I&amp;APs</b>	<b>Summary of response from EAP</b>
Extensive public participation held. See issues	Extensive public participation held. See issues

## BASIC ASSESSMENT REPORT

and response report in Appendix E3.	and response report in Appendix E3.

### 4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

### 5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Mr. Sizakele Gabula	047 531 1191	047 531 887	sizakele.gabula@deaet.ecape.gov.za	Postal Address P/Bag X5029 Mthatha 5099
Department of Water and Sanitation	Mr Tandile Ngcume	043 604-5402 043 604-5418	043 604-5592	ngcumet@dwa.gov.za	Private Bag X7485 King William's Town 5600
South African Heritage Resources Agency	Mr Phillip Hine	021 462 4502	021 462 4509	<a href="mailto:phine@sahra.org.za">phine@sahra.org.za</a> (information to be posted on SAHRA website)	PO Box 4637 Cape Town 8000
Department of Rural Development and Land Reform	Mr Sebitso Thooka	047 532-5959 0828270608	047 532-5968	Sebitso.thooka@drdlr.gov.za	40 Blakeway road Mthatha 5100
Dept of Social Development	Ms B Machamba	0736957352	047 5428084	Busiswa.macamba@ecdsd.gov.za	Private Bag X0039 BISHO 5605

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.



In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

**6. CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

**SECTION D: IMPACT ASSESSMENT**

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

**1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
<b>Alternative A1 (preferred alternative)</b>			
<b><u>Planning and design phase</u></b>	<b><i>Direct impacts:</i></b> <ul style="list-style-type: none"> <li>• Placement and access of construction site camp area.</li> <li>• Design of widening of N2.</li> <li>• Designs of bridges and culverts.</li> </ul>	Medium  Medium  Medium	<ul style="list-style-type: none"> <li>• The establishment of a construction yard may only occur in an area that has previously been disturbed. This area must be approved by the Environmental Control Officer (ECO) and must</li> </ul>

BASIC ASSESSMENT REPORT

			<p>be inspected regularly.</p> <ul style="list-style-type: none"> <li>In designing the widening of the road and the bridges along the proposed route, it must be ensured that drainage systems are kept as natural as possible. Natural drainage should be retained, and normal flow ensured at all times.</li> </ul>
	<p><b><i>Indirect impacts:</i></b> <b><u>Planning and design phase</u></b></p> <p>Possible relocation of services</p>	High	<ul style="list-style-type: none"> <li>Where service disruption is inevitable, the Contractor must advise the Engineer at least 7 days in advance, allowing enough time to inform affected parties.</li> <li>Any complaints must be included in the complaints register maintained on site.</li> <li>Updated information boards must be maintained on site and must include contact details for complaints by the public in accordance with details provided by the Engineer.</li> </ul>
	<p><b><i>Cumulative impacts:</i></b> <b><u>Planning and design phase</u></b></p> <p>There are no cumulative impacts associated with the design phase.</p>	None	None
<b><u>Construction phase</u></b>	<b><i>Direct impacts:</i></b>		<ul style="list-style-type: none"> <li>No temporary</li> </ul>

BASIC ASSESSMENT REPORT

<ul style="list-style-type: none"> <li>• Possible impacts to the rivers and other streams/drainage lines;</li> <li>• Possible impact on mammals and snakes in road reserve;</li> <li>• Possible erosion of soils and loss of topsoil;</li> <li>• Possible invasion of exotic species;</li> <li>• Possible impacts during construction:</li> <li>• Possible pollution of solid waste;</li> <li>• Possible sewage pollution;</li> <li>• Possible pollution of fuels and gas as a result of inadequate storage;</li> <li>• Possible pollution by cement or concrete;</li> <li>• Possible noise pollution;</li> <li>• Possible dust pollution;</li> <li>• Possible impact on heritage sites and graves;</li> </ul>	High	<p>accommodation or temporary storage sites to be erected within 100m of the any river, stream, drainage line, pan, wetland or farm dam.</p> <ul style="list-style-type: none"> <li>• No temporary facilities (including portable toilets) to be positioned within a 50m buffer zone of any watercourses.</li> <li>• Only existing roads to be used by vehicles during construction as far as possible. Especially in terms of crossing over watercourses.</li> <li>• Erosion is a serious problem in the study area. All precautions must be taken to avoid increasing erosion, especially in areas where large dongas already exist. Weekly monitoring of erosion gullies and open, bare soil work areas to be inspected. Any signs of erosion to be rectified immediately. This is especially important during the rainy season.</li> <li>• Rehabilitation activities close to watercourses to be carefully monitored in terms of erosion and possible resulting siltation of watercourses. Weekly inspection of work areas around watercourses to be conducted. Any signs of new erosion and siltation to be rectified immediately.</li> <li>• Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site. Once again</li> </ul>
	Medium	
	Medium	
	High	
	Medium	
	Medium	
	Medium	
	Medium	
	Medium	
	Medium	
	Medium	
	Medium	
	High	

## BASIC ASSESSMENT REPORT

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		<p>only by officially registered waste-disposal companies and only to official waste sites.</p> <ul style="list-style-type: none"><li>• Ensure as small as possible footprint during construction phase.</li><li>• All hazardous materials such as but not limited to paint, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the terrestrial and water environments.</li><li>• Removal of all waste construction material to an approved waste disposal site.</li><li>• All waste such as papers, plastics, etc. to be clean up on a daily basis and removed on a weekly basis.</li><li>• Extreme care needs to be taken to avoid pollutants such as oils, fuels, etc. getting into the water system.</li><li>• No water for drinking or construction purposes of any kind may be extracted directly out of existing streams, drainage lines, etc. without the necessary prior authorisations, permits etc.</li><li>• No water to be taken out of the stream to be used for any purpose of the project during the construction phase of the project. No water from the river / streams to be used as drinking water.</li><li>• Only certified, chemical, portable toilets to be used. These are not to be situated within 100m of any watercourses or</li></ul>
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BASIC ASSESSMENT REPORT

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			<p>impoundments. These portable toilets to be administered and serviced by a certified, registered company.</p> <ul style="list-style-type: none"> <li>• No open fires to be made in the veld.</li> <li>• No wood for fires, etc. to be collected from out of the veld.</li> <li>• It is requested that if heritage sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.</li> <li>• There is a high likelihood that several mammal species may inhabit the road reserve. These are limited to opportunistic, widespread species that are well adapted to the disturbed conditions. No animal species may be harmed in any way and no hunting or capturing of animals may be permitted. These animals will move out of the road reserve of their own accord.</li> <li>• In the event of poisonous snakes or other dangerous animals encountered on the site an experienced and certified snake handler or zoologist must remove these animals from the site and re-locate them to a suitable area.</li> </ul>
	<p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>• Possible weed invaders as</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>• All alien vegetation in the road reserve should be</li> </ul>

BASIC ASSESSMENT REPORT

	<p>a result of disturbance of soil.</p> <ul style="list-style-type: none"> <li>• Possible erosion at stream banks</li> </ul>	<p>High</p>	<p>removed upon completion of construction.</p> <ul style="list-style-type: none"> <li>• Bank vegetation cover should be monitored to ensure that sufficient vegetation is present to bind the bankside soils and prevent further bankside erosion.</li> </ul>
	<p><b>Cumulative impacts:</b></p> <ul style="list-style-type: none"> <li>• Possible additional traffic on the roads during construction;</li> <li>• Possible influx of people in the area during construction.</li> </ul>	<p>High  Medium</p>	<ul style="list-style-type: none"> <li>• The additional traffic will be managed by the contractor through the traffic management as included in the tender document to the project.</li> <li>• A Public Liaison Officer (PLO) should be appointed to manage the employment opportunities on the project.</li> </ul>
<p><b><u>Operational phase</u></b> <b><u>(Maintenance phase)</u></b></p>	<p><b><u>Direct impacts:</u></b></p> <ul style="list-style-type: none"> <li>• Possible increase in alien vegetation;</li> <li>• Possible erosion of slopes.</li> </ul>	<p>Medium  High</p>	<ul style="list-style-type: none"> <li>• Mechanical control of alien plants around disturbed areas to be implemented within three months of completion of construction. Thereafter every six months. Mechanical control to be of such a nature as to allow local, indigenous grasses and other pioneers to colonise the previously disturbed areas, thereby keeping out alien invasives.</li> <li>• No chemical control (herbicides) of alien plants to be used within 100m of any watercourses.</li> <li>• Areas around foundations, culverts, gabions, etc. need to be checked before and after the summer rainy season for signs of soil erosion due to stormwater run-off.</li> </ul>

BASIC ASSESSMENT REPORT

			<p>Such sites need to be modified and rehabilitated to prevent ongoing erosion. These sites need to be monitored more closely than other sites which show no or minimal signs of erosion.</p> <ul style="list-style-type: none"> <li>• Inspection of road shoulders in areas of steep topography to be inspected after the summer rainy season for signs of erosion and rehabilitated and rectified as required.</li> </ul>
	<p><b>Indirect impacts:</b></p> <p>There are no indirect impacts associated with the maintenance phase</p>	None	None
	<p><b>Cumulative impacts:</b></p> <p>There are no cumulative impacts associated with the maintenance phase</p>	None	None
<p><b><u>Decommissioning and closure phase.</u></b></p> <p>This phase only pertains to the decommissioning of the construction camp site. The road itself will not be decommissioned in the foreseeable future.</p>	<p><b>Direct impacts:</b></p> <ul style="list-style-type: none"> <li>• To ensure that disturbed areas and the construction site camp are rehabilitated after construction has been completed.</li> </ul>	High	<ul style="list-style-type: none"> <li>• Disturbed surface areas in the construction phase to be rehabilitated. No open trenches to be left. No mounds of soils created during construction to be left. Soils around erected poles to be levelled and sculptured to the original contours of the surrounding soils.</li> <li>• All construction material, equipment and any foreign objects brought into the area by contractors and staff to be removed immediately after completion of construction or operation phase.</li> </ul>

BASIC ASSESSMENT REPORT

			<ul style="list-style-type: none"> <li>• No excess imported soils or stone (if used during the construction phase) may be left behind. These materials to be removed immediately on completion of the project or activity.</li> <li>• All vehicle and machinery tracks and disturbed areas to be rehabilitated immediately after the construction phase.</li> <li>• It is preferred that natural vegetation be allowed to establish within the road reserve while weed eradication is constantly exercised.</li> <li>• After construction, the areas cleared of vegetation will be susceptible to infestation by invader weed species. The road reserve should be monitored for the presence of invader weed species</li> <li>• Areas that have become compacted due to construction activities should be ripped.</li> <li>• After cessation of activities on the site the area should be rehabilitated to acceptable standards.</li> <li>• After construction has ceased all construction materials should be removed from the road reserve.</li> </ul>
	<p><b>Indirect impacts:</b></p> <p>There are no indirect impacts associated with the decommissioning phase</p>	None	None
	<p><b>Cumulative impacts:</b></p>		



BASIC ASSESSMENT REPORT

	There are no indirect impacts associated with the decommissioning phase	None	None
<b>Alternative A2</b>			
<u>Planning and design phase</u>	<p><b>Direct impacts:</b></p> <ul style="list-style-type: none"> <li>• Placement and access of construction site camp area.</li> <li>• Design of widening of N2.</li> <li>• Designs of bridges and culverts.</li> </ul>	<p>Medium</p> <p>Medium</p> <p>Medium</p>	<ul style="list-style-type: none"> <li>• The establishment of a construction yard may only occur in an area that has previously been disturbed. This area must be approved by the Environmental Control Officer (ECO) and must be inspected regularly.</li> <li>• In designing the bridges along the proposed route, it must be ensured that drainage systems are kept as natural as possible. Natural drainage should be retained, and normal flow ensured at all times.</li> </ul>
	<p><b>Indirect impacts:</b> <u>Planning and design phase</u></p> <p>Possible relocation of services.</p>	High	<ul style="list-style-type: none"> <li>• Where service disruption is inevitable, the Contractor must advise the Engineer at least 7 days in advance, allowing enough time to inform affected parties.</li> <li>• Any complaints must be included in the complaints register maintained on site.</li> <li>• Updated information boards must be</li> </ul>

BASIC ASSESSMENT REPORT

			maintained on site and must include contact details for complaints by the public in accordance with details provided by the Engineer.
	<p><b><u>Cumulative impacts: Planning and design phase</u></b></p> <p>There are no cumulative impacts associated with the design phase.</p>	None	None
<b><u>Construction phase</u></b>	<p><b><u>Direct impacts:</u></b></p> <ul style="list-style-type: none"> <li>• Possible impacts to the river and other streams/drainage lines;</li> <li>• Possible impact on mammals and snakes in road reserve;</li> <li>• Possible erosion of soils and loss of topsoil;</li> <li>• Possible invasion of exotic species;</li> <li>• Possible impacts during construction:</li> <li>• Possible pollution of solid waste;</li> <li>• Possible sewage pollution;</li> <li>• Possible pollution of fuels and gas as a result of inadequate storage;</li> <li>• Possible pollution by cement or concrete;</li> <li>• Possible noise pollution;</li> <li>• Possible dust pollution;</li> <li>• Possible impact on heritage sites and graves.</li> </ul>	<p>High</p> <p>Medium</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>High</p>	<ul style="list-style-type: none"> <li>• No temporary accommodation or temporary storage sites to be erected within 100m of the any river, stream, drainage line, pan, wetland or farm dam.</li> <li>• No temporary facilities (including portable toilets) to be positioned within a 50m buffer zone of any watercourses.</li> <li>• Only existing roads to be used by vehicles during construction as far as possible. Especially in terms of crossing over watercourses.</li> <li>• Erosion is a serious problem in the study area. All precautions must be taken to avoid increasing erosion, especially in areas where large dongas already exist. Weekly monitoring of erosion gullies and open, bare soil work areas to be inspected. Any signs of erosion to be rectified immediately. This is especially important during the rainy season.</li> <li>• Rehabilitation activities</li> </ul>

## BASIC ASSESSMENT REPORT

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		<p>close to watercourses to be carefully monitored in terms of erosion and possible resulting siltation of watercourses. Weekly inspection of work areas around watercourses to be conducted. Any signs of new erosion and siltation to be rectified immediately.</p> <ul style="list-style-type: none"><li>• Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site. Once again only by officially registered waste-disposal companies and only to official waste sites.</li><li>• Ensure as small as possible footprint during construction phase.</li><li>• All hazardous materials such as but not limited to paint, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the terrestrial and water environments.</li><li>• Removal of all waste construction material to an approved waste disposal site.</li><li>• All waste such as papers, plastics, etc. to be clean up on a daily basis and removed on a weekly basis.</li><li>• Extreme care needs to be taken to avoid pollutants such as oils, fuels, etc. getting into the water system.</li><li>• No water for drinking or construction purposes of any kind may be extracted directly out of existing</li></ul>
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## BASIC ASSESSMENT REPORT

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		<p>streams, drainage lines, etc. without the necessary prior authorisations, permits etc.</p> <ul style="list-style-type: none"><li>• No water to be taken out of the stream to be used for any purpose of the project during the construction phase of the project. No water from the river / streams to be used as drinking water.</li><li>• Only certified, chemical, portable toilets to be used. These are not to be situated within 100m of any watercourses or impoundments. These portable toilets to be administered and serviced by a certified, registered company.</li><li>• No open fires to be made in the veld.</li><li>• No wood for fires, etc. to be collected from out of the veld.</li><li>• It is requested that if heritage sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.</li><li>• There is a high likelihood that several mammal species may inhabit the road reserve. These are limited to opportunistic, widespread species that are well adapted to the disturbed conditions. No animal species may be harmed in any way and no hunting or capturing of animals may be permitted. These animals will move</li></ul>
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BASIC ASSESSMENT REPORT

			<p>out of the road reserve of their own accord.</p> <ul style="list-style-type: none"> <li>In the event of poisonous snakes or other dangerous animals encountered on the site an experienced and certified snake handler or zoologist must remove these animals from the site and re-locate them to a suitable area.</li> </ul>
	<p><b>Indirect impacts:</b></p> <ul style="list-style-type: none"> <li>Possible weed invaders as a result of disturbance of soil.</li> <li>Possible erosion at stream banks</li> </ul>	<p>Medium</p> <p>High</p>	<ul style="list-style-type: none"> <li>All alien vegetation in the road reserve should be removed upon completion of construction.</li> <li>Bank vegetation cover should be monitored to ensure that sufficient vegetation is present to bind the bankside soils and prevent further bankside erosion.</li> </ul>
	<p><b>Cumulative impacts:</b></p> <ul style="list-style-type: none"> <li>Possible additional traffic on the roads during construction;</li> <li>Possible influx of people in the area during construction.</li> </ul>	<p>High</p> <p>Medium</p>	<ul style="list-style-type: none"> <li>The additional traffic will be managed by the contractor through the traffic management as included in the tender document to the project.</li> <li>A Public Liaison Officer (PLO) should be appointed to manage the employment opportunities on the project.</li> </ul>
<p><b><u>Operational phase (Maintenance phase)</u></b></p>	<p><b><u>Direct impacts:</u></b></p> <ul style="list-style-type: none"> <li>Possible increase in alien vegetation;</li> <li>Possible erosion of slopes.</li> </ul>	<p>Medium</p> <p>High</p>	<ul style="list-style-type: none"> <li>Mechanical control and monitoring of alien plants around disturbed areas to be implemented.</li> <li>No chemical control (herbicides) of alien plants to be used within 100m of watercourses. Herbicides could get into the water system and will have a</li> </ul>

BASIC ASSESSMENT REPORT

			<p>detrimental effect on the environment.</p> <ul style="list-style-type: none"> <li>• Potential erosion areas to be inspected and corrected where necessary.</li> </ul>
	<p><b>Indirect impacts:</b></p> <p>There are no indirect impacts associated with the maintenance phase</p>	None	None
	<p><b>Cumulative impacts:</b></p> <p>There are no cumulative impacts associated with the maintenance phase</p>	None	None
<p><b><u>Decommissioning and closure phase</u></b></p> <p>This phase only pertains to the decommissioning of the construction camp site. The road itself will not be decommissioned in the foreseeable future.</p>	<p><b>Direct impacts:</b></p> <ul style="list-style-type: none"> <li>• To ensure that disturbed areas, the construction site camp and borrow pits/quarries are rehabilitated after construction has been completed.</li> </ul>	High	<ul style="list-style-type: none"> <li>• Disturbed surface areas in the construction phase to be rehabilitated. No open trenches to be left. No mounds of soils created during construction to be left. Soils around erected poles to be levelled and sculptured to the original contours of the surrounding soils.</li> <li>• All construction material, equipment and any foreign objects brought into the area by contractors and staff to be removed immediately after completion of construction or operation phase.</li> <li>• No excess imported soils or stone (if used during the construction phase) may be left behind. These materials to be removed immediately on completion of the project or activity.</li> <li>• All vehicle and machinery</li> </ul>

BASIC ASSESSMENT REPORT

			<p>tracks and disturbed areas to be rehabilitated immediately after the construction phase.</p> <ul style="list-style-type: none"> <li>• It is preferred that natural vegetation be allowed to establish within the road reserve while weed eradication is constantly exercised.</li> <li>• After construction, the areas cleared of vegetation will be susceptible to infestation by invader weed species. The road reserve should be monitored for the presence of invader weed species</li> <li>• Areas that have become compacted due to construction activities should be ripped.</li> <li>• After cessation of activities on the site the area should be rehabilitated to acceptable standards.</li> <li>• After construction has ceased all construction materials should be removed from the road reserve.</li> </ul>
	<p><b>Indirect impacts:</b></p> <p>There are no indirect impacts associated with the decommissioning phase</p>	None	None
	<p><b>Cumulative impacts:</b></p> <p>There are no indirect impacts associated with the decommissioning phase</p>	None	None
<b>No-go option</b>			
	<p><b>Direct impacts:</b></p> <ul style="list-style-type: none"> <li>• Increase in unsafe driving conditions;</li> <li>• Increase in traffic accidents;</li> </ul>	High	Rehabilitation of N2.

## BASIC ASSESSMENT REPORT

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	<ul style="list-style-type: none"><li>• Increase in loss of lives.</li></ul>		
	<b>Indirect impacts:</b> Possible traffic accidents. Possible injury and death of travelling public.	High	Rehabilitation of N2.
	<b>Cumulative impacts:</b> High health care costs as a result of traffic accidents.	High	None

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

### 2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.



**Alternative A1 (preferred alternative)**

**a. Description of alternative A1**

Rehabilitation and widening of the N2 on the right hand side only will require minor cut and fill operations, the installation of retaining walls, extension of drainage structures and the widening of the River Bridges on only the right hand side of the existing N2. The existing road drainage system, road markings and signs and pavement joint positions relative to lane markings will also be affected.

**b. This option is favoured for the following reasons**

- This is the most environmentally acceptable solution as it is anticipated that less flora and fauna will be impacted on as it only requires clearing for widening on the right hand side of the existing N2.
- This option requires less retaining solutions for cut and fill areas.
- Widening of the River Bridge only on one side.
- This alternative will be more cost effective to implement and will have a lesser impact on vehicular traffic in that stop/go traffic can be avoided during construction without having to construct a temporary detour alongside the N2 in the road reserve.
- The safety to the traveling public will be significantly improved as the traffic will be flowing optimally.
- The road could be rehabilitated to acceptable horizontal and vertical geometric requirements.
- This option drastically lowers the possibilities of head-on collisions.
- This option accommodates future capacity upgrades if required.
- It is anticipated that the traffic accidents that occur on this road will be reduced with this option.
- It is anticipated that the rehabilitation of the road will cater for future traffic demand and will support economic growth. This will benefit the communities in the area including local residents, motorists, the road freight industry and its customers. The rehabilitation of the road will, therefore, ensure safer driving conditions for the traveling public by enabling vehicles to travel more efficiently and smoothly with less congestion.

**b. Possible Environmental Impacts**

The main possible environmental impacts associated with the construction of this alternative is the following:

- Possible impacts to the iTsitsa, River, Mzeke River and Ngcolora rivers and other streams/drainage lines;
- Possible impact on Mthatha Moist Grassland, which is a threatened veldtype.
- Possible impact on mammals and snakes in road reserve;
- Possible erosion of soils and loss of topsoil;
- Possible invasion of exotic species;

*Possible impacts during construction:*

- Possible pollution of solid waste;
- Possible sewage pollution;
- Possible pollution of fuels and gas as a result of inadequate storage;
- Possible pollution by cement or concrete;

- Possible noise pollution;
- Possible dust pollution;
- Possible impact on heritage sites and graves;
- Possible delays due to traffic accommodation.

Should the mitigation measures as included in the EMP for the project are adhered to, the possible impacts related to this project will be low.

**d. Specialist Studies Undertaken**

A specialist aquatic assessment was undertaken for this project i.e.

- The Rehabilitation of National Route N2 Section 19 from Nqadu to Mzeke River (N2/19 Km 22 to N2/19 Km 55,4), Biodiversity Assessment, Terrestrial Ecological Assessment and Aquatic (Wetland) Assessment of the National Road N2 Section 19 from km 22 to km 55,4 and Five service road areas along the N2 Section 19 Route by Flori Horticultural Services, 2016.
- Cultural heritage impact assessment for the Upgrade of the National Route N2, Section 19 between Nqadu (Km 22,0) and Mzeke River (Km 55,4), O R Tambo District Municipality, Eastern Cape Province by Dr J van Schalkwyk.

**e. Recommendations by Specialist Reports**

The following recommendations were included in the specialist reports and included in the EMP for the project:

**(i) Terrestrial Ecological Assessment and Aquatic (Wetland) Assessment**

The following recommendation and mitigation measures are recommended by this study (Appendix D):

**Construction & Operation Phase**

- No temporary accommodation or temporary storage sites to be erected within 100m of the any river, stream, drainage line, wetland or farm dam.
- No temporary facilities (including portable toilets) to be positioned within a 50m bufferzone of any watercourses.
- Only existing roads to be used by vehicles during construction as far as possible. Especially in terms of crossing over watercourses.
- Erosion is a serious problem in the study area. All precautions must be taken to avoid increasing erosion, especially in areas where large dongas already exist. Weekly monitoring of erosion gullies and open, bare soil work areas to be inspected. Any signs of erosion to be rectified immediately. This is especially important during the rainy season.
- Rehabilitation activities close to watercourses to be carefully monitored in terms of erosion and possible resulting siltation of watercourses. Weekly inspection of work areas around watercourses to be conducted. Any signs of new erosion and siltation to be rectified immediately.
- Disturbed surface areas in the construction phase to be rehabilitated. No open trenches to be left. No mounds of soils created during construction to be left. Soils around erected poles to be levelled and sculptured to the original contours of the surrounding soils.

- All construction material, equipment and any foreign objects brought into the area by contractors and staff to be removed immediately after completion of construction or operation phase.
- Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site. Once again only by officially registered waste-disposal companies and only to official waste sites.
- Ensure as small as possible footprint during construction phase.

### **Maintenance phase (to be implemented in defect liability period for 1 year)**

- Mechanical control of alien plants around disturbed areas to be implemented within three months of completion of construction. Thereafter every six months. Mechanical control to be of such a nature as to allow local, indigenous grasses and other pioneers to colonise the previously disturbed areas, thereby keeping out alien invasives.
- No chemical control (herbicides) of alien plants to be used within 100m of any watercourses.
- Areas around foundations, culverts, gabions, etc. need to be check before and after the summer rainy season for signs of soil erosion due to stormwater run-off. Such sites need to be modified and rehabilitated to prevent ongoing erosion. These sites need to be monitored more closely than other sites which show no or minimal signs of erosion.
- Inspection of road shoulders in areas of steep topography to be inspected after the summer rainy season for signs of erosion and rehabilitated and rectified as required.

### **ii) Heritage Report**

The following recommendation and mitigation measures are recommended by this study (Appendix D):

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- It is recommended that the concrete bridge is retained and that it is fenced off with danger tape if road construction activities take place in its vicinity. If that is not possible and the bridge must be demolished, it should be documented in full prior to construction taking place.
- It is recommended that the burial sites are retained and it should be fenced off for the duration of the construction activities, leaving a buffer zone of at least five metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only on condition of following the correct procedures.

### **f. Advantages and Disadvantages of the Preferred Alternative**

#### **(i) Advantages for this alternative**

- This is the most environmentally acceptable solution as it is anticipated that less flora and fauna will be impacted on as it only requires clearing for one lane on the outside of the existing N2.
- This option requires less retaining solutions for cut and fill areas.
- Widening of the River Bridges with only one additional lane one each carriageway.
- This is the most cost effective option.
- The safety to the traveling public will be significantly improved as the traffic will be

- flowing optimally.
- The road could be rehabilitated to acceptable horizontal and vertical geometric requirements.
- This option drastically lowers the possibilities of head-on collisions.
- This option accommodates future capacity upgrades if required.
- It is anticipated that the traffic accidents that occur on this road will be reduced with this option.
- It is anticipated that the rehabilitation of the road will cater for future traffic demand and will support economic growth. This will benefit the communities in the area including local residents, motorists, the road freight industry and its customers. The rehabilitation of the road will, therefore, ensure safer driving conditions for the traveling public by enabling vehicles to travel more efficiently and smoothly with less congestion.
- Upgrading of heavily trafficked slow lane.

**(ii) Disadvantages for this alternative**

- Traffic will be temporarily interrupted during the construction period.

**g. Sustainable Development**

It will be attempted to implement the following:

- Compact fluorescent lights will be installed in the site offices;
- All solid waste will be separated in different containers to make recycling possible;
- Where new toilets will be installed dual flush device toilets will be installed;
- Storm water will be managed and improved to reduce erosion by installing gabion boxes;
- Where new grassing is done, it will be done by using local indigenous vegetation;
- Training of staff will be done to implement good housekeeping. This will be done during toolbox talks.
- A Designated Environmental Officer will address the staff on good housekeeping actions.

**h. Final Conclusion**

This is the preferred alternative for the rehabilitation of the road and will increase the safety to the traveling public to acceptable standards for the long term. The impacts related to the rehabilitation of the road are not anticipated to have any long term impact and the flow dynamics of the rivers will not be permanently altered.

The traffic disruption during the estimated 30 month construction period will be limited due to two-way traffic being generally maintained during construction. The construction related impacts are also considered to be short term and with mitigation measures, to be of low impact.

The primary findings for the rehabilitation of the N2 would probably result in:

- No negative environmental impacts of high significance with mitigation;
- Positive impacts related to improved safety for the traveling public;
- Potential positive impacts due to increased economic activity, employment and training and capacity building.

Therefore, alternative 1 (preferred alternative) presents a better option than the alternative 2 for the proposed project in terms of the parameters investigated. The essence of the Basic Assessment process is aimed at ensuring informed decision-making and environmental accountability, and to assist in achieving environmentally sound and sustainable development. No long-term environmental impact should arise with this alternative.

In conclusion, it is believed the information contained in this report and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for. This report covers the full suite of potential environmental issues related to the proposed development, and that sufficient information regarding the identification, assessment and potential mitigation of impacts has been presented to facilitate informed decision making by the appropriate authorities. Based on the specialist studies undertaken within this BA, both benefits and negative impacts are anticipated as a result of the proposed project. The findings of this BAR have highlighted these impacts and prioritised them in terms of high, medium or low significance. It is therefore recommended that this project be authorized by the authorities with the condition that the mitigation measures as stipulated in the EMP should be adhered to. The authorities need to use this document to aid the decision-making process with respect to the future outcome of this proposal.

An Environmental Management Programme is included detailing the management of the environmental aspects during the design, construction and decommissioning period.

### **Alternative A2**

This alternative entails the widening and rehabilitation of the current N2 on both sides of the road to meet the desired minimum road cross section width. Since the current road width is not adequate to allow half-width construction while at the same time accommodating two-way traffic on the one half of the road, a temporary single lane bypass would need to be constructed alongside the current N2 to accommodate one direction of traffic. This will entail additional cost and require clearing of additional vegetation within the road reserve.

Widening on both sides of the road will require additional cut and fill operations, the installation of retaining walls, extension of drainage structures and widening of the River Bridges on both sides. The existing road drainage system, road markings and signs and pavement joint position relative to lane markings will be affected.

#### **Advantages and Disadvantages of Alternative A2**

##### **i) Advantages**

- The existing centreline of the road can be maintained.

##### **(ii) Disadvantages**

- As this alternative entails the rehabilitation of the road on both sides of the existing N2, it is anticipated that more flora and fauna as identified in the specialist report will be impacted on with the implementation of this alternative option.
- Since the current road width is not adequate to allow half width construction while at the same time accommodating two-way traffic on the one half, a temporary single lane bypass would need to be constructed alongside the current N2 to accommodate

one direction of traffic. This will entail additional cost and require clearing of additional vegetation within the road reserve.

- This option requires the more extensive use of retaining solutions for cut and fills areas.
- This option requires the reconstruction of both inlet and outlet structures on all drainage culverts.
- Widening of the River Bridges on both sides has a higher associated environmental impact.

From information received from the consulting engineers and potential environmental impacts that were identified during the Basic Assessment process that are associated with this alternative, the construction of this alternative is, therefore, not preferred.

**Alternative 3**

None

**No-go alternative (compulsory)**

Should the road not be rehabilitated, the traffic on the N2 could experience increasingly unsafe driving conditions. The road's width and many intersections on this section of the road are not adequate to provide for the heavy traffic experienced in the area, especially during the peak holiday periods. The vertical and horizontal alignment and intersections of the road need to be upgraded to ensure the safety of the traveling public. This will also accommodate the predicted increase in traffic volume and avoid high driver frustration and fatigue. Should the road not be rehabilitated, high maintenance cost of the road pavement repairs and the heavily trafficked slow lane are foreseen.

The current high volumes of heavy vehicle traffic are a major safety and capacity concern. The volume of heavy vehicles is expected to increase significantly over the next 20 years. Traffic volumes and design principals determine that the road needs to be rehabilitated to ensure the safety of the traveling public. If this is not done, it is anticipated that accidents on this road will increase in future.

**Indirect impacts:**

Possible traffic accidents as a result of poor driving conditions.  
Possible injury and death of travelling public.

**Cumulative impacts:**

High health care costs as a result of traffic accidents.

**SECTION E. RECOMMENDATION OF PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES x	NO
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

Not applicable
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If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

<ul style="list-style-type: none"> <li>• The mitigation measures included in the EMPr should be adhered to;</li> <li>• A Designated Environmental Officer should be appointed during the construction period. The DEO will be responsible for the monitoring, reviewing and verifying of compliance with the EMPr by the applicant.</li> <li>• Regular environmental audits should be undertaken, both internal and external by an independent auditor.</li> <li>• During the construction phase, the premises and the works site must be maintained by the contractor in a reasonably neat and orderly condition and free from accumulation of waste materials and rubbish during the entire construction period.</li> </ul>
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Is an EMPr attached?

YES x	NO
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The EMPr must be attached as Appendix G.

**Preparation of Basic Assessment Report**

This Basic Assessment Report was prepared by Dr Jenine Bothma of Chameleon Environmental Consultants:

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Dr Bothma is certified as an Environmental Assessment Practitioner with the Interim Certification Board for Environmental Assessment Practitioners of South Africa.

**Assumptions and Limitations**

- a. The following assumptions have been made for the purposes of this report:
  - All information received from sources contributing to this project is correct;
  - That the SANRAL would consider the recommendations derived from this study, and
  - The Department of Environmental Affairs would be the decision making authority with regard to this application.

## BASIC ASSESSMENT REPORT

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b. Limitations

- None.

c. Knowledge Gaps

None

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Dr J Bothma  
NAME OF EAP

\_\_\_\_\_  
SIGNATURE OF EAP

2016-12-14  
DATE



**SECTION F: APPENDIXES**

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information