



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, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

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, 2010 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 **1 September 2012**. 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.

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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 on 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	NO x
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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

The project involves the rehabilitation of the regional road R61, Section 3, between Cradock (km 24.2) and Tarkastad (km 75.0) in the Eastern Cape Province.

WorleyParsons RSA has been appointed by the South African National Roads Agency Limited as consulting engineers for the project. Dr Norbert Klages of GIBB (Pty) Ltd has been appointed as Environmental Assessment Practitioner for the project.

The entire project from km 24.2 to km 75.0 is a winding road with a narrow cross section and very limited passing opportunities. The scope of the project includes the widening of the roadway (± 5.0 m) itself and the widening of all stormwater structures along the entire project. The existing road reserve is approximately 32 metres.

The entire middle part (from km 36.9 to km 65.4 = 28.5 km) of the road upgrade project lies inside a recognised biodiversity conservation corridor as determined by the Eastern Cape Biodiversity Conservation Plan of 2007. Thus, activity 19 (a/ii/ee) of Listing Notice 3 of the 2010 EIA Regulations is triggered. A specialist study by an independent ecologist forms part of this aspect. His report has informed the assessment of the potential impacts arising from this development project by SANRAL.

There are 17 river or stream crossings along the project, falling into 9 different erven. Seven of the crossings are bridges, eight are culverts and in two the stream flows through a pipe underneath the road. Five of the bridges, as well as the culvert and pipe structures, will be widened only to suit the road cross section. The heights of two other bridges were found to be inadequate and will need to be raised by 1.5 metres from their existing vertical alignment as well. Thus, activity 24 (d/a/ii/ee) of Listing Notice 3 of the 2010 EIA Regulations is triggered, as is activity 39 (iii) of Listing Notice 1 of the 2010 EIA Regulations. The locality and site plans of the river or stream crossings are included under Appendix A and more detailed design drawings of the proposed activities are included in Appendix C.

Water use authorisations from the Department of Water Affairs for the road works in and near the river crossings will be applied for following the principle of integrated environmental management that is observed during this project.

Since the proposed activities will constitute a linear development of longer than 300 m, input will also be required from the Provincial Heritage Authority in terms of Section 38 of the National Heritage Resources Act (NHRA). As per the provisions of Section 38(8) of the Act, it is envisaged that the requirements will be met in part through the Basic Assessment. Two specialist studies by a palaeontologist and an archaeologist, respectively, form part of this aspect. Their reports have informed the assessment of the potential impacts arising from this development project by SANRAL.

To provide further context for this Basic Assessment, the permitting of the materials sources required for the project is undertaken in accordance with the Regulations pertaining to the Minerals and

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Petroleum Resources Development Act. Specifically, since this is a SANRAL project, the exemptions provisions of Section 106(1) of the Act will apply, and thus use of any materials sources would be subject to the preparation of an Environmental Management Programme compiled in accordance with Regulation 51 of the MPRDA for the hard rock quarry and the borrow pits.

Material for the construction of the road will be sourced from five borrow pits and one hard rock quarry along the R61. The application for the use of these mines is in process and will be submitted to the Department of Mineral Resources. The locality and site plans of the proposed borrow pits and quarries are included under Appendix A and more detailed design drawings of the proposed activities are included in Appendix C.

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

Listed activity as described in GN R.544, 545 and 546	Description of project activity
R546 of 2010, 19 (a/ii/ee) The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre	Some of the proposed road works are situated inside a Critical Biodiversity Area (category: terrestrial CBA 2 - elsewhere termed "Important CBA") as mapped by the Eastern Cape Biodiversity Conservation Plan 2007.
R546 of 2010, 24 (d/a/ii/ee) The expansion of infrastructure by 10 square metres or more within a water course	Some of the proposed bridge works are situated inside a Critical Biodiversity Area (category: terrestrial CBA 2 - elsewhere termed "Important CBA") as mapped by the Eastern Cape Biodiversity Conservation Plan 2007.
R544 of 2010, 39 (iii) The expansion of bridges within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased development footprint:	Bridge-river-crossings along the project will be widened to suit the road cross section.

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 Regulation 22(2)(h) of GN R.543. 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.

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.

Project alternatives

Regulatory requirements

The Environmental Impact Assessment Regulations of 2010 define:

“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.

The Environmental Impact Assessment Regulations of 2010 also state that alternatives should “reasonable” and “feasible”, so no conjured up alternatives are permissible. Should no alternatives be identified by the Environmental Assessment Practitioner (EAP) a detailed, written motivation must be provided.

Evaluation of alternatives

Feasible and reasonable alternatives for the upgrade of the Regional Route R61, section 3, were evaluated following the structure given in the definition above.

(a) Location

The present road linking Cradock and Tarkastad has existed for decades. All proposed construction concerns the upgrade of an existing road. The current road fulfils all transportation requirements. This is why it was selected for upgrade. An alternative site or route for the road was not considered to be a viable option as it would have a much higher impact. Therefore, a route/site alternative was not assessed for this project. It would be unreasonable to change the location of the road.

(b) Type

It is a proven transportation concept for cars to travel on roads that works well all over the world. It would therefore be unreasonable to change this for this particular road by, say, building a railway line instead to carry the motorcars as payload.

(c) Layout

The road layout for a Regional Route, here the R61, follows strict standards set by SANRAL as the national road agency. Among other aspects, these standards prescribe the vertical and the horizontal alignment, as well as its width. The proposed upgrade of the R61 follows these standards to the finest detail and, in the interest of road safety, may not be deviated from. It would therefore be unreasonable to change the layout of the road.

During planning for the road upgrade the project engineers evaluated likely sources of material for the construction of the road. To be acceptable, the material sources had to meet the following criteria:

- Suitability of the stone and rock from a geotechnical perspective
- Availability of sufficient quantities to meet the demand
- Feasibility of extracting the material by means of opencast mining
- Short hauling distance from the borrow pit or hard rock quarry to the construction site
- No or only minimal disturbance by mining activities for local residents
- No or only minimal disturbance of the traffic flow by hauling trucks
- Absence of constraints in terms of ownership of the land or title deed restrictions
- A landowner willing to accept a borrow pit or hard rock quarry in exchange for fair compensation, and
- Low environmental impact.

The reconnaissance resulted in the identification of six mining sites (5 borrow pits and 1 hard rock quarry) along the R61 as sources for material for the construction of the road. These six mining sites fulfil all the needs.

No other viable alternative materials sources have been identified that meet the requirements in terms of the criteria, e.g. proximity to the road works and the desired quality of the road construction material. The investigation of all the proposed mining sites has confirmed that there is sufficient material available for use during the project. There are no feasible alternatives to the proposed method of open cast mining.

(d) Technology

Few options exist for the engineer regarding the technology in a road upgrade meeting Regional Route standards. Such options may

- vary the proportions of manual labour versus heavy machinery,
- vary the length of time a road upgrade takes, or
- select the temporary full closure option versus the one-lane-at-a-time approach while the road is being constructed.

For this particular project the road engineers working with SANRAL have committed to a best practice approach for the construction, while observing social prerogatives and the needs of motorists for unhindered travel. This presents a proven technology used on other SANRAL administered roads nationwide and it would therefore be unreasonable to change the technology used in road construction.

(e) Operational aspects

In the interest of promoting the efficient transportation of people and goods across the nation, SANRAL has identified the road upgrade as a national priority and has allocated funds from its budget for this purpose. This undertaking should not be thwarted for spurious reasons.

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(f) No-go option

The No-Go alternative is not regarded as a viable option as the road upgrade is well motivated for in terms of Regional Route standards that need to be achieved for this section. Moreover, the road will become much safer to travel on if the upgrade is made. Impacts on the ecology are likely to remain unchanged whether the road is upgraded or not. Even though the environmental significance will be low in respect of the ecology, the impact on traffic and erosion management structures will be appreciable.

Conclusion

Based on the above evaluation, it is concluded that no other feasible alternatives exist for the upgrade of the Regional Route R61, section 3, between Cradock and Tarkastad. On account of these findings only the preferred alternative will be assessed in the Basic Assessment Report as other alternatives - other than the no go option - have been eliminated in the planning phase of this project.

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The present road linking Cradock and Tarkastad has existed for decades. All proposed construction concerns the upgrade of an existing road. The current road fulfils all transportation requirements. This is why it was selected for upgrade. An alternative site or route for the road was not considered to be a viable option as it would have a much higher impact. Therefore, a route/site alternative was not assessed for this project. It would be unreasonable to change the location of the road.		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		

In the case of linear activities:

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

32° 04.981'	25° 50.572'
31° 56.713'	26° 02.214'
31° 59.996'	26° 15.020'

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity

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- Middle/Additional point of the activity
- End point of the activity

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. The list of coordinates is provided in the Addendum

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.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The road layout for a Regional Route, here the R61, follows strict standards set by SANRAL as the national road agency. Among other aspects, these standards prescribe the vertical and the horizontal alignment, as well as its width. The proposed upgrade of the R61 follows these standards to the finest detail and, in the interest of road safety, may not be deviated from. It would therefore be unreasonable to change the layout of the road.		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		

c) Technology alternatives

Alternative 1 (preferred alternative)
<p>Few options exist for the engineer regarding the technology in a road upgrade meeting Regional Route standards. Such options may</p> <ul style="list-style-type: none"> • vary the proportions of manual labour versus heavy machinery, • vary the length of time a road upgrade takes, or • select the temporary full closure option versus the one-lane-at-a-time approach while the road is being constructed. <p>For this particular project the road engineers working with SANRAL have committed to a best practice approach for the construction, while observing social prerogatives and the needs of motorists for unhindered travel. This presents a proven technology used on other SANRAL administered roads nationwide and it would therefore be unreasonable to change the technology used in road construction.</p>
Alternative 2
None
Alternative 3
None

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)	
<p>During planning for the road upgrade the project engineers evaluated likely sources of material for the construction of the road. To be acceptable, the material sources had to meet the following criteria:</p> <ul style="list-style-type: none"> • Suitability of the stone and rock from a geotechnical perspective • Availability of sufficient quantities to meet the demand • Feasibility of extracting the material by means of opencast mining • Short hauling distance from the borrow pit or hard rock quarry to the construction site • No or only minimal disturbance by mining activities for local residents • No or only minimal disturbance of the traffic flow by hauling trucks • Absence of constraints in terms of ownership of the land or title deed restrictions • A landowner willing to accept a borrow pit or hard rock quarry in exchange for fair compensation, and • Low environmental impact. <p>The reconnaissance resulted in the identification of six mining sites (5 borrow pits and 1 hard rock quarry) along the R61 as sources for material for the construction of the road. These six mining sites fulfil all the needs.</p> <p>No other viable alternative materials sources have been identified that meet the requirements in terms of the criteria, e.g. proximity to the road works and the desired quality of the road construction material. The investigation of all the proposed mining sites has confirmed that there is sufficient material available for use during the project. There are no feasible alternatives to the proposed method of open cast mining.</p>	
Alternative 2	
None	
Alternative 3	
None	

e) No-go alternative

It is mandatory to consider the no development alternative in the EIA process. In the context of this project it means that the road upgrade will not take place.

The No-Go alternative is not regarded as a viable option as the road upgrade is well motivated for in terms of Regional Route standards that need to be achieved for this section. Moreover, the road will

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become much safer to travel on if the upgrade is made. Impacts on the ecology are likely to remain unchanged whether the road is upgraded or not. Even though the environmental significance will be low in respect of the ecology, the impact on traffic and erosion management structures will be appreciable.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1¹ (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of the activity:

	m ²
	m ²
	m ²

or, for linear activities:

Alternative:

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

Length of the activity:

	50, 800 m
	m
	m

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:

	1 263 938	m ²
		m ²
		m ²

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 x	NO
	m

Describe the type of access road planned:

The road upgrade will take place on the existing road, hence there is no need for a new access 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.

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

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 DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

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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):

1. Is the activity permitted in terms of the property's existing land use rights?	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
N/A. All proposed construction occurs outside the urban edge.			
(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?).	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
(d) Approved Structure Plan of the Municipality	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
(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?)	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
N/A			

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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)?	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
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.)	YES x	NO	Please explain
The community welcomes the upgrade of the existing road.			
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.)	YES	NO	Please explain
N/A. The proposed construction is not dependent on municipal services.			
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.)	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road that is already approved.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES x	NO	Please explain
The need for the road upgrade was identified by SANRAL.			
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.)	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road.			
9. Is the development the best practicable environmental option for this land/site?	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES x	NO	Please explain
All proposed construction concerns the upgrade of an existing road which will become much safer to use.			

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11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO <input checked="" type="checkbox"/>	Please explain
There is only one regional route in the area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO <input checked="" type="checkbox"/>	Please explain
The community welcomes the upgrade of the existing road.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO <input checked="" type="checkbox"/>	Please explain
All proposed construction occurs outside the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES <input checked="" type="checkbox"/>	NO	Please explain
The road will become much safer to travel on if the upgrade is made.			
15. What will the benefits be to society in general and to the local communities?	Please explain		
The road will become much safer to travel on if the upgrade is made.			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
None			
17. How does the project fit into the National Development Plan for 2030?	Please explain		
The road will become much safer to travel on if the upgrade is made.			
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.			
<p>The EAP has approached this road upgrade in a holistic manner by describing and evaluating together in one unified procedure all environmental aspects relevant to this project (NEMA, mining license, heritage compliance).</p> <p>The proposed development has been adequately considered by a competent Environmental Assessment Practitioner, and all potential impacts that may have a significant impact on the receiving environment have been considered and mitigated to acceptable levels as required by the NEMA 2010 EIA regulations. The conclusions of the environmental impact assessment have been concisely summarised to adequately inform decision-making by the competent authority. A comprehensive Public Participation Process was also undertaken, which conformed to requirements in Chapter 6 of the Environmental Impact Assessment Regulations. Further, all Interested and Affected Parties were given ample time to review and comment on all documents and reports.</p>			
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.			
By following the procedures set in the environmental impact assessment regulations and other applicable legislation, the EAP is ensuring that the proposed project is socially, environmentally and economically sustainable. By following the set procedures the interest of people and their needs are placed at the forefront of concern, and their physical, psychological, developmental, cultural and social interests are equitably served.			

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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
Constitution of the Republic of South Africa (Act 108 of 1996)	The Constitution paved the way for the protection of the natural environment and heritage resources through the recognition of the rights to a safe and healthy environment.	South African Government	1996
National Environmental Management Act	NEMA is the key environmental management legislation and states in s2(4)(k) that "the environment is held in public trust for the people, the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage" thereby paving the way for EIA process to assess developments that may have a harmful impact on the environment.	Department of Environmental Affairs	Act 107 of 1998
Environmental Impact Assessment Regulations and Listed Activities, 2010 (promulgated in Government Notices No. R. 544, R. 545 and R. 546 of 2010)	The EIA regulations describe the EIA process to be followed including the public participation process, and the listed activities that may have a harmful impact on the environment and must be assessed.	Department of Environmental Affairs	2010
Minerals and Petroleum Resources Development Act	The Act regulates the mining of rock and stone used for the upgrade of the road.	Department of Mineral Resources	Act 28 of 2002
National Heritage Resources Act	Since the proposed activities will constitute a linear development of longer than 300 m, input will also be required from the Provincial Heritage Authority in terms of Section 38 of the National Heritage Resources Act (NHRA).	SAHRA	Act 25 of 1999
National Environmental Management Biodiversity Act	The Act provides for the management and protection of the country's biodiversity within the framework established by NEMA. The road traverses an Ecological Support Area.	Department of Environmental Affairs	Act 10 of 2004
National Water Act (36 of 1998)	The Act provides for the protection and management water resources. A Water Use Licence Application is made to authorise water use activities pertaining to the altering of the bed and banks of a watercourse and diverting the flow of water in a watercourse.	Department of Water Affairs	1998

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES <input checked="" type="checkbox"/>	NO
10 m ³	

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

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

Domestic-type solid waste (empty bottles, paper waste, wrapping etc) is to be stored in lidded bins until disposal at licensed waste sites. Overburden and waste rock to be used in the rehabilitation of the borrow pits and the quarry.

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

At the borrow pits or at a recognised landfill site (Cradock or Tarkastad, whichever is closer) depending on the type of material.

Will the activity produce solid waste during its operational phase?

YES	NO <input checked="" type="checkbox"/>
m ³	

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

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

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

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

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 <input checked="" type="checkbox"/>
-----	--

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.

During construction and maintenance of the road, asphalt will be used as overlay material. Asphalt can be regarded as an inert compound; however certain potentially hazardous chemicals may be added to the asphalt in order to render the compound more workable. It is anticipated that all mixing of asphalt will be done at a certified asphalt plant before it is transported to the site.

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

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

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.

b) Liquid effluent

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

YES	NO <input checked="" type="checkbox"/>
m ³	

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

BASIC ASSESSMENT REPORT

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:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:	Cell:		
E-mail:	Fax:		

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

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:

Road construction activities will generate modest amounts of fugitive dust and exhaust emissions from the construction machines. This impact will be temporary and intermittent and is unlikely to exceed legislated levels.

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
YES	NO x

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

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.

If NO, describe the noise in terms of type and level:

BASIC ASSESSMENT REPORT

Construction machinery (e.g. jackhammer) and construction vehicles (e.g. trucks loaded with stone) will make noise. Such noise will be generated in a discontinuous fashion during daytime only while the road is being built. Noise levels will be restricted to normal road building construction noise. No blasting on the road is envisaged. There are very few noise receptors next to the road as no residential homes are directly situated next to it.

13. WATER USE

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

Municipal	Water board	Groundwater x	River, stream, dam or lake	Other	The activity will not use water		
Some water from existing boreholes on nearby farms may be used. The expected volumes will be <30 kℓ/day. 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:					600 kilolitres		
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES x</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES x	NO
YES x	NO						

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

14. ENERGY EFFICIENCY

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

The road construction project has very limited scope for energy efficiency other than to avoid unnecessary travelling by construction vehicles. This will be achieved through well managed construction management and workflow procedures. No electricity will be used for the project.

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

None

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):

2. Paragraphs 1 - 6 below must be completed for each alternative.

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

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

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:

Province	Eastern Cape
District Municipality	
Local Municipality	Tsolwana and Inxuba Yethemba
Ward Number(s)	
Farm name and number	
Portion number	
SG Code	

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.

BASIC ASSESSMENT REPORT

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

The road upgrade works are situated on the following cadastral zoned Transportation (Regional Road 61):

21DigitKey	Parcel_Num
C074000000001000001	1/100
C074000000001010001	1/101
C074000000001020001	1/102
C074000000001260001	1/126
C022000000001540001	1/154
C074000000000940010	10/94
C074000000000940011	11/94
C074000000001180012	12/118
C022000000001520012	12/152
C022000000001040013	13/104
C074000000001180013	13/118
C022000000001520013	13/152
C074000000001180014	14/118
C074000000001280014	14/128
C022000000001520014	14/152
C022000000001530014	14/153
C022000000001650014	14/165
C074000000001040015	15/104
C074000000001180015	15/118
C074000000001280015	15/128
C022000000001530015	15/153
C022000000001650015	15/165
C074000000001040016	16/104
C022000000001650016	16/165
C074000000001040017	17/104
C074000000001040018	18/104
C074000000001040019	19/104
C074000000001260002	2/126
C022000000001540002	2/154
C074000000001040020	20/104
C074000000001040021	21/104
C074000000001040022	22/104
C022000000001510004	4/151
C074000000001250005	5/125

BASIC ASSESSMENT REPORT

The mines are situated on the following cadastres zoned Agriculture:

21DigitKey	Parcel_Num	
C02200000000016500002	RE/2/165	Dwingfontein
C02200000000015300003	RE/3/153	Dwingfontein
C07400000000010400000	RE/104	Klipkraal
C07400000000011800010	RE/10/118	Burnley Park
C07400000000009400002	RE/2/94	Prinsfontein
C02200000000015200001	RE/1/152	Raasfontein
C02200000000015200002	RE/2/152	Raasfontein

The road widening also traverses small slivers of the following cadastres zoned Agriculture, which will be acquired by SANRAL:

21DigitKey	Parcel_Number
C07400000000011800010	RE/10/118
C07400000000010200000	RE/102
C02200000000016500013	13/165
C07400000000010100000	RE/101
C07400000000010400009	RE/9/104
C07400000000010000000	RE/100
C07400000000011800006	RE/6/118
C07400000000011800009	RE/9/118
C07400000000010400002	RE/2/104
C07400000000010400000	RE/104
C07400000000010400005	RE/5/104
C07400000000011800011	11/118
C07400000000011800008	8/118
C07400000000010400003	3/104
C07400000000010400001	1/104
C07400000000010400004	RE/4/104
C07400000000010400007	RE/7/104
C02200000000015200011	11/152
C02200000000015200009	9/152
C02200000000015200003	RE/3/152
C02200000000015200001	RE/1/152
C02200000000015400000	RE/154
C02200000000015300002	RE/2/153
C02200000000015300007	RE/7/153
C02200000000015100001	RE/1/151
C02200000000016500004	RE/4/165
C02200000000016500002	RE/2/165
C02200000000016500000	RE/165
C02200000000015300003	RE/3/153
C02200000000015200002	RE/2/152
C02200000000010400000	RE/104
C02200000000016500007	7/165
C07400000000011800000	RE/118
C07400000000009400008	RE/8/94
C07400000000009400002	2/94
C07400000000009400002	RE/2/94
C07400000000012600000	RE/126
C07400000000012800001	RE/1/128
C07400000000012500004	RE/4/125
C07400000000012800004	RE/4/128

BASIC ASSESSMENT REPORT

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 <input checked="" type="checkbox"/>
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20 <input checked="" type="checkbox"/>	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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Alternative S2 (if any):

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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Alternative S3 (if any):

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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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"/>

From its start at Dwingfontein (altitude 1080 m) Section 3 of the R61 traverses a gently undulating flat until reaching the Vlekpoortrivier at Klipkraal where it passes through a gap between two mountains of 1200 m in height. Thereafter, in long straight sections, the road climbs slightly, passing the Maermansberg (1674 m) on the right side, until it reaches the crossing of the Elandsrivier at the 401 turnoff to Hofmeyr (height 1250 m). On its way to Tarkastad the R61 stays at the valley bottom between the Elandskop peak (1749 m) and the spectacular buttress of the Middelkraal mountains (2031 m). The road then climbs steadily until it reaches the town limit of Tarkastad at a height of 1320 m.

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 <input checked="" type="checkbox"/>	YES NO	YES NO
Dolomite, sinkhole or doline areas	YES NO <input checked="" type="checkbox"/>	YES NO	YES NO
Seasonally wet soils (often close to water bodies)	YES NO <input checked="" type="checkbox"/>	YES NO	YES NO

BASIC ASSESSMENT REPORT

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	NO x	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 ^E x	Natural veld with scattered aliens ^E x	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface x	Building or other structure x	Bare soil

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.

The road and its associated mines span across the Eastern Nama Karoo and the Grassveld biomes. A vegetation map is provided in Appendix A. A plants list is provided in Appendix G. The vegetation can be broadly categorised into a) riverine bush dominated by dense thickets of Sweet Thorn *Acacia karoo*, b) dry and arid flats covered by *Aristida congesta* grass and Karoo shrubs. The road traverses the following vegetation types, all of which are classified as Least Threatened:

- *Southern Karoo Riviere* occurs on alluvial soils and is characterised by the presence of grasses and low, mostly thorny shrubs. On site, this azonal vegetation unit is embedded into the surrounding Grassland biome.
- *Eastern Upper Karoo* is contained within the Nama Karoo biome. This vegetation unit consists of sparsely vegetated, gently sloping plains dominated by microphyllous shrubs and grasses of the genera *Aristida* and *Eragrostis*.
- *Tarkastad Montane Shrubland* is found in the Grassland biome. The vegetation is of a low height consisting of a mix of grasses and small shrubs amongst bare rock.
- *Queenstown Thornveld* consists of a complex of *Acacia* thornveld and grassland dominated by *Aristida congesta*. It is found on the near-level bottomlands of intra-mountain basins.

None of the terrestrial ecosystem occurring in the area have been assigned Critically Endangered or Endangered status. However, the entire middle part (from km 36.9 to km 65.4 = 28.5 km) of the road upgrade project lies inside a recognised biodiversity conservation corridor as determined by the Eastern

BASIC ASSESSMENT REPORT

Cape Biodiversity Conservation Plan of 2007.

The fauna within the area has been affected to varying extents since the advent of commercial farming. While megaherbivores have been hunted out, medium and small mammals still occur in reasonable numbers, such as baboon, bushbuck, duiker, vervet monkey, black-backed jackal, hare, mountain reedbuck, porcupine, antbear, steenbok and dassie.

Threatened mammals that could occur in the greater study area are the Endangered White-tailed Rat *Mystromys albicaudatus* and the Mountain Zebra *Equus zebra zebra* that is regarded as Vulnerable. The proposed mining activities are unlikely to pose a threat to these two mammals.

The Vulnerable and endemic Plain Mountain Adder (*Bitis inornata*) may occur on the road verges and areas affected by the temporary road diversions as well as the Borrow Pits and Hard Rock Quarry. Other reptiles that may occur include the Tent Tortoise (*Psammobates tentorius*), as well as skinks and snakes basking or traversing the road and road reserve.

The bird fauna is not regarded as vulnerable to the mining activities, although any large trees requiring removal should be checked for nesting birds before removal.

5. SURFACE WATER

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

Perennial River	YES	NO x	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.

The R61 road crosses the non-perennial rivers (from west to east): Gunsteling, Vlekpoort, Elands, Tarka and Riet Rivers

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

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:

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:

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

The entire middle part (from km 36.9 to km 65.4 = 28.5 km) of the road upgrade project lies inside a recognised biodiversity conservation corridor as determined by the Eastern Cape Biodiversity Conservation Plan of 2007.

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	NOx
Uncertain		

Palaeontological resources
 A Phase 1 palaeontological heritage assessment for the road project was commissioned from Dr John Almond (Natura Viva) by the EAP in accordance with the requirements of the National Heritage Resources Act (Act 25 of 1999).

Fieldwork for this project involved inspection for fossil material of all substantial road cuttings, river or stream crossings along Section 3 of the R61, as well as of the five borrow pit sites and one hard rock quarry site. All of the borrow pit sites concerned, as well as the hard rock quarry, are underlain by Karoo dolerite intrusions and are of no palaeontological heritage significance. The dolerite in some cases is deeply weathered to yield hard rounded corestones embedded in friable sabunga. Adjacent sedimentary country rocks have been baked to quartzites and hornfels, compromising their fossil heritage potential. The specialist study concluded that this site is of low palaeontological heritage significance. No further specialist studies or mitigation in this respect are considered necessary for this road project.

Should against expectations any substantial fossil remains be exposed during mining, such as vertebrate bones and teeth, plant-rich fossil lenses or dense fossil burrow assemblages, the ECO should safeguard these, preferably in situ, and alert ECPHRA (the Eastern Cape Provincial Heritage Resources Authority) as soon as possible so that appropriate action (e.g. recording, sampling or collection) can be taken by a professional palaeontologist.

Archaeological resources
 A Phase 1 archaeological heritage assessment for the road project was commissioned from Elizabeth Wahl (eThembeni Cultural Heritage) by the EAP in accordance with the requirements of the National Heritage Resources Act (Act 25 of 1999).

The specialist thoroughly inspected the affected section of the road, the road reserve and variable distances beyond (depending on the proposed construction activities for a particular stretch, e.g. borrow pit) for the presence of archaeological resources that might be affected. Despite intense searches, no such resources were found. The specialist study concluded that this site is of very low archaeological heritage significance. No further specialist studies or mitigation in this respect are considered necessary for this road project.

Should against expectations any substantial archaeological artefacts be exposed during the construction works, such as Stone Age tools or pottery, the ECO should safeguard these, preferably in situ, and alert ECPHRA (the Eastern Cape Provincial Heritage Resources Authority) as soon as possible so that appropriate action (e.g. recording, sampling or collection) can be taken by a professional archaeologist.

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:

BASIC ASSESSMENT REPORT

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

YES

NO

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

YES

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:

Tsolwana LM

Unemployment is a major development challenge in Tsolwana which is estimated to be approximately 40%. according to the Tsolwana IDP.

Inxuba Yethemba

According to the IDP review 2011/12, unemployment is a high 57%.

Economic profile of local municipality:

Tsolwana LM

The economy of Tsolwana is currently estimated to be in the region of R297 million Gross Value Added according to the Tsolwana IDP. The economy is highly concentrated and not optimally diversified. Agriculture is the most important sector with approximately 42%.

Inxuba Yethemba

The majority (51%) of persons in the Local Municipality are employed in the community services sector. The size of the economy of the local municipality in terms of Gross Value Added is currently at R1,411 million according to the current IDP. The level and depth of poverty is considerable, with 68.5% of the population living in poverty.

Level of education:

Tsolwana LM

Approximately 52% of the population is functionally literate. 17% of the population have had no schooling at all.

Inxuba Yethemba

The majority are regarded as functionally illiterate according to the current IDP. Only 20% of the population have completed secondary schooling and 16% have had no schooling at all.

BASIC ASSESSMENT REPORT

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R27 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?	40	
What is the expected value of the employment opportunities during the development and construction phase?	R500000	
What percentage of this will accrue to previously disadvantaged individuals?	70%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	0	
What is the expected current value of the employment opportunities during the first 10 years?	R0	
What percentage of this will accrue to previously disadvantaged individuals?	0%	

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. 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
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA) x	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	The entire middle part (from km 36.9 to km 65.4 = 28.5 km) of the road upgrade project lies inside a recognised biodiversity conservation corridor as determined by the Eastern Cape Biodiversity Conservation Plan of 2007.

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage	Description and additional Comments and
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BASIC ASSESSMENT REPORT

	of habitat condition class (adding up to 100%)	Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0 %	
Near Natural (includes areas with low to moderate level of alien invasive plants)	0 %	
Degraded (includes areas heavily invaded by alien plants)	0 %	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	100 %	The road surface and the road reserve are fully transformed

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						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened x	YES x	NO	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)

The road and its associated mines span across the Eastern Nama Karoo and the Grassveld biomes. A vegetation map is provided in Appendix A. A plants list is provided in Appendix G. The vegetation can be broadly categorised into a) riverine bush dominated by dense thickets of Sweet Thorn *Acacia karoo*, b) dry and arid flats covered by *Aristida congesta* grass and Karoo shrubs. The road traverses the following vegetation types, all of which are classified as Least Threatened:

- *Southern Karoo Riviere* occurs on alluvial soils and is characterised by the presence of grasses and low, mostly thorny shrubs. On site, this azonal vegetation unit is embedded into the surrounding Grassland biome.
- *Eastern Upper Karoo* is contained within the Nama Karoo biome. This vegetation unit consists of sparsely vegetated, gently sloping plains dominated by microphyllous shrubs and grasses of the genera *Aristida* and *Eragrostis*.
- *Tarkastad Montane Shrubland* is found in the Grassland biome. The vegetation is of a low height consisting of a mix of grasses and small shrubs amongst bare rock.
- *Queenstown Thornveld* consists of a complex of *Acacia* thornveld and grassland dominated by *Aristida congesta*. It is found on the near-level bottomlands of intra-mountain basins.

None of the terrestrial ecosystem occurring in the area have been assigned Critically Endangered or Endangered status; they are classified as Least Threatened.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	The Herald and Die Burger	
Date published	3 September 2012 and 7 September 2012	
Site notice position	Latitude	Longitude
	32°04'59" S	25°50'35" E
Date placed	7 September 2012	

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 54(2)(e) and 54(7) of GN R.543.

Description of the public participation process

Adjacent landowners, concerned authorities and other stakeholders were mailed the Background Information Document for the project on 24 August and 4 September 2012 together with an invitation to raise any issues or concerns about it that they may have.

Newspaper advertisements appeared in The Herald and Die Burger 3 September 2012 and 7 September 2012, respectively.

A site notice was affixed to the road fence at the entrance to Dwingfontein farm start of the road project at km 24.

On 3 September 2012 a meeting was held in Tarkastad with the farmers along the R61 to explain the design to them and to introduce WorleyParsons representative Thesele Mokoma and GIBB.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details
I van Heerden	Landowner	P.O. Box 23, Tarkastad, 5370
F Michau	Landowner	PO Box 237, Cradock, 5880
H Botha	Landowner	PO Box 652, Cradock, 5880
Mev Botha	Landowner	P.O Box 190, Tarkastad, 5370
C du Plessis	Landowner	PO Box 65, Cradock, 5880
JS van Gend	Landowner	P.O. Box 435, Cradock, 5880
JG Michau	Landowner	PO Box 39 Cradock, 5880
L Ferreira	Landowner	P.O. Box 91, Cradock, 5880
J Smith	Landowner	PO Box 491, Cradock, 5880
A Marais	Landowner	PO Box 190, Tarkastad, 5370
W du Plessis	Landowner	PO Box 53, Tarkastad, 5370
JP van Heerden	Landowner	PO Box 23, Tarkastad, 5370
Thobile Takane	Landowner	P.O. Box 21, Tarkastad, 5370

BASIC ASSESSMENT REPORT

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
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
Compensation for the mining activities on farm land	SANRAL will buy the land permanently for a Hard Rock Quarry for future road maintenance. The farmer will be compensated for the land as per provision of the Expropriation Act.
How will the road upgrade affect the river flow?	The construction will have no effect on the water of the river.
Water pipes beneath the road at Bekkerdsdam, Sonop and Raasfontein and they must not be removed	Water pipes beneath the road will always be protected.
What will happen to the construction rubble?	The bulk will be concrete and this will be spoiled in borrow pits and in high fills.
What will be done to control dust from road works and crushing?	There will be an environmental officer on site during construction to make sure the contractor adheres to the EMP specifications regarding dust control.
Are there plans by SANRAL for the rehabilitation of the Tarkastad Main Road?	No. The present R61 project is confined to the edge of town
There is an existing quarry on the far side of town that could be used.	SANRAL has evaluated this option and has decided against in order to avoid the nuisance of trucks traversing the town and the expense of a very long distance to the construction.

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	Tel No	Fax	e-mail	Postal address

BASIC ASSESSMENT REPORT

	(Title, Name and Surname)				
Department of Rural Development and Land Reform	B Kekeilame	043 7007000			PO Box 1958, East London, 5201
Department of Mineral Resources	Brenda Ngebulana	041 3963900		brenda.ngebulana@dmr.gov.za	Private Bag X 6076, PORT ELIZABETH 6000
Department of Water Affairs	Joseph Jacobs	041 5864884		jjacobs@dwaf.gov.za	Private Bag X6041, Port Elizabeth, 6000
Eastern Cape Provincial Heritage Resources Authority	Sello Mokhanya	043 6422811		smokhanya@ecphra.org.za	P.O. Box 16208, Amathole Valley, 5616
Tsolwana Local Municipality	Similo Dayi	045 8460033			PO Box 21, TARKASTAD, 5370
Inxuba Yethemba Local Municipality	Mzwandile Sydney Tantsi	048 8015000			PO Box 24, CRADOCK, 5880
Department of Economic Development and Environment Affairs	Cira Ngetu	045 8383983			PO Box 9636, Queenstown, 5320

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, 2010, 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
Alternative 1 (preferred alternative)			
	<u>A. Planning phase</u> No direct, indirect or cumulative impacts were identified.	No impact	<u>A. Planning phase</u> There are no mitigation measures to consider.
	Direct impacts: <u>B. Construction phase:</u> <i>Ecological impact on the surrounding Ecological Support Area:</i> Important CBAs are serving the attainment of biodiversity conservation targets. In systematic conservation planning they are accorded this status because they contain representative samples of biodiversity and threatened species (flora and fauna) where they can persist over the long term. They also contain abiotic features and processes indispensable for biodiversity conservation, such as providing a system of natural pathways (corridors) facilitating the movement of fauna and flora. As regards the biodiversity pattern aspect, the footprint of the proposed road works is too small to make for anything other than a low intensity of the impact as the ecology is only slightly altered if effective mitigation measures as described in the accompanying EMP are implemented. As regards the biodiversity process	medium-low negative	Direct impacts: <u>B. Construction phase:</u> Adoption and adherence to the Environmental Management Plan provided in Appendix G forms the most effective mitigation of the impacts. In brief, the following mitigation measures apply: <i>Mitigation of ecological impacts:</i> As a section of the road is surrounded by a Critical Biodiversity Area, construction activities in this section should be limited to the confines of the road reserve, as much as this is technically feasible. Clearing of vegetation should be kept to a minimum and must be introduced in a phased manner, where rehabilitation is immediately undertaken as soon as a section of road construction is finished. No animals shall be harmed. Fire control should be implemented. Pollution of the surrounding veld by concrete residue, leftover tarmac, oils and other construction related chemical must be

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>aspect, the movement of biota across the corridor is no more influenced by the construction activity than it is by the presence of the existing road, which is to say the impact is present, but is of medium-low negative status.</p> <p><i>Impacts on water courses:</i> Construction activities at the stream crossings may potentially cause pollution through cement, mortar, paint and other substances. The impact is likely not to be severe because all 17 streams are non-perennial. They only flow after persistent rain, and fauna and flora migrates with the retreating water down-stream to permanently wet sections or aestivates until the next season. Therefore potential impacts differ greatly whether the stream carries water or is dry at the time. During the dry season objects or substances unintentionally dropped into the riverbed are much more easily retrieved or cleaned up than at other times when flowing water carries them downstream. Inappropriate culvert and bridge design may lead to the erosion of river banks and may impede the flow of water. SANRAL approved road construction standards for bridges and culverts are designed to optimise water flow and limit bank erosion. Although impacts are probable, with mitigation measures in place the impacts are likely to be of low intensity and low significance.</p> <p><i>Storm water and erosion impact:</i> This potential impact is of low negative significance in the flat sections of the road, and no special efforts will be necessary to manage this as they addressed effectively by the SANRAL approved road construction standards. Where they are inclines the potential for storm water erosion damage to the existing road and the works under construction definitely exists when there is heavy rain occurring. Unmitigated this potential impact is of</p>	<p>Low negative</p> <p>Low negative</p>	<p>prevented through comprehensive a set of comprehensive material safety measures. Due diligence procedures must be adhered to at all times.</p> <p><i>Impacts on water courses</i> Work in river beds should be restricted to the dry season as much as this is practically feasible. Disturbance to riparian areas must be restricted to as close as possible to the bridge expansion footprint. Areas outside of the footprint and reasonable construction access must be marked as no-go areas. Cement residue must be strictly controlled. Concrete and mortar must not be mixed directly on the ground but must be prepared off-site. Substances that have fallen into the river bed or spills that have occurred must be immediate removed. The engineering design must ensure that bridge structures are suitably dimensioned to withstand the flow of the water and that they do not contribute to the erosion of banks.</p> <p><i>Mitigation of storm water and erosion impact:</i> Proper erosion control measures should be taken when the widening of stormwater structures along the entire project is done. Downstream erosion and subsequent undermining of outlet slabs shall be managed through reno mattresses or similar installations.</p>

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>medium significance, but can be reduced to low if effective mitigation measures as described in the accompanying EMP are implemented.</p> <p><i>Socio-economic impact:</i> The temporary creation of unskilled construction worker jobs has a very low positive impact. If local employment opportunity are maximised this could be raised to a low positive significance.</p> <p><i>Noise impact:</i> Construction machinery (e.g. jackhammer) and construction vehicles (e.g. trucks loaded with stone) will make noise. Such noise will be generated in a discontinuous fashion during daytime only while the road is being built and the borrow pits are being worked. Noise levels will be restricted to normal road building construction noise. No blasting on the road or at the borrow pits is envisaged. There are very few noise receptors next to the road as no residential homes are directly situated next to it.</p> <p>Blasting at the hard rock quarry may potentially cause damage. Mitigation of this impact to very low significance will be achieved by contracting a competent person certified by the National Explosives Council and by strict adherence to the Explosives Regulations GN R109 of 2003 and other applicable health and safety provisions.</p> <p><i>Air quality impact:</i> Road construction activities will generate modest amounts of fugitive dust and exhaust emissions from the construction machines. This impact will be temporary and intermittent and is unlikely to exceed legislated levels. Hence its status is low negative and insignificant.</p> <p><i>Waste management impact:</i> A low negative impact would be</p>	<p>Low positive</p> <p>Very low negative</p> <p>Very low negative</p> <p>Low negative</p> <p>Insignificant</p>	<p><i>Mitigation of socio-economic impact:</i> Locally sourced labour and suppliers should be considered during the construction phase.</p> <p><i>Mitigation of noise impact:</i> Loud noise-generating construction work must be confined to daylight hours. No noisy construction work should be done on Sundays or public holidays unless necessary for the efficient completion of the works. Permission for such a deviation from standard working hours must be channeled through the Resident Engineer. It should also be ensured that all construction vehicles and machinery used during the construction phase are in good working order, with sufficient muffling and silencing technology as prescribed by law. All blasting at the hard rock quarry must be undertaken by certified competent personnel only.</p> <p><i>Mitigation of air quality impact:</i> On windy and dry days dust must be controlled by manually sprinkling dusty areas with water, or water spray vehicles, and by driving slowly.</p> <p><i>Mitigation of waste management impact:</i></p>

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Activity	Impact summary	Significance	Proposed mitigation
	<p>precipitated by the incorrect disposal of construction waste that could lead to other negative visual impacts and loss of natural habitat. With appropriate mitigation this impact will be reduced to an insignificant level. There is not a lot of rubble generated with the construction of a road. The bulk will be concrete and this will be spoiled in borrow pits and in high fills.</p> <p><i>Traffic impact:</i> Traffic along the R61 will be negatively affected by the construction. Stop/Go control by means of a traffic signal and/or a signal man on each end will be used to manage traffic, while one lane after the other is upgraded. The negative impact on traffic flow will be of low significance, which can be reduced to very low significance with the introduction of an adaptive traffic management system at the construction site. Temporary deviations also present an effective measure to limit waiting times for motorists.</p>	<p>Very low negative</p>	<p>A well-organized site must be kept to ensure minimal negative visual impact. Construction rubble and waste must not be allowed to be dumped permanently at the site, but must be removed by the contractor. The contractor must provide adequate waste disposal and sanitation facilities. Portable toilets must be provided and adequate facilities for the cooking needs of the construction workers should be provided.</p> <p>During construction, wastes must be separated at source and disposed at relevant suitably licensed facilities. Waste should be separated into recyclable and non-recyclable materials and distributed for recycling where applicable. During the construction phase, construction waste will be used as fill material and as foundation for the proposed upgrade processes where possible. The re-use of construction waste materials will minimize the amount of waste that will need to be disposed of at registered municipal waste facilities. Only inert, non-hazardous construction material will be re-used.</p> <p><i>Mitigation of traffic impact:</i> The movement of trucks to and from the construction site must be well coordinated by the site manager at all times, so as to cause the least disruption to the users of the road. Large trucks and other heavy-duty machinery must not block traffic on any one of the lanes currently in use and may not be left unattended. A demarcated parking and storage area at or close to the site must be provided by the contractor for the storage of machinery and trucks as necessary. Stop/Go control by means of a traffic signal and/or a signal man on each end will be used to manage traffic. Proper traffic signs</p>

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Activity	Impact summary	Significance	Proposed mitigation
	<p><i>Existing services:</i> Damage to existing powerline, water pipes or fixed-line telephone services could occur. During detailed planning for the road upgrade all existing services were mapped and are shown on the construction drawings. As a matter of principle, existing services will be protected by marking, fencing or barriers from interruption by road building activities. Water pipes beneath the road will always be protected. These however might be relocated through service sleeves if circumstances dictate to do so. Hence this potential impact is unlikely to materialise with effective mitigation in place.</p> <p><i>Impacts on palaeontological heritage resources:</i> Due to extensive superficial sediment cover and weathering the overall palaeontological sensitivity of the study area is rated as low. The mining of road construction material will take place on dolerite outcrops. Dolerite outcrops within the study area are in themselves of no palaeontological significance since these are high temperature igneous rocks emplaced at depth within the Earth's crust.</p> <p><i>Impacts on archaeological heritage resources</i> Despite intense searches, no heritage resources were found. The specialist study concluded that this site is of very low archaeological heritage significance</p>	<p>Low negative</p> <p>Insignificant</p> <p>Insignificant</p>	<p>must be erected to warn motorists of potential danger.</p> <p><i>Mitigation of the disruption of damage to existing services:</i> Existing service infrastructure, e.g. telephone lines, etc, should be clearly demarcated before work commences to avoid disruptions of services to the surrounding agricultural community. If services need to be shut down temporarily, an official with the necessary expertise should supervise this to ensure that infrastructure services are reinstated within an acceptable timeframe.</p> <p><i>Mitigation of palaeontological heritage impacts</i> As described in the palaeontological specialist report no further palaeontological heritage studies or mitigation are recommended for this project,</p> <p><i>Mitigation of archaeological heritage impacts</i> As detailed in the archaeological specialist report, no further archaeological heritage studies or mitigation are recommended for this project,</p>
	<p>Direct impacts: <u>C. Operation phase:</u> <i>Ecological impact on the surrounding Ecological Support Area:</i> Roads impact on an adjacent Critical Biodiversity Area (CBA) in many ways. On the positive side they confine vehicle traffic to a predetermined route preventing</p>	<p>low-medium negative</p>	<p>Direct impacts: <u>C. Operation phase:</u> <i>Mitigation of the ecological impact on the surrounding Ecological Support Area:</i> No practical mitigation measures were identified</p>

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Activity	Impact summary	Significance	Proposed mitigation
	<p>broadscale damage to the ground. A road is almost always safer and more efficient to travel on than having no road at all, which minimises exhaust emissions and pollution from hydrocarbon spills as a result of accidents. The negative impacts of the presence of a Regional Route through a CBA are at least fourfold: vehicles kill and tyres squash things while crossing the road, especially so when the speed limit is set at a high 80 or 120 km/h and traffic is dense. Birds, reptiles and amphibians are the most common victims of such fatal encounters. Roads are the means by which invasive aliens penetrate into natural veld when their propagules (seeds, eggs etc.) drop off passing vehicles during transit. Roads introduce harmful hydrocarbon pollutants and noxious gases into an adjacent CBA in a much more direct way than long-distance airborne dispersion. This may compromise the survival chances of sensitive organisms. Fourthly, roads are conduits of development in terms of expanded settlements, commerce and industry, which are undesirable and strongly discouraged in a CBA according to established national policy.</p> <p>In balance, the overall impact of the R61 cutting through the CBA is clearly negative and of low-medium significance. However, given the improvements to road safety, storm water management and traffic congestion that will be achieved by upgrading the R61 in this section are unlikely to exacerbate the impacts that exist already. It is the view of the EAP that effective mitigation measures to reduce the existing suite of impacts are either impractical or too costly to implement to be of practical relevance. Therefore the impacts significance remains the same whether the upgrade takes place or not.</p> <p><i>Storm water and erosion impact:</i></p>		<p><i>Mitigation of storm water and</i></p>

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Activity	Impact summary	Significance	Proposed mitigation
	<p>The potential for low erosion impacts caused by storm water exists if periodic road maintenance by the responsible authority is neglected. With scheduled maintenance in place, this potential impact can attain a very low significance.</p> <p><i>Traffic impact:</i> The proposed upgrade would improve safety and increase the transportation capacity of the road. This impact is rated as medium positive. No additional mitigation measures are needed.</p> <p><i>Other impacts:</i> It is the considered opinion of the EAP that the other impacts identified during the construction phase are unlikely to persist into the operation phase, i.e. they are insignificant.</p>	<p>Medium positive</p> <p>Insignificant</p>	<p><i>erosion impact:</i> Road maintenance should be undertaken at regular intervals according to a schedule to limit the potential for erosion impacts caused by storm water runoff.</p> <p><i>Mitigation of traffic impacts</i> For the positive impacts expected to occur during the operational phase there are no additional mitigating measures necessary.</p> <p><i>Mitigation of other impacts</i> None required</p>
	<p>Direct impacts: <u>D. Decommissioning and closure phase:</u> This is not applicable as Regional Roads are never decommissioned.</p>		<p><u>D. Decommissioning and closure phase:</u> There are no mitigation measures to consider</p>
	<p>Indirect impacts: None were identified for any of the lifetime phases of the project</p>		<p>There are no mitigation measures to consider</p>
	<p>Cumulative impacts: None were identified for any of the lifetime phases of the project</p>		<p>There are no mitigation measures to consider</p>
Alternative 2			
N/A	<p>Direct impacts:</p>		Not assessed
	<p>Indirect impacts:</p>		Not assessed
	<p>Cumulative impacts:</p>		Not assessed
Alternative 3			
N/A	<p>Direct impacts:</p>		Not assessed
	<p>Indirect impacts:</p>		Not assessed
	<p>Cumulative impacts:</p>		Not assessed

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
No-go option			
	<p>Direct impacts:</p> <p><u>A. Planning phase</u> If this road upgrade is not undertaken there will be no planning phase to assess</p> <p><u>B. Construction phase</u> If this road upgrade is not undertaken there will be no construction phase to assess</p> <p><u>C. Operational phase</u> <i>Ecological impact</i> The overall impact of the R61 cutting through the CBA is negative and of low-medium significance for the functioning of the surrounding Critical Biodiversity Area, even when the situation stays as it is, i.e. the road is not upgraded.</p> <p><i>Storm water and erosion impact:</i> In case the road is not upgraded, the potential for low erosion impacts caused by storm water continue to exist if road maintenance by the responsible authority is neglected. With scheduled maintenance in place, this potential impact can be partially mitigated.</p> <p><i>Traffic impact:</i> If this road upgrade is not undertaken it is definite that the desired standards for Regional Routes are not met. The road will not meet the transport capacity and motorists continue to be delayed by the lack of passing opportunities. The safety gains that would be made by an upgraded road will not be achieved.</p> <p><u>D. Decommissioning and closure phase</u> If this road upgrade is not undertaken there will be nothing to decommission</p>	<p>low-medium negative</p> <p>low-medium negative</p> <p>medium negative</p>	<p>There are no mitigation measures to consider</p> <p>There are no mitigation measures to consider</p> <p><i>Mitigation of the ecological impact on the surrounding Ecological Support Area:</i> No practical mitigation measures were identified</p> <p><i>Mitigation of the stormwater and erosion impact:</i> The road upgrade should go ahead.</p> <p><i>Mitigation of the traffic impact</i> The road upgrade should go ahead.</p> <p>There are no mitigation measures to consider</p>
	<p>Indirect impacts: None were identified for any of the lifetime phases of the project</p>		<p>There are no mitigation measures to consider</p>
	<p>Cumulative impacts: None were identified for any of the lifetime phases of the project</p>		<p>There are no mitigation measures to consider</p>

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 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 A (preferred alternative)

No undue negative environmental impacts are expected to arise during the planning and design phase of the project. This prediction is made with high confidence. Hence no rating table is provided. During construction neighbours and road users potentially will be affected by noise, dust, traffic congestion, damage to service infrastructure and other construction related nuisances. These negative impacts will be mostly site specific and temporary, and will have a low magnitude. With mitigation in place the environmental significance is low or very low. This prediction is made with high confidence. Specific impacts during construction are rated in the table below, assuming effective mitigation is implemented.

Positive impacts during the operational phase include an increase in the transportation capacity and safety of the roads. The road upgrade will also lead to improved management of stormwater by means of the associated infrastructure improvements that have been proposed. With mitigation in place the medium to low negative environmental impact on the surrounding Critical Biodiversity Area will remain unchanged from the pre-construction situation. This prediction is made with high confidence. Specific impacts during operation are rated in the table below, assuming effective mitigation is implemented..

The Regional Route R61 will not be closed in the foreseeable future. Hence no impacts for this phase need to be rated and no rating table is provided.

Alternative B

N/A

Alternative C

N/A

No-go alternative (compulsory)

No undue negative environmental impacts are expected to arise during the planning and design phase of the do nothing option. This prediction is made with high confidence. Hence no rating table is provided.

No undue negative environmental impacts are expected to arise during the construction phase of the do nothing option. This prediction is made with high confidence. Hence no rating table is provided.

In respect of the operational phase, the No-Go alternative is not regarded as a viable option as the road upgrade is well motivated for in terms of Regional Route standards that need to be achieved for this section. Moreover, the road will become much safer to travel on if the upgrade is made. Impacts on the ecology are likely to remain unchanged whether the road is upgraded or not.

Even though the environmental significance will be low in respect of the ecology, the impact on traffic and erosion management structures will be appreciable. This prediction is made with high confidence. If the road is not built there will be no decommissioning taking place.

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).

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.

Based on the overall low environmental impact it is recommended that this activity receives authorisation.
 Best management and construction practices must be implemented, by the contractor, from the onset of road construction to ensure that disturbances to the neighbouring community, to the surrounding Critical Biodiversity Area and to travellers using the R61 are kept to a minimum. The environmental management plan and other conditions of environmental authorisation must be adhered to.
 An Environmental Control Officer should be appointed for the construction phase.

Is an EMPr attached?

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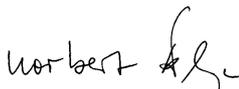
The EMPr must be attached as Appendix G.

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 Norbert Klages _____
 NAME OF EAP



_____01 February 2013_____

SIGNATURE OF EAP

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