



March 2012

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Executive Summary

Draft Basic Assessment Report: Proposed Upgrade of the Route 61, Section 2 from Draairivier to Elinus Farm

1 Summary Report

1.1 Introduction

The proposed Project consists of the rehabilitation and upgrade of the Route 61 Section 2 (R61/2) between Graaff-Reinet and Cradock to provide a 20 year design life and to bring it up to National Roads Standards, and includes the upgrading or reconstruction of bridges within this road section (see Locality Plan included).

The existing R61 consists of a 6.7 m wide surfaced carriageway flanked by 1.8 m wide gravel shoulders making the road prism width 10.3 m. The proposed road prism will be widened by 3.2 m to achieve a road cross section consisting of a 7.4 m surfaced carriageway flanked by 2.5 m shoulders of which 1.0 m will be surfaced.

In terms of the National Environmental Management Act 107 of 1998 (NEMA), as amended, and the Environmental Impact Assessment (EIA) Regulations, 2010, a Basic Assessment (BA) must be undertaken for certain listed activities, including the above mentioned activities proposed by SANRAL.

SRK Consulting has been appointed by SANRAL as the independent consultants to assess the environmental impacts in terms of NEMA, as amended, and the EIA Regulations, 2010, for the proposed upgrading of the R61/2.

1.2 Purpose and Structure of the Basic Assessment Report

The NEMA EIA Regulations were promulgated to put into practice the environmental management principles espoused in the Act. The Basic Assessment Report (BAR) provides the competent authority, in this case the Department of Environmental Affairs (DEA) with all relevant information about the proposed activity, as well as an assessment of the potential environmental and social impacts to

inform the decision as to whether the activity should be approved and, if so, under what conditions.

The BAR comprises three sections, two of which – Sections 2 and 3 – are mandatory in terms of the requirements for a Basic Assessment. The remaining section is intended to provide additional contextual information in support of the application and to make the report more readable to the public.

The report contains the following sections:

Section 1: Summary Report

Section 1 provides an introduction to the Project, provides descriptions of the approach to the BA process and the proposed activity and the concept alternatives considered. It also details the public consultation process undertaken during the BA process, the key findings and recommendations and the way forward. In effect this section provides a summary of key elements of the BA.

Section 2 DEA Basic Assessment Application Form

Section 2 of the report contains the completed BA application form, the specialist declaration forms as well as the Environmental Assessment Practitioner application form, as prescribed by the Department of Environmental Affairs (DEA). The BA application is submitted as the formal application for environmental authorisation under the NEMA EIA regulations.

Section 3 DEA Draft BAR Form

Section 3 contains the completed Draft BAR form, as prescribed by DEA, submitted in support of application for environmental

Partners JCJ Boshoff, AH Bracken, MJ Braune, JM Brown, CD Dalglish, JR Dixon, DM Duthe, BM Engelsman, R Gardiner, T Hart, GC Howell, WC Joughin, PR Labrum, DJ Mahlangu, RRW McNeill, HAC Meintjies, MJ Morris, WA Naismith, GP Nel, VS Reddy, PN Rosewarne, PE Schmidt, PJ Shepherd, VM Simposya, AA Smithen, KM Uderstadt, DJ Venter, ML Wertz, A Wood

Directors AJ Barrett, JR Dixon, DM Duthe, PR Labrum, DJ Mahlangu, VS Reddy, PE Schmidt, PJ Shepherd

Associate Partners DJD Gibson, M Hinsch, DA Kilian, SA McDonald, M Ristic, MJ Sim, JJ Slabbert, CF Steyn, HFJ Theart, D Visser, DP Van den Berg, MD Wanless

Consultants AC Burger, BSC(Hons); IS Cameron-Clarke, PrSciNat, MSc; JAC Cowan, PrSciNat, BSc(Hons); JH de Beer, PrSciNat, MSc; GA Jones, PrEng, PhD; TR Stacey, PrEng, DSc; OKH Steffen, PrEng, PhD; PJ Terbrugge, PrSciNat, MSc; DW Warwick, PrSciNat, BSc(Hons)

SRK Consulting (South Africa) (Pty) Ltd

Reg No 1995.012890.07

African Offices:

Cape Town	+ 27 (0) 21 659 3060
Durban	+ 27 (0) 31 279 1200
East London	+ 27 (0) 43 748 6292
Johannesburg	+ 27 (0) 11 441 1111
Kimberley	+ 27 (0) 53 861 5798
Pietermaritzburg	+ 27 (0) 33 345 6311
Port Elizabeth	+ 27 (0) 41 509 4800
Pretoria	+ 27 (0) 12 361 9821
Rustenburg	+ 27 (0) 14 594 1280
Accra	+ 23 (3) 24 485 0928
Harare	+ 263 (4) 49 6182
Lumbumbashi	+ 243 (0) 81 999 9775

Group Offices:

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authorisation of the activity under the NEMA EIA regulations. Section 3 also contains the Appendices as required by the BAR.

1.3 Approach to the Basic Assessment

The EIA Regulations contained in Government Notice R 544 of August 2010 list activities which require that a Basic Assessment process be followed prior to their commencement. The proponent must therefore obtain authorisation for the proposed activity from the designated competent authority. As this project includes work on a National Road, this relevant authority would be DEA (National Department).

The proposed activities fall within the ambit of various activities listed in Government Notice R 544. For this reason, not all the relevant activities will be listed here. The main activity related to the proposed construction activities, listed under the NEMA EIA Regulations (GNR 544) as requiring a Basic Assessment, is the following:

- 47) *The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre;*
i) where the existing reserve is wider than 13.5 m; or
ii) where no reserve exists, where the existing road is wider than 8 metres -
excluding widening or lengthening occurring inside urban areas.

The first step in the BA process is the submission of an Application Form for the proposed activity to the competent authority. The Application Form was submitted to DEA on 2 February 2011. The reference number assigned to the project by DEA is 12/12/20/2360.

The second step entails the assessment of the activity and the production of a BAR (see Section 3) and Draft Environmental Management Programme for public comment. Issues and concerns raised by the public in response to a Background Information Document (BID) informed the Draft BAR. Concerns raised on the Draft BAR will inform the Final BAR which, together with the prescribed Comments and Responses Report, will be submitted to DEA for a decision.

A typical BA process is depicted in figure S-1.

1.4 Prescribed Requirements for the Basic Assessment

The BAR provides information about the proposed activity, a description of the affected environment (including ecological, land use and socio-economic aspects), the public consultation process undertaken, and a basic assessment of the potential impacts of the activity on the receiving environment (including social impacts).

Several appendices to the BAR are required as supporting documentation. These include:

- Site plans such as a locality plan (Appendix A) and photographs (Appendix B);
- Facility illustrations (Appendix C);
- Any specialist reports that were undertaken during the BA process (Appendix D);
- A Comments and Responses Report resulting from the public consultation process (Appendix E); and
- A Draft Environmental Management Programme (Appendix F).

This information is contained in Section 3 of the DBAR.

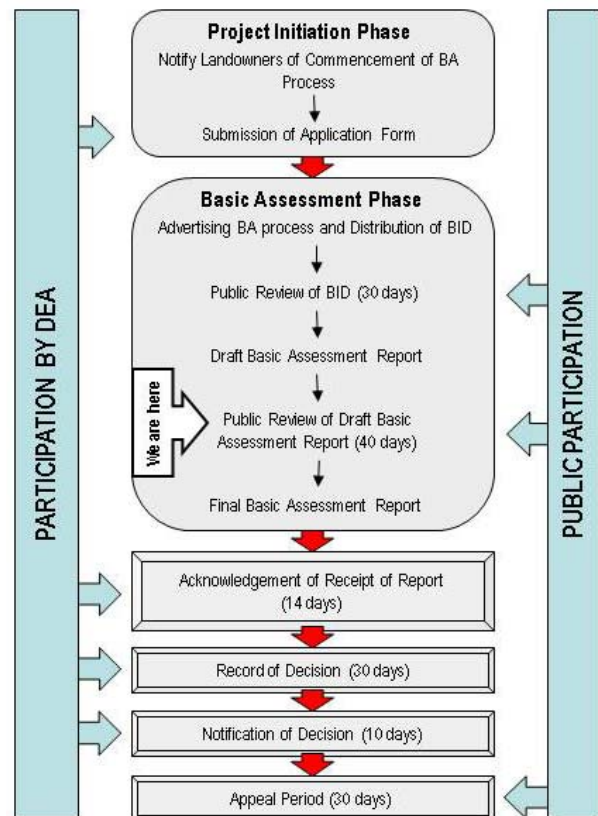


Figure S-1: Typical Basic Assessment Process

1.5 Site Location and Surroundings

The proposed rehabilitation and upgrade of the Route R61 Section 2 is located between Graaff-Reinet and Cradock. Section 2 commences at the intersection of R61 with National Route N9, about 30km north of Graaff-Reinet, and ends at the intersection of R61 with National Route N10, about 5km north of Cradock. The Project commences at km 29.4 on Section 2 where the R61 passes over the Draairivier beyond Wapadsberg Pass and extends to km 42.2 at the access to Elinus Farm. The activities will take place within the existing road reserve (at 25 m). The locality plan of the proposed project is included as Figure S-2.

1.6 The Proposed Development

In summary, the proposed scope of works is to include the following:

- Rehabilitation and widening of approximately 13 km of the existing R61 Section 2;
- Demolition of the existing Great Fish River Bridge and construction of a new bridge;
- Widening of the Draairivier Bridge to achieve a width of 12.4 m between kerb faces;
- Raising of the headwalls of the two tributary structures of the Great Fish River at km 34.2 and km 35.4;
- Upgrading of culverts if necessary to accommodate hydraulic load and changes to the road width and/or grade line; and
- Sourcing of material from three existing borrow pits which are to be extended and are located adjacent or in close proximity to the R61 (i.e. Borrow Pit A at km 55.6, Borrow Pit E at km 21.1 and Borrow Pit Q3 at km 55.4).

Material from the three borrow pits will be used for widening of the road, shoulders and sub-base layer. The road base layer will be

constructed over the sub-base layer using crushed stone material from a commercial source at Cradock. The mining application for these borrow pits is in process and will be submitted to the Department of Mineral Resources.

Applications for water use licenses in terms of Section 21(c) and (i) of the National Water Act, 1998 (Act No 36 of 1998) are in progress and will be submitted to the Department of water Affairs in due course.

1.7 Public Consultation Process

A public participation process aimed at allowing the public to be involved in the environmental decision making process was carried out, and is described in Appendix E of the BAR. The public participation process completed to date includes the following:

- Newspaper advert (the Daily Dispatch);
- Circulation of the Background Information Document;
- On site posters; and
- public comment period on the BID (30 days).

To date, only one environmental concern has been raised by an Interested and Affected Party and is included in Appendix E. The Draft BAR is available for public viewing at the Cradock Public Library for a comment period of 40 days (8 March 2012 – 20 April 2012). Comments received will be included in the Final BAR.

1.8 Assessment of Potential Environmental Impacts

A number of potential impacts resulting from the proposed development were identified by the project team and specialists. The project alternatives, and most of the identified impacts, were assessed in-house by the Environmental Assessment Practitioner. Archaeological and palaeontological impacts were assessed by external specialists, the reports of which are included in Appendix D.

Potential impacts were assessed using SRK's impact assessment methodology. The **significance** of an impact is defined and assessed as a combination of the consequence of the impact occurring (based on its extent, intensity and duration) and the probability that the impact will occur.

For potentially significant impacts, the significance of the anticipated impact was rated both with and without recommended mitigation measures. These are presented in Table 1 (refer to section D of the BAR form for further detail on the impacts assessed) which summarises:

- The impacts that were assessed;
- Their significance following the implementation of mitigation measures; and
- The key mitigation measures on which the significance rating is based.

The impact significance rating should be considered by the competent authority in their decision-making process based on the definitions of ratings ascribed below.

- **Insignificant:** the potential impact is negligible and will not have an influence on the decision regarding the proposed activity.
- **Very Low:** the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity.
- **Low:** the potential impact may not have any meaningful influence on the decision regarding the proposed activity.

- **Medium:** the potential impact should influence the decision regarding the proposed activity.
- **High:** the potential impact will affect a decision regarding the proposed activity.
- **Very High:** the proposed activity should only be approved under special circumstances.

1.9 Evaluation

Key relevant observations with regard to the overall **impact significance ratings**, assuming mitigation measures are effectively implemented, are (refer to Table 1):

- **Air Quality Impacts:** The potential air quality impacts (dust and vehicle emissions) on the site and borrow pit areas during the construction phase are considered to be low, as construction will be temporary. With mitigation, the significance of these impacts could be reduced to very low;
- **Noise Impacts:** A very low noise impact is predicted during construction activities, as this would be temporary. With mitigation, these impacts could be reduced to insignificant;
- **Aquatic Impacts:** Potential impacts on the Great Fish and Draairivier Rivers due to the reconstruction and widening respectively of these bridges which may result in elevated river turbidity. Construction activities also pose a risk of chemical and solid waste pollution to these rivers and may compromise the stability of the river banks. A medium negative impact is therefore predicted. However, if the specified mitigation is implemented, these impacts can be decreased to a very low significance;
- **Ecological Impacts:** With adequate mitigation, the medium significance rating for the potential loss of habitat due to the removal of vegetation is predicted to be of insignificant for the construction phase;
- **Stormwater and Erosion Impacts:** With appropriate mitigation, the stormwater runoff and erosion impacts on the proposed site and rivers during the construction and phase can be decreased from a medium negative impact significance rating to very low. During the operational phase, potential stormwater / erosion impacts as a result of insufficient rehabilitation / infrastructure implementation is considered to be of low impact significance and can be reduced to insignificant if mitigation measures are carried out appropriately;
- **Job Creation Socio-economic Impact:** The predicted positive socio-economic impact, due to a number of jobs being created (during construction) is predicted to have a low significance rating due to its localised and short-term nature;
- **Palaeontological Impacts:** A medium palaeontological impact was predicted due to potential disturbance / loss of fossils (plant, vertebrate burrows and vertebrate bones), which were identified along the road section at four sites. However, this impact can be reduced to insignificant if recommendations made by the specialist are implemented;
- **Archaeological Impacts:** No archaeological material remains or features were identified within the road reserve or within the surrounding areas of Borrow Pit A Q3. Two Middle Stone Age stone artefacts were however documented within the area surrounding Borrow Pit E, but are suspected by the specialist to occur in a disturbed and secondary context. An insignificant archaeological impact is therefore anticipated;

- **Waste Impacts:** during construction, waste (both construction and domestic) will be generated, affecting the surrounding environment. With mitigation, the significance of this impact could be reduced to insignificant;
- **Impacts on Services:** Telkom services have been identified within close proximity to the proposed development. The potential impact on these services during construction is rated to be of low significance and can be reduced to insignificant with mitigation. The road as an existing service will be improved, resulting in a positive impact of medium significance.
- **Impacts on Traffic Flow:** Construction activities will likely cause disruption of traffic flow. This is rated to have a low significance and could be reduced to very low with mitigation;
- **Livestock Impacts:** Damage to fences and potential livestock loss during construction was rated to be of very low impact significance. With mitigation, these impacts should be insignificant;
- **Socio-economic Impact due to improved Road Condition / No-go alternative:** The improved road condition would result in easier access through the area, positively affecting the local and provincial economy as this is an important transport route between Graaff-Reinet and Cradock. Vehicle maintenance costs associated with wear and tear to vehicles would also be reduced because of the improvement of the road surface. The positive socio-economic impact associated with the improvement of the road is HIGH. With the no-go alternative (no upgrading), the deteriorating road could result in limited access to the area and increased user costs, which would affect the local and provincial economy and result in a high negative impact; and
- **Traffic flow and Safety / No-go alternative:** General road safety will be improved with the proposed upgrade, to result in a medium positive impact. With the no-go alternative (no upgrading), a negative medium impact on traffic flow and safety is predicted.

1.10 Findings

1. The South African National Roads Agency Limited (SANRAL) has identified a need to rehabilitate and upgrade the R61 Section 2 (R61/2) and associated infrastructure from the Draairivier to Elinus Farm.
2. Potential positive impacts as a result of the proposed activity include improved traffic flow and safety, socio-economic benefits associated with the improved condition of the road, and temporary employment opportunities.
3. Potential negative impacts on aquatic ecosystems related to river crossings, erosion and stormwater and disturbance to traffic flow during the construction phase, amongst other less significant impacts, can be prevented or managed by implementing the specified mitigation measures.
4. Two Middle Stone Age stone artefacts were documented within the surrounding area Borrow Pit E area, but are considered to occur in a disturbed and secondary context.
5. Fossils (plant, vertebrate burrows and vertebrate bones) were identified along the road section at four sites, for which mitigation measures are recommended.
6. The no-go option is associated with negative impacts on the socio-economic situation, traffic flow and safety. Therefore, it is

environmentally preferred that the R61/2 is rehabilitated and upgraded as proposed.

7. No major environmental or social impacts have been identified that should prevent the Project from obtaining environmental authorisation.

1.11 Way Forward (IAPs)

The Draft BAR is not a final report and will be amended based on comments received from IAPs. The public participation process has given IAPs the opportunity to assist with identification of issues and potential impacts and provides an additional opportunity to gauge 'public acceptance' of the proposed project. The Draft BAR has been released to IAPs and stakeholders for a 40-day review period as per the requirements of the 2010 NEMA EIA Regulations and is available for public viewing at the Cradock Public Library. This Summary Report is being circulated to all IAPs registered on SRK's database. Should any issues be raised, these will be addressed in the Final Basic Assessment Report.

Interested and Affected Parties are invited to raise comments and / or further issues regarding the Draft BAR and submit their comments in writing to SRK Consulting by **20 April 2012** to:

Tammy Arthur

SRK Consulting

PO Box 21842, Port Elizabeth, 6000

Fax (041) 5094850

Email: tarthur@srk.co.za

Once IAPs have commented on the information presented in the Draft BAR, the Final BAR, accompanied by a Comments and Responses Report, will be submitted to DEA for a decision. The public is therefore urged to submit comments, as these will affect the Final BAR and the decision taken by DEA.

Upon request, full hard copies of the Draft BAR can be mailed to stakeholders at a cost of R500 (incl. VAT) and / or a copy (excluding maps, diagrams and appendices) can be emailed free of charge. Alternatively a copy of the report on CD can be mailed at a cost of R200.

Table 1: Summary of impact significance for the proposed rehabilitation and upgrade of the R61/2

IMPACT		CONSTRUCTION				OPERATION				NO-GO OPTION	
		WITHOUT MITIGATION		WITH MITIGATION		WITHOUT MITIGATION		WITH MITIGATION			
Air quality (dust / emissions)		Low	- ve	Very Low	- ve	Insignificant	- ve	N/A	-	N/A	-
Noise		Very Low	- ve	Insignificant	- ve	Insignificant	- ve	N/A	-	N/A	-
Social & Economic		Low	+ ve	Low	+ ve	High	+ ve	N/A	-	High	- ve
Archaeology		Insignificant	- ve	Insignificant	- ve	N/A	-	N/A	-	N/A	-
Palaeontology		Medium	- ve	Insignificant	- ve	N/A	-	N/A	-	N/A	-
Ecology		Low	- ve	Insignificant	- ve	N/A	-	N/A	-	N/A	-
Aquatic	Turbidity	Medium	- ve	Very Low	- ve	Medium	- ve	Very Low	- ve	N/A	-
	Water quality	Medium	- ve	Very Low	- ve	N/A		N/A	-	N/A	-
	Bank stability	Medium	- ve	Very Low	- ve	Medium	- ve	Very Low	- ve	N/A	-
	Solid Materials	Medium	- ve	Very Low	- ve	N/A	--	N/A	-	N/A	-
Stormwater & Erosion		Medium	- ve	Very Low	- ve	Low	- ve	Insignificant	- ve	N/A	-
Existing services		Low	- ve	Insignificant	- ve	Medium	+ ve	N/A	-	N/A	-
Waste management		Low	- ve	Insignificant	- ve	N/A		N/A	-	N/A	-
Traffic flow		Low	- ve	Very Low	- ve	Medium	+ ve	N/A	-	Medium	- ve
Traffic safety		Very Low	- ve	Insignificant	- ve	Medium	+ ve	N/A	-	Medium	- ve
Agriculture		Very Low	- ve	Insignificant	- ve	N/A	-	N/A	-	N/A	-

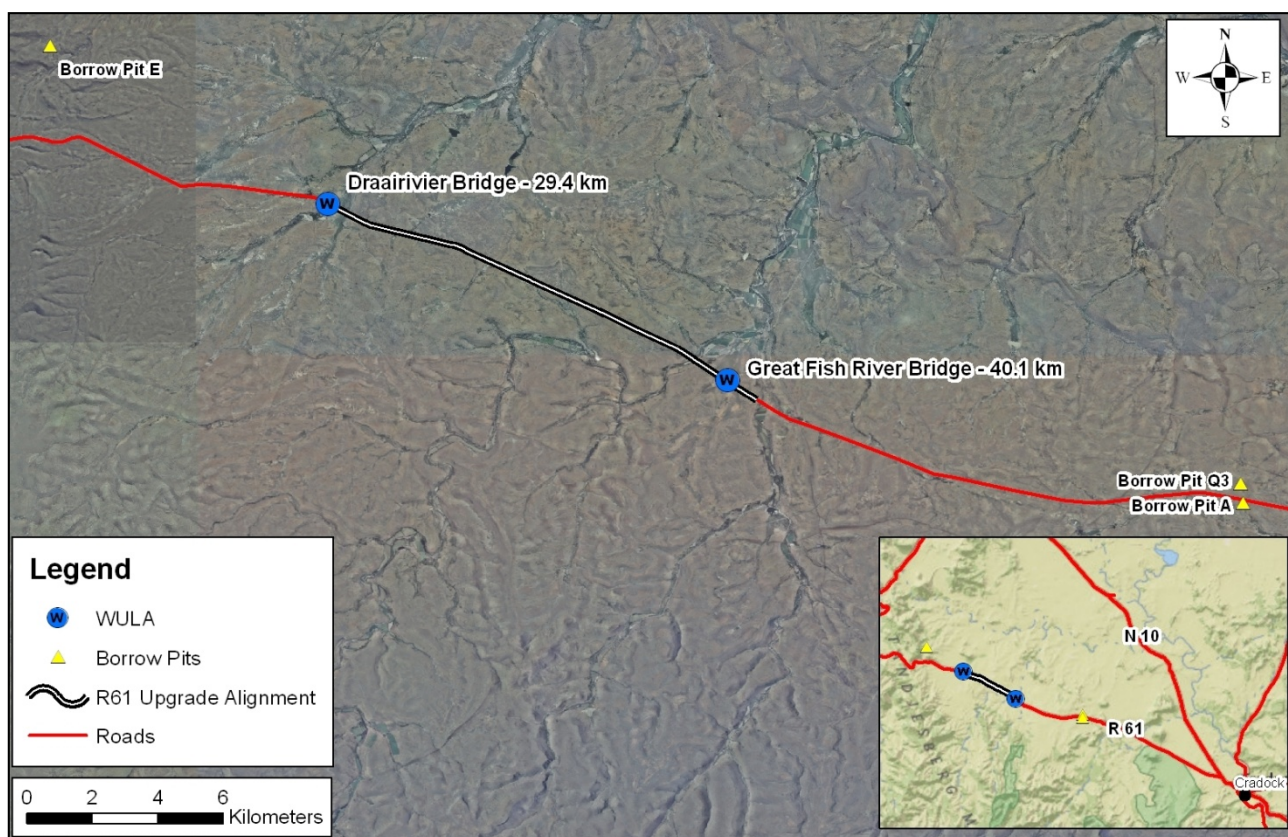


Figure S-2: Locality Plan for the proposed project