

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
PROCESS**

PROPOSED CONSTRUCTION OF ROAD K6 BETWEEN THE FUTURE PLANNED ROAD K207 (KNOWN AS HONINGNESTKRANS ROAD/D1931) AND THE EXISTING ROAD K139 (KNOWN AS THE MOLOTO ROAD/R573), CITY OF TSHWANE METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.

Reference No.: Gaut 002/17-18/E0030



SERVICES (PTY) LTD

t/a ROCK ENVIRONMENTAL CONSULTING

2nd Floor, Rubenstein Office Park

566 Rubenstein Drive

Moreleta Park, 0181

PO Box 40541

Moreleta Park, 0044

www.rockeco.co.za †

DRAFT ENVIRONMENTAL SCOPING REPORT

Prepared for: MR. TEBOGO MOLOKOMME
PROVINCIAL HERITAGE RESOURCE AUTHORITY OF GAUTENG
35 RISSIK STREET
SURREY HOUSE
JOHANNESBURG
2000

On behalf of: GAUTENG PROVINCE DEPARTMENT OF ROADS AND TRANSPORT
(GAUTRANS)
MR. ERNEST BONGANI MASHABA
DIRECTOR DESIGN SERVICES
PO BOX X83
MARSHALLTOWN
2017

Author: ROWAN VAN TONDER & PIETER VAN DER MERWE
REC SERVICES (PTY) LTD. T/A ROCK ENVIRONMENTAL CONSULTING

Date: 16 August 2017

Tel: 012 997 4742

Fax: 086 619 0994

Email: rockec@lantic.net

VAT Reg No: 4870275718

Co. Reg No: 2016/310652/07

Director: PN van der Merwe

BSc (Hons) Environmental Management

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	7
1.1 LOCALITY AND STUDY AREA	7
1.2 ASSESSMENT AND CONSIDERING ALTERNATIVE ROUTES	8
1.2.1 Alternative Route B (Refer to Figure 3)	9
1.2.2 Alternative Route C (Refer to Figure 4)	9
1.2.3 Alternative Route D (Refer to Figure 5)	9
1.2.4 No Go Option	10
1.3 PUBLIC PARTICIPATION PROCESS	10
1.4 THE EIA PROCESS	12
1.5 CONCLUSION	13
1.6 ENVIRONMENTAL APPLICATION	16
2. INTRODUCTION	20
2.1 Details of the EAP	22
2.2 EIA PROCESS FOLLOWED	23
2.2.1 Scoping Phase	26
3. LEGISLATIVE FRAMEWORK	30
3.1 National Environmental Management Act 108 of 1998 as Amended	30
3.2 National Water Act, 1998 (Act No. 36 Of 1998)	33
3.3 National Heritage Resources Act, 1999(Act No. 25 of 1999)	33
3.4 National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	34
3.5 National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), abbreviated as NEMBA.	35
4. PROJECT MOTIVATION & ALTERNATIVES	36
4.1 Need and Desirability	36
4.2 Properties Affected	36
4.3 Project Description	39
4.3.1 Locality and Study Area	39
4.3.2 Preferred Alternative Route (Proposed development)	40
4.3.3 Assessment and Considering of Alternatives	50
5. BASELINE ENVIRONMENTAL DESCRIPTION	55
5.1 Land Use and Socio-Economics	56
5.2 Climate	56
5.2.1 Regional climate	56
5.2.2 Precipitation	57
5.2.3 Temperature	58
5.2.4 Frost	58
5.2.5 Mean Monthly Wind Direction and Speed	58
5.2.6 Topography and Surface Drainage	60
5.2.7 Agricultural Potential of the Study Area	62
5.2.8 Flora of the Study Area	64
5.2.9 Fauna of the Study Area	66
5.2.10 Elements of Culture Historical Importance	71
5.2.11 Elements of Visual and Aesthetic Importance	72
5.2.12 Existing Services and Relocation thereof	73
6. PUBLIC PARTICIPATION	73
6.1 Introduction	73
6.2 Objectives of the Public Participation Process	74
6.3 The Guidelines Followed for the Public Participation Process	75
6.4 Public Participation Process Followed	75
6.4.1 Identification of key Interested and Affected Parties	75
6.4.2 Compilation and distribution of the Background Information Documents (BID)	76
6.4.3 Placement of the press advertisement	76
6.4.4 Placement of on-site notice(s)	77

6.4.5 Public Open Days	78
6.4.6 Placement and Submission of the Draft Scoping Report	80
6.4.7 Feedback from I&AP's throughout the EIA Process.....	80
6.5 Addressing Written Comments & Questions from the I&AP's.....	81
6.6 Conclusions of the Public Participation Exercise	82
7. ACTIVITIES, IDENTIFIED IMPACTS AND PRELIMINARY ASSESSMENT	83
7.1 Introduction and Methodology	83
7.2 Activities and Impacts Identified, with Preliminary Assessment	84
8. CONCLUSION	109
9. UNDERTAKING UNDER OATH BY THE EAP.....	112

LIST OF FIGURES

Figure 1: Overview of the linear study area (red line: preferred alternative).	40
Figure 2: Preferred alternative of route K6 from west (Honingnestkrans Rd.) to East (Moloto Rd.).	46
Figure 3: Alternative Route B (red line).	52
Figure 4: Alternative Route C (red line).	53
Figure 5: Alternative Route D (red line).	54
Figure 6: Agricultural potential for the affected area (AGIS, 2017).	63
Figure 7: Agricultural potential for the area (GAPA).	63

LIST OF TABLES

Table 1: Affected Areas of the proposed development (Please refer to the layout plan attached).	47
Table 2: List of red data (Critically Endangered, Endangered and Vulnerable) mammals possibly encountered in a wider area:	67
Table 3: List of possible red date avifauna on or in a wider area around the site.	68
Table 4: List of herpetofauna possibly on site or rather found in the wider area.	71
Table 5: List of activities (environmental aspects) that will occur on site, the potential impacts that these activities may have on the environment and a description of the nature of the impact (c: construction stage; o: operational phase).....	86

LIST OF APPENDICES

APPENDIX 1: PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT

APPENDIX 2: APPLICATION FORM SUBMITTED TO GDARD

APPENDIX 3: LOCALITY MAP AND GAUTENG C-PLAN MAP

APPENDIX 4A: CONCEPTUAL LAYOUT PLAN & MACHADO INTERCHANGE ALTERNATIVES

APPENDIX 4B: SITE PHOTOS

APPENDIX 5A: BACKGROUND INFORMATION DOCUMENT

APPENDIX 5B: ACKNOWLEDGEMENT OF RECEIPT OF THE BACKGROUND INFORMATION DOCUMENT

APPENDIX 5C: COPY OF THE PRESS ADVERTISEMENT

APPENDIX 5D: COPY OF THE SITE NOTICE AND SUPPORTING PHOTOGRAPHS

APPENDIX 5E: COMMENT AND REGISTRATION SHEETS RECEIVED FROM I&AP'S

APPENDIX 5F: COMMENTS & RESPONSES REPORT

APPENDIX 5G: COPY OF ATTENDANCE REGISTER OF THE PUBLIC OPEN DAYS

APPENDIX 5H: PROOF OF REPORT DELIVERY TO STAKEHOLDERS AND PUBLIC

APPENDIX 6: EAP CV

APPENDIX 7: ROUTE DETERMINATION REPORT WITH KEY PLAN

1. EXECUTIVE SUMMARY

The project consists of the preliminary design and a full Environmental Impact Assessment (EIA) process of the future planned Road K6 between the future planned Road K207 (Currently known as Honingnestkrans Road, or D1931) north of the Bon Accord Dam to the existing Road K139 (Also known as the Moloto Road, or the R573) north of the Roodeplaas Dam Nature Reserve. The proposed alignment is to the north of the Pyramid Railway Yard between the K97 and the N1 freeway. The proposed route will cover a distance approximately 16km in length, with infrastructure such as bridges, culverts, stormwater pipes and any other associated infrastructure.

This portion of Road K6 intersects with the following roads:

- K207 - Honingnestkrans Road/ Road D1931;
- D434 - Sphinx Road via a new proposed connection to K6;
- K97 - Old Warmaths Road/ R101 via a proposed quarter-link connection;
- Puma Road - Provision is being made for a future southward extension of Puma Road to intersect with Road K6;
- K99 - A planned future provincial road, connecting to the N4 at the Dr Swanepoel Road interchange;
- N1 Section 22 - via an interchange that is already planned and approved at basic planning stage;
- D2518 - A planned future deviation of Poppyweg Road, connecting to the Wallmansthal area;
- The existing Poppyweg Road - realigned according to existing planning; and
- Provision is being made for five possible future intersections between Rynoue AH and Wallmansthal.

1.1 LOCALITY AND STUDY AREA

The future planned Road K6 is between the future planned Road K207 (Currently known as Honingnestkrans Road, or D1931) north of the Bon Accord Dam to the existing Road K139 (Also known as the Moloto Road, or the R573) north of the Roodeplaas Dam Nature Reserve. The proposed alignment is to the north of the Pyramid Railway Yard between

the K97 and the N1 freeway. The attached locality map (Appendix 3A) indicates its locality (also refer to the detailed map in Appendix 4A).

A broad study area was created around the new proposed K6 (from here-on known as the 'development'). Although details of a proposed development will be accumulated and made available as the EIA process develops.

Road K6 has been incorporated into the City of Tshwane's road network and spatial development planning. Road K6 has also been identified as forming part of the planned 2037 road network in the Gauteng Integrated Transport Management Plan (GITMP).

The future land use surrounding K6 is varied in the City of Tshwane's Regional Spatial Development Framework (RSDF) for region 2. Between Roads K207 and K97, the land between the Bon Accord Dam and the urban edge is marked for industrial development. To the north of the urban edge, the land is to remain agricultural/ undeveloped. Between Road K97 and the N1 freeway, the land to the west and north of the Pyramid South railway yard is marked for industrial development and the land to the south of the yard is marked for mixed use development.

1.2 ASSESSMENT AND CONSIDERING ALTERNATIVE ROUTES

Right from the onset of the EIA process close examination was given to different alternative routes around the western section of the route (Honingnestkrans to the N1). This was done in conjunction with the design engineer (from SMEC SA) as one has to acknowledge that not only environmental issues need to be taken into account but also to a large extent the required design parameters and standards of road design.

In this case, the presentation of alternatives is a difficult matter. The planning and design of the interchange will in each case suit different parties and thus will not satisfy everyone in terms of social considerations.

Three alternative routes around western section were suggested to the public to take into consideration. These alternatives were assessed in terms of a biophysical point of view as well as from a socio-economic point of view, as described below.

1.2.1 Alternative Route B (Refer to Figure 3)

Alternative B is close to the approved draft alignment of 2002 that was made after the cancellation of Alternative A1 in Addendum B of the original route determination report (see Appendix 7 for detail). This draft alignment takes no cognizance of existing land use, cadastral boundaries, or existing infrastructure. Alternative B is an improvement of this alignment.

Starting off at the K207/K6 intersection in a similar manner to Preferred Alternative A, this alternative curves towards the left, crossing diagonally across many agricultural smallholdings before crossing over K97 and the three existing railway lines as they converge to the north. The bridge span at this crossing would justify an incremental launch method - a very costly option due to the height and length of the bridge spans. This alternative follows along the southern side of the existing high voltage electrical transmission line servitudes to the north of the Pyramid South railway yard and thus impacts the land between Road K97 and the N1 the least. A link between K97 and K6 would not be possible.

1.2.2 Alternative Route C (Refer to Figure 4)

According to SMEC, Alternative C is an investigation of Alignment A1 that was approved in addendum C of the original route determination report (see Appendix 7 for detail).

This alternative would require crossing over a railway line in a high fill, followed by passing under three high voltage electrical transmission lines, then again over the existing north-south railway line and Road K97 before returning to the natural ground level, all in a distance of 360m. Obtaining safe stopping-sight distances and minimum vertical curves lengths would be impossible. A link between K6 and K97 would be possible but would require a single ramp interchange.

1.2.3 Alternative Route D (Refer to Figure 5)

Similarly to Alternative C, K6 would have to cross over a railway line and then immediately under two sets of transmission lines, which would make the vertical

alignment impractical. Though possible to fit a horizontal alignment in, it's certainly not a good design compared to the preferred alternative.

According to SMEC this alternative, or any iteration thereof, would require extensive amendment to existing preliminary designs. Many more smallholding owners would be directly affected by K6. The environmental impact downstream of the Bon Accord Dam was also deemed to have been much worse than any of the other alternatives.

1.2.4 No Go Option

A "DO NOTHING" alternative would be not to build this proposed development and keep all the current routes and accesses as it is. This means that no solution will be put forward for the large amount of traffic volumes currently experienced on the Moloto road as well as on the Old Warmbaths road. Also no additional increase or upgrade of infrastructure will be possible in the northern sections of the Tshwane Metropolitan Municipality.

The high volumes of traffic are creating dangerous/fatal conditions along all these sections of road, as discussed above. The overtaking of vehicles, as well as access onto or from these roads, remains currently problematic and of considerable risk.

1.3 PUBLIC PARTICIPATION PROCESS

The Public Participation Process was conducted on 27 January 2017, with an Open Day on 10 February 2017 (an initial in-house scan process) and again on 10-11 May, with Open Days on 24 and 29 May 2017 (proper EIA application process kick-off). It is still ongoing.

- Background Information Documents (BIDs) were distributed to adjacent landowners as well as other Interested and Affected Parties (I&APs) on the 10th, 11th up until 15th of May 2017 (please refer to Appendix 3A for a copy of the BID as well as proof of the distribution of the BIDs).
- Site notices were erected/placed at several key locations on the 10th & 11th of May 2017 (please refer to Appendix 3D for a copy of the Site Notice as well as proof of the erection of the Site Notices). Key locations:

1. Moloto Rd.: Next to route at access roads: -25.618624°, 28.346404°
 2. Farming area: Next to route at access roads: -25.610421°, 28.323546°
 3. Buffelsdrif: Next to route at access roads: -25.608694°, 28.310530°
 4. Buffelsdrif: Next to route at access roads: -25.608415°, 28.306952°
 5. Roodeplaat SPAR: Notice board.
 6. Pyramid Rd.: Next to route at access roads: -25.581121°, 28.267654°
 7. Waterval Depot: At entrance.
 8. Pyramid Rd.: Next to route at access roads: -25.582380°, 28.252106°
 9. Good Luck Centre: Notice board.
 10. Main farm road running close to route: -25.597544°, 28.229352°
 11. Hira Jogee & Son General supply store next to R101.
 12. Access to farming area net to R101: -25.602097°, 28.221614°
 13. At access road to TUT Experimental farm and Transnet service road.
 14. Access to Sphinx Rd. from R101.
 15. Access road to farming area & guest house from Sphinx Rd: -25.608784°, 28.211015°
 16. Access road to farming area & school from Sphinx Rd: -25.604999°, 28.205091°
 17. Access to Strandloper St. from the Honingnestkrans Rd.
- A press advert was placed in the 'Pretoria News' newspaper on the 11 May 2017
 - The ward councillors (Ward 49, 87 & 96) were informed by means of Background Information Documents (written notifications).
 - Public open days were held on the 24th and 29th of May 2017 (3 pm to 7 pm) at the hall of Die Poort Primary School/Laerskool and Uniefees Primary School/Laerskool respectively. (Please refer to Appendix 3H for a copy of the attendance register). These public open days were held for the public to view and discuss the proposed planning and conceptual layout plans (Appendix 2B). This process involved the

evaluation and identification of all issues raised by the general community consisting of farmers, small holding owners and town dwellers.

- Information and dates regarding the public open days were placed in all the BIDs given to adjacent landowners and other I&APs; it was also provided in the Pretoria News advertisement. E-Mails to all I&APs included this information and all the Site Notices highlighted the open days.
- Assessment of issues related to social aspects of directly affected landowners and their properties were discussed during the public open days on an individual basis. The anticipated impacts and issues, positive and negative, were identified in order to determine their potential significance and the need for further assessment during the subsequent EIA process which is in progress.

1.4 THE EIA PROCESS

During the course of this EIA assignment the following actions and steps are required and will be followed in accordance with the Regulations, as amended, set out in Government Notice No. 982 (326) of 2014 of the NEMA, as amended:

- An Application for Authorisation, signed by the Applicant, together with a Declaration of Independence, which was signed by the environmental assessment practitioner, will be submitted to the Gauteng Department of Agriculture and Rural Development (GDARD). This will coincide with the submission of the draft Scoping Report.
- The Public Participation Process will inform the public about the proposed development and application process and input, comments and suggestions will be requested.
- The draft Scoping Report will be made available for comments to the National GDARD, registered I&APs, the local authorities and all other applicable stakeholders. The draft Scoping Report will also be available to be viewed at the Waterval Depot (in the west) and at the Kameeldrift Police station (in the east).
- The final Scoping Report will be submitted to GDARD for review.

- Once GDARD accepts the final Scoping Report, an Environmental Impact Assessment Report with an attached Environmental Management Programme will be compiled and completed. All issues from the Scoping Report will be addressed in the draft and final EIA Report, as well as issues and impacts identified by the Environmental Assessment Practitioner. The issues identified in the specialist studies will also be addressed in the draft and final EIA Reports.

The draft EIA with attached Environmental Management Program (EMPr) report will be made available for comments to the registered I&AP’s. Comments received from I&AP’s on the contents of the draft EIA and EMPr report will be incorporated into the final EIA and EMPr reports. By making the draft report available, ensures that all issues have been identified.

1.5 CONCLUSION

The purpose of this Environmental Scoping Report has been:

- To provide a project description, and an overview of the proposed road development activities on site.
- To provide a description of all the important environmental elements of the study terrain.
- To provide descriptions of all anticipated/identified biophysical and social-economic issues and impacts that could potentially occur as a result of the proposed road development.

In summary it can be concluded that different parts of the proposed upgrading and widening of the N4 will experience different effects or impacts on the environment.

These are:

Environmental components to be affected negatively	Description of the anticipated environmental & socio-economic impacts / key issues
--	--

Properties (Farm and residential)	<ul style="list-style-type: none"> Noise and safety impacts, as well as loss of property due to the proposed development's route alignment.
Access to farms.	<ul style="list-style-type: none"> Accesses along the route will be made safer by creating and conciliating new accesses to farm and properties.
Noise Impact	<ul style="list-style-type: none"> Noise from the traffic as the proposed development will bring in more traffic and an inconvenience to a certain extent for some existing residential properties adjacent to the road.
Traffic impact	<ul style="list-style-type: none"> The road will have a positive impact on the traffic flow between Moloto road and Old Warmbaths road but could also affect the localized community in a negative way by giving quick access for criminals.
Business/Agricultural areas	<ul style="list-style-type: none"> Loss of income due to reduced property sizes for production. Could also be positive due to more traffic routing through the area and can do business with the local people.
Water provision	<ul style="list-style-type: none"> An increase in water demands due to the proposed road construction - although this will be temporary.
Land-use	<ul style="list-style-type: none"> A possible loss of future agricultural areas due to the proposed development's route alignment, although the loss of grazing/cultivation land, proportionally to the affected properties, will be small.
Environmental Sensitive Areas	<ul style="list-style-type: none"> Loss of natural vegetation, wetland and impacts upon streams and drainage lines due to the proposed development's route alignment, although the loss of habitat, proportionally to the wider region of similar natural vegetation, will be small.

The second phase of the Environmental Impact Assessment (EIA) process for the proposed development will follow this scoping process in the form of an **Environmental Impact Assessment Report**. Anticipated and potential significant impacts that have been identified relating to the development will be evaluated in terms of their significance.

The essence of any EIA process is aimed at ensuring informed decision-making and environmental accountability, as well as to assist in achieving environmentally sound and sustainable development. This is achieved by conducting an analysis of the potential impacts that a proposed road upgrading may have on the physical, environmental and social aspects of the concerned area (as has been conducted during this environmental scoping process). In order to minimise the potential impacts associated with the proposed road upgrading, an Environmental Management Programme (EMPr) is to be compiled, which must be implemented in order to sufficiently mitigate the anticipated impacts to an acceptable level.

The draft environmental Scoping Report gave an account of the environmental qualities and attributes of the study area and described the details of the proposed development in terms of the anticipated impacts/issues or interaction that the development may have with the different environmental components. The response to issues raised by members of the public is made available for comments for a period of thirty days. **After this Scoping Report is submitted and accepted by the relevant authority, the draft EIA report will be compiled with all issues raised and again be made available to members of the public to determine whether all matters have been covered and addressed to their satisfaction.**

The Environmental Assessment Practitioner (REC Services (Pty) Ltd.) is of the independent opinion that the EIA process will conclusively determine if there are any fatal environmental flaws associated with the proposed development that would constitute the refusal of Authorisation of the project - bearing in mind that approval must be subject to strict implementation and monitoring of the EMPr to be compiled, and given that there should be room for improvement on the EMPr as the project

progresses. It is trusted that this environmental Scoping Report gives a balanced view of the anticipated environmental impacts or issues associated with a proposed development of this nature.

1.6 ENVIRONMENTAL APPLICATION

Adherence to Regulatory Requirements, Regulation No R. 982 of 4 December 2014, Appendix 2, as amended, published in terms of the National Environmental Management Act, 1998 (Act 107 of 1998), as amended.

Contents of a Scoping Report <u>as stipulated</u> in R. 982, as amended (Appendix 2, Point 2)		Covered in Scoping Report
Appendix 2 Point 2	A Scoping Report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include:	
(a)	Details of: (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Chapter 2 Appendix 6
(b)	The location of the activity, including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Chapter 5 Appendix 3
(c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is:	Chapter 5 Appendix 3 Appendix 4a

	<p>(i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or</p> <p>(ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;</p>	
(d)	<p>A description of the scope of the proposed activity, including:</p> <p>(i) all listed and specified activities triggered;</p> <p>(ii) a description of the activities to be undertaken, including associated structures and infrastructure;</p>	Chapter 4 & 5
(e)	<p>A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;</p>	Chapter 4
(f)	<p>A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;</p>	Chapter 5
(h)	<p>a full description of the process followed to reach the proposed preferred activity, site and location within the site, including:</p> <p>(i) details of all the alternatives considered;</p> <p>(ii) details of the Public Participation Process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;</p> <p>(iii) a summary of the issues raised by interested</p>	<p>Chapter 5</p> <p>Chapter 6</p> <p>Chapter 7, Appendix 5 a-h</p> <p>Chapter 8, Appendix 1</p> <p>Chapter 9</p>

	<p>and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;</p> <p>(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</p> <p>(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts:</p> <p>(aa) can be reversed;</p> <p>(bb) may cause irreplaceable loss of resources; and</p> <p>(cc) can be avoided, managed or mitigated;</p> <p>(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;</p> <p>(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</p> <p>(viii) the possible mitigation measures that could be applied and level of residual risk;</p> <p>(ix) the outcome of the site selection matrix;</p>	
--	--	--

	<p>(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and</p> <p>(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;</p>	
(i)	<p>A plan of study for undertaking the environmental impact assessment process to be undertaken, Including:</p> <ul style="list-style-type: none"> (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; (ii) a description of the aspects to be assessed as part of the environmental impact assessment process; (iii) aspects to be assessed by specialists; (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists; (v) a description of the proposed method of assessing duration and significance; (vi) an indication of the stages at which the competent authority will be consulted; (vii) particulars of the Public Participation Process that will be conducted during the environmental impact assessment process; and (viii) a description of the tasks that will be 	Appendix 1

	<p>undertaken as part of the environmental impact assessment process;</p> <p>(ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts; and to</p> <p>(x) determine the extent of the residual risks that need to be managed and monitored.</p>	
(j)	<p>An undertaking under oath or affirmation by the EAP in relation to:</p> <p>(i) the correctness of the information provided in the report;</p> <p>(ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and</p> <p>(iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;</p>	Chapter 10
(k)	<p>An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;</p>	Appendix 1
(l)	<p>Where applicable, any specific information required by the competent authority; and</p>	Noted
(m)	<p>Any other matter required in terms of section 24(4) (a) and (b) of the Act.</p>	Chapter 8

2. INTRODUCTION

The purpose of this Environmental Scoping Report is to broadly and collaboratively identify all possible issues and impacts from activities associated with the proposed construction of road K6 between the future planned road K207 (known as Honingnestkrans Road/D1931) and the existing road K139 (known as the Moloto

Road/R573), City of Tshwane Metropolitan Municipality, Gauteng Province. The secondary aim of this project is to identify alternatives in terms of site, design and layout of the proposed development.

This is in terms of environmental, biophysical and socio-economic issues. The Scoping Report provides as much as possible technical information while taking into account that some information deficiencies may occur and still need to be obtained during the planning process of the road development project. *The main focus of the Scoping Report is the identification of environmental issues physically identified in the study area and secondly the listing and assessment of issues raised by the I&AP's during the Public Participation Process thus far.*

This Scoping Report will therefore contain all the information that is necessary for adequate understanding of the nature of issues or impacts associated with this proposed development. The Environmental Impact Assessment (EIA) report that will follow the Environmental Scoping Report will also focus on identifying the impacts on the physical and biological environment as well as the social environment, along with the impact mitigation thereof.

The initial stages of the public participation exercise are a prominent element of the Scoping phase and Scoping Report. It is pivotal in issue identification through the participation of the local community.

As part of the listed activities identified in the 2014 EIA regulations promulgated on the 4th December 2014, as amended, the planning, construction and operation of the proposed development and associated infrastructure represent the legal trigger for the Environmental Impact Assessment (EIA) process to be followed. The listed activities were identified in term of Sections 24 & 24D of the National Environmental Management Act (Act No. 107 of 1998) (NEMA), as amended. The applicable listed activities identified are:

- Listing Notice 983 (327) Activity number 12, and 19;
- Listing Notice 984 (325) Activity number 27; and

- Listing Notice 986 (324) Activity number 4, 10, 12, and 14.

2.1 DETAILS OF THE EAP

The EAP appointed for this project is part of REC Services (Pty) Ltd. t/a Rock Environmental Consulting (REC).

<p>REC Services (Pty) Ltd. t/a Rock Environmental Consulting 566 Rubenstein Drive, Moreleta Park 0044 P. O. Box 40541, Moreleta Park, 0044 Telephone: 012 997 4742 E-mail: rockec@lantic.net & rock.rowan@lantic.net</p>	
<p>APPLICANT: Gauteng Province Department of Roads and Transport (Gautrans) Mr. Tshepo Molapo Candidate Engineering Technician PO Box X83 Marshalltown 2017 Tel: 011 355 7268 E-Mail: Tshepo.molapo@gauteng.gov.za</p>	

REC specializes in Environmental Impact Assessments and Management during the planning and development stages of a range of development projects. REC is a streamlined firm with an integrated approach to environmental impact assessments, networking with expertise where necessary, while always keeping a holistic view on assignments.

Our 25 year experience is across a broad range of development projects and clients involved in assignments in the urban and rural environments. Our main client base include road and transport authorities, private land developers, local authorities, farmers, industrial developers, and mining enterprises where we form part of the project team which usually consist of Civil Engineers, Land surveyors, Town and Regional

Planners, Property Developers, and Architects etc. Our services include: Basic Environmental Assessments, Environmental Scoping Reports, Environmental Impact Assessment Reports, Environmental Management Programmes, and Environmental Monitoring Reports.

As part of the team at REC Services (Pty) Ltd. is **Mr. Rowan van Tonder**. He is the principle author of this report and works under the supervision of Mr. Pieter van der Merwe. Rowan undertook his studies at the University of Limpopo and obtained a M.Sc. degree in Botany (focus on Conservation Management) in 2007. Before this, he obtained his B. Hons degree in Physical Geography (focus on Environmental Management) at the University of Pretoria and B.Sc. in Environmental Science at the University of Pretoria. He has been part of Rock Environmental Consulting (Pty) Ltd. for 10 years (for extended details, See Appendix 6 - EAP CV).

Mr. Pieter van der Merwe is the managing director for REC Services (Pty) Ltd. Pieter's responsibilities extends towards reviewing project reports, conducting liaison and participation exercises and using his experience to guide his project team. The coordination of projects and marketing of the company's services also falls within his responsibilities. Pieter obtained his qualifications at the University of Pretoria and includes a BSc. in Botany and Geology, a BSc. Hons degree in Botany (UP) and a BA. Hons degree in Environmental Management (UP for CHE). Pieter has over 25 years of experience in the Environmental Management field and has operated his own company, Rock Environmental Consulting (Pty) Ltd, for more than 14 years.

2.2 EIA PROCESS FOLLOWED

This assessment will be undertaken in compliance with the National Environmental Management Act 107 of 1998 (NEMA), as amended, in accordance with stipulations made in Government Notice R. 982 of 4 December 2014, as amended.

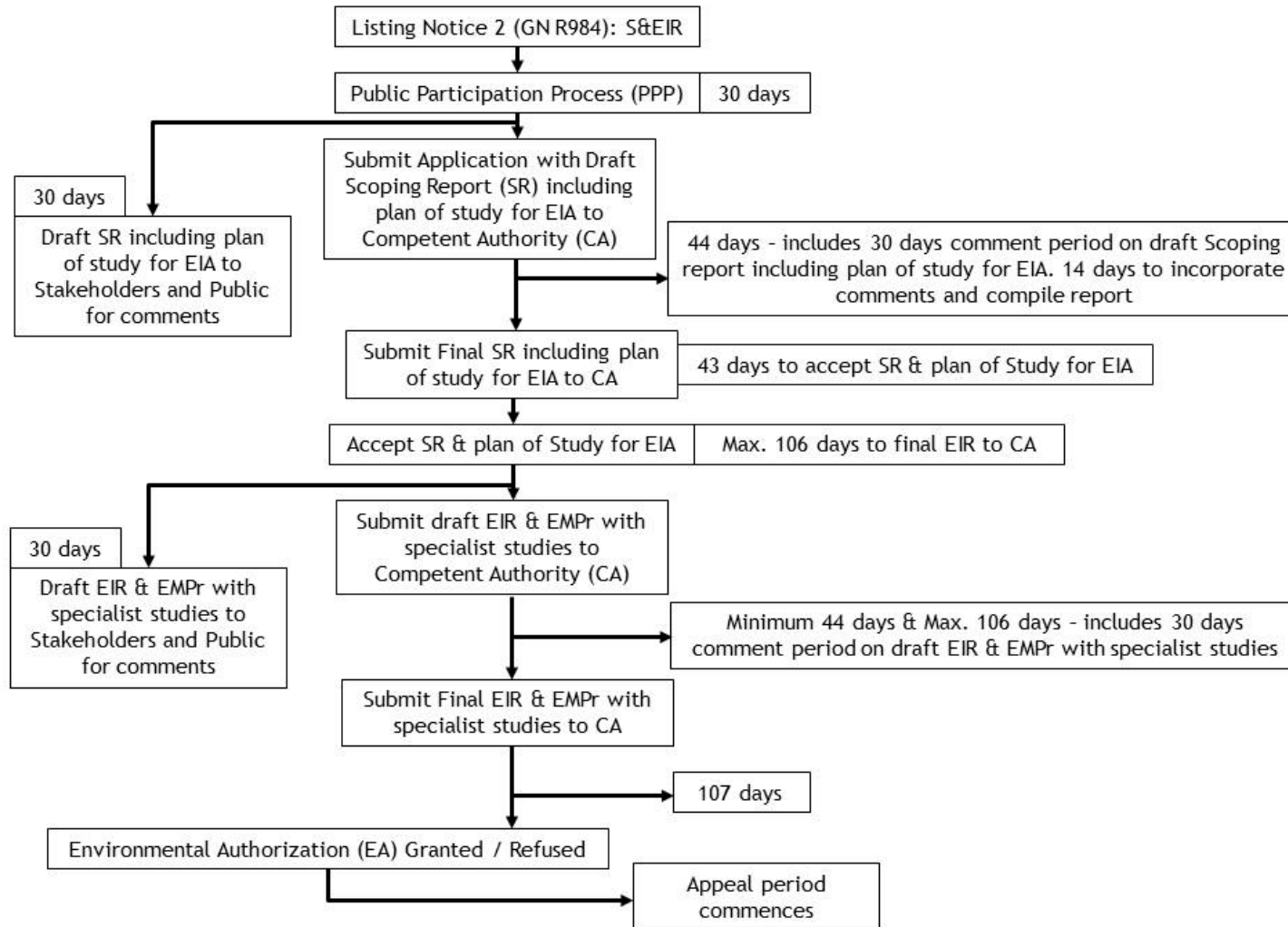
The Environmental Impact Assessment process consists of two main components, namely (i) the technical/biophysical process and (ii) the public participation process.

(i) The technical process includes, but is not limited to, the following aspects:

- Terrain investigations;
 - Specialist Studies , including but not limited to:
 - An ecological study of the site, including functional biodiversity aspects on Threatened Ecosystems. A site rehabilitation plan to give effect to the recommendations of the biodiversity assessment in the report requested above, as the case may be;
 - The specialist studies must examine all cumulative impacts of the activity on the site and the surrounding environment;
 - The identification and assessment of biophysical elements within the study area;
 - Compilation of a Scoping and Environmental Impact Assessment Report with Environmental Management Programme.
- (ii) The public participation process includes:
- Compilation of a database of stakeholders and Interested and Affected Parties;
 - Legal notices of the environmental process (press advertisement and on-site);
 - Dissemination of information to stakeholders and I&APs;
 - If needed, conduct an open day(s) or meetings where Interested and Affected Parties can view the lay-out plan and be informed of the functioning of the treatment process in basic terms;
 - Identification of environmental, as well as social issues and concerns, as raised by I&APs or other relevant stakeholders, and
 - Addressing all concerns raised by I&APs.

The Public Participation Process is conducted in parallel with the total EIA process (technical/biophysical process). The Public Participation Process does not aim to promote agreement amongst I&APs or quell possible opposition against a project. The process is made open and transparent to all those involved. Additionally, it is considered important to involve I&APs as early in the EIA process as possible, to ensure informed decision-making and effective participation throughout the study.

The Environmental Impact Assessment Process contains the following steps (Gazette notice no. 38282):



2.2.1 Scoping Phase

During the course of this study the following actions and steps were followed which are in accordance with the Regulations set out in Government Notice No. 982 of 4 December 2014 of the NEMA, as amended:

- A screening terrain assessment of the physical, historical and biological environmental components of the site was undertaken in order to determine which areas would be most suitable for road widening (i.e. would cause the least impact on the environment).
- An assessment was made of the ecological characteristics of the area which could potentially be affected by the proposed development.

The Public Participation Process was conducted on 27 January 2017, with an Open Day on 10 February 2017 (an initial in-house scan process) and again on 10-11 May, with Open Days on 24 and 29 May 2017 (proper EIA application process kick-off). It is still ongoing.

- Background Information Documents (BIDs) were distributed to adjacent landowners as well as other Interested and Affected Parties (I&APs) on the 10th, 11th up until 15th of May 2017 (please refer to Appendix 3A for a copy of the BID as well as proof of the distribution of the BIDs).
- Site notices were erected/placed at several key locations on the 10th & 11th of May 2017 (please refer to Appendix 3D for a copy of the Site Notice as well as proof of the erection of the Site Notices). Key locations:

18. Moloto Rd.: Next to route at access roads: -25.618624°, 28.346404°

19. Farming area: Next to route at access roads: -25.610421°, 28.323546°

20. Buffelsdrif: Next to route at access roads: -25.608694°, 28.310530°

21. Buffelsdrif: Next to route at access roads: -25.608415°, 28.306952°

22. Roodeplaat SPAR: Notice board.

23. Pyramid Rd.: Next to route at access roads: -25.581121°, 28.267654°

24. Waterval Depot: At entrance.

25. Pyramid Rd.: Next to route at access roads: -25.582380°, 28.252106°

26. Good Luck Centre: Notice board.
 27. Main farm road running close to route: -25.597544°, 28.229352°
 28. Hira Jogee & Son General supply store next to R101.
 29. Access to farming area net to R101: -25.602097°, 28.221614°
 30. At access road to TUT Experimental farm and Transnet service road.
 31. Access to Sphinx Rd. from R101.
 32. Access road to farming area & guest house from Sphinx Rd: -25.608784°, 28.211015°
 33. Access road to farming area & school from Sphinx Rd: -25.604999°, 28.205091°
 34. Access to Strandloper St. from the Honingnestkrans Rd.
- A press advert was placed in the 'Pretoria News' newspaper on the 11 May 2017
 - The ward councillors (Ward 49, 87 & 96) were informed by means of Background Information Documents (written notifications).
 - Public open days were held on the 24th and 29th of May 2017 (3 pm to 7 pm) at the hall of Die Poort Primary School/Laerskool and Uniefees Primary School/Laerskool respectively. (Please refer to Appendix 3H for a copy of the attendance register). These public open days were held for the public to view and discuss the proposed planning and conceptual layout plans (Appendix 2B). This process involved the evaluation and identification of all issues raised by the general community consisting of farmers, small holding owners and town dwellers.
 - Information and dates regarding the public open days were placed in all the BIDs given to adjacent landowners and other I&APs; it was also provided in the Pretoria News advertisement. E-Mails to all I&APs included this information and all the Site Notices highlighted the open days.
 - Assessment of issues related to social aspects of directly affected landowners and their properties were discussed during the public open days on an individual basis. The anticipated impacts and issues, positive and negative, were identified in

order to determine their potential significance and the need for further assessment during the subsequent EIA process which is in progress.

During the course of this EIA assignment the following actions and steps are required and will be followed in accordance with the Regulations set out in Government Notice No. 982 of 2014 of the NEMA, as amended:

- An Application for Authorisation, signed by the Applicant, together with a Declaration of Independence, which was signed by the environmental assessment practitioner, will be submitted to the Gauteng Department of Agriculture and Rural Development (GDARD). This will coincide with the submission of the draft Scoping Report.
- The Public Participation Process will inform the public about the proposed development and application process and input, comments and suggestions will be requested.
- The draft Scoping Report will be made available for comments to the National GDARD, registered I&APs, the local authorities and all other applicable stakeholders. The draft Scoping Report will also be available to be viewed at the Waterval Depot (in the west) and at the Kameeldrift Police station (in the east).
- The final Scoping Report will be submitted to GDARD for review.
- Once GDARD accepts the final Scoping Report, an Environmental Impact Assessment Report with an attached Environmental Management Programme will be compiled and completed. All issues from the Scoping Report will be addressed in the draft and final EIA Report, as well as issues and impacts identified by the Environmental Assessment Practitioner. The issues identified in the specialist studies will also be addressed in the draft and final EIA Reports.

2.2.2 EIA Report Phase

The draft EIA with attached EMPr report will be made available for comments to the registered I&AP's. Comments received from I&AP's on the contents of the draft EIA and EMPr report will be incorporated into the final EIA and EMPr reports. By making the draft report available, ensures that all issues have been identified.

The following specialist studies will be conducted with a set out terms of reference and included into the draft EIA report. This is due to key environmental issues identified during the scoping phase and Public Participation Process. The Gauteng's Conservation Plan (C-Plan) (see Appendix 3 for the C-Plan map) also formed a basis and tool used on which the biodiversity assessment will be conducted:

- **Vegetation Survey:** A description of the vegetation of the study area, including the identification and assessment of potential Red Data species compiled by Enviflora (Flora, Fauna & HIA Specialist).
- **Mammals Fauna Study:** A description of the Mammals of the study area, including the identification and assessment of potential Red Data species compiled by Enviflora (Flora, Fauna & HIA Specialist).
- **Avifauna Study:** A description of the birds in and around the study site, including the identification and assessment of potential Red Data species compiled by Enviflora (Flora, Fauna & HIA Specialist).
- **Aquatic Delineation Study, Aquatic Rehabilitation and Monitoring Plan & SASS5 Survey:** A description of the rivers/streams and wetlands in and around the study site, compiled by Galago Environmental (Fauna & Flora Specialist).
- **Heritage Impact Assessment Report:** A description of the cultural and heritage elements in and around the study site compiled by Enviflora (Flora, Fauna & HIA Specialist).
- **Environmental Noise Impact Assessment:** Done by Enviro-acoustics Research CC.
- **Agricultural Potential Assessment:** Impact study on the Agricultural Potential done by Agrimentor CC.
- **Route Determination Report:** Consist of technical detail (including a key plan and the layout plans) compiled by SMEC (now included in Appendix 7 of this report).

3. LEGISLATIVE FRAMEWORK

3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT 108 OF 1998 AS AMENDED

NEMA was promulgated on the 27th of November 1998. The intention of NEMA is to provide for:

- Co-operative environmental governance by establishing principles for decision-making on matters affecting the environment;
- Institutions that will promote co-operative governance; and
- Procedures for coordinating environmental functions exercised by Organs of State;
- The prohibition, restriction or control of activities which are likely to have a detrimental effect on the environment.

Section 28(1) of NEMA states: “every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring”. If such degradation/pollution cannot be prevented, then appropriate measures must be taken to minimise or rectify such pollution. GAUTRANS as the custodians of the K6, along with the appointed specialists therefore have a responsibility, to ensure that the EIA process conform to the principles of NEMA and that the objective of the EIA process is to identify and assess environmental impacts and to manage these impacts. The final objective is to ensure that this proposed development remains environmentally sustainable.

Listed activities triggered in the 2014 NEMA regulations, as amended:

R. 983 (327), 7 April 2017 - Listing Notice 1: Basic assessment Activities	
Activity No	Listed Activity Description:
12	The Development of - (ii) infrastructure or structures with a physical footprint of 100 square metres or more;

	<p>where such developments occur -</p> <p>(a) within a watercourse;</p>
19	<p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</p>
<p>R. 984 (325), 7 April 2017 - Listing Notice 2: Full EIA Activities</p>	
27	<p>The development of a road -</p> <p>(iii) with a reserve wider than 30 metres; or</p> <p>(iv) catering for more than one lane of traffic in both directions;</p>
<p>R. 985 (324), 7 April 2017 - Listing Notice 3: Basic assessment Activities in Geographical areas</p>	
4	<p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p>c. Gauteng:</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Supported Areas (ESAs) in the Gauteng Conservation Plan or bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p>
10	<p>The development and related operations of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.</p>

	<p>c. Gauteng:</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Supported Areas (ESAs) in the Gauteng Conservation Plan or bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p>
<p>12</p>	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>c. Gauteng:</p> <p>ii. Within Critical Biodiversity Areas or Ecological Supported Areas in the Gauteng Conservation Plan or bioregional plans;</p>
<p>14</p>	<p>The development of-</p> <p>(ii) infrastructure or structures with a physical footprint of 10 square metres or more;</p> <p>where such development occurs -</p> <p>(a) within a watercourse;</p> <p>c. Gauteng:</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Supported Areas (ESAs) in the Gauteng Conservation Plan or bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p>

3.2 NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)

The National Water Act, No 36 of 1998 (NWA) was promulgated on 20 August 1998. The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled.

In terms of Section 19 of the Act owners/ managers/ people occupying land on which any activity or process undertaken which causes, or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

This Act is relevant to the proposed project as both the construction and operational phases may impact negatively on water resources (for example, streams, rivers, wetlands and groundwater resources).

GAUTRANS is therefore required to take all reasonable measures to prevent any pollution to water resources as a result of the proposed project. Should any pollution occur, GAUTRANS will be obliged to cease the activity that has caused the pollution and remediate any negative impacts resulting from the activity.

Notice was also given in terms Section 21 of the National Water Act, 1998 (Act 36 of 1998) with regards to the application for a Water Use License and/or Registration of the water use activities associated with the proposed development. This notice was included in the site notices, the press advertisement and the Background Information Documents. The activities listed are:

Section 21-

- (c) impeding or diverting the flow of water in a watercourse; and
- (i) altering the bed, banks, course or characteristics of a watercourse.

3.3 NATIONAL HERITAGE RESOURCES ACT, 1999(ACT NO. 25 OF 1999)

The National Heritage Resources Act 25 of 1999 (NHRA) was promulgated in 1999 and aims to protect and manage the heritage resources of South Africa. The South African Heritage Resources Agency (SAHRA) is the enforcing authority of this Act and according

to Section 38, a Heritage Impact Assessment (HIA) is required where certain activities are proposed.

The activities that apply to the proposed development include:

- Section 38 (1) (a): The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- Section 38 (1) (c): any development or other activity which will change the character of a site-
 - exceeding 5 000m² in extent; or
 - involving three or more existing erven or subdivisions thereof; or
 - involving three or more erven or subdivisions thereof which have been consolidated within the past five years; and.
- Section 38 (1) (d): The rezoning of a site exceeding 10 000m² in extent.

3.4 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004)

The National Environmental Management: Air Quality Act of 2004 was only fully implemented from 1 April 2010, replacing the Atmospheric Pollution Prevention Act No. 45 of 1965.

The Air Quality Management Act aims to:

- Shift focus to the receiving environment in order to protect and enhance the quality of air;
- Provide reasonable measures for preventing pollution and ecological degradation;
- Secure ecologically sustainable development while promoting justifiable economic and social development;
- Decentralize management by shifting responsibilities to provincial and local government;
- Provide baseline air quality characterization by identifying priority areas, pollutants and sources;
- Provide a range of emissions reduction measures through command and control measures as well as market incentives and disincentives;

- Standardize through routine monitoring, information management and reporting; and
- Promote public participation and access to information.

This act is relevant to the proposed project as the proposed development may result in higher or lower levels of air pollution (dust and vehicle emissions) in the area, through both the construction and operational phases.

3.5 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004), ABBREVIATED AS NEMBA.

The objective of the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA), within the framework of NEMA, is to provide for:

- The management and conservation of biological diversity within South Africa;
- The use of indigenous biological resources in a sustainable manner; and
- The fair and equitable sharing among stakeholders of benefits arising from bioprospecting;

The South African National Biodiversity Institute (SANBI), which was established as a result of the NEMBA, and has the key responsibility of monitoring and reporting on the country's biodiversity and conservation status in terms of threatened and protected species or ecosystems.

SANBI undertook a detailed mapping of South Africa's biodiversity and publish a list of threatened eco-systems. From that a biodiversity conservation plan was created for the Mpumalanga Province. Presently, however, it is considered good practice to conduct Faunal and Floral Impact assessment studies where development projects are to be implemented in sensitive areas. The drainage courses (for example) to be affected by the project are indeed sensitive areas. Therefore, these studies will be conducted during the EIA process that will follow this scoping phase. If any negative impacts on biodiversity should be identified, GAUTRANS will take all reasonable measures to limit the impacts.

4. PROJECT MOTIVATION & ALTERNATIVES

4.1 NEED AND DESIRABILITY

The need and desirability for the proposed development are founded in the following elements:

- Establish improved/ increased road capacity and additional availability;
- Create improved traffic safety and driving conditions for all the affected major arteries;
- Establish safe points of access onto the K6 and all the affected major arteries for the business, farming, and residential community;
- Alleviate traffic congestion on the R101/Old Warmbths Rd. and the R573/Moloto Rd.;
- The construction of the K6 forms part of the 26-year Gauteng Integrated Transport Management Plan and the metropolitan spatial development framework. As the growth of the City of Tshwane (CoT) sprawls inexorably outwards from the city centre as new urban nodes are developed, the need to plan for and protect provincial routes to provide access to the planned development arises.

The current state of the road network in the northern parts of the CoT metropolitan municipality is limited and therefore very busy with high peak flow traffic volumes, which causes dangerous situations and accidents.

4.2 PROPERTIES AFFECTED

The following list of properties will be affected by the proposed development:

- T0JR0000000029300021: Roodeplaat 293JR Por. 21
- T0JR0000000029300022: Roodeplaat 293JR Por. 22
- T0JR0000000029600131: Zeekoegat 296JR Por. 131
- T0JR0000000029600118: Zeekoegat 296JR Por. 118
- T0JR0000000029600008: Zeekoegat 296JR Por. 8
- T0JR0000000029600000: Zeekoegat 296JR Remainder

- TOJR00000000029600126: Zeekoegat 296JR Por. 126
- TOJR00000000029600142: Zeekoegat 296JR Por. 142
- TOJR00000000029600021: Zeekoegat 296JR Por. 21
- TOJR00000000029600128: Zeekoegat 296JR Por. 128
- TOJR00000000029600040: Zeekoegat 296JR Por. 40
- TOJR00000000028100020: Buffelsdrift 281JR Por. 20
- TOJR00000000028100067: Buffelsdrift 281JR Por. 67
- TOJR00000000028100089: Buffelsdrift 281JR Por. 89
- TOJR00000000028100088: Buffelsdrift 281JR Por. 88
- TOJR00000000028100075: Buffelsdrift 281JR Por. 75
- TOJR00000000028100063: Buffelsdrift 281JR Por. 63
- TOJR00000000028100066: Buffelsdrift 281JR Por. 66
- TOJR00000000028100064: Buffelsdrift 281JR Por. 64
- TOJR00000000028100004: Buffelsdrift 281JR Por. 4
- TOJR02260000000100000: Rynoue Agricultural Holdings 1
- TOJR00000000029500000: Doornpoort 295JR Remainder
- TOJR00000000029500018: Doornpoort 295JR Por. 18
- TOJR00000000029500012: Doornpoort 295JR Por. 12
- TOJR00000000029500011: Doornpoort 295JR Por. 11
- TOJR00000000029500004: Doornpoort 295JR Por. 4
- TOJR00000000027700104: Haakdoornlaagte 277JR Por. 104
- TOJR00000000027700103: Haakdoornlaagte 277JR Por. 103
- TOJR00000000027700105: Haakdoornlaagte 277JR Por. 105
- TOJR00000000027700033: Haakdoornlaagte 277JR Por. 33
- TOJR00000000027700032: Haakdoornlaagte 277JR Por. 32
- TOJR00000000027700031: Haakdoornlaagte 277JR Por. 31
- TOJR00000000027700028: Haakdoornlaagte 277JR Por. 28
- TOJR00000000027700017: Haakdoornlaagte 277JR Por. 17
- TOJR00000000027700016: Haakdoornlaagte 277JR Por. 16
- TOJR00000000027700018: Haakdoornlaagte 277JR Por. 18
- TOJR00000000027700084: Haakdoornlaagte 277JR Por. 84
- TOJR00000000027700082: Haakdoornlaagte 277JR Por. 82
- TOJR00000000027700083: Haakdoornlaagte 277JR Por. 83

- TOJR00000000027700014: Haakdoornlaagte 277JR Por. 14
- TOJR00000000027700015: Haakdoornlaagte 277JR Por. 15
- TOJR00000000027700013: Haakdoornlaagte 277JR Por. 13
- TOJR00000000027300067: Waterval 273JR Por. 67
- TOJR00000000027300068: Waterval 273JR Por. 68
- TOJR00000000027300069: Waterval 273JR Por. 69
- TOJR00000000027300070: Waterval 273JR Por. 70
- TOJR00000000027300071: Waterval 273JR Por. 71
- TOJR00000000027300072: Waterval 273JR Por. 72
- TOJR00000000027300073: Waterval 273JR Por. 73
- TOJR00000000027300113: Waterval 273JR Por. 113
- TOJR00000000027300067: Waterval 273JR Remainder
- TOJR00000000026900003: Honingnestkrans 269JR Por. 3
- TOJR00000000026900043: Honingnestkrans 269JR Por. 43
- TOJR00000000026900055: Honingnestkrans 269JR Por. 55
- TOJR00000000026900045: Honingnestkrans 269JR Por. 45
- TOJR00000000026900054: Honingnestkrans 269JR Por. 54
- TOJR00000000026900062: Honingnestkrans 269JR Por. 62
- TOJR00000000026900204: Honingnestkrans 269JR Por. 204
- TOJR00000000026900206: Honingnestkrans 269JR Por. 206
- TOJR00000000026900111: Honingnestkrans 269JR Por. 111
- TOJR00000000026900000: Honingnestkrans 269JR Remainder
- TOJR00000000026900016: Honingnestkrans 269JR Por. 16
- TOJR00000000026900017: Honingnestkrans 269JR Por. 17
- TOJR00000000026900018: Honingnestkrans 269JR Por. 18
- TOJR00000000026900044: Honingnestkrans 269JR Por. 44
- TOJR00000000026900058: Honingnestkrans 269JR Por. 58
- TOJR00000000026900040: Honingnestkrans 269JR Por. 40
- TOJR00000000026900005: Honingnestkrans 269JR Por. 5
- TOJR00000000026900014: Honingnestkrans 269JR Por. 14
- TOJR00000000026900053: Honingnestkrans 269JR Por. 53
- TOJR00000000026900010: Honingnestkrans 269JR Por. 10
- TOJR00000000026900086: Honingnestkrans 269JR Por. 86

- TOJR00000000026900085: Honingnestkrans 269JR Por. 85
- TOJR00000000026900084: Honingnestkrans 269JR Por. 84
- TOJR00000000026900009: Honingnestkrans 269JR Por. 09
- TOJR00000000026900006: Honingnestkrans 269JR Por. 06
- TOJR00000000026900090: Honingnestkrans 269JR Por. 90
- TOJR00000000026900025: Honingnestkrans 269JR Por. 25
- TOJR00000000026900091: Honingnestkrans 269JR Por. 91
- TOJR00000000026900006: Honingnestkrans 269JR Por. 6
- TOJR00000000026900056: Honingnestkrans 269JR Por. 56
- TOJR00000000026900105: Honingnestkrans 269JR Por. 105
- TOJR00000000030000167: Onderstepoort 300JR Por. 167
- TOJR00000000030000048: Onderstepoort 300JR Por. 48
- TOJR00000000030000047: Onderstepoort 300JR Por. 47
- TOJR00000000030000092: Onderstepoort 300JR Por. 92
- TOJR00000000030000200: Onderstepoort 300JR Por. 200
- TOJR00000000030000186: Onderstepoort 300JR Por. 186

4.3 PROJECT DESCRIPTION

4.3.1 Locality and Study Area

The future planned Road K6 is between the future planned Road K207 (Currently known as Honingnestkrans Road, or D1931) north of the Bon Accord Dam to the existing Road K139 (Also known as the Moloto Road, or the R573) north of the Roodeplaat Dam Nature Reserve. The proposed alignment is to the north of the Pyramid Railway Yard between the K97 and the N1 freeway. The attached locality map (Appendix 3A) indicates its locality (also refer to the detailed map in Appendix 4A).

A broad study area was created around the new proposed K6 (from here-on known as the 'development'). Although details of a proposed development will be accumulated and made available as the EIA process develops.

Road K6 has been incorporated into the City of Tshwane's road network and spatial development planning. Road K6 has also been identified as forming part of the planned 2037 road network in the Gauteng Integrated Transport Management Plan (GITMP).

The future land use surrounding K6 is varied in the City of Tshwane's Regional Spatial Development Framework (RSDF) for region 2. Between Roads K207 and K97, the land between the Bon Accord Dam and the urban edge is marked for industrial development. To the north of the urban edge, the land is to remain agricultural/ undeveloped. Between Road K97 and the N1 freeway, the land to the west and north of the Pyramid South railway yard is marked for industrial development and the land to the south of the yard is marked for mixed use development.

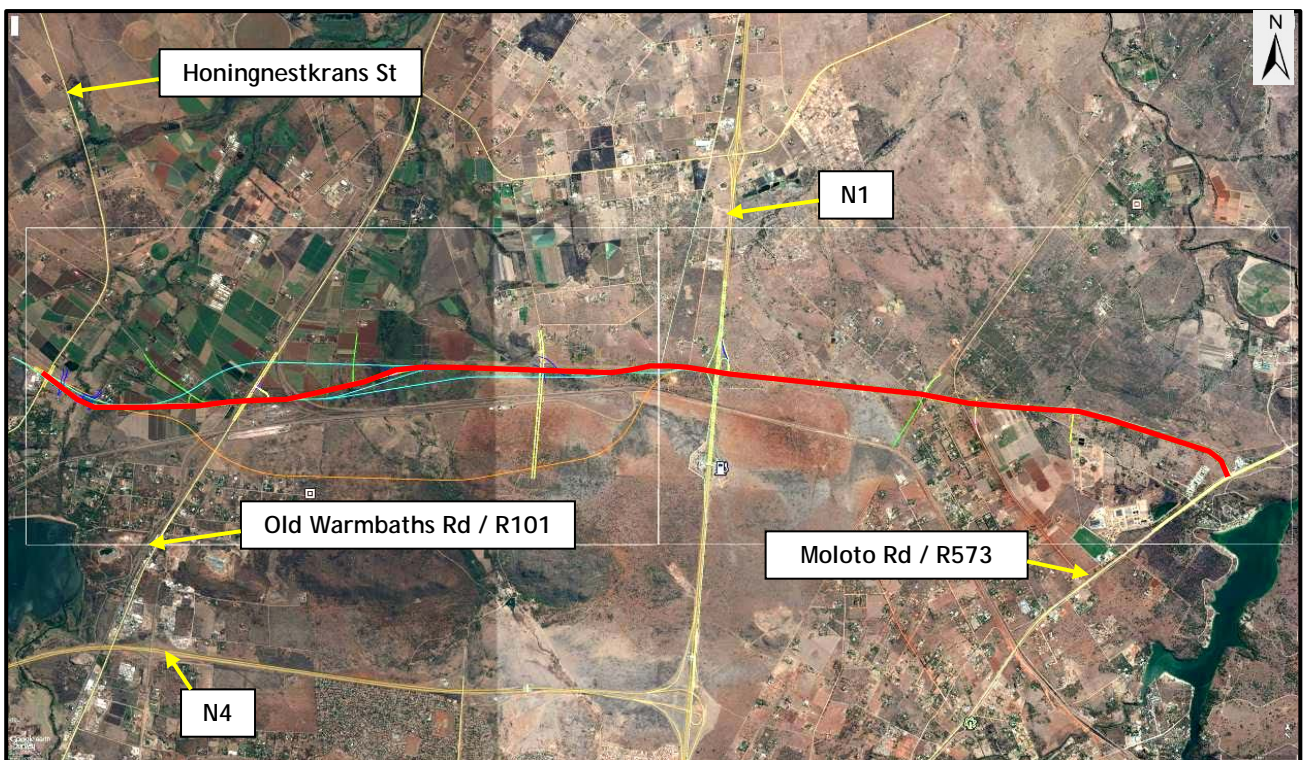


Figure 1: Overview of the linear study area (red line: preferred alternative).

4.3.2 Preferred Alternative Route (Proposed development)

The preferred alternative for the K6 (Fig. 2) is discussed by SMEC (see Appendix 7 for more detail):

The original alignment of Road K6 began in Rosslyn at the intersection with Road K8, also known as Road D980. K6 followed a similar alignment to the alternatives proposed in this report and terminated at the intersection of Road K139, and known as the R573 or Road D1386 and the Moloto Road. The alignment took little regard for existing land use and instead focused on links to key infrastructure and development nodes, specifically industrial development interests. This original alignment was partly based on the original planning for the Pyramid South railway yard, which has changed since then.

Road K6 has been incorporated into the City of Tshwane's road network and spatial development planning. Road K6 has also been identified as forming part of the planned 2037 road network in the Gauteng Integrated Transport Management Plan (GITMP).

The future land use surrounding K6 is varied in the City of Tshwane's Regional Spatial Development Framework (RSDF) for region 2. Between Roads K207 and K97, the land between the Bon Accord Dam and the urban edge is marked for industrial development. To the north of the urban edge, the land is to remain agricultural/ undeveloped. Between Road K97 and the N1 freeway, the land to the west and north of the Pyramid South railway yard is marked for industrial development and the land to the south of the yard is marked for mixed use development.

Road K6 is an east-west secondary provincial road in the Gauteng Strategic Major Road Network. It serves as an integral link between the PWV9 (Mabopane) freeway and the N1 freeway, whilst providing connectivity between the various north-south links in the network.

K6 serves to compliment PWV2 (the N4) freeway in its function of accommodating passengers and goods in the network, whilst providing greater accessibility of the surrounding areas to the provincial road network through proposed accesses and interchanges.

The greater extent of Road K6 begins at the Gauteng Provincial border in Ga-Rankuwa and ends at the intersection of K6 with Road K139 at the Roodeplaat Dam Nature Reserve.

Furthermore, as of the 2012 City of Tshwane Spatial Development Framework (SDF), Road K6 serves to define the urban edge of the City.

Road K6 will enable accessibility of the intensive agricultural areas to the north of Pretoria, and also encourage development of the proposed future freight hub surrounding the existing Pyramid South railway yard.

The preferred alternative (also known as Alternative A in the Route Determination Report) is closest in horizontal alignment to the original route determination report. This alternative starts at the K207/K6 intersection point, where the intersection angle has been slightly modified in order to minimise the impact on the Apies River as well as avoid relocation of electrical pylons near the river.

After a sharp curve to the left around an existing local dam, the alignment follows the southern side of the planned urban edge as closely as possible in order to mitigate the effect on agricultural land owners and future agricultural prospects to the north of K6. Effectively K6 is entirely aligned within erven allocated for industrial land use.

Two large radii curves bring K6 over the existing K97 as well as above the existing north-south freight railway line.

Continuing further east, K6 curves to the left to cross over two existing railway lines into the undeveloped land to the north of the Pyramid South railway yard.

The alignment of K6 reaches the southern side of the existing east-west electrical servitudes to the north of the railway yard as early as possible in order to mitigate the effect of K6 on the wetland surrounding the Montana Spruit.

K6 crosses the electrical servitude 800m before the western N1 interchange terminal in order to allow for a future access point towards the north.

A link between K6 and K97 would be possible but would require a single ramp interchange

The preferred alternative route of Road K6 intersects with the following roads:

- K207 - Honingnestkrans Road/ Road D1931;
- D434 - Sphinx Road via a new proposed connection to K6;
- K97 - Old Warmaths Road/ R101 via a proposed quarter-link connection;
- Puma Road - Provision is being made for a future southward extension of Puma Road to intersect with Road K6;
- K99 - A planned future provincial road, connecting to the N4 at the Dr Swanepoel Road interchange;
- N1 Section 22 - via an interchange that is already planned and approved at basic planning stage;
- D2518 - A planned future deviation of Poppyweg Road, connecting to the Wallmansthal area;
- The existing Poppyweg Road - realigned according to existing planning; and
- Provision is being made for five possible future intersections between Rynoue AH and Wallmansthal.

The approved existing preliminary design of the K6/ N1 interchange and eastward extension is under review as part of this project.

The following structures are envisioned for the proposed alignment of K6:

- Bridge spanning across the Apies River - 3 x 20m spans.
- Two irrigation culverts to the north of the Bon Accord dam in order to maintain the existing irrigation scheme to the north of K6.
- Bridge spanning across K97 and the railway line running parallel to it - 3 x 30m spans.
- Two bridges across the two railway lines north of the Pyramid South railway yard.
- Five sets of large box culverts to facilitate drainage between the 1:100 year flood lines of the Montana Spruit - 3m in height.
- Two sets of box culverts at the K99/K6 intersection - 3 x 1400 x 1800 boxes each.
- A bridge across the N1 freeway. Total length 85m, with four spans.

- At plot 82 on the farm Haakdoornlaagte 277-JR, one box culvert - 900 x 450
- On the remainder of the farm between plots 82 and 32 of the farm Haakdoornlaagte 277-JR, three box culverts are centred at 200m apart. 900 x 450, 1200 x 450 , and 1800 x 450 BC.
- On plot 33 of the farm Haakdoornlaagte 277-JR, a bridge culvert channelizes the flow into the dam located on plot 32 - 10 x 3000 x 1500 BC.
- On plot 33 of the farm Haakdoornlaagte 277-JR three box culverts are centred at 200m apart. 900 x 450, 2 x 1200 x 450 , and 2 x 900 x 450 BC.
- No further major or minor structures are planned for the remainder of the route.

The following known services will be affected:

- Two 55m-wide overhead high voltage electrical transmission line servitudes between K207 and the Apies River bridge will be crossed. Overhead clearance is to be maintained.
- Existing Bon Accord irrigation scheme canals, which will have to be protected during construction and reinstated in such a way as to prevent pollution or sediment entering the canals.
- An existing Vodacom communications tower, which may have its signal obstructed by K6 due to the high fill on the approach to the road-over-rail bridge at K97.
- Several local telephone and medium voltage overhead lines serving the properties adjacent to Road D434, which will have to be relocated.
- An irrigation canal passing beneath the Pyramid South railway yard, which will have to be protected during construction and reinstated in such a way as to prevent pollution or sediment entering the canal.
- An existing 5m-wide sewer line servitude running more-or-less parallel to the above canal.
- A 55m-wide overhead high voltage electrical transmission line servitude that will be crossed twice to the north of the Pyramid South railway yard. K6 will run parallel to the servitude for a distance of approximately 2.8km.
- A 55m-wide overhead high voltage electrical transmission line servitude that will be crossed at the K99/K6 intersection.

- After crossing over the N1, K6 is bounded by a 40m electrical transmission line servitude (40m) to the north until the K139/K6 intersection.
- A 55m-wide overhead high voltage electrical transmission line servitude bounds K6's southern road reserve between from the N1 interchange for 2km heading the east.
- At the proposed Road D2518/K6 intersection, a rand water pipeline running north-south is crossed by K6 and D2518.
- At the proposed Road D2518/K6 intersection, a 22m overhead electrical power line servitude is crossed and will require the relocation of one electrical pylon.
- At the proposed Road D2518/K6 intersection, a local overhead electrical power line will need to be relocated to run along the new road reserve.
- At the proposed Road D2518/K6 intersection, a 1m-wide water pipeline servitude is crossed.
- On remainder 9 of the farm Zeekoegat 269-JR, a 15m-wide overhead electrical servitude is crossed.
- The same 15m electrical servitude as the above is crossed again on plot 142 of the farm Zeekoegat 269-JR, except the width of the servitude is reduced to 7m.
- 260m to the north of the K139/K6 intersection, a water pipeline servitude is crossed. This pipeline connects the Roodeplaat Dam to the Roodeplaat Water Purification Works.

The following intersections are foreseen and where taken into account in the route determination process:

- K207 - at-grade intersection.
- D434 - at-grade intersection, replaced the closed D434/K97 level crossing intersection.
- Puma Road - Provision is being made for a future southward extension of Puma Road to intersect with Road K6. At-grade intersection.
- K99 - at-grade intersection.
- Allowance is made for three minor intersections between the N1 interchange and Road D2518.

- D2518 - at-grade intersection for the planned realignment of Road D2581 documented in basic planning report 1533.
- D2106 - at-grade intersection for the planned realignment of Road D2106 documented in basic planning report 1533.
- Allowance is made for two minor intersections between the Roads D2016 and K139 to provide access to the surrounding areas.

The following interchanges are foreseen:

- K97 - quarter-link interchange (also known as a jug handle/ single ramp interchange)
- N1 - Diamond interchange with three ramps and a loop, designed by Van Niekerk Klein, and Edwards.

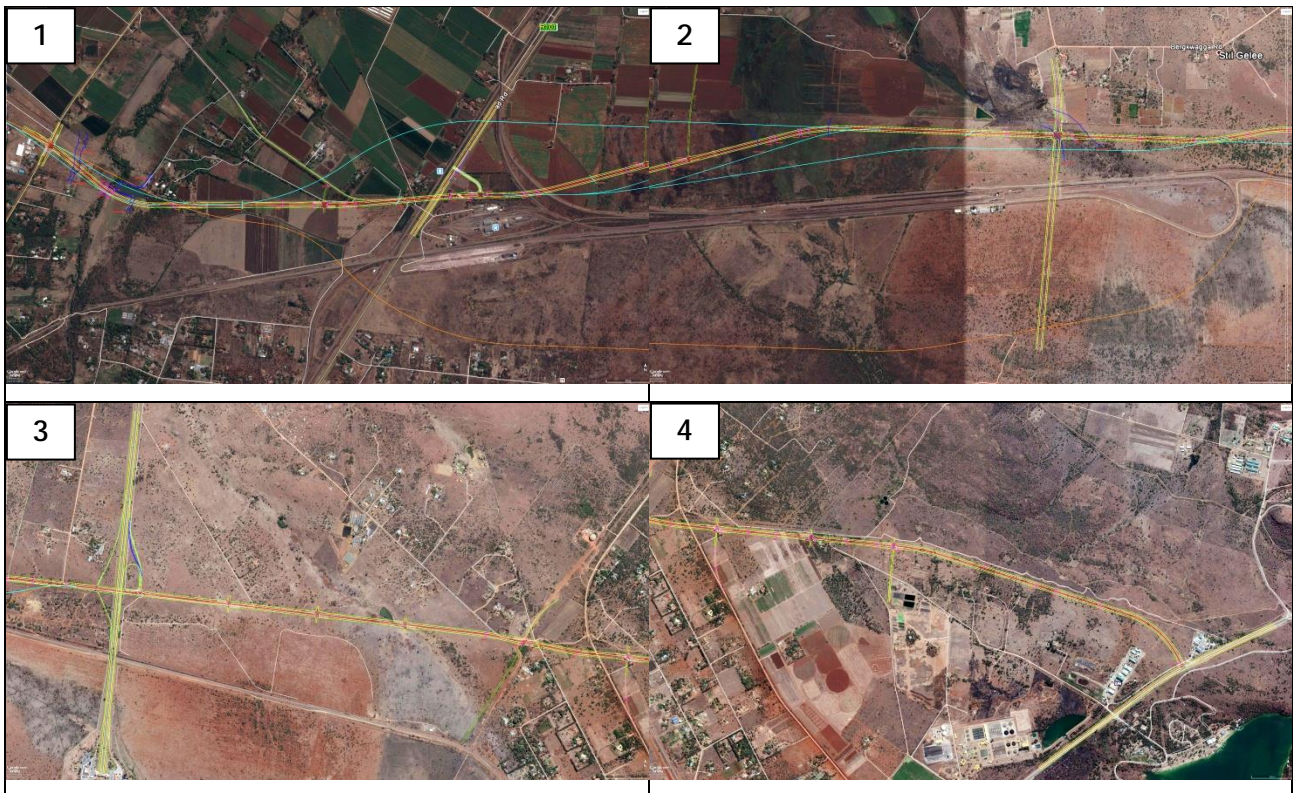


Figure 2: Preferred alternative of route K6 from west (Honingnestkrans Rd.) to East (Moloto Rd.).

Table 1 below provides a route description based on land use and general environmental characteristics through which the project traverses.

Table 1: Affected Areas of the proposed development (Please refer to the layout plan attached).

Route section (s) in kilometres	Adjacent properties	Access	General comments	Key Environmental Issues
Km 7.4 (starting just before the T-junction on Strandloper St.) to Km 9.4 towards the east	<ul style="list-style-type: none"> • Agricultural land portions. • Hospitality entities. 	<ul style="list-style-type: none"> • Farm accesses will be from the Honingnestkrans Rd. or from sphinx Rd. 	<ul style="list-style-type: none"> • The construction will be on disturbed mining property and agricultural land. • A road reserve for service roads will be created. • A bridge over the Apies River will be constructed. • Culverts over irrigation canals will be constructed as well as water pipes at affected sections. 	<ul style="list-style-type: none"> • Vegetation removal. • Possible habitat loss. • Air pollution due to exhaust fumes or dust (construction phase). • Noise pollution is evident. • Priority river crossed causing disruption and damage to riparian habitat. • Probable water pollution from runoff into river /wetland/ drainage line.
Km 9.4 (just before the T-junction on Sphinx Rd. on a gravel farm access road) to Km 11.4 towards the east	<ul style="list-style-type: none"> • Agricultural land portions. • Small holding land portions. • Provincial Road. • Institutional property. • Industrial and government infrastructure land portions. 	<ul style="list-style-type: none"> • New access from the K6 to Sphinx Rd. • Quarter link from R101 to K6. 	<ul style="list-style-type: none"> • The construction will be on disturbed agricultural land. • A road reserve for service roads will be created. • A bridge over the R101 and affected railway lines will be constructed. • Culverts over irrigation canals will be constructed as well as water pipes at affected sections. 	<ul style="list-style-type: none"> • Vegetation removal. • Possible habitat loss. • Air pollution due to exhaust fumes or dust (construction phase). • Noise pollution is evident. • Wetland crossed causing disruption and damage to associated habitat. • Probable water pollution from runoff

				into river /wetland/ drainage line.
Km 11.4 (starting at the western section of the large wetland) to Km 13.4 towards the east	<ul style="list-style-type: none"> • Agricultural land portions. • Industrial and government infrastructure land portion. 	<ul style="list-style-type: none"> • Future access from K6 to land portion to the north (Pyramid AH). 	<ul style="list-style-type: none"> • The construction will be on disturbed natural veld and wetland. • A road reserve for service roads will be created. • A large culvert section over the priority wetland will be constructed. • Culverts over irrigation canals will be constructed as well as water pipes at affected sections. 	<ul style="list-style-type: none"> • Vegetation removal. • Possible habitat loss. • Air pollution due to exhaust fumes or dust (construction phase). • Noise pollution is evident. • Wetland crossed causing disruption and damage to associated habitat. • Probable water pollution from runoff into river /wetland/ drainage line.
Km 13.4 to Km 15.4 towards the east	<ul style="list-style-type: none"> • Agricultural land portions. • Industrial and government infrastructure land portion. 	<ul style="list-style-type: none"> • Future access from K6 to the K99 (Dr Swanepoel). 	<ul style="list-style-type: none"> • The construction will be on disturbed natural veld and wetland. • A road reserve for service roads will be created. • A large culvert section over a stream with associated wetland will be constructed. • Culverts over irrigation canals will be constructed as well as water pipes at affected sections. 	<ul style="list-style-type: none"> • Vegetation removal. • Possible habitat loss. • Air pollution due to exhaust fumes or dust (construction phase). • Noise pollution is evident. • Wetland & stream crossed causing disruption and damage to associated habitat (riparian). • Probable water pollution from runoff into river /wetland/ drainage line.
Km 15.4 to	<ul style="list-style-type: none"> • Agricultural 	<ul style="list-style-type: none"> • An 	<ul style="list-style-type: none"> • The construction 	<ul style="list-style-type: none"> • Vegetation

<p>Km 17.4 towards the east</p>	<p>land portions.</p> <ul style="list-style-type: none"> Industrial and government infrastructure land portion. The road bends towards the north and then back east following a powerline servitude. National road portion. 	<p>interchange over the N1 will provide access for the K6.</p> <ul style="list-style-type: none"> Access to a closed rural farm road from the K6 will be provided. 	<p>will be on disturbed natural veld.</p> <ul style="list-style-type: none"> A road reserve for service roads will be created. Water pipes will be constructed at affected sections. Box culverts will be provided at a drainage line. 	<p>removal.</p> <ul style="list-style-type: none"> Possible habitat loss. Air pollution due to exhaust fumes or dust (construction phase). Noise pollution is evident. Drainage line crossed causing disruption and damage to associated habitat. Probable water pollution from runoff into drainage line. Possible soil erosion.
<p>Km 17.4 to Km 19.4 towards the east</p>	<ul style="list-style-type: none"> Agricultural land portions. Industrial and government infrastructure land portion. The road following a powerline servitude. 	<ul style="list-style-type: none"> Access to a closed rural farm road from the K6 will be provided. 	<ul style="list-style-type: none"> The construction will be on disturbed natural veld. A road reserve for service roads will be created. Water pipes will be constructed at affected sections. Box culverts will be provided at a stream/drainage line. 	<ul style="list-style-type: none"> Vegetation removal. Possible habitat loss. Air pollution due to exhaust fumes or dust (construction phase). Noise pollution is evident. Stream/drainage line crossed causing disruption and damage to associated habitat. Probable water pollution from runoff into drainage line. Possible soil erosion.
<p>Km 19.4 (just before the Buffelsdrift</p>	<ul style="list-style-type: none"> Agricultural and small holding land portions. 	<ul style="list-style-type: none"> Buffelsdrift gravel road will be closed here as 	<ul style="list-style-type: none"> The construction will be on disturbed natural veld, as well 	<ul style="list-style-type: none"> Vegetation removal. Possible habitat

<p>access road) to Km 21.4 towards the east</p>	<ul style="list-style-type: none"> The road following a powerline servitude. 	<p>well as the road coming out of Rynoue.</p> <ul style="list-style-type: none"> Access to a closed road from the K6 will be provided at km 20.1. Two future accesses are also planned along this section to the neighbouring land portions. 	<p>as agricultural land.</p> <ul style="list-style-type: none"> A road reserve for service roads will be created. Water pipes will be constructed at affected sections. 	<p>loss.</p> <ul style="list-style-type: none"> Air pollution due to exhaust fumes or dust (construction phase). Noise pollution is evident. Possible soil erosion.
<p>Km 21.4 to Km 23.698 towards the east</p>	<ul style="list-style-type: none"> Agricultural, Government and institutional land portions. The road following a powerline servitude. 	<ul style="list-style-type: none"> No accesses along this section. No current accesses affected. Access from the R573 (T-junction intersection). 	<ul style="list-style-type: none"> The construction will be on disturbed natural veld, as well as agricultural land. A road reserve for service roads will be created. Water pipes will be constructed at affected sections. 	<ul style="list-style-type: none"> Vegetation removal. Possible habitat loss. Air pollution due to exhaust fumes or dust (construction phase). Noise pollution is evident. Possible soil erosion.

4.3.3 Assessment and Considering of Alternatives

Consideration of alternatives is one of the most critical elements of the environmental assessment process. It has its purpose to provide a framework for sound decision-making based on the principles of sustainable development. The search for alternatives should be well documented and should take into account the views of stakeholders. According to the Criteria for determining alternatives as part of the Integrated Environmental Management Information Series, the key criteria for determining alternatives should be practical, feasible, relevant, reasonable and viable.

Right from the onset of the EIA process close examination was given to different alternative interchanges around the western part of the route. This was done in conjunction with the design engineer as one has to acknowledge that not only environmental issues need to be taken into account but also to a large extent what will “work” from a civil engineering and road design point of view. All the alternative options have various flaws in terms of economic, social and environmental impacts.

In terms of the Public Participation Process, two main alternative routes around the western part of the route were suggested to the public to take into consideration. These alternatives were assessed in terms of an environmental point of view as well as in a socio-economic point of view, as described below.

4.3.3.1 Alternative Route B (Refer to Figure 3)

Alternative B is close to the approved draft alignment of 2002 that was made after the cancellation of Alternative A1 in Addendum B of the original route determination report (see Appendix 7 for detail). This draft alignment takes no cognizance of existing land use, cadastral boundaries, or existing infrastructure. Alternative B is an improvement of this alignment.

Starting off at the K207/K6 intersection in a similar manner to Preferred Alternative A, this alternative curves towards the left, crossing diagonally across many agricultural smallholdings before crossing over K97 and the three existing railway lines as they converge to the north. The bridge span at this crossing would justify an incremental launch method - a very costly option due to the height and length of the bridge spans. This alternative follows along the southern side of the existing high voltage electrical transmission line servitudes to the north of the Pyramid South railway yard and thus impacts the land between Road K97 and the N1 the least. A link between K97 and K6 would not be possible.

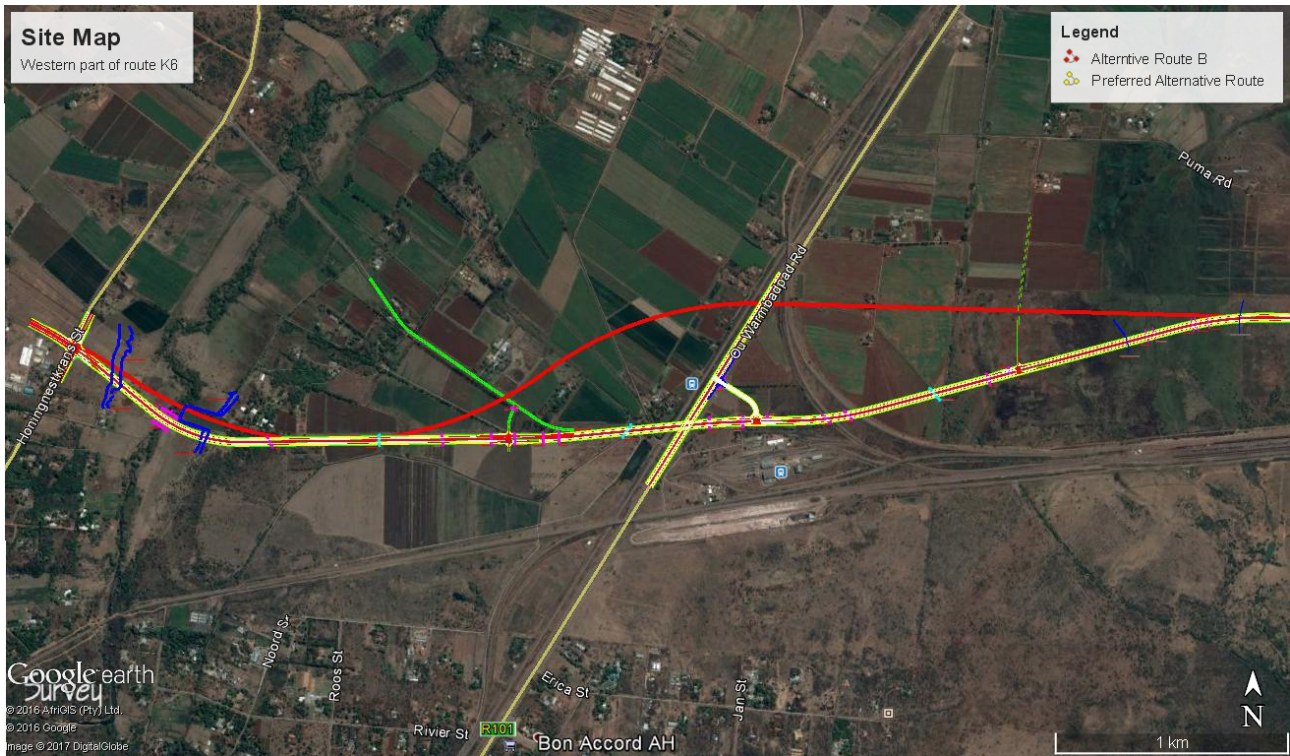


Figure 3: Alternative Route B (red line).

<p>Positives</p>	<ul style="list-style-type: none"> • No real positives. • This alternative follows along the southern side of the existing high voltage electrical transmission line servitudes to the north of the Pyramid South railway yard and thus impacts the land/environment between Road K97 and the N1 the least.
<p>Negatives</p>	<ul style="list-style-type: none"> • It will divide agricultural land into smaller section. • It will cross three railway lines at once. The bridge span at this crossing would justify an incremental launch method - a very costly option due to the height and length of the bridge spans. • A link between K97 and K6 would not be possible. • Economically, it will cost far more to implement this option.

4.3.3.2 Alternative Route C (Refer to Figure 4)

According to SMEC, Alternative C is an investigation of Alignment A1 that was approved in addendum C of the original route determination report (see Appendix 7 for detail).

This alternative would require crossing over a railway line in a high fill, followed by passing under three high voltage electrical transmission lines, then again over the existing north-south railway line and Road K97 before returning to the natural ground level, all in a distance of 360m. Obtaining safe stopping-sight distances and minimum vertical curves lengths would be impossible. A link between K6 and K97 would be possible but would require a single ramp interchange.

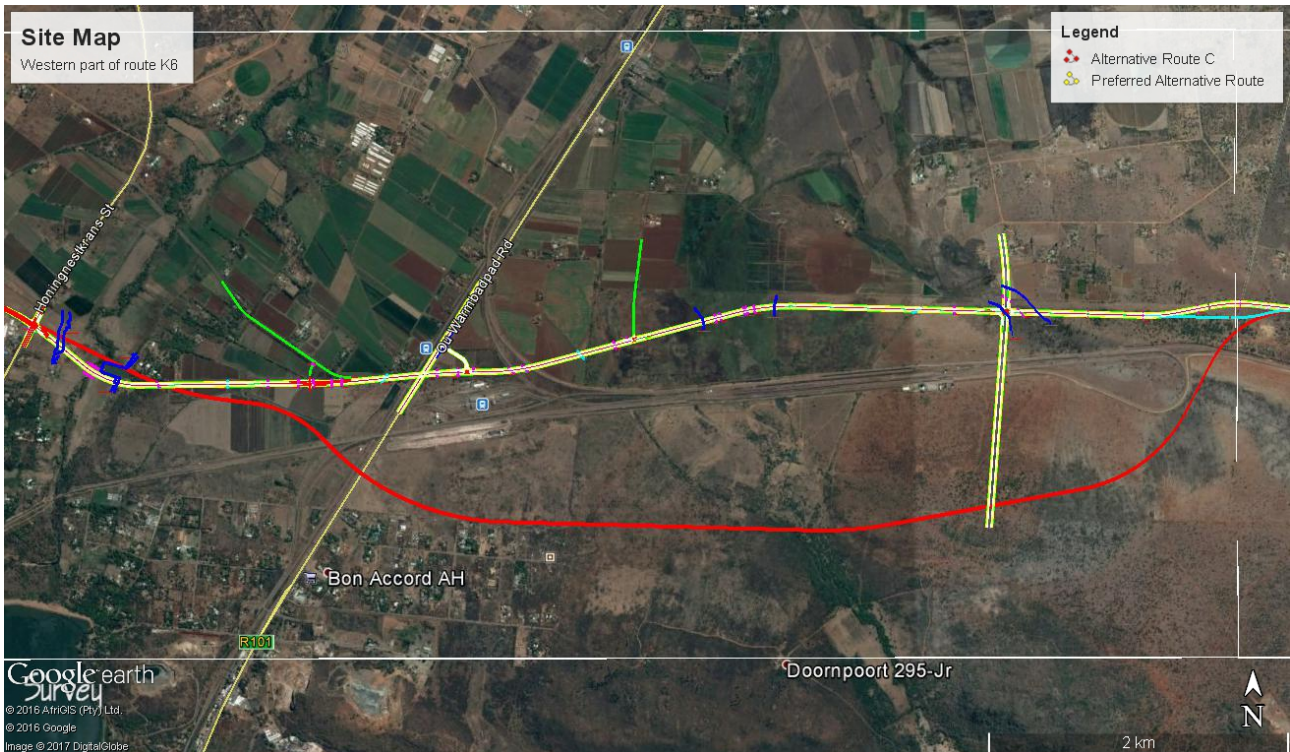


Figure 4: Alternative Route C (red line).

Positives	<ul style="list-style-type: none"> • Do affect less farm structures and active agricultural practices.
Negatives	<ul style="list-style-type: none"> • It will divide agricultural land into smaller section. • Obtaining safe stopping-sight distances and minimum vertical curves lengths would be impossible. • Possibility of graves, on this route, will have to be moved. • It's a much longer route and will impact on more natural vegetation. • Economically, it will cost far more to implement this option.

4.3.3.3 Alternative Route D (Refer to Figure 5)

Similarly to Alternative C, K6 would have to cross over a railway line and then immediately under two sets of transmission lines, which would make the vertical alignment impractical. Though possible to fit a horizontal alignment in, it's certainly not a good design compared to the preferred alternative.

According to SMEC this alternative, or any iteration thereof, would require extensive amendment to existing preliminary designs. Many more smallholding owners would be directly affected by K6. The environmental impact downstream of the Bon Accord Dam was also deemed to have been much worse than any of the other alternatives.

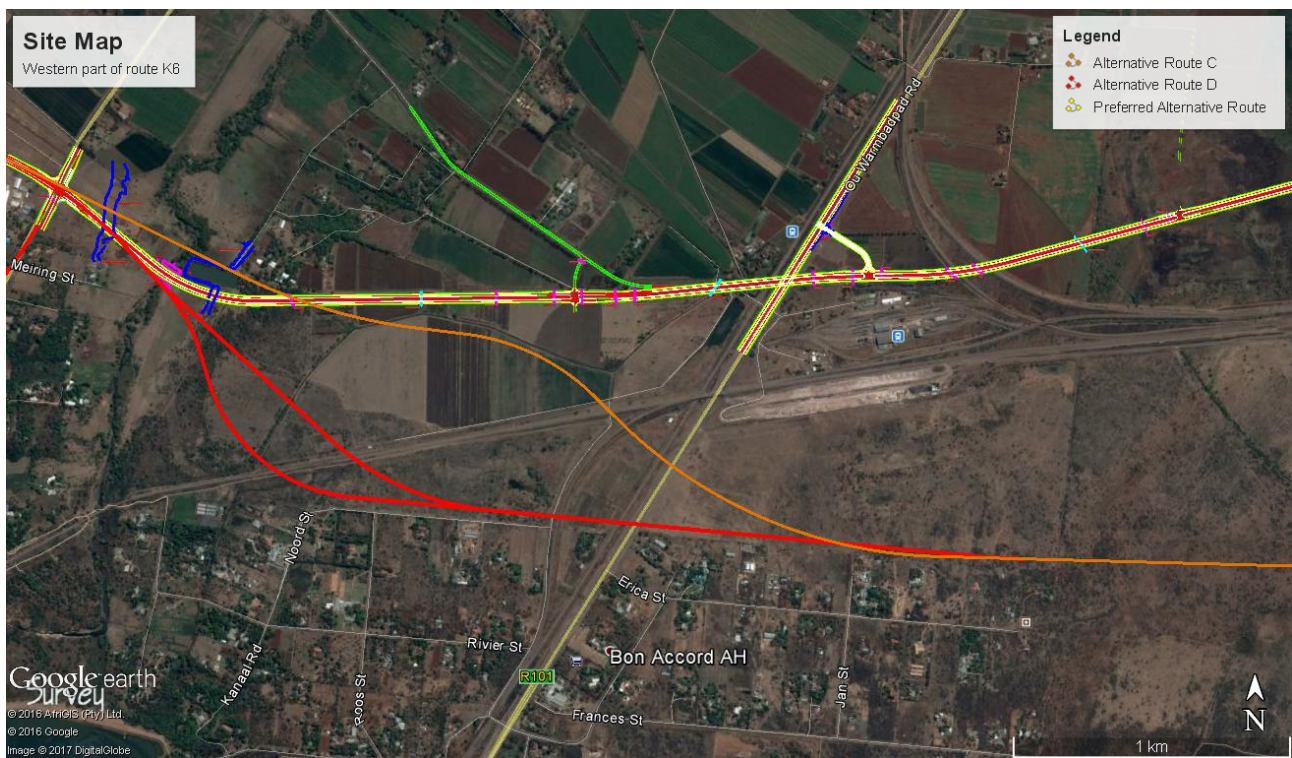


Figure 5: Alternative Route D (red line).

Positives	<ul style="list-style-type: none"> Do affect less farm structures and active agricultural practices.
Negatives	<ul style="list-style-type: none"> Obtaining safe stopping-sight distances and minimum vertical curves lengths would be impossible. It's a much longer route and will impact on more natural vegetation.

	<ul style="list-style-type: none"> • More small holding properties will be affected by noise pollution. • Economically, it will cost far more to implement this option.
--	---

4.3.3.5 No Go Option

A “DO NOTHING” alternative would be not to build this proposed development and keep all the current routes and accesses as it is. This means that no solution will be put forward for the large amount of traffic volumes currently experienced on the Moloto road as well as on the Old Warmbaths road. Also no additional increase or upgrade of infrastructure will be possible in the northern sections of the Tshwane Metropolitan Municipality.

The high volumes of traffic are creating dangerous/fatal conditions along all these sections of road, as discussed above. The overtaking of vehicles, as well as access onto or from these roads, remains currently problematic and of considerable risk.

5. BASELINE ENVIRONMENTAL DESCRIPTION

In order to determine the environmental impacts and to identify possible issues associated with the proposed development, it is necessary to provide baseline environmental information. Resulting from the site investigations and desk studies, as well as discussions with Interested and Affected Parties, the following section provides a description of the environmental conditions and important elements within the study area. Strong emphasis was placed on the ecological assessment of floristic and faunal elements and wetlands, within the linear area of proposed development. This is done so that sensitive elements that might adversely be affected by the proposed road development could be highlighted. A general assessment, at this stage, of ecological elements does not require detailed floristic and faunal sampling for the draft environmental Scoping Report. All the detailed specialist studies will be included in the draft EIA report.

5.1 LAND USE AND SOCIO-ECONOMICS

The study area is characterized by various land use entities. The road falls within the CoT Metropolitan Municipality and its alignment involves three municipal ward areas. The wards involved include Ward 49, 87 and 96, covering Roodeplaat (at the Moloto Rd.) west towards Bon Accord, crossing the N1 and the farming areas in-between.

The agricultural land use is characterised by livestock and the production of various crops along with business (guesthouses), commercial (shops and hardware), and industrial entities such as asphalt- and manufacturing plants. Institutional entities close by like TUT experimental farm and small rural schools also occur here.

Land use will be impacted by the proposed development, especially with regards to the additional agricultural land that will be covered by the proposed development. Current movement of farm vehicles on and off the existing roads infrastructure will be altered due to the establishment of safer access service routes. This was identified in the comments received by I&APs.

Except for the facilities affected, various other people and their homes will be affected due to noise pollution. The road will also impact on property values (positive or negative) in and around the proposed development as the idea of the road stresses the uncertainty of what to expect. This was evident from the public open day event with concerns raised by the public.

Other socio-economic implications are: the acquisition of land, and the removing/decommissioning of farm structures, for the proposed development. These people were consulted as part of the Public Participation Process and will also be addressed within the EIA phase of this process.

5.2 CLIMATE

5.2.1 Regional climate

The site is situated in a "Middleveld" region, which is climatically located between the cooler Highveld region of Gauteng on higher altitudes and the more moderate to warmer region towards the sub-tropical climate north of the Magaliesberg on lower altitudes.

The central parts of Pretoria fall within this Middleveld climate region (Mucina and Rutherford, 2006).

5.2.2 Precipitation

The site falls within the summer rainfall area with dry winters. Mean Annual Precipitation (MAP) is from 600-700mm, gradually decreasing towards the northwest of the region while increasing gradually towards the southeast (Mucina and Rutherford, 2006).

From October to March the precipitation is at its highest, contributing to 83% of the MAP. See Figure 6 for the long-term MAP occurring in this area using the Agricultural Geo-Referenced Information System (AGIS).

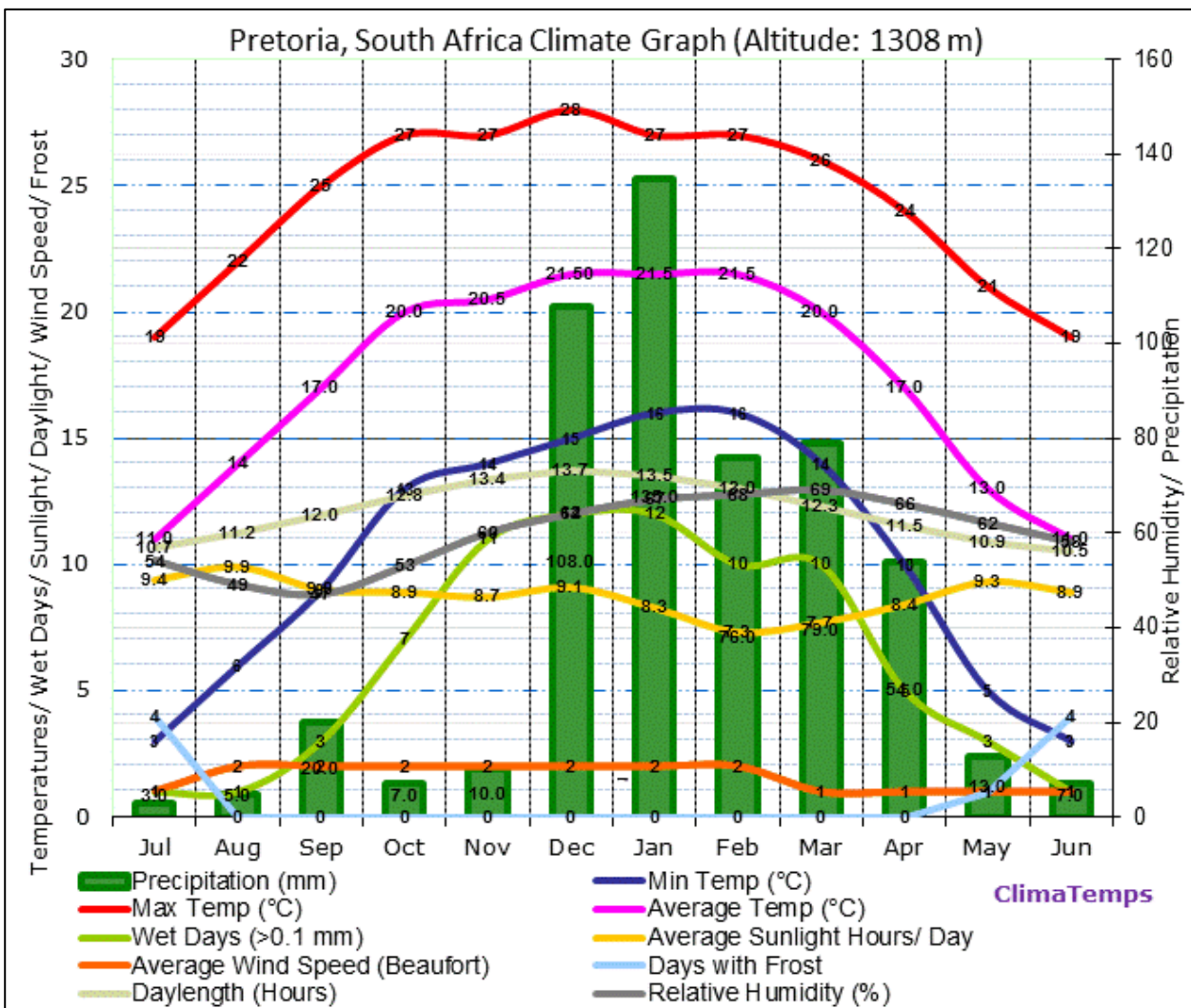


Figure 6: Average rainfall and temperature graph for the region weather station obtained by using the ClimaTemps.com (ClimaTemps, 2017).

5.2.3 Temperature

The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for Pretoria range from 18.3°C in June to 27.5°C in January. The region is the coldest during July when the mercury drops to 1.7°C on average during the night.

5.2.4 Frost

Frost occurs 21 days per year, varying greatly between 3 and 40 days, starting around the 1st to 10 May.

5.2.5 Mean Monthly Wind Direction and Speed

There are considerable special and periodic variations in ground surface winds in the Pretoria region. This is induced by topographical conditions influencing the flow conditions of air that is unique for several regions in Pretoria. Apart from this Pretoria is characterized by very low wind velocities.

The prevailing wind in the study area at the proposed site is south-west to west-south-west. Regionally Pretoria receives wind that is predominantly north-east. The topography of the area causes low-level airflow along the valleys between the different ridges on Pretoria. This will be the case over the site as it is situated between the ridges of the Magaliesberg and the Bon Accord area. No data is available on the average wind speed at the study area. It is in accordance with the data for Pretoria as a whole, expected to be very low.

The available wind data for Pretoria as obtained from the National Weather Bureau indicate that the average wind direction and speed are as follow:

The prevailing wind, on a regional basis, is predominantly north-northeast, north-northwest and north. The highest occurrence of wind is during October (28% calms)

while the lowest wind occurrence is during July (55% calms). Wind in the Pretoria region is relatively poor with average 7km per hour compared to stronger winds of an average of 12km per hour that occur on the Witwaters Rand.

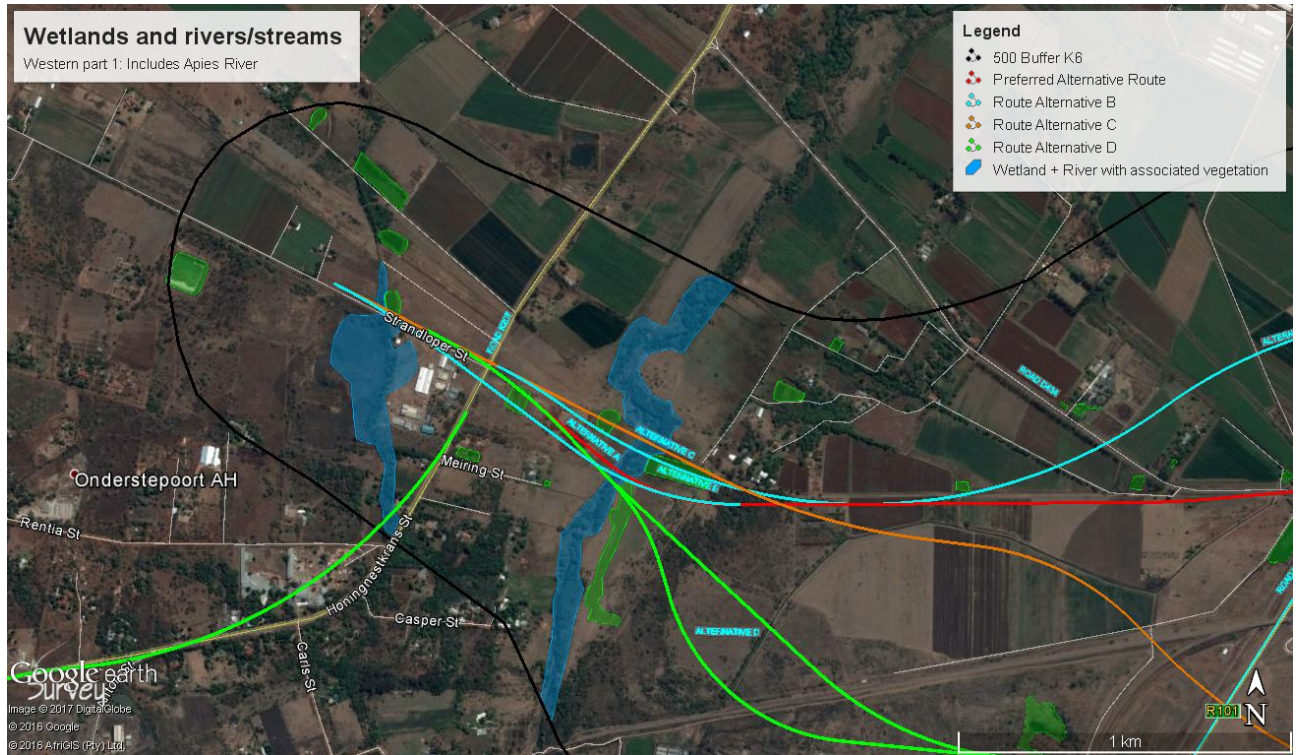
The prevailing wind directions for summer and winter morning and afternoons are as follows:

Summer mornings:	East to northeast
Summer afternoons:	North to northeast
Winter mornings:	Southeast to northeast
Winter afternoons:	Northwest

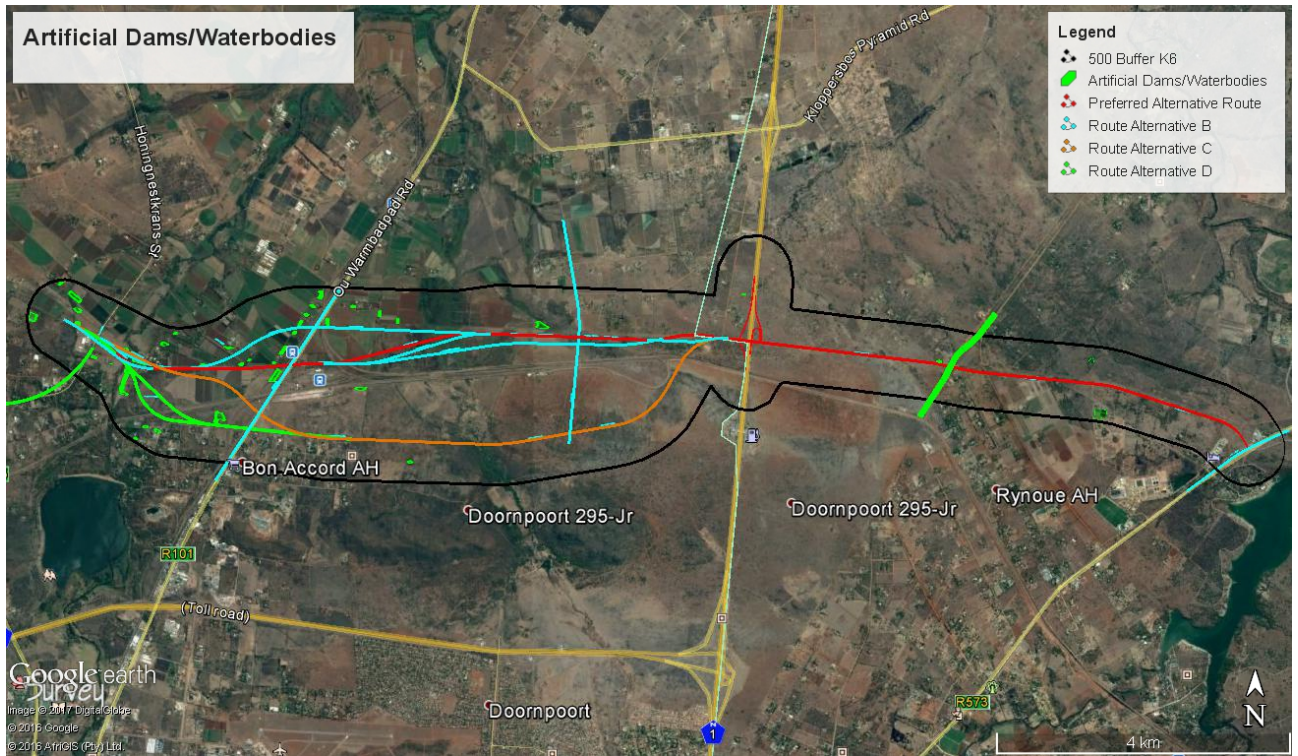
5.2.6 Topography and Surface Drainage

Sensitive features include the various rivers, streams, wetlands and small dams on and around the site.

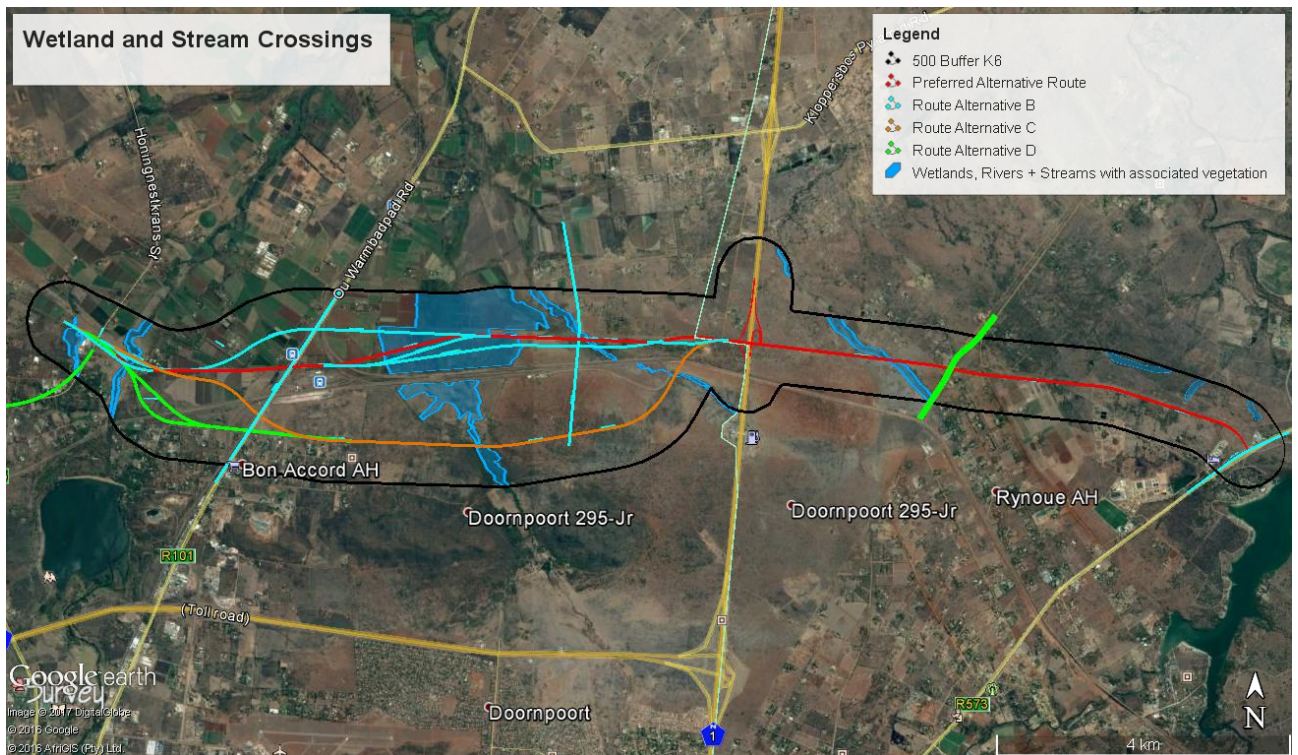
- The proposed development and its alternatives will cross the Apies River in the western section of the study area (see below);



- Small farm dams (artificial) will be affected by the proposed development and its alternatives, long most of the route (see below);



- Between the R101, N1 and the Moloto Rd. exist a floodplain, wetlands and streams/drainage lines that will be affected by the proposed development and its alternatives (see below).



The 'terrain type' of the area is classified as level plains with some relief to open low hills or ridges. The terrain contains some distinct topographical sections, namely:

- Low hills and shallow valleys.

The area has a very gentle slope. The most of the site falls within the Apies River Quaternary catchment area (A23E catchment). Only the most eastern part falls in the Pienaars River Quaternary catchment area (A23A catchment)

Wetlands occur in the western section of the study area which is often associated with small dams and streams and drainage ways (perennial and non-perennial). The potential impact of construction activities during the proposed development is identified as a high significant impact, which needs a detailed impact assessment and mitigation measures on this area. However, it should be noted that aerial imagery clearly indicates that the wetland areas have historically been impacted on by agricultural activities. This is to be expected as the regional area focusses on agriculture and the impact (or lack thereof) will be confirmed during the Specialist Studies to be undertaken. Furthermore, as indicated by the South African National Biodiversity Institute (SANBI) the study area falls within a low priority area in terms of River Freshwater Ecosystem Priority Areas (FEPAs).

5.2.7 Agricultural Potential of the Study Area

The land potential, and specifically the agricultural potential of a site, is determined by the combination of climate, soil conditions and slope prevailing in that region or site, resulting in the classification of areas with similar agricultural land potential. These land potential classes range from "Very High Potential" to "Very Low Potential". The Department of Agriculture has mapped the agricultural potential of South Africa. Using this mapping files, (Agricultural Geo-Referenced Information System[AGIS], as indicated in Fig. 6), it can be seen that the study area as well as surrounding the site, the agricultural potential is rated as moderate potential arable land. The study area does represent large parts of terrain where intensive or extensive cultivation are or were practised. The area is characterized by agriculture. According to the Gauteng Agricultural Potential Atlas database the site is rated as low to high potential agricultural potential (Fig. 7).



Figure 6: Agricultural potential for the affected area (AGIS, 2017).

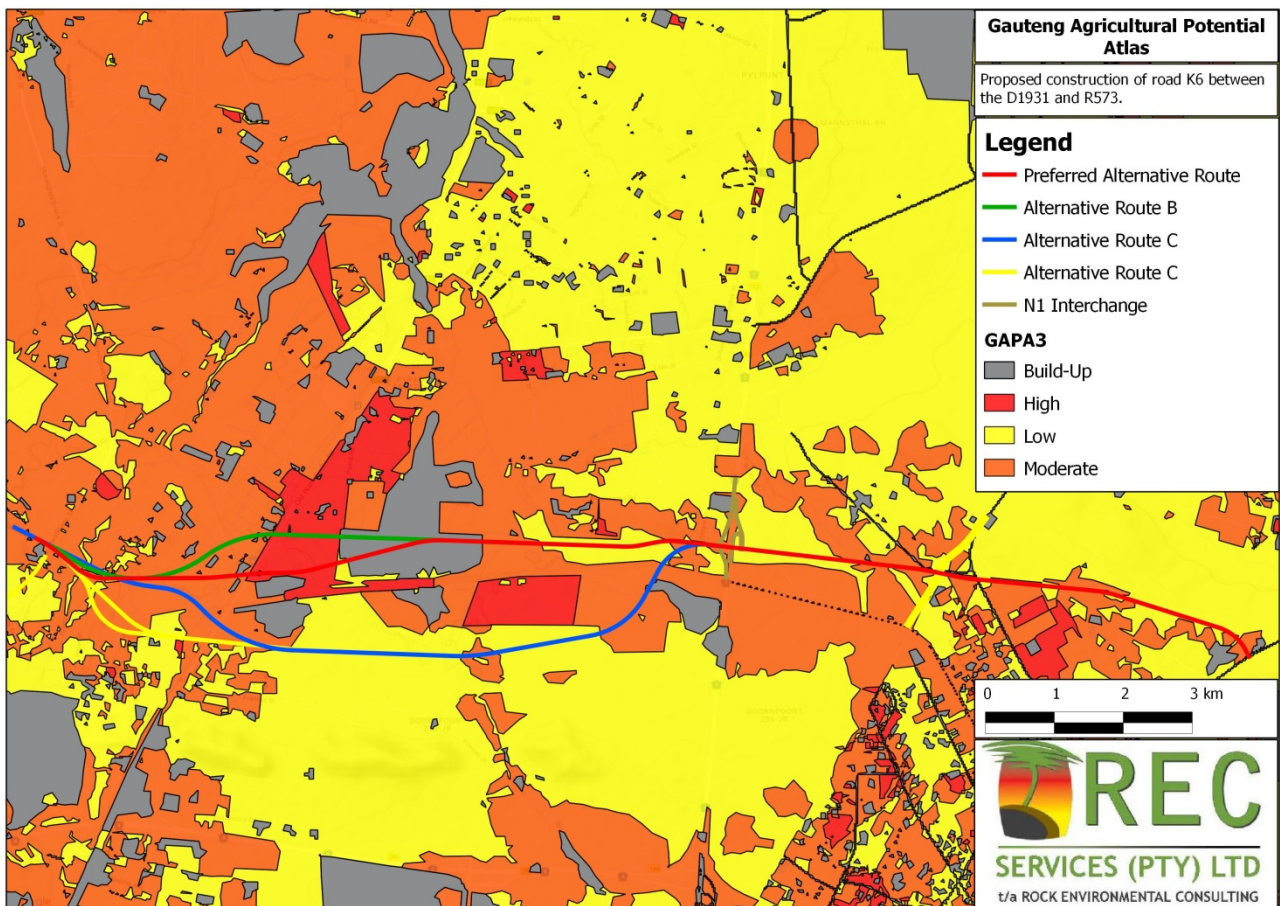


Figure 7: Agricultural potential for the area (GAPA).

The agricultural activities practiced in the study area are:

- Crop farming such as maize and soya beans, as well as planted pastures.

Crop production in the study area



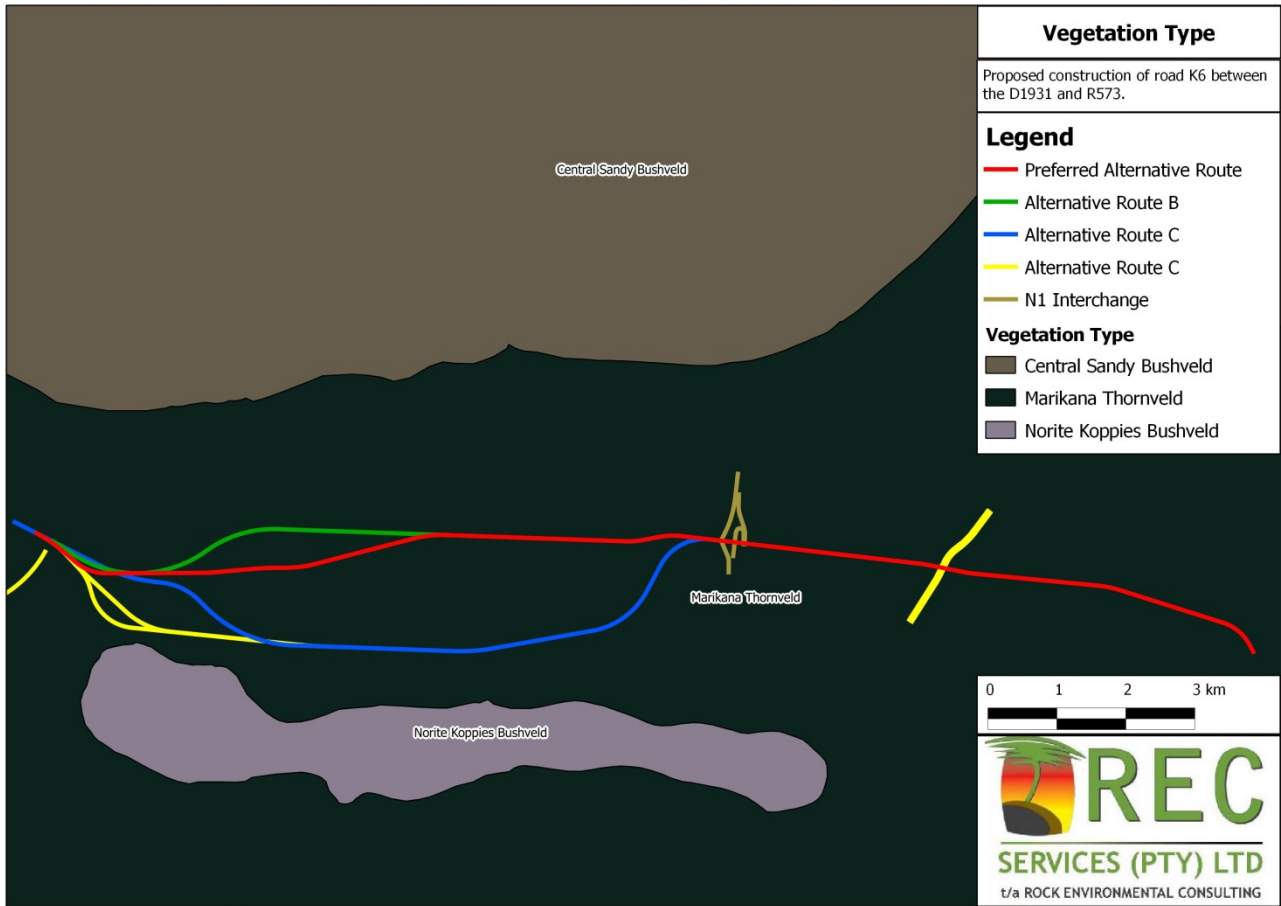
- Livestock farming such as cattle, goat and sheep.

Based on the mapped information as indicated in Fig. 7, it is clear that 100% of the project traverses land of moderate potential arable land. In addition to this, and in analysing the agricultural potential along the route, as provided in the above figure, it is clear that 58% of the route will affect grazing and 20% will affect cultivation/crop farming. Cultivation/crop farming will be affected in some way between the R101 and the Honingnestkrans Rd. In essence, the effect on cultivation is in view of the consultant more prominent than would be the case with grazing land with moving livestock. It is the view of the consultant that an agricultural potential study is not necessary due to the low impact on agriculture.

5.2.8 Flora of the Study Area

The study area lies in the Marikana Thornveld (SVcb6) (Fig. 2), which is found in the North West & Gauteng Provinces. This type of grassland occurs mainly on plains from the Rustenburg area in the west, through Marikana and Brits to the Pretoria area in the east. The landscape consists of open Acacia karroo woodland, occurring in valleys and slightly undulating plains, and some lowland hills. Shrubs are denser along drainage lines, on

termitaria and rocky outcrops or in other habitat protected from fire (Mucina and Rutherford, 2006).



A Threatened species and Species of Conservation Concern list for the Grids 2528CA (Pretoria) and 2528CB (Silverton) was obtained from the Plants of South Africa (POSA) database on the South African National Biodiversity Institute (SANBI) website. Threatened species are those that are *facing high risk of extinction, indicated by the categories Critically Endangered, Endangered and Vulnerable*. Species of Conservation Concern include the Threatened Species, but additionally contain the categories Near Threatened, Data Deficient, Critically Rare, Rare and Declining. This is in accordance with the new Red List for South African Plants (Raimondo *et al.* 2009). However, the POSA list is based on herbarium specimens housed in the National Herbarium of SANBI; therefore many plant species that do occur in the area are not listed.

The following possible red data plant species (by the categories Critically Endangered, Endangered and Vulnerable) could occur in the areas surrounding the study area:

- *Ceropegia decidua* E.A.Bruce subsp. *pretoriensis* R.A.Dyer according to the POSA database for grid 2528CA;
- *Aloe peglerae* Schonland according to the POSA database for grid 2528CA;
- *Cucumis humifructus* Stent according to the POSA database for grid 2528CA;
- *Melolobium subspicatum* Conrath according to the POSA database for grid 2528CA;
- *Bowiea volubilis* Harv. ex Hook.f. subsp. *volubilis* according to the POSA database for grid 2528CA;
- *Festuca dracomontana* H.P.Linder according to the POSA database for grid 2528CA; and
- *Bowiea volubilis* Harv. ex Hook.f. subsp. *volubilis* according to the POSA database for grid 2528CB.

5.2.9 Fauna of the Study Area

The study area is stretched over a large area. No Red Data Book Species were encountered.





5.2.9.1 Mammals of the study area

Possible smaller mammals that would commonly occur in the wider surrounding area are:

- Multimammate Mice (*Mastomys coucha*);
- Southern African Mastomys (*Mastomys coucha*);
- Angoni Vlei Rat (*Otomys angoniensis*);
- Lesser Red Musk Shrew (*Crocidura hirt*);
- Yellow-bellied House Bat (*Scotophilus dinganii*);
- Southern African Hedgehog (*Atelerix frontali*);
- Yellow Mongoose (*Cynictis penicillata*); and
- Serval (*Leptailurus serval*);

No Red Data Book species were recorded during the site investigations.





Table 2: List of red data (Critically Endangered, Endangered and Vulnerable) mammals possibly encountered in a wider area:






SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Dasymys incommutatus</i>	Common Dasymys	
<i>Crocidura maquassiensis</i>	Makwassie Musk Shrew	
<i>Atelerix frontalis</i>	Southern African Hedgehog	
<i>Leptailurus serval</i>	Serval	







5.2.9.2 Avifauna

According to available literature, approximately 378 and 389 bird species occur respectively in the Pretoria (2528CA) and Silverton (2528CB) quarter degree grid cells. No Red Data species were recorded. According to Barnes (2000) and South African Bird Atlas Project 2, the following bird species are threatened in this and the wider area:

Table 3: List of possible red date avifauna on or in a wider area around the site.

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Ciconia nigra</i>	Black Stork	
<i>Mycteria ibis</i>	Yellow-billed Stork	
<i>Phoeniconaias minor</i>	Lesser Flamingo	
<i>Sagittarius serpentarius</i>	Secretarybird	

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Gyps coprotheres</i>	Cape Vulture	
<i>Gyps africanus</i>	White-backed Vulture	
<i>Polemaetus bellicosus</i>	Martial Eagle	
<i>Falco peregrinus</i>	Peregrine Falcon	
<i>Falco biarmicus</i>	Lanner Falcon	

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Falco naumanni</i>	Lesser Kestrel	
<i>Anthropoides paradiseus</i>	Blue Crane	
<i>Rostratula benghalensis</i>	Greater Painted-snipe	
<i>Hydroprogne caspia</i>	Caspian Tern	
<i>Tyto capensis</i>	African Grass-Ow	
<i>Alcedo semitorquata</i>	Half-collared Kingfisher	

5.2.9.3 Herpetofauna

No Red Data species was recorded. And no amphibians were encountered on site. This might be due to the lack of suitable habitats like grassland, wetlands and rocks, as well as the history of farming activities and other anthropogenic on site, or survey techniques.

Table 4: List of herpetofauna possibly on site or rather found in the wider area.

SCIENTIFIC NAME	COMMON NAME
<i>Schismaderma carens</i>	Red Toad
<i>Amietophrynus gutturalis</i>	Guttural Toad
<i>Pyxicephalus adspersus</i>	Giant Bull Frog (NT)
<i>Amietia delalandii</i>	Delalande's River Frog
<i>Kassina senegalensis</i>	Bubbling Kassina
<i>Boaedon capensis</i>	Brown House Snake
<i>Bitis arietans arietans</i>	Puff Adder
<i>Naja annulifera</i>	Snouted Cobra
<i>Acanthocercus atricollis atricollis</i>	Southern Tree Agama
<i>Trachylepis varia</i>	Variable Skink

5.2.10 Elements of Culture Historical Importance

During the site investigations, focus was also placed on the presence of any stone built structure remnants, ruins, grave sites, monuments, complete built structures and the presence of artefacts. Based on preliminary observations, a grave site was found (see image below).



A Heritage Impact Assessment, as part of the Environmental Impact Assessment stage of the application process, will be conducted by a specialist in accordance with the National Heritage Resources Act (Act 25 of 1999).

The aim of the full HIA investigation will be to identify and assess, if any, heritage features and to recommend heritage management mitigation measures and monitoring programmes aimed at reducing the risks of adverse impacts. This input to be evaluated by Provincial Heritage Resources Authority (PHRA) will be included in the EIA stage to follow. However, this Scoping Report is made available to MPHRA for comments.

The assessment up to now of the terrain did not reveal issues related to heritage significance or impact on elements of historical or heritage value. Some affected farm structures needs to be noted as important that fall is the alignment of the proposed development.

5.2.11 Elements of Visual and Aesthetic Importance

Visual and aesthetic elements of importance has been considered with respect to the proposed development, but will in general not be affected by the proposed activities of this development. This due to the fact that surrounding area is also visual disturbed by anthropogenic elements:

- Transnet railway tracks and associated infrastructure;
- Agricultural practices;
- Eskom powerline structures;

- Other roads, whether provincial or municipal;
- Commercial and residential entities; and
- Exotic and invasive plants seen through the site.

5.2.12 Existing Services and Relocation thereof

Background Information Documents (BIDS) have been sent to services providers which could be identified at this stage, namely Telkom, Eskom, irrigation scheme canals, cell towers and fibre infrastructure regarding the proposed development. Comment and inputs are awaited from these or other services providers. In the event of the application for authorisation required for the relocation of services; it will be discussed with relevant services providers. It is felt that the relocation of services cannot be included in this application for authorisation as no details are available in this early stage of planning, with regards to relocation details (localities) and general extent of relocations.

The following known services will be affected:

- Two 55m-wide overhead high voltage electrical transmission line servitudes between K207 and the Apies River bridge will be crossed. Overhead clearance is to be maintained.
- Existing Bon Accord irrigation scheme canals, which will have to be protected during construction and reinstated in such a way as to prevent pollution or sediment entering the canals.

6. PUBLIC PARTICIPATION

6.1 INTRODUCTION

A Public Participation Process was conducted as part of the Environmental Scoping process. Stakeholders and I&AP's were given the opportunity to participate in this process and their comments, whether positive or negative, will have to be considered in the evaluation process by the Authorities.

The Public Participation Process aims to communicate to the public or community the potential positive and negative aspects that the proposed development will have on their immediate surroundings in an open and transparent way. The details of the project based on design elements available during the public participation exercise are communicated to the Interested and Affected Parties. The applicant is compelled, to mitigate, where possible, the impacts of the project. Mitigation measures should be implemented considering the practical and feasible means within the framework of the applicant's mandate. Suitable alternatives as identified during the process should also be considered.

6.2 OBJECTIVES OF THE PUBLIC PARTICIPATION PROCESS

The Public Participation Process has the following objectives:

- To inform Interested and Affected parties of the proposed development;
- Provide an opportunity for I&AP's to raise environmental issues/concerns;
- To promote transparency and an understanding of the project and its consequences;
- To serve as a structure for liaison and communication with I&AP's;
- To serve as a data gathering mechanism (of local knowledge);
- To identify issues that can easily be overlooked in the initial stages of planning.

To summarise, the objective of the on-going Public Participation Process is to promote openness and transparency concerning the proposed development, during the life span of the project planning and construction stages. The process should by no means be regarded as a vehicle to temper opposition or objections. Any conclusions agreed upon must be socially, financially and technically acceptable and feasible in order to meet the requirements of both the NEMA and the vision and mandate or responsibility of the applicant, which is GAUTRANS in this instance.

An important and further aim is to identify all I&AP's and remain in contact with them during the EIA process. The Public Participation Process does not terminate at the completion of the Scoping Report, but proceeds up to the stage of submission of the draft and final EIA report.

6.3 THE GUIDELINES FOLLOWED FOR THE PUBLIC PARTICIPATION PROCESS

The Public Participation Process (PPP) for this project was conducted by Rock Environmental Consulting (Pty) Ltd, and undertaken strictly according to the Regulations, as amended, listed under Chapter 6 of NEMA, as amended.

6.4 PUBLIC PARTICIPATION PROCESS FOLLOWED

The following Public Participation Process was conducted for the proposed development (in summary):

- Identification of key Interested and Affected Parties.
- Compilation and distribution of the Background Information Document (BID) to adjacent property landowners. (Please refer to Appendixes for proof of the notifications or process followed for notifying I&AP's).
- Distributing the BIDs to the relevant Officials, such as the municipality and ward councillors
- Compiling proof of delivery of the BIDs.
- Placement of a press notice informing the Public of the proposed development in a local newspaper.
- Placement of site notices.
- Conducting the public open days where community engagement can take place freely.
- Receiving written comments from I&AP's to address in this Scoping Report.
- Correspondence with I&AP's, and addressing I & AP's comments.
- Set up a register of I&APs.
- Compile a comments and response report.

6.4.1 Identification of key Interested and Affected Parties

I&AP's were identified progressively by means of a site visit and consultation with local residents and farmers who are familiar with the area and their neighbours. It is acknowledged that the list of registered I&AP's may be extended as the process proceeds through the EIA process.

I&AP's, and the relevant Authorities were given 30 days to register in response to the Background Information Documents, the site notices and the press advertisement. A register of I&APs have been compiled which can be extended during the EIA process.

I&AP's, and the relevant Authorities, will be given 30 days to comment on the Draft Scoping Report. All the comments, concerns and issues raised by the I&AP's and the Authorities will be considered during the next phase of the EIA process which is the EIA Report.

6.4.2 Compilation and distribution of the Background Information Documents (BID)

The aim of a BID is to provide all I&AP's with a brief description of the proposed development. The BID also contains the details of the proponent and the environmental consultant. Furthermore, it serves as an overview of the Public Participation Process. The BID invited the I&AP's to submit comments and to register. The register was used to invite I&APs to the public open days informing the interested parties of the date, time and venue of the open days. A comment sheet was attached to the BID, which the I&AP's were asked to complete and return to Rock Environmental Consulting if they had any suggestions or comments or issues regarding the project.

Please refer to Appendix 5A & 5B for copies of the BIDs and for the Acknowledgment of Receipt of the BIDs. Where the BIDs were emailed or faxed to I&AP's (as indicated on the Acknowledgement of Receipt pages), proof of such correspondence can be provided if required by any authority.

6.4.3 Placement of the press advertisement

Please refer to Appendix 5C for a copy of the press notice that appeared in a local (but far reaching) newspaper namely *The Pretoria News* dated 11/05/2017. This is due to the fact that the project has a regional importance as it is a provincial road. Press notices are crucial to create awareness of the project and to reach a broader range of interested and affected parties. Research and enquiries by the EAP indicated that the distribution area of this particular newspaper covers comprehensively the project area / study area.

6.4.4 Placement of on-site notice(s)

The proposed area for development is situated mostly in a rural and agricultural region. Therefore, to inform as broad a range of I&AP's as possible, several locations were strategically chosen to place the site notices along the route. The site notices also provided an opportunity to invite **any interested parties** to register. Please refer to Appendix 3D for copies of the site notices, as well as for the accompanying photographs that serve as proof of the placement of these notices around and along the study area. Site notices were erected/placed at several key locations on the 10th & 11th of May 2017 (please refer to Appendix 3D for a copy of the Site Notice as well as proof of the erection of the Site Notices). Key locations:

- Moloto Rd.: Next to route at access roads: -25.618624°, 28.346404°
- Farming area: Next to route at access roads: -25.610421°, 28.323546°
- Buffelsdrif: Next to route at access roads: -25.608694°, 28.310530°
- Buffelsdrif: Next to route at access roads: -25.608415°, 28.306952°
- Roodeplaat SPAR: Notice board.
- Pyramid Rd.: Next to route at access roads: -25.581121°, 28.267654°
- Waterval Depot: At entrance.
- Pyramid Rd.: Next to route at access roads: -25.582380°, 28.252106°
- Good Luck Centre: Notice board.
- Main farm road running close to route: -25.597544°, 28.229352°
- Hira Jogee & Son General supply store next to R101.
- Access to farming area net to R101: -25.602097°, 28.221614°
- At access road to TUT Experimental farm and Transnet service road.
- Access to Sphinx Rd. from R101.
- Access road to farming area & guest house from Sphinx Rd: -25.608784°, 28.211015°
- Access road to farming area & school from Sphinx Rd: -25.604999°, 28.205091°
- Access to Strandloper St. from the Honingnestkrans Rd.

6.4.5 Public Open Days

Two official public open days were held on the 4th and 29th of May 2017 (3 pm to 7 pm) at the hall of Die Poort Primary School/Laerskool and Uniefees Primary School/Laerskool respectively. An unofficial open day was also held on 10 February 2017 to see what the initial reaction from the affected public would be. The purpose of the public open days was to inform all I&AP's of the proposed development by means of information sessions where members of the community or other I&AP's have the open invitation to come and view the conceptual drawings. These person or persons have an opportunity during the open days to gain knowledge of the project, discuss the project and ask questions in an unhindered and transparent manner.

I&AP's were invited to attend these open days according to the time frames that were given, to view the conceptual drawings, sign the attendance register as an I&AP as well as submit the Comment and Registration Sheet if ready, that was attached to the BID. The public open days were well attended and the venue was sufficient for the number of people that arrived during the course of the two days (see images below). The design engineers from SMEC South Africa as appointed by GAUTRANS, were available to explain the technical details and information indicated on the conceptual drawings and to assist in the clarifications of typical issues such as new access points, service roads and intersections.

Die Poort Primary School



Uniefees Primary School



The times and venue locality of the open days were advertised in the local newspaper, the site notices, and BIDs while reminders were sent via email to those who did receive BIDS before the two open days. Please refer to Appendix 5G for a copy of the attendance registers of the public open day. Note that I&AP's had the opportunity to register even on and after the public open days. This way of communicating the project with

Interested and Affected Parties and to gain information on all possible issues raised, is once again proven as highly functional and successful.

6.4.6 Placement and Submission of the Draft Scoping Report

The draft Scoping Report will be submitted as follows:

Submission date	Receipt date	I&AP or Stakeholder Name	Response in writing
11/08/17	14/08/17	City of Tshwane Metropolitan Municipality	15 September 2017
11/08/17	14/08/17	City of Tshwane Metropolitan Municipality: Ward Councillor 49	15 September 2017
11/08/17	14/08/17	City of Tshwane Metropolitan Municipality: Ward Councillor 87	15 September 2017
11/08/17	14/08/17	City of Tshwane Metropolitan Municipality: Ward Councillor: 96	15 September 2017
11/08/17	14/08/17	Public view: Waterval Depot	15 September 2017
11/08/17	14/08/17	Public view: Kameeldrift Police Station	15 September 2017
11/08/17	14/08/17	PHRA-G	15 September 2017
11/08/17	14/08/17	GDARD	15 September 2017
11/08/17	14/08/17	Department of Water Affairs and Sanitation	15 September 2017
11/08/17	14/08/17	SANRAL	15 September 2017
11/08/17	14/08/17	REC Website: www.rockeco.co.za	15 September 2017

6.4.7 Feedback from I&AP's throughout the EIA Process

The closing date for registration and comment delivery from I&AP's during the first public participation phase was within 30 days from the date of publication of the advertisements, which was the 12 June 2017, but public participation is still on-going. Comments were still accepted long after the date that was indicated in all notifications and REC will continue to do so throughout the duration of the project up to the submission of the final Environmental Impact Assessment Report. The challenge is to address comments, concerns and issues to the best practical means as most of the issues need special attention by the design engineers as well as all other parties that worked on the project.

The complete list of comments received from I&AP's can be viewed in **Appendix 5F**. The questions and comments received to date are addressed in Annexure 5F. REC ensured that copies of the draft Scoping Report were available to all I&AP's and Authorities for more of their comments.

Notes were made of all the aspects and issues that were discussed during the public open days. All issues will be addressed and where technical matters arise it will be responded to by the road engineers of Snowy Mountain Engineering Corporation (SMEC). All comments and responses can be viewed in the comments and response sheet. It was however firmly communicated that only written comments or issues (as per the registration sheet) could be place on record and responded upon.

A summary of the main comments and concerns received can be viewed below:

- Agricultural land and infrastructure is very important and should not be divided into smaller pieces;
- Noise pollution and the disturbance of tranquillity to hospitality entities;
- Concerns in terms of compensation to property lost and the way it will be dealt with;
- The effect the proposed development on the value of property;
- Concerns were raised on safety through the area in terms of quicker acces for criminals;
- Concerns about farm structures (some may have historical value) the will be affected by the proposed development;
- Safety concerns in terms of access to their farms; and
- The positioning of the K6 in relation to the future freight hub/inland harbour at the Transnet Pyramid South railway yard.

6.5 ADDRESSING WRITTEN COMMENTS & QUESTIONS FROM THE I&AP'S

At this stage, several comments (via email, as well as telephonic) and registration sheets have been received and a number of written comments have also been received from I&AP's. The conclusion is made that the project is received relatively positive by the community in general, especially the farming and smallholding communities, who deals

with unsafe intersections and lack of more access to the wider region on a daily basis. The NIMBY (not in my backyard) affect was also experienced during this exercise.

A summary of some the responses from the EAP are shown below (see **Appendix 5F** for the up to date Comments and Response Report):

Comments: The preferred alternative A route cuts right through the front of the farm house as well as an old store which was built by the Italian prisoners of war. The road is too close to the farm house and will destroy the entrance to the farm. My property borders De Onderstepoort farm and the proposed road will border it too. The road has been designed to follow the boundary with my property. Aesthetically this is a problem. Looking at the route where it will affect me, there would have to be three bridges built.

Response: Noted. SMEC has taken this particular issue under evaluation. There is a solution available by moving the slight curve there to the east and is my then miss your property completely. Access will be provided to all landowners affected to the proposed development or via another road.

Comments: Dust; high noise levels during construction; devaluation of property due to the road close to residences; negative effect on game in the conservancy; possibility of loss of game if proper fences are not erected prior to construction and maintained during construction; poaching of game grazing next to a main road; loss of vegetation etc.

Response: Noted. Dust and noise can be managed during the construction phase, hand-in-hand with the EMPr. Property value should not be affected. There is already a large gravel road existing right next to the affected properties. Fences along the conservancy will be a priority from the GRAUTRANS side. Poaching will not coming from the contractor side, because this is strictly regulated throughout the province's road building endeavours. Little natural vegetation at this specific section will be lost.

6.6 CONCLUSIONS OF THE PUBLIC PARTICIPATION EXERCISE

The proposed development has generally been met with a positive attitude from the community at large. Various issues have been identified by the I&APs for this project in the Draft Scoping stage (refer to Appendix 3F for all the issues raised).

This Scoping Report, and the EIA report to follow will aim to clarify, consider and sustainably mitigate remaining and significant concerns that the participating I&AP's might have. In conclusion, the public participation exercise has provided, up to this stage, adequate information to enable an understanding of what the proposed development would entail and also to list and address the concerns and comments.

Through addressing all comments and questions received from the I&AP's, and through the compilation of a detailed Scoping Report to be made available for comments, the consultant has attempted to promote a better understanding of the activities of the proposed development. The knowledge and understanding of potential impacts identified at this stage (Scoping Stage) of the application process has been improved.

7. ACTIVITIES, IDENTIFIED IMPACTS AND PRELIMINARY ASSESSMENT

7.1 INTRODUCTION AND METHODOLOGY

This section of the Scoping Report provides a list of the biophysical and social issues that can be expected as a result of the proposed road development. Some of the issues are localised in their effects, whilst others could influence a more extensive area. A major aim of the Scoping Report is to identify issues and impacts.

The identification and brief descriptions of the relevant physical, biological, socio-economic and heritage issues were conducted under the following headings in Table 5:

- Environmental aspects: defined as those actions on site that may potentially have an environmental impact;
- Environmental component to be impacted upon;
- Locality / applicable zone of the impact; and
- Nature and description of the impact or issue

An impact significance rating and evaluation, for the listed aspects, will form part of the EIA process/report to follow the environmental scoping process. The methodology of impact assessment and its significance rating is included in the attached Plan of Study for EIA. Most of the identified and anticipated negative impacts listed below will only

take effect once the construction of the proposed development commences; the main period of positive impact occurrence is during the long term “operational” phase of the road when it is felt that the broader community will benefit from the project in terms of effectiveness of transport infrastructure and road safety. The long term negative operational impacts however will also be experienced by the close-by residence in terms of noise, dimensional property reduction and other traffic issues such as access to and from the K6.

7.2 ACTIVITIES AND IMPACTS IDENTIFIED, WITH PRELIMINARY ASSESSMENT

The description and identification of anticipated impacts is based on the listing of environmental aspects. Environmental aspects, for the purposes of this document, is the term used to *describe the actions that may have an impact on one or more of the environmental components listed*. It is important to note that aspects that are clearly definable have been used in preference to those that are duplicative, redundant, difficult to measure, and/or obscure.

An impact is defined as *any change in the physical, chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities relative to alternatives under study for meeting a project need*. Therefore, the identified environmental aspects are said to have an impact on the components listed above if they result in change.

One of the most important objectives of conducting an Environmental Impact Assessment is to identify and evaluate these aspects and impacts. Consequently, the EMPr will consist of the preferred mitigation and management options for the identified impacts assessed as being significant. These will be described within the EIA (and EMPr) report to follow.

The environmental aspect and the resultant impact can become manifest during the **construction phase (C)** and/or the **operational phase (O)**, which is the stage when the proposed development is complete and fully functional.

The following table provides a list of activities (environmental aspects) that will occur on site and it provides an outline of the potential impacts that these actions will have on the environment, the anticipated effects on the biophysical and social aspects. The identification of the aspects and impacts may be expanded as more information becomes available when the specialist studies are completed. At this stage, the table below provides a list of impacts and issues. Below is a preliminary assessment of the impact identified for only the preferred alternative route in the Table 5. The significance rating for the identified environmental impacts is included in the Plan of Study for the EIA. All additional alternatives will be fully assessed in the EIA report phase.

Table 5: List of activities (environmental aspects) that will occur on site, the potential impacts that these activities may have on the environment and a description of the nature of the impact (c: construction stage; o: operational phase).

The impacts rated, at this stage of high importance, are marked with a red triangle ▲; leaning towards high significance impact.

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Vegetation clearance for the footprint of the proposed development (C). Clearance of vegetation in the establishment of infrastructure (C)	Soil layers, soil surface, indigenous vegetation cover.	Along the entire route and where the construction camp and stock pile areas are to be established.	<p>The removal of vegetation cover, such that the soil surface is exposed, may lead to increased soil erosion in certain areas. The existing vegetation will be permanently removed to accommodate the footprint of the road. Where the removal of surface vegetation is of a temporary nature only, the establishment of weeds is a threat. The topsoil layer is required to rehabilitate the area (i.e. for landscaping the area). ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4)</p>	<p>It is advisable that only vegetation be removed where and when it is necessary. After removal of vegetation, an offset needs to be incorporated by re-establishing natural vegetation/grassland along the road shoulder. No red data plant species were recorded during the site visits conducted.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low significance</u></p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Significance= 4x4=16</p> <p>This impact is of negative high significance before mitigation.</p>	
<p>Stockpiling of excavated material (C)</p>	<p>Soil and vegetation cover.</p>	<p>Precise location still to be determined; the impacts on soil and vegetation will occur wherever stockpiles are established.</p> <p>Wherever possible, the stockpiles should be placed in non-sensitive areas.</p>	<p>Stockpiles cause compaction of the soil, which promotes the establishment of weed species. The establishment of weeds greatly reduces the pristine quality of the natural vegetation on site. Stockpiles should not be situated within 200 m from any water bodies or water courses, as sedimentation transport into such systems is undesirable.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>Stockpiles must not exceed 2 metres in height. Stockpiles must be used for filling material as the re use of stockpiles cannot be done on the road. By using the stockpiles as filling material for the sides, vegetation growth can be promoted by the seeds still contained in the topsoil layer.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Stockpiling building materials (C)	Soil and vegetation cover.	The impact is of a localized nature.	<p>Stockpiles will need to be established for the storage of aggregate, bricks and cement. As mentioned, stockpiles cause compaction of the soil surface, which leads to the growth of unwanted weed species.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>Building material stockpiles must not be stockpiles within any of the riparian areas. Any alien vegetation that established itself because of disturbance need to be eradicated.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>
Water use for construction purposes of the road.	Use of ground water resources is possible but is it anticipated that natural surface water sources would be used. A water license application is being conducted in this	Along the length of the route.	The use of water as an important resource must be assessed carefully and a statement should be made on the impact once it has been established what the source of the water for construction purposes will be. The Water use licence is also	At this stage it has not yet been determined what type water sources will be used. Therefore it cannot be assessed at this stage. Water may be sources from the municipality. If water is used for the road construction from groundwater sources, then a

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
	<p>regard. WULA will concentrate on affecting the river banks.</p>		<p>necessary because of the road being built, which will influence the river banks and will be less than 500 metres from a wetland. If water is used for the road construction from groundwater sources, it is possible that the road can have an effect on the ground water level. If water from the river is used for the road, damage to the riverbanks can occur. ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p> <p>This impact is of negative high significance before mitigation.</p>	<p>WULA will have to be issued in this regard, which is in process for this project. Possible significance assessment on ground water resources would be of low significance, because it will most likely come from farmers' boreholes that already have an established daily limit.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>
<p>Installation and operation of <u>temporary sewerage systems</u> for construction</p>	<p>Soil layers, vegetation cover and groundwater.</p>	<p>Very localised and of a temporary nature.</p>	<p>The placement of chemical toilet systems and the servicing thereof will not have an impact on the</p>	<p>Temporary toilets need to be managed and serviced on a regular service schedule. This schedule has to be</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
workers.			<p>environment, if operated according to requirements. Temporary toilets left unmanaged can leak raw sewage and effluent into the soil, surface and even ground water sources. ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p> <p>This impact is of negative high significance before mitigation.</p>	<p>recorded and controlled by the contractor on site. Regular disposal of waste need to be done by a contracted disposal company. No temporary toilets will be allowed within 100 metres from any of the drainage lines.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>
Provisions for storm water i.e. storm water drainage (C)	Soil surfaces, vegetation cover and drainage patterns.	Areas where surface water run-off is collected i.e. like from compacted surfaces, as well as road surfaces.	<p>Poorly implemented storm water outlets will result in increased surface run-off volume and speed, which could lead to the creation of erosion gullies. Storm water must be allowed to spread out gradually over a large</p>	<p>Storm water outlet designs have to be done and construction undertaken within the correct design documents from GAUTRANS/SMEC. Vegetation cover needs to be established on bare soil areas to prevent erosion due to</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>surface area to protect the soil surface against erosion. Inadequate designed storm water outlets can lead to flooding of the road surface which is dangerous.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>storm water.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>
Maintenance of storm water management systems (O)	Soil surfaces, drainage patterns and surface water.	In all areas where storm water management systems have to be created.	Storm water management will particularly be important with careful design eminent at the crossing of any natural drainage ways. Storm water outlets can get blocked due to debris and other substances that are washed from the road surfaces. This includes siltation due to soil erosion.	<p>Maintenance of storm water outlets is required to ensure that they don't get blocked (i.e. no longer fulfil their function) or result in erosion. The custodian of the road has to perform regular checks and maintenance.</p> <p>Probability = 3 (improbable)</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate significance	Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low significance</u>
Excavations in general	Potential impact on elements of cultural or heritage importance.	Localised if these may occur	No indication of such impacts. But this will be confirmed in the Heritage report. It is possible that historical important structures, items or graves could be uncovered if construction commences. Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate	If any artefacts, graves or articles of historical importance are found during construction, the construction activities have to be stopped and the area fenced off. A heritage consultant will have to be appointed to take any further related steps such as relocation. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2)

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			significance	Significance= 3x2=6 This impact is of negative <u>low significance</u>
Generation of construction waste (C)	Soil, vegetation, aesthetic quality of the site and surface water run-off, water and ground water resources.	All construction sites and directly adjacent areas within Residential Townships.	Waste, such as building rubble and empty cement bags can be a negative visual impact if not collected and disposed of correctly. Further to littering the site and adjacent areas, poor control and illegal dumping of construction waste can pollute surface water run-off, as well as lead to the promotion of weed species. ▲ Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.	Building rubble has to be collected at a centralized area and preferably in skip waste bins. No illegal dumping may be allowed in the construction phase and this will have to be checked and monitored by the appointed Environmental Control Officer. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low significance</u>
Blasting operations.	Stability and integrity of	Localised (exact areas or	Blasting has a potential risk of	Blasting can be substituted with

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
	nearby structures.	necessity not known yet)	<p>affecting building structures and animals. Careful planning and execution is crucial. ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p> <p>This impact is of negative high significance before mitigation.</p>	<p>Crackem technology. This will prevent blast shock and will prevent animals from getting traumatized as well as prevent damage to farm structures and foundations.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6</p> <p>This impact is of negative <u>low significance</u></p>
Road maintenance (O)	Vegetation and soil surface conditions, as well as social well-being of the residents of the area.	The entire road will need to be maintained.	<p>Poorly maintained storm water drainage structure will cause abnormal soil erosion at outlets. Therefore, road maintenance is essential.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term)</p>	<p>Road maintenance is essential and is the responsibility of the road custodian in the operational phase.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2)</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$ This impact is of negative moderate significance	Significance = $3 \times 2 = 6$ This impact is of negative <u>low significance</u>
Collection and disposal of solid construction waste (C)	Aesthetic quality, surface water run-off, subsurface and groundwater quality, vegetation and fauna.	The site and directly adjacent areas.	Poor waste collection and handling will pollute the environment (affecting fauna, groundwater, surface water and aesthetic environment). Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$ This impact is of negative moderate significance	No illegal dumping of domestic and construction related waste should be tolerated. Domestic construction waste has to be collected into central waste skip disposal units. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ This impact is of negative <u>low significance</u>
Traffic movement (O)	Noise levels along the entire route due to the movement of traffic.	Noise impact of a local nature along the alignment, especially in 'residential' areas around	The movement of traffic (during construction and operation) along the route will have an impact on the ambient or prevailing noise levels. ▲	Noise mitigation measures are required in order to keep the noise generated by construction activities as low as possible - given the site's

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
		the R101. Closer community.	<p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.</p>	<p>relatively close proximity to some farm steads and 'residential' areas. This can be achieved by ensuring that only well-oiled, well maintained machinery is used, as such machinery will produce less noise than poorly serviced machinery. For example, poor maintenance of exhaust systems will produce unnecessary noise pollution. Furthermore, working hours for construction should be limited to between 07h00 and 17h00 on week days, as construction outside of these time frames will be a nuisance to adjacent dwellers. On operational phase these affected dwellings should consider relocating, by the assistance from the road authority, their dwellings to a suitable place away from the affected road.</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
				Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative <u>moderate significance</u>
Temporary employment created during the construction phases of the proposed road development(C)	Social aspects	All sites where construction related activities are to take place.	There will be positive impacts in terms of social upliftment and job creation within the broader region.	
Transportation of workers to and from the road development site (C)	Air quality, soil surface and social aspects (including traffic and worker safety).	The road safety of the region. A local issue.	Vehicles used to transport workers can be overloaded; worker safety is of utmost importance. Vehicles used to transport workers which exceed the speed limit are dangerous. Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term)	Traffic safety measures have to be implemented by the contractor. Correct signage and safety clothing needs to be in place. Construction workers need to be transported to and from the site on a safe manner. Probability = 3 (improbable) Intensity = 2 (low intensity)

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$ This impact is of negative moderate significance	Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ This impact is of negative <u>low significance</u>
Construction camp establishment (C)	Aesthetic impacts, social aspects, subsurface and groundwater quality, generation of domestic waste, vegetation removal, soil surface compaction and faunal impacts.	Location still to be determined.	The generation of domestic waste, as well as the provision of sewage facilities, within the construction camp could potential impact on the aesthetics of the site as well as the quality of subsurface and groundwater if not properly managed and implemented. The removal of sections of natural vegetation would most likely be needed for the establishment of the camp, and soil surfaces would become compacted as a result of activities within the camp. Probability = 3 (probable) Intensity = 2 (low intensity)	Proper management of any temporary toilets need to be undertaken on a strict schedule. The construction camp must be more than 100 metres away from any water bodies. Construction camps Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ This impact is of negative <u>low significance</u>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate significance</p>	
<p>Housing of workers during construction (C)</p>	<p>Aesthetic character, soil and vegetation, surface water quality and social aspects.</p>	<p>The possibility of housing construction workers on site.</p>	<p>The establishment of housing for workers will have a localised impact on the soil and vegetation cover of the chosen site, as well as potentially having a negative impact on the quality of surface water - as a result of domestic waste, and sanitation facilities for example, if these are not properly addressed. Safety is also a concern to residence and stay of workers on site should not be encouraged.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term)</p>	<p>Housing of workers on site, at the construction camp, is a possibility. Preferably only security should look after equipment at night time hours. If workers are housed near 'residential' areas it could create a safety concern.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low</u> significance</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate significance</p>	
<p>Sanitation provision to workers during the working day (C)</p>	<p>Subsurface soil, surface water and subsurface water quality.</p>	<p>Insufficient chemical toilets will have a health impact locally.</p>	<p>Insufficient chemical toilets will have a health impact. Subsurface soil contamination and contamination of surface/subsurface water quality could occur if the ablution facilities provided are not according to standard. A temporary impact is possible; however, it can easily be prevented.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate significance</p>	<p>Sufficient chemical toilets should be provided for workers, in the range of 1 per every 8 workers, within walking distance of all construction activities. These toilets must be well maintained and inspected on a daily basis to ensure that they are clean and functioning properly. No washing of people and/or goods should take place on cleared surfaces, as this water should not be allowed to drain into any adjacent storm water canals or drainage lines.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term)</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
				Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ This impact is of negative <u>low</u> significance
Movement of construction vehicles on site (C)	Air quality, soil and vegetation cover.	Potential impacts may be eminent over a wide area if not carefully managed and restricted.	Movement will cause limited or localised disturbances and temporary soil compaction, which promotes the establishment of weed species. Dust will be generated by vehicular movements on site. Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$ This impact is of negative moderate significance	Alien plant species need to be controlled and it must be ensured that weeds are removed. Dust depression measures such as watering the bare surfaces need to be implemented. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ This impact is of negative <u>low</u> significance
Maintenance of construction vehicles (C)	Soil, vegetation and surface water.	Within the construction camp(s).	In the event of on-site repairs and servicing, soil surfaces, vegetation, and run-off may be locally	The construction camp has to be identified and communicated to the ECO as soon as its position is available.

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>contaminated. Spillage of fuel through faulty bowser is a possibility, if not controlled. It is anticipated that fuel storage facilities will occur on the site. If poorly installed or managed it will cause pollution.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative moderate significance</p>	<p>Any fuel depot areas have to be bunded and where fuel hoses will operate, absorbing gravel needs to be provided. This area can also be lined with a small piece of plastic below the gravel. As soon as any spillages occur, the gravel has to be collected and disposed of as hazardous waste.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low significance</u></p>
Traffic safety on the main roads in the area (C and O)	Social aspects.	At all places where there will be interaction with the local traffic along existing routes as well as traffic moving through the	Motorists using the main routes and alternative roads may be negatively impacted on by slow moving construction vehicles. ▲	Traffic safety measures have to be implemented to ensure that the general public is safe. Adequate traffic signage has to be implemented where any heavy vehicles will cross

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
		area.	Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.	the main roads. Adequate clothing that is visible should be provided to the workers. Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative <u>moderate significance</u>
Noise generation by operating air compressors, excavators and other heavy machinery. Noise is also generated by the construction workers (C)	Impacts on faunal surrounding land owners.	Areas on and surrounding site at which construction activities take place.	Excessive noise levels on site may negatively impact upon the behaviour and movements of site fauna. Surrounding land owners may also potentially be negatively impacted upon by excessive noise levels on site during construction. ▲ Probability = 4 (highly probable) Intensity = 4 (moderate intensity)	Noise mitigation measures are required in order to keep the noise generated by construction activities as low as possible - given the site's relatively close proximity to some farmsteads and residential areas in Machadodorp. This can be achieved by ensuring that only well-oiled, well maintained machinery is used, as such machinery will produce less noise than

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.</p>	<p>poorly serviced machinery. For example, poor maintenance of exhaust systems will produce unnecessary noise pollution. Furthermore, working hours for construction should be limited to between 07h00 and 17h00 on week days, as construction outside of these time frames will be a nuisance to adjacent dwellers.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative <u>moderate significance</u></p>
Heritage (C)	Heritage or historical components	No currently historical features identified are present on site. Still to be confirmed by a HIA	The proposed development is to be conducted on new sections not affected by previous road infrastructure. The interchanges are	If any areas of historical significance are discovered during construction, work should be stopped and a cultural specialist should investigate the site.

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
		specialist.	<p>not situated on any historical landmarks.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative low significance</p>	<p>The first contact can be made with the EAP on site.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative <u>low significance</u></p>
Impact on the river and wetlands	Water quality, soil, and the river beds	In and around the wetland and river areas.	<p>Impacts on the river beds and wetlands will be caused by the construction of bridges and box culverts. Possible siltation into rivers and wetlands is highly likely. ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p>	<p>Impacts in the river and wetland areas will have to be determining by an aquatic specialist and included in the aquatic rehabilitation plan and audit. This will be conducted as part of the process after the EIA has been conducted and will most likely be a request from the Department of Water Affairs.</p> <p>Activities undertaken within the river area has to be limited as far as</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>This impact is of negative high significance before mitigation.</p>	<p>possible and rehabilitation has to be undertaken during and after construction.</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p> <p>This impact is of negative <u>moderate significance</u> after mitigation.</p>
<p>Economic activities such as selling and buying property</p>	<p>Retail prices of homes</p>	<p>Property values</p>	<p>The uncertainty of the road impacts on the property values in the direct surrounding area of the road. ▲</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p>	<p>It is uncertain if the proposed development will affect property values. The acquisition of property will be done between the affected individuals and the road authority in the foreseen future. These acquisitions of properties will most likely be done at the present market value at that stage.</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>This impact is of <u>positive/negative high significance</u> before mitigation.</p>	
<p>Movement and survival of Animal species</p>	<p>Fauna of the site</p>	<p>Within the road reserve</p>	<p>The construction will have an effect on the animals present within the road alignment. These impacts will include habitat destruction. It will also limit movement of species from and to the north and south of the road.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>Specialist studies will determine an overview of the habitat present in the road reserve. No red data fauna and flora have been recorded during the EAP's site visit.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative <u>moderate significance</u></p>
<p>Construction of the road on red data animals</p>	<p>Animals</p>	<p>In the road reserve</p>	<p>The construction of the road will influence animal life and habitat. No red data species were recorded during the site visits. ▲</p>	<p>Although habitat will be lost, proper rehabilitation of the road shoulder and rest the unused road reserve could lessen the severity of the impact.</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.</p>	<p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative <u>moderate significance</u></p>
<p>Agricultural Land-use. (C) & (O)</p>	<p>Grazing and cultivation land.</p>	<p>Along the proposed route.</p>	<p>The proposed development will eliminate agricultural land, although only small areas. ▲</p> <p>Probability = 5 (highly probable) Intensity = 2 (moderate intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x5=15 This impact is of negative high significance before mitigation.</p>	<p>No mitigation measures can be prescribed due to these areas being included into the future road reserve and thus no agricultural activities may be practiced in these areas.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9 This impact is of negative <u>moderate significance</u></p>

Any additional impacts and issues identified will also be evaluated and rated in terms of their significance in the draft and final EIA report that will follow this Scoping Report. The EMPr that will eventually be compiled will be based on the above table.

It is possible that more comments may be received from I&AP's and from other interested stakeholders such as DWAS, PHRA and the CoT Metropolitan Municipality. These will be incorporated and rated in terms of their significance. It is requested that the I&AP's who participated in the process ensure that all the issues are covered in the Scoping Report.

8. CONCLUSION

The purpose of this Environmental Scoping Report was to:

- To provide a project description, and an overview of the proposed development activities on site.
- To provide a description of all the important environmental elements of the study terrain.
- To provide descriptions of all anticipated/identified biophysical and social-economic impacts that could potentially occur as a result of the proposed development.

In summary, it can be concluded that different parts of the preferred proposed development concept of the K6 will experience different impacts on the environment, social and economic aspects.

These are:

Environmental components to be affected negatively	Description of the anticipated environmental & socio-economic impacts / key issues
Properties (Farm and residential)	<ul style="list-style-type: none"> • Noise and safety impacts, as well as loss of property due to the proposed development's route alignment.
Access to farms.	<ul style="list-style-type: none"> • Accesses along the route will be made safer by

	creating and conciliating new accesses to farm and properties.
Noise Impact	<ul style="list-style-type: none"> Noise from the traffic as the proposed development will bring in more traffic and an inconvenience to a certain extent for some existing residential properties adjacent to the road.
Traffic impact	<ul style="list-style-type: none"> The road will have a positive impact on the traffic flow between Moloto road and Old Warmbaths road but could also affect the localized community in a negative way by giving quick access for criminals.
Business/Agricultural areas	<ul style="list-style-type: none"> Loss of income due to reduced property sizes for production. Could also be positive due to more traffic routing through the area and can do business with the local people.
Water provision	<ul style="list-style-type: none"> An increase in water demands due to the proposed road construction - although this will be temporary.
Land-use	<ul style="list-style-type: none"> A possible loss of future agricultural areas due to the proposed development's route alignment, although the loss of grazing/cultivation land, proportionally to the affected properties, will be small.
Environmental Sensitive Areas	<ul style="list-style-type: none"> Loss of natural vegetation, wetland and impacts upon streams and drainage lines due to the proposed development's route alignment, although the loss of habitat, proportionally to the wider region of similar natural vegetation, will be small.

The second phase of the EIA process for the proposed development will follow this scoping process in the form of an Environmental Impact Assessment Report. Anticipated

and potential significant impacts that have been identified for the development will be evaluated in terms of their significance.

The essence of any EIA process is aimed at ensuring informed decision-making and environmental accountability, as well as to assist in achieving environmentally sound and sustainable development. This is achieved by conducting an analysis of the potential impacts that a proposed development may have on the physical, environmental and social aspects of the concerned area (as has been conducted during this environmental scoping process). In order to minimise the potential impacts associated with the proposed road upgrading, an EMPr is to be compiled, which must be implemented in order to sufficiently mitigate the anticipated impacts to an acceptable level.

The draft environmental Scoping Report gave an account of the environmental qualities and attributes of the study area and described the details of the proposed development in relation to the anticipated impacts/issues or interaction that the development may have with the different environmental components. The response to issues raised by members of the public is made available for comments for a period of thirty days. **After this Scoping Report is submitted and accepted by the relevant authority, the draft EIA report will be compiled with all issues raised and again be made available to members of the public to determine whether all matters have been covered and addressed to their satisfaction.**

The Environmental Assessment Practitioner (REC Services (Pty) Ltd.) is of the independent opinion that the EIA process will conclusively determine if there are any fatal environmental flaws associated with the proposed road development that would constitute the refusal of Authorisation of the project - bearing in mind that approval must be subject to strict implementation and monitoring of the EMPr to be compiled, and given that there should be room for improving the EMPr as the project progresses. It is trusted that this environmental Scoping Report gives a balanced view of the anticipated environmental impacts associated with a proposed development of this nature.

9. UNDERTAKING UNDER OATH BY THE EAP

An undertaking under oath by the EAP in relation to:

- (i) the correctness of the information provided in the report;
- (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and
- (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties.



Rowan van Tonder

REC