

BASIC ASSESSMENT REPORT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

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

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.

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11. Unless protected by law, all information in the report will become public information on receipt by the competent authority.
Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

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

YES	NO
	X

1. PROJECT DESCRIPTION

INTRODUCTION

The KZN Department of Transport (DOT) proposes to extend Mlindazwe Road to a type 7A local gravel road approximately 6.1km in length and 6m in width with a road reserve of 20m that conforms to DOT standards. The existing road will be upgraded in one of Msinga villages off D1271. The existing track is 1.8km in length, therefore DOT proposes to extend the existing track to a further 4.3km. The extension of Mlindazwe would provide access to basic amenities as well as access to Dayiswayo Primary School. The road transverses a watercourse, therefore DOT proposes to place culverts in the stream bed to allow for natural flow of the stream.



Photo 1: Showing existing track of local road Mlindazwe

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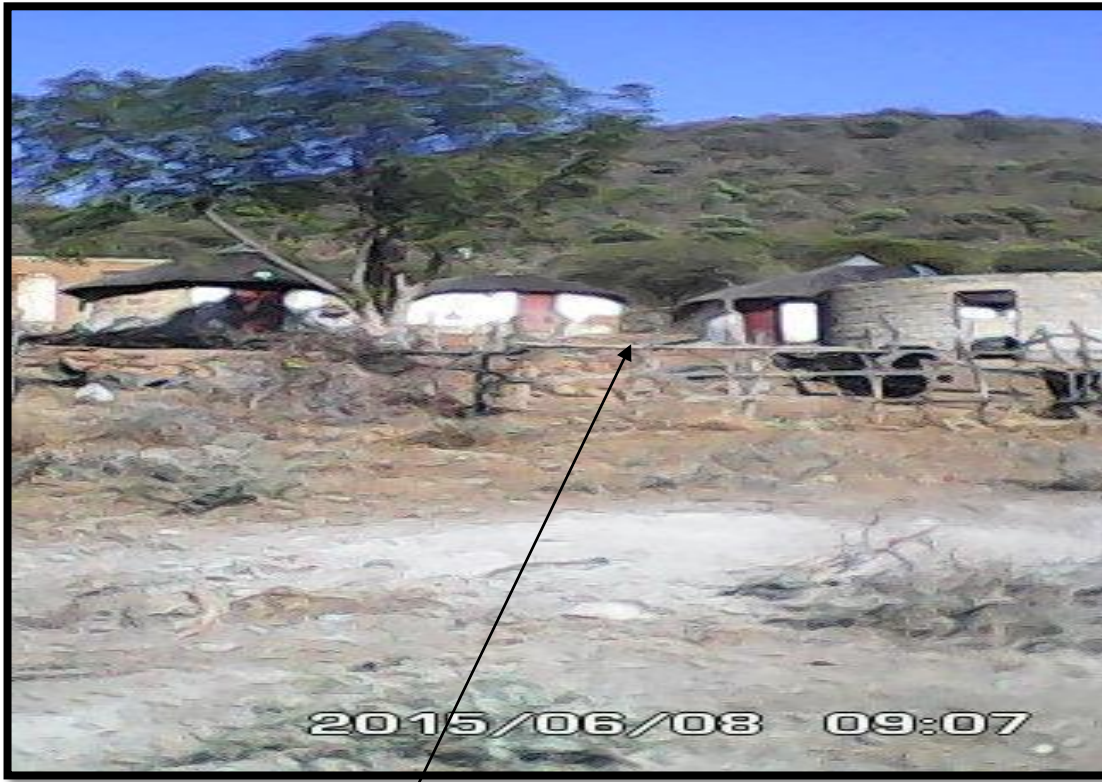


Photo 2: Showing dwellings which utilize the existing track.



Photo 3: Showing proposed extension of Mlindazwe Route.

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Photo 5: Showing dwellings which utilize the existing track.



Photo 6: Showing Dayiswayo Primary School which utilizes the existing track.

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

Listed activity as described in GNR 983 (Listing Notice 1)	Description of project activity
<p>Listing Notice 1 of 2014, Listed Activity 12</p> <p>The development of:</p> <p>(iii) – bridges exceeding 100 square metres in size;</p> <p>(xii) infrastructure or structures with a physical footprint of 100 sq m or more; where such development occurs –</p> <p>(a) within a watercourse</p>	<p>Based on DOT upgrade, the proposed road length is approximately 6.1 km. The road transverses a watercourse, therefore two 600 mm pipe culverts will be placed in the stream bed to allow for natural flow of the stream.</p>
<p>Listing Notice 1 of 2014, Listed Activity 19</p> <p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from -</p> <p>(i) a watercourse;</p>	<p>The proposed activity will require the temporary removal of soil from the watercourse. The removed soil will be used for infilling and stabilizing the river banks. All top soil will be used in the rehabilitation of the site and NO soil will be removed off-site.</p>
<p>Listing Notice 1 of 2014, Listed Activity 24</p> <p>The development of-</p> <p>(ii) a road with a reserve wider than 13,5</p>	<p>The proposed upgrade is 6.1 km in length and 6 m in width with a road reserve of 20 m that conforms to DOT standards.</p>

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<p>m, or where no reserve exists where the road is wider than 8 m;</p> <p>Listing Notice 1 of 2014, Listed Activity 56.</p> <p>The widening of a road by more than 6 meters, or the lengthening of a road more than 1 kilometre-</p> <p style="padding-left: 40px;">(i) where the existing reserve is wider than 13.5 m;</p> <p>where no reserve exists, where the existing road is wider than 8 m; excluding where widening or lengthening occur inside urban areas.</p>	<p>The road will be lengthened by 4.3km as an Extension of Mlindazwe.</p>
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2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

a) Site Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The preferred route was chosen based on the fact that there is an existing track and a portion of the road will be extended so as to minimize the impact to the	S 28°44'22"	E 30°36'11"

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<p>receiving environment. The preferred alternative has shown to be the best practical option. There is an existing footpath that has been utilized by the community therefore there won't be further impact on the receiving environment. The road design has taken numerous engineering methodologies into consideration which has a minimal impact on the environment, by improving drainage and reducing erosion along the road. The road has been designed according to DOT standards.</p>		
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Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The second alternative has been chosen as an additive choice as there is an existing track and a portion of the road will be extended. The alternative route as depicted on the GIS map which can be viewed in Appendix A, crosses through dense indigenous vegetation (KZN Highland Thornveld & Thukela Valley Bushveld) which will have to be removed to accommodate the new road. Due to the undulating topography the alternative route is neither feasible nor reasonable. This route also transverses dwellings and therefore relocation will have to take place which will disturb the community social structure.</p>	S 28°44'22"	E 30°36'11."
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

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In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

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

28°44'22" S	30°36'11"E
28°43'31"S	30°35'34."E
28°43'05"S	30°33'59"E

Alternative S2

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

28°44'22" S	30°36'11" E
28°43'40" S	30°34'59" E
28°43'05" S	30°33'59" E

Alternative S3 (if any)

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

N/A	N/A
N/A	N/A
N/A	N/A

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
<u>Road:</u>		
(a) The proposed construction of the existing road from a mud and rocky track to a gravel road 6m in width, and a length of 6.1km. The road will be upgraded on an existing track, which has become prone to erosion and inundated during periods of high rainfall. The preferred route does not bisect any environmentally sensitive areas (such as wetlands & heritage rich areas). No settlements would be displaced during the construction phase as the road does not transverse through any dwellings. The preferred route follows the one line footpath which means that the track has already been	28°44'22" S	30°36'11"E

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<p>disturbed.(Refer to figure 1)</p> <p style="text-align: center;"><u>Culverts:</u></p> <p>(b) Two 600 mm pipe culverts will be placed in the stream bed to allow for natural flow of the stream. This will follow an existing footpath therefore no further damage will be caused to the receiving environment.</p>	28°43'11" S	30°33'53" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p style="text-align: center;"><u>Road:</u></p> <p>(a) The proposed construction of the alternative route is an existing road from a mud track to a gravel road 6 m in width, and a length of 6.1 km. The road will be upgraded on an existing track, which has become prone to erosion and inundated during periods of high rainfall. From an environmental perspective the alternative route is not suitable for a number of reasons. Firstly it is not advisable to construct a road which transverses through an environmentally rich/sensitive area as it could have dire consequences on the organisms as well as the surrounding environment. The alternative route passes through dense indigenous vegetation (KZN Thornveld& Thukela Valley Bushveld). The removal of the indigenous vegetation would result in the growth of alien invasive species in the area. The removal of the indigenous vegetation would have detrimental effects on both the surrounding environment as well as the fauna which are found in the area. The alternative route also passes through</p>	S 28°44'22"	E 30°36'11"

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<p>settlements. It would not be ideal to relocate these settlements as it would lead to time being wasted during the construction phase and problems with the community of the area. The alternative route is not suitable as there is a steep and rocky topography that will cause a delay in the construction. Refer to figure 2)</p> <p style="text-align: center;"><u>Culverts:</u></p> <p>(b)Two 600 mm pipe culverts will be placed in the stream bed to allow the natural flow of the stream. There is an existing track therefore no further damage will be caused to the receiving environment.</p>	28°43'11" S	30°33'53" E
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

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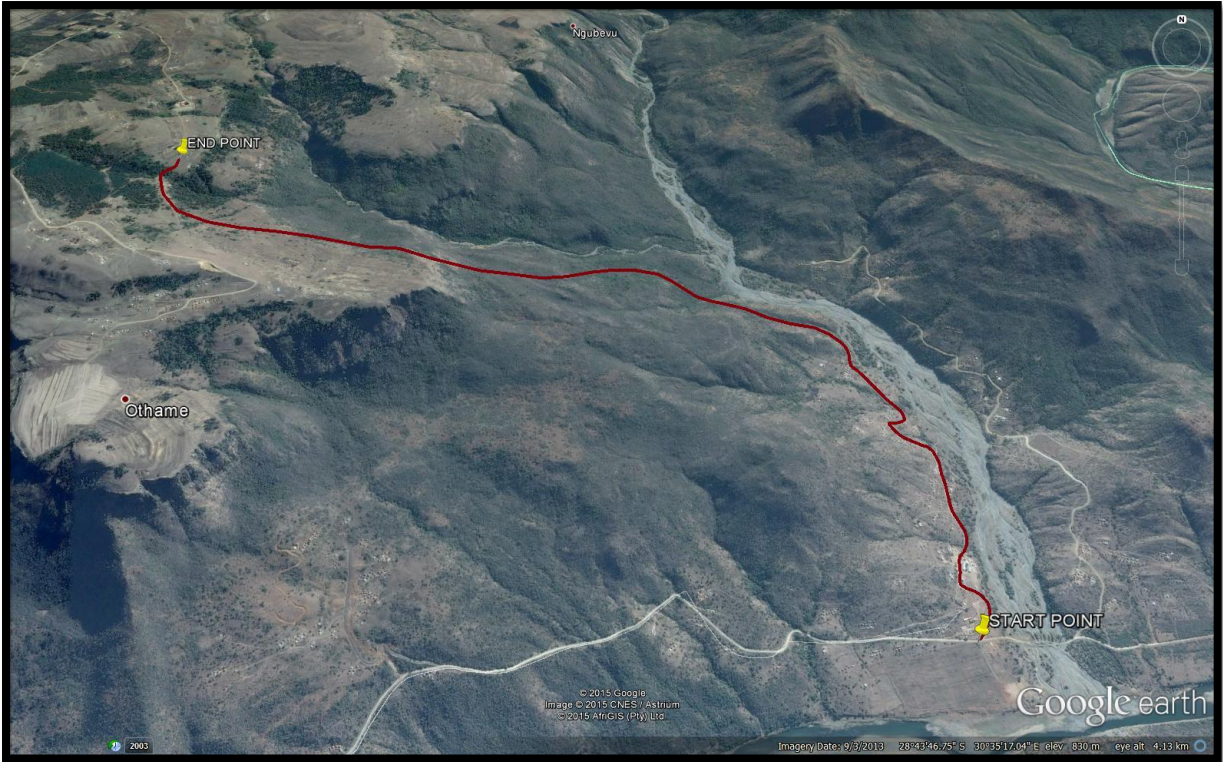


Figure 1: Showing the preferred route.

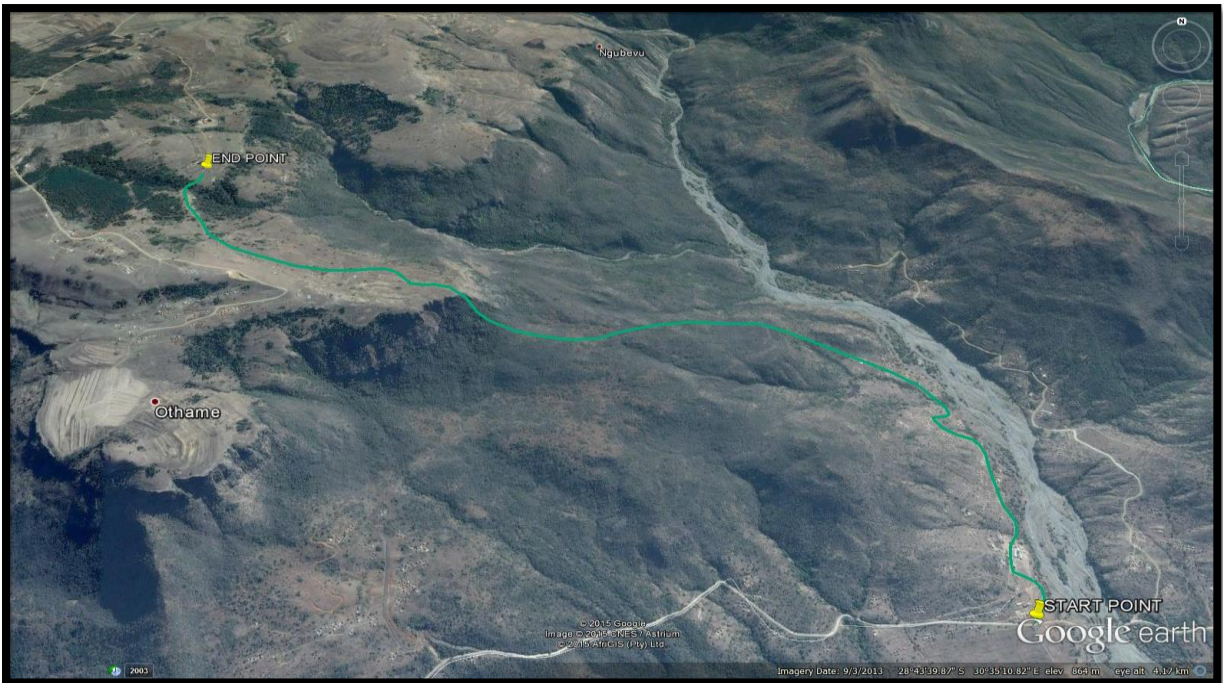


Figure 2: Showing Alternative track.

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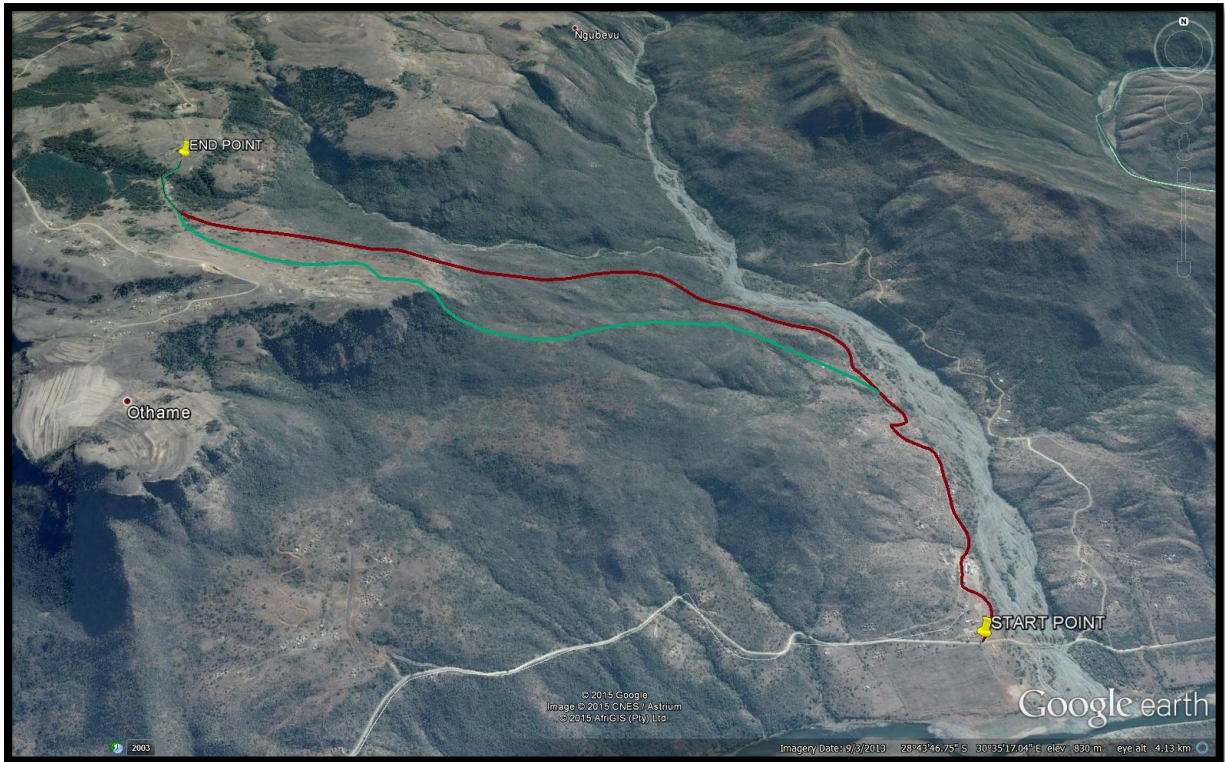


Figure 3: Showing the comparison between both the preferred and the alternative route. (NB: On the map red route is the preferred alternative & the green route is the alternative route).

c) Technology alternatives

Alternative 1 (preferred alternative)

Figure 4 below: shows the standard pipe culverts that will be inserted in the stream

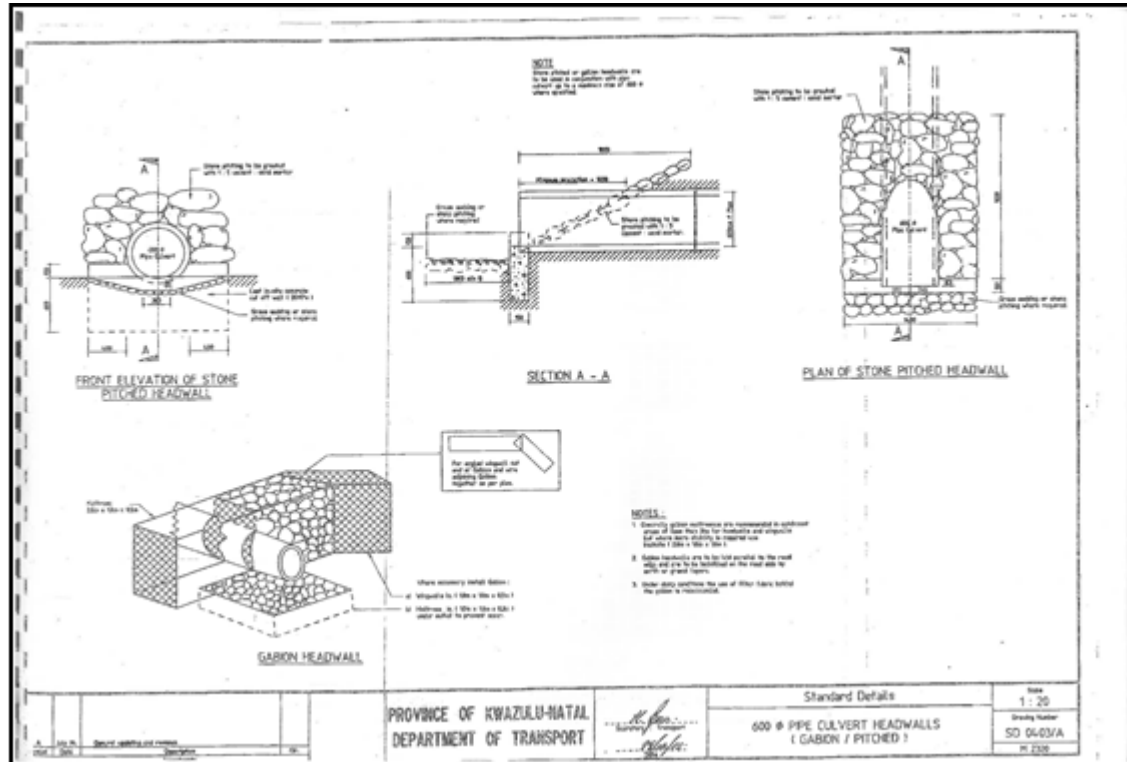


Figure 1: showing the standard details for the pipe culverts (Drawing no. SD0403/A)

Alternative 2

There have been no alternative technologies proposed as the preferred alternative is the best option with regards to causeway construction.

N/A

Alternative 3

N/A

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

No alternate technologies have been investigated as the preferred design meets the following requirements:

1. The current design for the culverts are in accordance with DOT standards.
 2. Is within the budget available from Department of Transport to establish a
- BAR MLINDAZWE – PROPOSED CONSTRUCTION OF A LOCAL ROAD – SHELDON SINGH (M.ENV)

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gravel road.

3. Have limited impact as possible on the ecological environment as a portion of a new road will be constructed.

4. The best practical means approach has been adopted and the design favorably suits the ambience of the surrounding environment.

e) **No-go alternative**

No gravel road and culverts will be constructed, therefore there will be no negative impacts associated with construction activity. However, there will also be no positive impacts associated with the road construction such as the improved connectivity and access for local residents. Residents that make use of the road will continue to experience disruptions, as access is frequently overtopped by flood water, making access difficult at times of high flow. Erosion along the road is evident in areas as a direct result of poor drainage of the existing road. According to the ward councillor members of the community are left stranded during periods of high rainfall as the existing road becomes impossible to use. The proposed route is transformed by existing footpaths and highly degraded, most natural vegetation have been invaded by alien vegetation along the track.

3. **PHYSICAL SIZE OF THE ACTIVITY**

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

Alternative:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

	2x0.283m ²
	N/A m ²
	N/A m ²

or, for linear activities:

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

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Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

	6.1km
	5.79km
	N/A m

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

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

	N/Am ²
	N/Am ²
	N/Am ²

4. SITE ACCESS

Does ready access to the site exist?

YES	NO
x	
N/A	

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

Describe the type of access road planned:

N/A

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

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5. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES X	NO	Please explain
<p>The existing road is an extension of Mlindazwe providing access to the local communities, and school children. The existing road provides direct access for community members. The gravel road will be constructed to ensure safe access to pedestrians and motorists. This activity is in line with the property's existing land use rights.</p>			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES X	NO	Please explain
<p>The Dundee region is predominately rural and access to basic developmental areas is limited. Therefore the activity is in line with the PSDF which outlines road construction as a priority area within the rural municipality such as the uMzinyathi municipality.</p>			
(b) Urban edge / Edge of Built environment for the area	YES X	NO	Please explain
<p>The road is not in a built urban environment thus urban edge policies are not affected.</p>			

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<p>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</p>	<p>YES</p>	<p>NO X</p>	<p>Please explain</p>
<p>In accordance with the IDP (2012 – 2017) of the Msinga Municipality, the Department of Transport has planned for the maintenance of roads in the area. The upgrade of local roads was identified as a priority in the area and will continue to do so as funding is available (IDP, 2012-2017, p6). The Msinga area lacks infrastructure, therefore, finds it difficult to attract investment into the municipality (IDP, 2012 – 2017, p8). The UMzinyathi municipality has a low level of telecommunications infrastructure in place (IDP, 2012 – 2017, p31).</p>			
<p>(d) Approved Structure Plan of the Municipality</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>The ward councillor has expressed the communities' concerns w.r.t the need for an access route that is not inundated during high rainfall periods. He expressed these concerns to the local municipality which were documented. Therefore the activity is in line with the approved structure plan of the municipality.</p>			
<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	<p>YES</p>	<p>NO X</p>	<p>Please explain</p>
<p>The EMF is currently in the compilation stage.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p>YES</p>	<p>NO X</p>	<p>Please explain</p>
<p>N/A</p>			

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<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
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The Msinga municipal development objectives are mainly aligned with National Key Performance Areas (KPA's) which include Institutional Development and Transformation; Basic service Delivery; Good Governance and Public Participation; Local Economic Development; and Financial Viability (IDP, 2012 – 2017, p29).

<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
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Community members are often left stranded during periods of high rainfall, therefore, the upgrading of the existing track to a gravel road will impact positively to members of the community. During the construction process local labour will be sourced (required/rooted) by the contractor, thus offering skilled training opportunities to members of the community. As a result of the construction process, employment will increase and skills will be transferred to the local community. This will also mean easy access to potential investors for long-term development opportunities.

<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
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All necessary services are available for the activity to commence.

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<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?</p>	YES	NO X	Please explain
No infrastructure planning is envisaged by the municipality w.r.t this project. The project costs are borne by the Department of Transport.			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	NO X	Please explain
The proposed activity is site specific and is at a localized level.			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	YES X	NO	Please explain
The site is extremely degraded and banks along the road are highly eroded as a direct result of poor drainage of the existing track. The natural vegetation of the site is interrupted by the existence of alien vegetation. On completion of construction, the site will be rehabilitated. Therefore, the location factors favour this activity.			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	YES X	NO	Please explain
The proposed site has been assessed and a favorable position for the road construction has been identified with all stakeholders. This will significantly decrease the overall costs of proposing to construct an entirely new gravel road. The upgrade of the existing track will minimize the negative environmental impacts in the surrounding area.			
<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	YES X	NO	Please explain
The proposed construction of the road will positively impact the local community by providing access to basic amenities, and minimizing the negative impact of flooding, and soil erosion.			

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11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO X	Please explain
No precedent will be set in the area; however the upgrade of the road from a mud and rocky track to a gravel road will improve accessibility for community members.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO X	Please explain
During the Public Participation Process no person expressed the view that the proposed activity will directly affect them negatively, all stakeholders fully supported the project proposal. No dwellings will be relocated as the existing track does not transverse any properties or infringe on the rights of the residents. The track will follow the existing footpath.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO X	Please explain
The project is located in a rural area, and therefore the urban edge is not affected.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO X	Please explain
This is a localized site specific activity, and will benefit the local community members, but contributes to SIPS.			

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<p>15. What will the benefits be to society in general and to the local communities?</p>	<p>Please explain</p>
<p>There is an urgent need to ensure safe and reliable means of crossing the road for both vehicles and pedestrians. The proposed activity to upgrade the existing road will encourage economic development in the area. The upgrade of the existing road will also make travelling for basic amenities, education and work feasible for local community members. The existing road is prone to flooding particularly during periods of high rainfall, thus limiting the access to basic amenities, residents are left stranded, having a negative impact on the schools and working class. The local road may not have benefits as far reaching as to society in general, however, the upgrade of the existing road lays the foundation for further and knock-on development which would lead to the upliftment of disadvantaged societies. The majority of the population has no formal education and is illiterate. Most community members are dependent on governmental social grants, pensions and even informal trading to earn a living. Therefore, the development of this area is of great importance. The proposed action of upgrading the existing road can be considered as the first step towards upliftment or development of the local community. Once construction is complete the road will allow for public transport modes to cater for local communities efficiently. This development will open up other development opportunities for the community as potential investors will have access to the area.</p>	
<p>16. Any other need and desirability considerations related to the proposed activity?</p>	<p>Please explain</p>
<p>According to the IDP (2012 – 2017) the upgrading of local roads is a priority within the area. The area is predominately rural and developmental initiatives are limited w.r.t funding. The Department of Transport has funded the project and similar projects within the District. Communities expressed their excitement for the project, as they are of the view that the Government is taking their concerns of development seriously.</p>	

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17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>The National Development Plan for 2030 sets out strategic goals in terms of access to basic services and amenities. Although this project is site specific in nature, it contributes to the cumulative effect of developmental nodes of rural communities to the urban environments.</p>	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
<p>According to section 23 of NEMA the appropriate environmental management tools were applied effectively. The EAP is an independent person, appointed by Nankhoo Engineers to determine all negative as well as positive impacts of the proposed activities might have on the environment. Mitigation measures were also proposed in this report. All the information compiled by the EAP was rated in a scoring matrix, taking environmental, cultural heritage and ecological issues into account. The BAR will be circulated into the public domain for a Public Participation Process as described in NEMA. All comments received during the entire BAR process will be recorded as part of the Issues and Responses Report. Particulars regarding this Process have been included in Appendix D. All impacts with regards to the construction and operation of the culvert structure have been identified in Section D. The impacts that have been identified must be managed and mitigated. These measures have been included in the Environmental Management Plan attached as Appendix E.</p>	

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

All principles of NEMA have been taken into consideration. The construction of the structure will be socially sustainable due to the continuous access that will be provided to local community members. Access to basic amenities would be available at all times for community members. The proposed activity will ensure that community members gain access to schools at all times encouraging economic development. All factors mentioned in Section 2 (4) of NEMA were taken into consideration, assessed and discussed in Section D. Through Section 2 of NEMA it is understood that the principles as set out in this section have been taken into account through the proper application of a Basic Assessment Process as described by NEMA, and by assessing the predicted and actual impacts of the proposed activity in order to assist the Competent Authority in adequately making an informed decision.

6. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, 1998 (Act No 107 of 1998)	Environmental Authorisation is required in terms of Regulation R 983 of Dec 2014 (included within NEMA 107 of 1998)	Department of Environmental Affairs	1998
Environmental Impact Assessment Regulations (Notice No. R983 of 2014)	Guidelines with regards to the Environmental Impact Assessment Process to be undertaken	Department of Environmental Affairs	1998

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Constitution of Republic of South Africa (Act No 108 of 1996)	The project falls within the boundaries of South Africa	Department of Environmental Affairs	1998
National Heritage Resources Act (Act No 25 of 1999)	Any possible artefacts which could be of cultural or historical significance must be identified	SAHRA	1999
National Environmental Biodiversity Act 10 of 2004	Damaging of, disturbance to or destroying of plant or animal species during the clearing of the site	Department of Environmental Affairs	2004
Integrated Environmental Management Guideline, Public Participation	Public Participation Process	Department of Environmental Affairs	2010

7. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES	NO
X	
5m ³	

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

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

All solid waste will be disposed at the registered local landfill site. This will be addressed in the EMPr. The ECO will audit the EMPr and submission will be made to the CA for review.

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

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The construction solid waste will be disposed of at the registered landfill site by the contractor. This will be addressed in the EMP. The ECO will audit the EMP and submission will be made to the CA.

Will the activity produce solid waste during its operational phase?

YES	NO x
N/A m ³	

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

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

N/A

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

N/A

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

N/A

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

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

YES	NO x
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If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

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

YES	NO x
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If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

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

YES	NO x
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BASIC ASSESSMENT REPORT

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

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

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

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

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

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

If YES, provide the particulars of the facility:

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

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

N/A

c) Emissions into the atmosphere

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

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

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

If YES, the applicant must consult with the competent authority to determine whether it is necessary to

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change to an application for scoping and EIA.

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

N/A

d) Waste permit

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

YES	NO
	X

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

e) Generation of noise

Will the activity generate noise?

YES	NO
X	

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

YES	NO
	X

Describe the noise in terms of type and level:

Noise will only be generated during the construction phase (machinery, generator etc.) The level of the noise is however low as there are no residents nearby. No noise will be generated during the operational phase; therefore the impact is temporary in nature.

8. WATER USE

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

<input checked="" type="checkbox"/> Municipal	<input type="checkbox"/> Water board	<input type="checkbox"/> Groundwater	<input type="checkbox"/> River, stream, dam or lake	<input checked="" type="checkbox"/> Other	<input type="checkbox"/> The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A

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

YES

NO

9. ENERGY EFFICIENCY

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

N/A

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

N/A

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SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

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

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

A

- Paragraphs 1 - 6 below must be completed for each alternative.
- Has a specialist been consulted to assist with the completion of this section?

YES	NO
X	

Name of Specialist	Neelesh Ramasis
Qualification	Bsc. Environmental Science

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:	Province	Kwazulu Natal
	District Municipality	uMzinyathi Municipality
	Local Municipality	Msinga Municipality
	Ward Number(s)	Ward 15
	Farm name and number	N/A
	Portion number	N/A
	SG Code	N/A

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Is a change of land-use or a consent use application required?

YES NO

1. GRADIENT OF THE SITE

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5 <input checked="" type="checkbox"/>	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5 <input checked="" type="checkbox"/>	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

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

Ridgeline

2.2 Plateau

2.3 Side slope of hill/mountain

2.10 At sea

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

2.4 Closed valley

2.5 Open valley

2.6 Plain

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

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

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

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3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

As per the site investigation on the 08/06/15 the following features have been identified:

The Msinga Municipality is a local municipality which forms part of the four local municipalities constituting the uMzinyathi District Municipality (IDP, 2012-2017). The Msinga Municipality is located in the town of Tugela Ferry. The site for the proposed development is located in one of the villages in the Msinga municipality off District Road 1271.

The general topography of the region as per the site investigation was classified as being found on the side of a hill/slope. The general gradient of the site is 1:10-1:7.5, which indicates generally an undulating terrain with steep slopes. A watercourse in the village is present and placement of culvert structures will take place in order for community members to utilize, ensuring safety and movement across. The distance across the watercourse is approximately <20m.

The watercourse is underlain by Sedimentary rock which consists of many small sized rocks as well as boulders, which can be classified as sandstone and Shale. The watercourse as per the site investigation was dry with no water flowing, although this could be an indication that the watercourse is reliant on rainfall and can be classified as seasonally perennial. The Msinga region is classified as Kwazulu-Natal's hottest and driest region (IDP, 2012-2017). As per a site visit two types of rock formations were found in the watercourse, Sandstone and Shale are both present, although the area is consistent with mostly sandstone which are found as outcrops of rock.

During the summer months, increased rainfall leads to difficulty in crossing the watercourse, therefore the placement of culverts would be advantageous to the members of the community. The geology of the region is underlain by three specific geological units, the Vryheid formation, Volkrust formation and Karoo Dolerite. In these formations consists geological outcrops which have been identified on site as Sandstone. There exist very few geotechnical hindrances to development where areas are underlain by this specific type of rock. Slopes are present although these slopes are not too steep, but could play a role in slope stability. There are many

BASIC ASSESSMENT REPORT

loose rocks and boulders found on the existing road which indicates the breakup of existing massive outcrops.

Soils around this region exhibit a yellow colour, which is an indication of the presence of iron which is dominated by hematite and aluminum. The area has an estimated clay content of between 10-30% near the watercourse, although the estimated clay content could increase during high periods of rainfall. The banks of the watercourse are severely eroded and presence of gullies and dongas in this region are evident. Some of the soils in this region are severely degraded due to geological influence, overgrazing and improper land use.

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4. GROUNDCOVER

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

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

5. SURFACE WATER

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

6. LAND USE CHARACTER OF SURROUNDING AREA

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building

BAR MLINDAZWE – PROPOSED CONSTRUCTION OF A LOCAL ROAD – SHELDON SINGH (M.ENV)

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Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

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

N/A

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

N/A

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

N/A

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

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO <input checked="" type="checkbox"/>
Core area of a protected area?	YES	NO <input checked="" type="checkbox"/>
Buffer area of a protected area?	YES	NO <input checked="" type="checkbox"/>
Planned expansion area of an existing protected area?	YES	NO <input checked="" type="checkbox"/>
Existing offset area associated with a previous Environmental Authorisation?	YES	NO <input checked="" type="checkbox"/>

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Buffer area of the SKA?	YES	NO <input checked="" type="checkbox"/>
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7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO <input checked="" type="checkbox"/>
		Uncertain

No heritage permit is required. However, should elements of significance be identified during the construction phase, all construction activities will stop immediately and an independent heritage specialist will be appointed to investigate. This is covered in more detail in the EMP. A draft BAR document was sent to AMAFA for comments and uploaded onto the SAHRIS website. **Awaiting comments.**

Will any building or structure older than 60 years be affected in any way?	YES	NO <input checked="" type="checkbox"/>
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO <input checked="" type="checkbox"/>

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

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Level of unemployment:

According to the IDP (2012 – 2017, p8), the unemployment rate within the Msinga Local Municipality has decreased from 78.7% in 2001 to approximately 55% in 2007. The table below provides an indication of all economically active people within the Msinga Local Municipality (IDP, 2012 – 2017, p25).

Table 1: Employment category (IDP, 2012 – 2017, p25).

EMPLOYMENT CATEGORY	%
Employed	8.2%
Unemployed	10.2%
Not economically active	28.9%
Not applicable/Institutions	52.6%
TOTAL	100

Economic profile of local municipality:

According to the IDP (2012 – 2017, p8), there are no major industries within the municipality, therefore, people are largely employed in the social sector or in the informal sector. The Table below provides an indication of the main economic sectors in Msinga (IDP, 2012 – 2017, p27).

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Table 2: Main economic sectors (IDP, 2012 – 2017, p27).

SECTOR	TOTAL	%
Agriculture	3055.8	3.7
Mining	953.0	1.2
Manufacturing	1483.5	1.8
Electricity and Water	0.0	0
Construction	6919.9	8.4
Trade	11572.2	14.0
Transport	4107.6	5.0
Finance	1140.6	1.4
Community Services	53326.4	64.6
TOTAL	82558.8	100

Level of education:

According to the IDP (2012 - 2017, p21), 25.11% of the adult population have no form of schooling; 22% of the population have primary schooling as their highest qualification; and approximately 7% have a grade 11 and 12. The table below indicates the number of people surveyed. According to the table below, no residents has indicted any form of higher education (IDP, 2012 – 2017, p22).

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Table 3: Level of education (IDP, 2012 – 2017, p22).

	UMZINYATHI DM	NQUTHU	ENDUMENI	UMVOTI	MSINGA
Higher Education	200	65	121	13	0
Diploma with Gr12	4206	776	1250	1437	743
Diploma with less than Gr12	1521	408	39	649	429
Certificate with Gr12	2414	479	153	717	1064
Certificate with less than Gr12	3007	1442	136	317	1112
Grade 11 and 12	52529	17583	8960	15202	10784
Grade 10	27136	4162	10131	6473	6369
Primary Schooling	98796	36117	8184	21156	36117
No Schooling	85709	22539	4380	18137	40653

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

To be determined

What is the expected yearly income that will be generated by or as a result of the activity?

R N/A

Will the activity contribute to service infrastructure?

YES

NO

Is the activity a public amenity?

YES

NO

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

To be determined

What is the expected value of the employment opportunities during the development and construction phase?

To be determined

What percentage of this will accrue to previously disadvantaged individuals?

100 %

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How many permanent new employment opportunities will be created during the operational phase of the activity?	To be determined
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	100 %

9. BIODIVERSITY

Various sensitivity maps have been consulted during the desk studies, and no biodiversity issues were identified. The site is degraded and existing footpaths have transformed the site, therefore the proposed activity will contribute to the rehabilitation of the site which has been outlined in the EMP. A draft BAR has been submitted to KZN Wildlife for comments and forms part of the Public Participation Process. **Awaiting comments.**

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

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	N/A

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b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	100 %	The existing road has been utilized as an access road over a number of years; therefore the site has become degraded by footpaths and invaded by alien vegetation.

c) Complete the table to indicate:

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

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National Environmental Management	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats,	Estuary	Coastline
	Endangered			
	Vulnerable			

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Terrestrial Ecosystems		Aquatic Ecosystems						
ent: Biodiversity Act (Act No. 10 of 2004)	Least	seeps pans, and artificial wetlands)						
	Threatened	YES	NO	UNSURE	YES	NO	YES	NO

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

Natural vegetation is minimal being invaded by alien vegetation and footpaths. The area has become completely transformed and offers no significant biodiversity or natural pristine ecosystems. **KZN Wildlife comments to be included in the Final BAR.**

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Ilanga Newspaper	
Date published	16/07/15	
Site notice position	Latitude	Longitude
	28°44'22" S	30°36'11" E
Date placed	15/07/15	

Include proof of the placement of the relevant advertisements and notices.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 983.

A site notice was placed at a strategic point on the 15/07/2015, and a Newspaper article (Zulu) was published in the Ilanga Newspaper on the 16/07/2015 (See **Appendix D**). The elected ward councillor was made aware of the proposed development. A formal meeting was held with the councillor and he expressed the need for the development in the area. The elected structures that currently exist were chosen to be the most appropriate means of informing community members of the proposed development. All organs of state that were identified during the process were informed and requested to comment on the BAR. (See **Appendix D** for confirmation of all correspondence to stakeholders and “comments & responses”).

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 983

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr. Mthethwa	Ward Councillor	072 355 1820

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3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No concerns have been raised by the local community, other than the lack of formal access to all amenities. The ward councillor expressed the need for a formal access road, and the employment opportunities that will be created during the construction phase. The upgrading of existing roads is a priority for DOT projects for the current financial year (2015/16).	Responses have been included in the Appendix D entitled 'Comments Received'

4. COMMENTS AND RESPONSE REPORT

SEE **APPENDIX D** FOR COMMENTS AND REPOSES REPORT.

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5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
Department of Transport	Mrs. S. Ndlela	034 299 860 0	Sibongile.mhlungu@kzntransport.gov.za	Private Bag X2002 Dundee 3000
Amafa	Ms Bernadet	033 3946543	bernadep@amafapmb.co.za	P.O.Box 2685 PMB 3201
KZN Wildlife	Mr D. Wieners	033 8451999	Dominic.Wieners@kznwildlife.com	P.O.Box 13053 3202
Department of Water & Sanitation	Mr S. Naidoo	031 3362798	naidooso@dwa.gov.za Water Use License	P.O. Box 1018 Durban 4000
Department of Water & Sanitation	Mr S. Govender	031 3362759	GovenderS2@dwa.gov.za	88 Field Street Durban 4001

SECTION D: IMPACT ASSESSMENT

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

N.B All mitigation measures have been outlined in specific detail in the EMPr(**Appendix E**), therefore this section must be read in conjunction with the EMPr. The impacts that have been outlined below relate to both activities. Due to this being a linear development and the road following the existing track with an extension being proposed, an alternative route has been added and is included. The proposed upgrade will follow the existing track with a further extension being proposed which will have minimal impact to the environment as the extension follows a footpath indicating disturbance. Furthermore the proposed culvert structure will also be placed along an existing crossing. It is not feasible to place culvert structures at a “new crossing point” since this will have adverse negative impacts to the environment. For reporting purposes the existing route will be investigated and forms part of the preferred alternative (**Route 1**) and an alternative route is included as well.

1.1 Selection of Route – Existing Road

The selection of a road will have the greatest environmental impact. The proposed gravel road will be constructed along an existing track. The area is degraded with the presence of alien vegetation and highly eroded banks. Therefore the existing road has been selected as the preferred alternative as not to cause further disturbance to the environment. Engineering Designs prepared by DOT has taken the most efficient techniques with minimal impact to the environment into consideration. Generally, roads are constructed along the path of least disturbance, often following existing tracks.

1.2 Selection of Site – Proposed Structure

The selection of a new crossing point will have the greatest environmental impact. The proposed culvert structure will be placed along an existing crossing point with footpaths that have been developed over the years. The area is degraded with the presence of alien vegetation. Therefore the existing crossing point has been selected as the preferred alternative as not to cause further disturbance to the environment. The proposed road upgrade forms part of the water crossing point. Engineering Designs prepared by DOT has taken the most efficient techniques with minimal impact to the environment into consideration.

Impact Ratings

The following presents the assessment criteria used to evaluate the impacts resulting from the proposed development.

Impact Assessment Methodology

The impacts that may result from the construction phase and operation phase of the project was assessed according to a number of criteria to arrive at an overall significance rating. The criteria used were as follows:

Spatial Scale

- Site **(S)** Immediate area of impact
- Local **(L)** Area within 20km of the development
- Regional **(R)** Entire Municipality

Duration

- Short Term **(ST)** Less than the duration of the activity
- Medium Term **(MT)** Impact persists until activity ceases
- Long Term **(LT)** Impact persists well beyond the cessation of the activity
- Permanent **(P)** Impact is permanent

Probability

- Low **(L)** Unlikely
- Medium **(M)** Possible
- High **(H)** Likely

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Intensity

Intensity describes whether an impact is destructive or benign.

SCORE	ELABORATION
LOW	These are impacts which individually or combined pose a deleterious or adverse impact and low negative risk to the quality of the receiving environment, and may lead to potential health, safety and environmental concerns. Aesthetically and/or physical non-compliance can be expected for short periods. In this case the impact is short term, local in extent, not intense in its effect and may not be likely to occur. A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
MEDIUM	These are impacts which individually or combined pose a moderate negative risk to the quality of health of the receiving environment. These systems would not generally require immediate action but the deficiencies should be rectified to avoid future problems and associated cost to rectify once in HIGH risk. Aesthetically and/or physically non-compliance can be expected over a medium term. In this case the impact is medium term, moderate in extent, mildly intense in its effect and probable. Mitigation is possible with additional design and construction inputs.
HIGH	These are impacts which individually or combined pose a significantly high negative risk to the environment. These impacts pose a high risk to the quality of the receiving environment. The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.

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Significance

Impacts can be Low, Medium or High and can be positive (+ve) or negative (-ve).

Severity scoring criteria:

Rating	Description
(-1) - Negative	Parameters exist at levels that do or will cause environmental damage, which could be permanent or is only medium term.
(0) -Neutral	Some parameters exist at recognizable levels and are/ can result in environmental change, but the effect of such change is easily recoverable or self-catering and has no lasting impact.
(+1) - Positive	Results in a positive impact to the surrounding environment, and poses little or no threat. The effect is short term and lasts only during the construction phase.

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The following table represents the score rating key which is used to rate both the preferred and alternative route as well as their environmental impacts.

Score	Risk Rating	Elaboration
(0-10)	Negative- Very High	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
(11-20)	Negative High	These are impacts which individually or combined pose a significantly high negative risk to the environment. These impacts pose a high risk to the quality of the receiving environment. The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
(21-30)	Negative Moderate	These are impacts which individually or combined pose a moderate negative risk to the quality of health of the receiving environment. These systems would not generally require immediate action but the deficiencies should be rectified to avoid future problems and associated cost to rectify once in HIGH risk. Aesthetically and/or physically non-compliance can be expected over a medium term. In this case the impact is medium term, moderate in extent, mildly intense in its effect and probable. Mitigation is possible with additional design and construction inputs.

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(31-40)	Positive Low	These are impacts which individually or combined pose a low positive impact to the quality of the receiving environment and health, and may lead to potential health, safety and environmental benefits. In this case the impact is short term, local in extent, not intense in its effect and may not be likely to occur. A low impact has no permanent impact of significance.
(41-50)	Positive Moderate	These are impacts which individually or combined pose a moderate positive effect to the quality of health of the receiving environment. In this case the impact is medium term, moderate in extent, mildly intense in its effect and probable.
(51-60)	Positive High	These are impacts which individually or combined pose a significantly high positive impact on the environment. These impacts pose a high benefit to the quality of the receiving environment and health, and may lead to potential health, safety and environmental benefits. In this case the impact is longer term, greater in extent, intense in its effect and highly likely to occur. The effects of the impact may affect the broader environment.

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(61-70)	Positive Very High	<p>These are permanent and important beneficial impacts which may arise. Individually or combined, these pose a significantly high positive impact on the environment. These impacts pose a very high benefit to the quality of the receiving environment and health, and may lead to potential health, safety and environmental benefits. In this case the impact is long term, greater in extent, intense in its effect and highly likely or definite to occur. The effects of the impact may affect the broader environment.</p>
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Impacts/Significance associated with the Construction phase

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SCALE	SPATIAL	DURATION	PROBABILITY	INTENSITY
DIRECT IMPACTS							
Dust Pollution	(-)	During construction high levels of dust is emitted into the atmosphere by construction vehicles and sediment is produced as a result of dust that enters the environment in rainfall runoff. These impacts are short-term and will only result over a 2 month period. No surrounding dwellings will directly be affected. These impacts have been addressed in detail within the EMPr.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED
Spillages	(-)	Construction vehicles pose major threats w.r.t spillages on-site, this may result in the contamination of soil and water. The presence of fuels on-site may have a negative impact on the groundwater. Cement mixing/spillages on open ground pose a threat to the receiving environment.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1
Water Quality	(-)	During construction, water quality is compromised. This is mainly due to human activity and by implementing inappropriate techniques such as diverting the flow of the water course. Pollution of the water course is also a major concern during construction, such as washing of equipment and discharging waste into the river.	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED
Soil erosion	(-)	All topsoil that will be removed during construction will be prone to erosion; therefore all topsoil must be stockpiled using the appropriate erosion control techniques. Soil erosion was evident at various points along the existing route as a result of poor drainage. The proposed gravel road will address these concerns by implementing correct standard designs by DOT. A vegetation rehabilitation plan will be included in the EMP to address the mitigation measures that must be implemented to reduce soil erosion on site. Extensive gully erosion is evident around the entire area. The road itself may have negative soil erosion impacts during construction but positive impacts thereafter as it may stabilize erosion.	L	MT	L	M	L
			Score Rating				
			-1	0	+1	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			POST MITIGATED	SIGNIFICANCE	INTENSITY	PROBABILITY	DURATION
Habitat Fragmentation	(-)	Roads can act as barriers or filters to animal movement and lead to habitat fragmentation. Many species will not cross the open space created by a road due to the threat of predation, and roads also cause increased animal mortality from traffic. This barrier effect can prevent species from migrating and re-colonizing areas where the species has gone locally extinct as well as restricting access to seasonally available or widely scattered resources. This will be a low negative impact as a track already exists, and the new proposed gravel road is an extension, therefore the route has been disturbed by the existing footpaths.	L	LT	L	M	L
			Score Rating				
			-1	-1	+1	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE MITIGATED POST
Unplanned routes/footpaths.	(-)	Construction workers may disturb or create footpaths that are not planned or existing, which may lead to areas becoming prone to erosion and spread of alien vegetation. Strict control measures must be implemented by the Contractor and ECO. All areas must be clearly demarcated and incidents must be reported immediately to the site agent.	S	ST	L	L	L
			Score Rating				
			+1	+1	+1	+1	+1
Water Resource	(-)	Water will be required during the construction phase that may lead to extra demands on the local water resources of the municipality. However, water will be transported to the site via tanks which will minimize the impact. No water will be extracted from any watercourse in the construction phase.	L	MT	M	L	L
			Score Rating				
			-1	0	0	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
<i>Impact on surface and ground water</i>	(-)	Pollution of soil/ groundwater (fuel, oil, cement, other chemicals etc.)	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1
<i>Impact of Storm water</i>	(-)	Storm water could lead to erosion without the proper mitigation measures in place, and side drains not properly constructed.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Sanitation	(-)	Inadequate sanitation could lead to pollution of the water table.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1
Heritage impacts	(+)	No negative impact. As artifacts of historical or cultural value was not found on the route.	S	ST	L	L	L
			Score Rating				
			+1	+1	+1	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
<i>Noise disturbance</i>	(-)	Construction machinery and personnel could disturb the peace in the surrounding area.	S	ST	M	L	L
			Score Rating				
			+1	+1	0	+1	+1
<i>Waste Disposal</i>	(-)	Waste is generated through construction activities and therefore the possibility of the area being polluted is increased.	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Socio-Economic Impact	(+)	Construction creates temporary employment for community members.	L	P	H	N / A	H
			Score Rating				
			+1	+1	+1	N / A	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
<i>Spread of Alien Vegetation</i>	(-)	The removal of topsoil and natural vegetation with an increase in human activity may result in the increase of alien vegetation. The vegetation rehabilitation will address this issue in more detail.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1
<i>Waste Disposal</i>	(-)	Waste such as plastic and paper will impact surrounding animals if ingested.	L	MT	M	H	L
			Score Rating				
			-1	0	0	-1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Socio-Economic Impact	(+)	Improved living standards.	L	P	H	L	L
			Score Rating				
			+1	+1	+1	+1	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
CUMULATIVE IMPACTS							
Waste Generation	(-)	Extra waste generated during the construction phase could result in added pressure placed on the local landfill site.	L	MT	L	L	L
			Score Rating				
			-1	0	+1	+1	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impacts/Significance associated with the Operational Phase

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative					
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE	POST
<i>Increased traffic in the area</i>	(-)	The proposed road is an access route off a district road, therefore increased traffic.	L	LT	M	L	L	
			Score Rating					
			-1	-1	0	+1	+1	
<i>Increased vehicular fumes contributing to Air Pollution</i>	(-)	It is not envisaged that the increased vehicular fumes will contribute significantly to increased localized air pollution but may have a cumulative effect.	L	MT	M	L	L	
			Score Rating					
			-1	0	0	+1	+1	

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
<i>Direct alteration of faunal habitat</i>	(-)	The area is highly transformed by the existing track and river crossing.	L	LT	L	L	L
			Score Rating				
			-1	-1	+1	+1	+1
<i>Increased socio-economic benefits</i>	(+)	The positive impact is that of increased socio-economic development to the local community.	L	LT	H	L	H
			Score Rating				
			+1	+1	+1	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Preferred alternative				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
INDIRECT IMPACTS							
Safety Issues for the community	(+)	The proposed road is merely an extension of the existing track; therefore safety issues do not pose a major threat.	S	ST	L	L	L
			Score Rating				
			+1	+1	+1	+1	+1
Increased noise	(-)	The road services the local community therefore noise levels should not be affected greatly by the upgrade.	S	MT	M	L	L
			Score Rating				
			+1	0	0	+1	+1

BASIC ASSESSMENT REPORT

Impacts/Significance associated with the Construction phase

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
DIRECT IMPACTS							
Dust Pollution	(-)	During construction high levels of dust is emitted into the atmosphere by construction vehicles and sediment is produced as a result of dust that enters the environment in rainfall runoff. These impacts are short-term and will only result over a 2 month period. No surrounding dwellings will directly be affected. These impacts have been addressed in detail within the EMPr.	S	MT	M	L	L
			Score Rating				
			+1	0	0	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED
Spillages	(-)	Construction vehicles pose major threats w.r.t spillages on-site, this may result in the contamination of soil and water. The presence of fuels on-site may have a negative impact on the groundwater. Cement mixing/spillages on open ground pose a threat to the receiving environment.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1
Water Quality	(-)	During construction, water quality is compromised. This is mainly due to human activity and by implementing inappropriate techniques such as diverting the flow of the water course. Pollution of the water course is also a major concern during construction, such as washing of equipment and discharging waste into the river.	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED
Soil erosion	(-)	All topsoil that will be removed during construction will be prone to erosion; therefore all topsoil must be stockpiled using the appropriate erosion control techniques. Soil erosion was evident at various points along the existing route as a result of poor drainage. The proposed gravel road will address these concerns by implementing correct standard designs by DOT. A vegetation rehabilitation plan will be included in the EMPr to address the mitigation measures that must be implemented to reduce soil erosion on site. Extensive gully erosion is evident around the entire area. The road itself may have negative soil erosion impacts during construction but positive impacts thereafter as it may stabilize erosion.	L	MT	H	M	L
			Score Rating				
			-1	0	-1	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
Habitat Fragmentation	(-)	Roads can act as barriers or filters to animal movement and lead to habitat fragmentation. Many species will not cross the open space created by a road due to the threat of predation, and roads also cause increased animal mortality from traffic. This barrier effect can prevent species from migrating and re-colonizing areas where the species has gone locally extinct as well as restricting access to seasonally available or widely scattered resources. This will be a low negative impact as a track already exists, and the new proposed gravel road is an extension.	L	LT	H	H	L
			Score Rating				
			-1	-1	-1	-1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
Unplanned routes/footpaths.	(-)	Construction workers may disturb or create footpaths that are not planned or existing, which may lead to areas becoming prone to erosion and spread of alien vegetation. Strict control measures must be implemented by the Contractor and ECO. All areas must be clearly demarcated and incidents must be reported immediately to the site agent.	S	LT	H	M	L
			Score Rating				
			+1	-1	-1	0	+1
Water Resource	(-)	Water will be required during the construction phase that may lead to extra demands on the local water resources of the municipality. However, water will be transported to the site via tanks which will minimize the impact. No water will be extracted from any watercourse in the construction phase.	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
<i>Impact on surface and ground water</i>	(-)	Pollution of soil/ groundwater (fuel, oil, cement, other chemicals etc.)	L	MT	M	M	L
			Score Rating				
			-1	0	0	0	+1
<i>Impact of Storm water</i>	(-)	Storm water could lead to erosion without the proper mitigation measures in place, and side drains not properly constructed.	S	MT	M	M	L
			Score Rating				
			+1	0	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
Sanitation	(-)	Inadequate sanitation could lead to pollution of the water table.	S	MT	M	M	L
			Score Rating				
			+1	-1	0	0	+1
Heritage impacts	(+)	No negative impact. As artifacts of historical or cultural value was not found on the route.	S	ST	L	L	L
			Score Rating				
			+1	+1	+1	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
<i>Noise disturbance</i>	(-)	Construction machinery and personnel could disturb the peace in the surrounding area.	S	MT	H	L	L
			Score Rating				
			+1	0	-1	+1	+1
<i>Waste Disposal</i>	(-)	Waste is generated through construction activities and therefore the possibility of the area being polluted is increased.	L	MT	M	M	L
			Score Rating				
			-1	-1	0	0	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Socio-Economic Impact	(+)	Construction creates temporary employment for community members.	L	P	H	N / A	H
			Score Rating				
			+1	+1	+ 1	N / A	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Spread of Alien Vegetation	(-)	The removal of topsoil and natural vegetation with an increase in human activity may result in the increase of alien vegetation. Indigenous vegetation will be removed therefore alien vegetation would spread	L	P	H	H	M
			Score Rating				
			-1	-1	-1	-1	0
Waste Disposal	(-)	Waste such as plastic and paper will impact surrounding animals if ingested.	L	LT	M	H	L
			Score Rating				
			-1	-1	0	-1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	POST MITIGATED SIGNIFICANCE
Socio-Economic Impact	(+)	Improved living standards.	L	P	H	L	L
			Score Rating				
			+1	+1	+1	+1	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
CUMULATIVE IMPACTS							
Waste Generation	(-)	Extra waste generated during the construction phase could result in added pressure placed on the local landfill site.	L	MT	H	M	L
			Score Rating				
			-1	0	-1	0	+1
No-go option	(-)	Safety - During most rainy seasons, the road is flooded. The local community's safety will therefore be compromised.	-	-	-	-	-

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
<i>Increased traffic in the area</i>	(-)	The proposed road is an access route off a district road, therefore increased traffic.	L	LT	H	M	M
			Score Rating				
			-1	-1	-1	0	0
<i>Increased vehicular fumes contributing to Air Pollution</i>	(-)	It is not envisaged that the increased vehicular fumes will contribute significantly to increased localized air pollution but may have a cumulative effect.	L	LT	M	L	L
			Score Rating				
			-1	-1	0	+1	+1

BASIC ASSESSMENT REPORT

Impacts/Significance associated with the Operational Phase

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	MITIGATED SIGNIFICANCE
<i>Direct alteration of faunal habitat</i>	(-)	The area is highly transformed by the existing track and river crossing. The extension transverses a wetland area. The proposed route also requires the removal of indigenous vegetation.	L	P	H	H	M
			Score Rating				
			-1	-1	-1	-1	0
<i>Increased socio-economic benefits</i>	(+)	The positive impact is that of increased socio-economic development to the local community.	L	LT	H	L	H
			Score Rating				
			+1	+1	+1	+1	+1

BASIC ASSESSMENT REPORT

Impact	Impact type Positive (+ve) Or Negative (-ve)	Activity	Alternative Route				
			SPATIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE
INDIRECT IMPACTS							
Safety Issues for the community	(+)	The proposed road is merely an extension of the existing track; therefore safety issues do not pose a major threat.	S	ST	L	L	L
			Score Rating				
			+1	+1	+1	+1	+1
Increased noise	(-)	The road services the local community therefore noise levels should not be affected greatly by the upgrade.	S	MT	H	L	L
			Score Rating				
			+1	0	-1	+1	+1

Summary of score ratings for both the preferred and the alternative route

Taking the assessment of potential impacts into account, the following summarises the impacts of the preferred as well as the alternative route. Management and mitigation of impacts have been taken into account, with specific reference to types of impacts, duration of impacts, likelihood of potential impacts actually occurring and the post mitigated significance.

Preferred Alternative:

The preferred route has been carefully planned to cater for the substantiated needs and requirements of the community while being mindful of imposing the least negative environmental impacts. The preferred route occurs within the existing road servitude. Vegetation clearance will be restricted to alien invasive vegetation; no indigenous vegetation will be removed as the extension follows a one line footpath indicating disturbance. The preferred route does not transverse any environmentally sensitive area (wetland) as well as homesteads. In the watercourse crossing there is already an existing footpath and animal track therefore there will be no extended damage to the receiving environment. Culverts will be placed to allow the continuation of the natural flow of the stream. It is more cost effective and considered a more practical alternative from an environmental and engineering perspective. Furthermore the route follows existing anthropogenic and cattle tracks which have resulted in significant alteration of the natural habitat. According to the risk rating after all significant impacts were taken into consideration, the preferred route is said to have a positive high affect. Since the total after adding all the risk ratings was **51 (refer to table above)**. Positive high impacts are impacts which individually or combined pose a significantly high positive impact on the environment. These impacts pose a high benefit to the quality of the receiving environment and health, and may lead to potential health, safety and environmental benefits. In this case the impact is longer term, greater in extent, intense in its effect and highly likely to occur. It is in the opinion of the EAP that the preferred route be chosen as it is the best alternative as compared to the alternative route.

Alternative Route

The alternative route also follows within the existing road servitude. According to the impact assessment there is a deviation between the two routes. The alternative route remains the less preferred option as it transverses through homesteads and this will mean a relocation cost as well as disturbance in the community, it bisects through dense indigenous vegetation and the area is classified as being steep. The removal of indigenous vegetation will allow space for alien invasive species that disturb the ecosystem of the area. Furthermore from an environmental and engineering perspective, it would be more costly as well as complicated to construct this route due to the factors mentioned above. According to the risk rating after all significant impacts were taken into consideration, the alternative route is said to have a negative high impact since the total was **17**. These are impacts which individually or combined pose a significantly high negative risk to the environment. These impacts pose a high risk to the quality of the receiving environment. The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment. As stated above the alternative route is the less preferred option as it may have negative impacts on the surrounding environment as well as the fauna and flora of the area.

Impacts/Significance associated with the Closure Phase

No impacts have been assessed for this section as the closure phase is not envisaged for this development; however the EMPr outlines specifications on rehabilitation measures that must be implemented after the construction phase.

6. ENVIRONMENTAL IMPACT STATEMENT

Alternative A (preferred alternative)

It is the opinion of the EAP that all potential impacts that could potentially occur during the construction and operational phase of the road construction have been identified and key impacts and their mitigation measures are provided in this report. There is as an alternative route and has been included in the assessment. No fatal flaws were identified during the Basic Assessment Process, which included a comprehensive Public Participation Process. Most of the impacts will occur during the construction phase, and therefore be for a limited period and can be adequately mitigated. The EMPr has been developed to provide adequate mitigation measures for all phases of the proposed development including the proposed culvert structure.

The following factors were taken into consideration (Existing Road):

A) Site and route

- The route and site location has been selected based on the fact that an existing track is currently used as an access road, however this is not suitable. DOT therefore proposes to upgrade the existing track to a gravel road which conforms to DOT standards and furthermore extend the local road.
- The existing route is disturbed and footpaths have been created along the track.
- Should a new access road be constructed this will impact negatively on the receiving environment.

B) Land

- No land needs to be expropriated and the community has expressed the need for the track to be upgraded to a gravel road.
- No land will be lost that is currently utilized by the community or the school.

C) Design of the gravel road

- The proposed design of the gravel road has taken DOT standards into consideration. This will improve the overall drainage of the road and minimize surface run-off and erosion along the road verges.
- The route is relatively steep in gradient but no major modifications are envisioned along the route.

D) Funding

- DOT has made funding available for this financial year 2015/16, the upgrade falls within the ambient of road infrastructure projects for the local municipality.

It is the opinion of the EAP that the proposed road upgrade should be constructed. The construction would result in minor environmental impact whilst promoting development in the area. The construction of this road from an environmental perspective will result in an improved situation with minimal erosion and damage caused by storm water run-off.

The following factors were taken into consideration (structure):

Damage to stream and surrounding environment:

Specific concerns would be heavy vehicle traffic operating in close proximity to the stream and drainage line causing banks to erode and collapse, resulting in sedimentation of the stream. Storage of materials and soil within or near the stream could also result in the deposition of these materials into the stream leading to contamination of the river system. These impacts can be managed by labeling areas of the watercourse that are not within the construction footprint as 'no-go' areas. Heavy vehicles should therefore be kept at least 15m away from the stream and drainage line except where needed for the construction of the culvert structure.

BASIC ASSESSMENT REPORT

As per the EMPr, no materials may be stored within 30 m of the stream or drainage line. No dumping is to be permitted within these areas.

Damage to the steam channel during the excavation of material from the stream bed.

Over time, sediment has accumulated up stream and flow was impeded. This material will be excavated to level out the bed so that water can flow easily through the piers without damming up on the upstream side or falling from too great a height. Although this involves excavation and removal of material from the river bed, most of this material will be re-used in the rehabilitation phase.

It is the opinion of the EAP that the proposed culvert structure be placed. This construction would result in minor environmental and social impact, as minimal vegetation will be removed and general disturbance for the construction of the culvert structure at this point. The structure will be designed to withstand at least 1:10 year flood events therefore providing safe access to the local community. The construction of this structure from an environmental perspective will result in an improved situation with less erosion and damage to the stream bed when compared to the current informal crossing therefore the activities are recommended provided the construction EMP is strictly adhered to and an ECO is appointed during the construction phase.

Alternative B

N/A

Alternative C

N/A

No-go alternative (compulsory)

Should the proposed construction of both the road and culvert structure not go ahead, the site would be exposed to on-going erosion as well as hindrance to the community during the high rainfall seasons as the road becomes muddy and there is road side erosion from the storm water. The road provides the local community access to a number of amenities, therefore the “No-Go” alternative was used as a baseline for impact studies.

BASIC ASSESSMENT REPORT

SECTION E. RECOMMENDATION OF PRACTITIONER

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

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

N/A

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

- The EMPr must be strictly adhered to and implemented during the construction and operational phases.
- An ECO should be appointed by the applicant to undertake Environmental Audits and submit reports to the Competent Authority when requested.
- All mitigation measures and factors outlined in the BAR must be considered.
- Should cultural artefacts or heritage sites occur in close proximity to the site, construction must cease immediately and the applicant must appoint a heritage specialist to submit a report to AMAFA.
- All impacts identified during the planning and design, construction and operation can be adequately mitigated. Impacts identified and addressed through mitigation included: vegetation, waste management, traffic and emissions.
- The proposed development site will have an impact of **low; short - term significance** on the receiving environment (albeit extremely limited) if the majority of indigenous species are retained within the development.
- It is imperative that runoff from the proposed development is adequately managed and the sewerage and waste water do not result in deterioration of water quality for the adjacent river.

BASIC ASSESSMENT REPORT

- The development is designed at the planning stage to take cognizance of the river and to take environmentally sound measures which ensure well rounded sustainability.
- Construction of the existing road would contribute to the community in the following ways:
 - (a) Vehicles would not have to endure rugged terrain.
 - (b) Communities will have easier access to public and governmental transportation.
 - (c) Travelling route distances would be decreased.
 - (d) Will increase the safety of the people within the community as there will be no need to walk through dense vegetation to get to their destination.
 - (e) Response and delivery time would be increased for public and emergency services.
 - (f) Easier travelling routes for basic needs, schools and medical centers.
 - (g) The road will link both communities and enhance activity between the communities.
- Based on the status quo above and given the indigent nature of the communities affected it is the EAP's recommendation that the preferred route be authorized by the Competent Authority.
- Furthermore, no concerns were raised by I&AP's (public and stakeholders) for the preferred layout and development, in contrary there was general consensus in support for the development.
- The development is in keeping with the land use of the surrounding area and it is therefore the EAP's recommendation that the preferred option be approved for the proposed development.

Is an EMPr attached?

YES	NO
X	

SHELDON SINGH

DATE

APPENDIX A

GIS MAP

APPENDIX B

SITE PHOTOS

APPENDIX C

- **C.1 – PLAN OF THE ROAD**
- **C.2 – DETAILS OF PIPE CULVERTS**

C.1 - PLAN OF THE ROAD

C.2 – DETAILS OF PIPE CULVERTS

APPENDIX D

PUBLIC PARTICIPATION

- **D.1 – SUMMARY OF COMMENTS/RESPONSES FROM I&APS**
- **D.2 – PROOF OF RECIEPTS**
- **D.3 – COPY OF NEWSPAPER AD**
- **D.4 – COPY OF SITE NOTICES**
- **D.5– COMMENTS FROM AMAFA**
- **D.6 – COMMENTS FROM KZN WILDLIFE**
- **D.7 – COMMENTS FROM WATER & SANITATION**

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APPENDIX E
ENVIRONMENTAL MANAGEMENT
PROGRAMME (EMPr)