

**Basic Assessment Report
MLAMBONJA VEHICULAR BRIDGE
DC23/0031/2012**



edtea

Department :
Economic Development, Tourism and
Environmental Affairs

PROVINCE OF KWAZULU-NATAL

(For official use only)

EIA File Reference Number:
NEAS Reference Number:
Waste Management Licence Number:
(if applicable)
Date Received:

DC23/0031/2012
KZN/EIA/

BASIC ASSESSMENT REPORT

**Submitted in terms of the Environmental Impact Assessment Regulations, 2010
promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107
of 1998)**

This template may be used for the following applications:

- **Environmental Authorization** subject to basic assessment for an activity that is listed in Listing Notices 1 or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- **Waste Management Licence** for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Economic Development, Tourism & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not 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 text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. 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 will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. 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.
9. The KZN Department of Economic Development, Tourism & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.

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11. Please note that this report must be handed in or posted to the District Office of the KZN Department of Economic Development, Tourism & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).

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DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	DC23/0031/2012
File reference number (Waste Management Licence):	

SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	Isolendalo Environmental Consulting		
Physical address:	Suite 7, 2445 Foster Street, Uvongo Square, Uvongo, 4270		
Postal address:	P O Box 1503, Manaba Beach		
Postal code:	4276	Cell:	+27 83 408 5737
Telephone:	+27 39 315 0437	Fax:	+27 39 315 0407
E-mail:	admin@isolendalo.co.za		

2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Welcome Nogobela	B. Hons Environ. Sc	IAIA 3333	15 Years
Ntokozo Mkhize	B. Soc Environ Sc.		1 Year

3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Geosure				

SECTION B:

ACTIVITY INFORMATION

1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

Mlambonja Vehicular Bridge

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The Department of Transport proposes the construction of a new vehicular bridge over Mlambonja River, North East of Winterton Town within the Uthukela District in the Okhahlamba Local municipal area. The proposed vehicular bridge is 52m long by a total width of 5.7m. This width includes side walk for allowance of pedestrians. The site is located at 28° 55' 29.20"S, 29° 15'49.80"E.

At present there is an existing low lying bridge which urgently needs to be attended to hence the department has assessed the bridge and decided to have it demolished to make way for the new bridge as proposed. This current bridge is approximately 25m long by 4m wide. It is basically a one-way bridge.

In respect to the new bridge as proposed (as shown in the drawing- C3501/01)) there will be two concrete columns on each side of the river bank holding firmly the top structure and 2 medium size concrete columns as indicated in the drawing. The total number of columns proposed is 4.

As per designs, the bridge will have on either side an approaching structure (also made of reinforced concrete slab) of 5m in each. Each of these approaching slabs will have along the river bank supporting structure firmly tied to the river bank, which will be made up of gabion structure material. The size of these wings is proposed to be 3m wide by 7.916m approaching on both side of the river bank; and on each side of the bridge.

The intention by the department is to link the communities of Ward 3 on L459 road. It is intended to assist communities especially school children of both Senzokwethu Primary School and Sokesimbone High School.

During the initial excavations in preparation of the columns, water will be diverted to one side of

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the river and as such water will be pumped out from one side of the river bank to the other side using a generator. This generator will be placed on top of the firm drip tray to allow for any unforeseen circumstance such as oil spill.

This diversion will minimally affect the flow or turbidity of the water but not to cause significant erosion or disturbance to the river bed or banks. The pumping of the water will be consistent and at a rate that will be similar to that of the river system so as not to drastically change the energy of the system. The location of the generator will be placed as far away as possible (over a drip tray).

Once this process is done, the next step would be to dig for foundations for the columns and the steel structure for the columns to be placed firmly on such foundation. This steel will be held firm by the concrete mix which would be transported from the factory to the site by means of the concrete mixer truck. The similar process will be done throughout the site in preparation for the bridge base until all is complete and the top structure of the bridge will only be assembled using similar approach (transported concrete mix and steel structure).

During construction of this bridge it is anticipated that some boulders of rocks will be moved together with other soil material to one side of the river and be stored temporarily so that it is used during the rehabilitation of the affected area.

It needs to be mentioned though that the site has no big boulders as such all rock material found onsite will be used back in retaining the river banks and in assisting in strengthening the retainer structure such as gabion structure.

During construction of this bridge there is no vegetation anticipated to be affected other the normal grass which is already undermined by existing activities. This grass is mainly the infertile grazing grass which the community livestock mostly use for feeding. However, in complying with the environmental legislation, during construction the planting of accepted individual vegetation will be done to assist further enhance the rehabilitation of each side of the bridge end and areas around the foot of the column (edge columns only).

As such water use on site will be minimal as all material will be transported ready for use by the contractor.

It is therefore anticipated that water use would limited to a maximum of 1000 litres per month; which will mostly be for washing equipment which has no oil such as spades, cleaning of steel. However, washing of tools especially the big machine that is used for transporting the already mixed concrete will not be allowed as this will affect species down the river.

Storm water infrastructure within the bridge will be dissipated so as not to cause any erosion and environmental damage to the receiving environment. This is done as shown in the designs

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through wings which area tied into the river bank with gabion structure to minimally control soil erodin and storm water influence.

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June2010), Listing Notice 3 (GNR 546, 18June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

Activity 11 (iii) and (xi)

The construction of:

- (iii) bridges;
- (xi) infrastructure or structures covering 50 square metres or more

where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from edge of watercourse, excluding where such construction will occur behind the development set back line.

Therefore, the proposed bridge will be constructed across the Mlambonja River. The bridge will span the width of the river. It will include associated stormwater infrastructure but which do not trigger a listed activity in terms of the EIA Regulations, 2010.

Activity 18 (i)

“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 of more than 5 cubic metres from:

- (i) a watercourse;

The proposed bridge requires the removal or moving of soil from the watercourse for the footprint of the bridge/columns and support structures of which it will be more than 5 cubic metres”.

Activity 16 (iv) (cc) (Listing Notice 3).

“The construction of infrastructure covering 10sqm or more where such occurs wthin a watercourse ir within 32m of a watercourse measured from the edge of a watercourse”.

The site is within 10km radius, and as such authorisation is required in terms of EIA Regulations, 2010. The closest World Heritage Site is Didima Camp Site.

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4. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

No alternatives were considered other than the preferred. The proposed bridge will be constructed in a disturbed area which is currently being utilised by the community as an informal crossing point. The proposed development footprint is located in an area that has been used by the community for years and which is most convenient to them to gain access. The crossing point is also one that is disturbed. Should other alternatives be considered, it would prove fruitless as the community would be required to travel a greater distance to access this point and also a new area would need to be destroyed to cater for the access path and bridge.

Utilising the existing development footprint/crossing will minimise environmental degradation.

The proposed bridge in the preferred location will serve as a safe access for pedestrians to use.

No-Go: Should the proposed bridge not be constructed, it will render the community and pedestrians prone to unsafe conditions. These unsafe conditions includes flooding, resulting in drowning. If the proposed bridge is not authorised, it will mean that the status quo will remain. The community will have little to no access to services in peak rainfall seasons and also it will pose a hazard at night due to poor visibility for the pedestrians.

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Sections B 5 – 15 below should be completed for each alternative.

5. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

	Latitude (S):			Longitude (E):		
Alternative: Alternative S1 ¹ (preferred or only site alternative)	28°	55'	20"	29°	15'	49.80"

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

6. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative: Alternative A1 ² (preferred activity alternative) or, for linear activities:	Size of the activity:
Alternative: Alternative A1 (preferred activity alternative)	296.4m ²
	Length of the activity:
	52m x 5.7m

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

Alternative: Alternative A1 (preferred activity alternative)	Size of the site/servitude:
	296.4m ²

7. SITE ACCESS

Does ready access to the site exist?	YES
If NO, what is the distance over which a new access road will be built	M
Describe the type of access road planned:	

Not Applicable

¹ "Alternative S.." refer to site alternatives.

² "Alternative A.." refer to activity, process, technology or other alternatives.

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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.

8. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;
- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers, streams, drainage lines or wetlands;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 8.10. the positions from where photographs of the site were taken.

9. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

- 9.1. the scale of the plan which must be at least a scale of 1:500;
- 9.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
- 9.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 9.4. the exact position of each element of the application as well as any other structures on the site;

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- 9.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 9.6. walls and fencing including details of the height and construction material;
- 9.7. servitudes indicating the purpose of the servitude;
- 9.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers, streams, drainage lines or wetlands;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 9.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 9.10. the positions from where photographs of the site were taken.

10. SITE PHOTOGRAPHS

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

11. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

12. ACTIVITY MOTIVATION

12.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R100m
What is the expected yearly income that will be generated by or as a result of the activity?	0
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development phase of the activity?	20
What is the expected value of the employment opportunities during the development phase?	R10m
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?	0
What is the expected current value of the employment opportunities during the first 10 years?	R0
What percentage of this will accrue to previously disadvantaged individuals?	0%

12.2. Need and desirability of the activity

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

There is a great demand for the department (DOT) to construct the bridge as at the moment the school children from either side struggle to cross the river especially after rains. There is unrecorded incidence where school kids and community member get drowned when trying to cross the river when it is flooded. This bridge will form an integral part of the community as it will be a safe, accessible connection point for the communities especially during peak rainfall periods. It will not hinder the children from gaining access to the schools during the rainy days and also for emergency services to access the community during this time.

As such, this bridge is needed not only by the school but also by the community at large from the either side of the river, including most basic services such as health services, crime prevention etc which ultimately will increase their standard of living.

At present the existing low lying bridge is more a safety hazard than a bridge as it compromises the safety of its users with it being low lying, and a single carriage with limited space for pedestrians to utilize.

The integrity of the existing bridge is questionable as it was built years ago by the community and as such requires upgrading/ reinforcement should it be utilised in the future.

Utilisation of the existing bridge at night is equally hazardous for both pedestrians and vehicular use as it is not clearly visible with any signage.

The creation of bridge allows for the upliftment of previously disadvantage communities by allowing them not just access to services but safe access thereto. This will further lead to development opportunities from external business entities as well as give local persons the opportunities to be self employed by opening shops and providing goods and services to the communities whilst also having the means via a safe road network system for them themselves to utilise.

The provision of safe, better access to services allows the community members to increase their standard of education in the nearby cities and utilising this to uplift the community i.e. teachers, nurses.

The provision of a good road network with safe bridges will allow for governmental bodies to be able to provide various services on a daily basis such as healthcare, policing/ security, education, agricultural assistance etc. to a disadvantaged community.

Indicate any benefits that the activity will have for society in general:

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As indicated above, the construction of this bridge will improve the lives of the community in terms of easy access to their homes and also to enable access of basic services such as education, health services and also enhancement of efficient crime control (police service). Also, the number of people drowning as the result of crossing the river will decrease or stop as they will have the bridge to cross over.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

Improved services such as police service into their area, efficient and efficient health care services and daily routine domestic activities by the communities on either side of the river will be enhanced.

13. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or Administering authority: Date:
guideline:

NEMA	Department of Environmental Affairs	Nov 1998 as amended
EIA Regulations, 2010	KZN- Department of Economic Development, Tourism and Environmental Affairs	2010
National Water Act, 1963	Department of Water Affairs	1963
National Heritage Resources Act	Amafa KZN	Act 25 of 1999
KZN Heritage Act	Amafa KZN	Act 4 of 2008

14. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

14.1. Solid waste management

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

YES

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

<1m³

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

It will be transported by an enclosed vehicle to a registered landfill.

Where will the construction solid waste be disposed of? (provide details of landfill site)

It will be disposed of at Bergville Landfill site; 036- 448 8000

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Will the activity produce solid waste during its operational phase?	YES	
If yes, what estimated quantity will be produced per month?	<1m ³	

How will the solid waste be disposed of? (provide details of landfill site)

It will be transported by an enclosed vehicle to a registered landfill.

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

It will be disposed of at Bergville landfill site

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 the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Is the activity that is being applied for a solid waste handling or treatment facility? NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

14.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? NO

If yes, what estimated quantity will be produced per month? m³

Will the activity produce any effluent that will be treated and/or disposed of on site? NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Will the activity produce effluent that will be treated and/or disposed of at another facility? NO

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:

14.3. Emissions into the atmosphere

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Will the activity release emissions into the atmosphere?

	NO
	NO

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

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

Not applicable

14.4. Generation of noise

Will the activity generate noise?

YES	
	NO

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

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

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

Noise generated will emerge from construction vehicles but will be limited to construction times. Noise from the generator will be negligible and within construction hours, 7:30am to 4:30pm.

15. WATER USE

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

	Other	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:

1000 litres

Does the activity require a water use permit from the Department of Water Affairs?

	NO
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If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

16. ENERGY EFFICIENCY

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

During construction, a generator will be used to temporarily divert water to prepare for the structure within the river. The generator will utilise diesel to pump the water away from the active construction phase within the river.

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

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Not necessary as this activity does not need electricity.

SECTION C:

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 C and indicate the area, which is covered by each copy No. on the Site Plan.

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

- Subsections 1 - 6 below must be completed for each alternative.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	
	X	

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site (Please cross the appropriate box).

Alternative S1 (preferred site):

	Side slope of hill/mountain		Open valley
	X		X

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?

YES

If YES, please complete the following:

Name of the specialist:	GEOSURE (PTY) Ltd		
Qualification(s) of the specialist:	Engineering Geologist		
Postal address:	122 Intersite Avenue, Umgeni Business Park, Durban, South Africa		
Postal code:	4001		
Telephone:	(031) 266 0458	Cell:	
E-mail:	geosure@iafrica.com	Fax:	086 689 5506
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?			NO
If YES, specify and explain:	<input type="text"/>		
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?			NO

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If YES, specify and explain:

Are any further specialist studies recommended by the specialist? **NO**

If YES, specify:

If YES, is such a report(s) attached in **Appendix D**? **NO**

Signature of specialist: _____ Date:

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

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

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

4. GROUND COVER

Has a specialist been consulted for the completion of this section? **NO**

If YES, please complete the following:

Name of the specialist:	<input type="text"/>		
Qualification(s) of the specialist:	<input type="text"/>		
Postal address:	<input type="text"/>		
Postal code:	<input type="text"/>		
Telephone:	<input type="text"/>	Cell:	<input type="text"/>
E-mail:	<input type="text"/>	Fax:	<input type="text"/>

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? **NO**

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on any of the alternative sites? **NO**

If YES, specify and explain:

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Are any further specialist studies recommended by the specialist? **NO**

If YES, specify:

If YES, is such a report(s) attached in Appendix D? **NO**

Signature of specialist: _____ Date:

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

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

	Gardens
Cultivated land	

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

5. LAND USE CHARACTER OF SURROUNDING AREA

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

Land use character			Description
Natural area		NO	Area is characterised by disturbed grassy areas which have been used for grazing of cattle.
Low density residential	YES		Scattered informal homesteads are located within close proximity of the bridge. No relocation thereof is required. The proposed bridge could lead to the increase of residences within the areas due to close accessibility.
Medium density residential		NO	
High density residential		NO	
Informal residential	YES	NO	Scattered homesteads are located within close proximity of the bridge. No relocation thereof is required. The proposed bridge could lead to the increase of residences closer to the bridge due to close accessibility. Numerous residences located inland of the proposed development foot print. Community which desperately needs safe access to schools and services and

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			families across the river.
Retail commercial & warehousing		NO	
Light industrial		NO	
Medium industrial		NO	
Heavy industrial		NO	
Power station		NO	
Office/consulting room		NO	
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir		NO	
Hospital/medical centre		NO	
School/ crèche	YES		There are schools and crèches and the main mode of transport for these children is walking and crossing the river which is dangerous and prone to flooding during peak rainy weather.
Tertiary education facility		NO	
Church		NO	
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	
Airport		NO	
Harbour		NO	
Sport facilities		NO	
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture	YES		Subsistence farming activities
River, stream or wetland	YES		The proposed activity is located within the watercourse i.e. a bridge.
Nature conservation area			
Mountain, hill or ridge	YES		The location of the bridge is within a valley and hence surrounded by hills.
Museum		NO	
Historical building		NO	
Protected Area		NO	
Graveyard		NO	
Archaeological site		NO	
Other land uses (describe)		NO	

6. 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 palaeontological sites, on or

NO

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within 20m of the site?		
If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.		
Briefly explain the recommendations of the specialist:	Not applicable for this bridge	
Will any building or structure older than 60 years be affected in any way?		NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		NO
If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.		

SECTION D:

PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the local and district municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

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- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that an application for environmental authorization has been submitted to the KZN Department of Economic Development, Tourism & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)
 - (iii) a brief project description that includes the nature and location of the activity to which the application relates;
 - (iv) where further information on the application can be obtained; and
 - (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Economic Development, Tourism & Environmental Affairs as appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

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The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as **Appendix E** to this report.

6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality? YES

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

The District Municipality in Okhahlamba has supported the proposed bridge at Mlambonja.

Has any comment been received from the local municipality? NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Competency of Department of Transport (KZN) and is an existing road and a bridge crossing Mlambonja River.

Has any comment been received from a traditional authority? YES

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Ward 3 Councillor Zondo and Ward Committee member: who took us to the site and raised urgency in having the bridge done to avoid drowning of community members particularly women and children.

They have supported the proposed bridge at Mlambonja.

7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders? YES

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Ezemvelo KZN Wildlife supported the proposed vehicular bridge upgrade as it falls into an existing bridge.

Department of Water Affairs also supported the proposed vehicular bridge upgrade with minor comments as part of advise to ensure that water quality is not affected.

SECTION E:

IMPACT ASSESSMENT

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Ezemvelo KZN Wildlife did not raise any specific issue that needed a concern or response other to indicate that the proposed development or bridge does not have biodiversity significance.

Department of Water Affairs raised few issues which were part of recommendation to what is being proposed onsite such as ensuring that the proposed bridge upgrade does not lead into erosion and that measures to ensure soil erosion is prevented to be in place. Also, the department cautioned that should the activity require water use as per National Water Act such permission shall be obtained from the department prior construction and after the Environmental Authorisation is issued by Department of Economic Development, Tourism and Environmental Affairs. Other issues raised in the comments by DWA were standard comments which enforces the importance of ensuring that the natural water is not infested or contaminated as the result of the construction of this bridge.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as **Appendix E** to this report):

As per comments received from stakeholders, the following is the response:

- 1) EKZNW does not have an issue with the proposed vehicular bridge upgrade hence in terms of their assessment it does not have ecological value nor biodiversity significance;
- 2) Department of Water Affairs' concern regarding measure in place to prevent soil erosion; all that is taken care of and covered in the draft EMPr and will be monitored by the appointed Environmental Control Officer during construction.
- 3) DWA also cautioned applicant to consider obtaining permit from DWA for water use licence; this will be clarified with them as the construction of this activity will not require direct use of running water from the river. But instead all concrete material will be transported from plant to the site. There is no mixing or whatsoever anticipated during the construction phase of this project. All that also will form part of monitoring by ECO appointed by the applicant or Environmental Authorisation holder once issued by

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DEDTEA.

2. 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

2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

Alternative S1 (preferred alternative)

Direct impacts:

There are no anticipated significant impacts identified during this phase. Impacts would be negligible and associated with investigation of site to determine potential impacts associated with construction and operation of the proposed development.

The engineer must survey the location of the proposed ridge. Planning involves identifying the best site for the bridge and associated design.

As such the preferred site entails minimal environmental degradation as it is disturbed by current crossing traversing this area. The chosen design of the bridge is pertinent to the terrain and status quo of the sites and takes into account any constraints of the topography and also the watercourse. The surrounding areas of the river must be viewed to ascertain the best and environmentally sound preferred site. It must be viable in terms of socio, economic and environmental impacts and also in terms of the terrain and constraints associated thereto.

Identification of disturbed areas for the construction camp must be undertaken. Also identification of the areas within the watercourse and riverbanks where construction activities occur must be restricted to those areas only so as to ensure minimal degradation to the environment.

The planning and design will ensure an improvement to the road network and access to public transport and amenities for the community.

Indirect impacts:

Loss of capital already invested in project should it not be authorised

Cumulative impacts:

Loss of capital already invested in project should it not be authorised

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No-go alternative (compulsory)

Direct impacts:

Should the bridge not be approved it would render the community vulnerable to unsafe conditions in peak rainfall periods. It would also contribute to a great loss of capital as money has been spent in designing this bridge. The local community will not have safe access to goods and services.

Indirect impacts:

There are no impacts identified during the planning and design phase

Cumulative impacts:

No significant impacts identified during the planning and design stages

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

The preferred alternative is designed so as to take into account the terrain and environmental constraints of the site. Disturbed areas within the footprint can be used for the movement of construction vehicles. All disturbed areas post construction will be rehabilitated.

b. Process, technology, layout or other alternatives

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

The layout proposed incorporates the environmental constraints of the site. The design of the bridge is such that it will have minimal impacts to its environment and those impacts will be mitigated for. The impacts anticipated during this phase will be mitigated for.

Erosion control measures will be applied and will form part of the EMP. Soft engineering for reinforcement and stabilizing of banks will be used as opposed to hard engineering practices but where necessary gabions will be utilised to ensure long term sustainability of the structure and river and minimal erosion.

Indirect impacts:

The community will benefit socio economically and have safe access to services offered in the larger towns and cities and also to the school situated across the river.

Cumulative impacts:

The bridge will be maintained by the Department of Transport so as to protect their investment in the bridge. The bridge will allow for the potential of development within the community.

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No-go alternative (compulsory)

Direct impacts:

Should the bridge not be approved, it will result in a loss of capital invested already. Development potential will be nil and access educational facilities and to goods and services will be limited and dependant on weather.

Indirect impacts:

n/a

Cumulative impacts:

This bridge will improve education access, socio economic development and access to goods and services

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

The layout and design has taken into account the terrain of the site. The environmental constraints have also been accounted for and the location is the best as it is within the same footprint where the community is currently crossing. No re-alignment of the road is required therefore less impact to the receiving environment. Environmental constraints are minimal and the construction of the bridge will enhance the area and facilitate rehabilitation and maintenance of disturbed areas.

2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 (preferred site)

Direct impacts:

- Possibility of water contamination with oils from the machines during construction, however, this will be monitored strictly by the ECO to ensure that measures are in place to prevent any contamination.
- Erosion control measures to avoid or minimize erosion on the river banks must be put in place
- Energy of the watercourse, this is negligible as the construction of the bridge is located on a flat terrain and the flow of water will be fairly constant. It should also be noted that the construction activities will commence in the dry winter months so the impacts are minimized.

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- The morphology of the river should not be negatively impacted by the construction of the bridge or diversion of water
- Riparian vegetation and disturbed grassland vegetation will be removed to allow access to the development site
- Less riparian vegetation may exacerbate fluctuations in the water temperature and reduce the concentration of oxygen by reducing shade.
- Degradation of stream and water quality: excavating or removal of sand can increase sediment load and turbidity downstream which may degrade the quality of domestic and live stock water supply.
- Flooding of river and banks due to new bridge
- Impacts of the activity on the characteristics of the river
- Construction related incidents such as spillages of fuel

Indirect impacts:

- Noise from construction workers and working machines, to be addressed to the community and only to be limited to accepted working hours
- Injuries by communities as the result of unsafe keeping of working implements. This to be addressed before construction could take place
- Waste material to be kept within working site and within waste bins.

Cumulative impacts:

- Reduced risk of further damages and degradation to environment
- Uncontrolled runoff and erosion from sites
- Proper rehabilitation measures to be used to prevent degradation of the areas affected by construction.

No-go alternative (compulsory)

Direct Impacts

- No proposed bridge will imply that the status quo remains
- No safe access to the school and goods and services

Indirect impacts:

- Negative effect on vegetation as the result of working outside demarcated site area.
- Continued sand mining activities will cause the banks to be de-stabilized and riparian vegetation removed

Cumulative impacts:

- Socio –economic status of the community will remain as is and there would be no opportunities for businesses.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

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- Monitoring contamination/ pollution of the water resource will include conducting monthly water quality tests upstream, at source and downstream of the construction activity. This will be done on a monthly basis and 3 months post construction. This will ensure that the increase in sediment load and turbidity downstream does not affect the quality of the water.
- Erosion can be minimized by ensuring that construction activities are confined to disturbed areas of the river banks
- Post construction phase, the disturbed areas must be rehabilitated by stabilizing the banks with gabions or geotextiles to ensure regrowth of riparian vegetation. On-going monitoring is required.
- Energy of the water course can be mitigated by conducting the construction activity in phases i.e. work on a particular segment of the river whilst diverting the water to the active part of the river. The flow of the water must be similar to that of the river current so as not to cause deposition of sediment.
- It is imperative that the construction occur during the dry season to lessen the impacts.
- The flow of water in the river will be diverted to within the river so that downstream users have access to water for sustenance. The flow of water must be diverted into a properly designed and constructed channel that has been stabilised.
- Due to construction occurring in the dry season, the turbidity of the river system should be able to accommodate the diverted water with minimum impact to the river bed and the aquatic environment or cause erosion to the banks.
- The gradient of the area surrounding the proposed footprint for development is fairly flat and as such the stream power will be negligible during the dry season which would not cause significant changes to the morphology of the river or its aquatic habitat.
- The physical characteristics of the river will not be significantly altered except for the sight of the bridge.
- Fluvial processes in the river are crucial to the distribution of vital gases, nutrients and small organisms so the flow of the river to downstream users must not be stopped.
- Rivers are dynamic systems in that they are continuously adjusting to changes in discharge and sediment load.
- The river will revert to its natural function post construction and fulfil its intended role.
- Vegetation removed will be replaced post construction phase.
- The planning and design for the proposed development has taken into account the receiving environment in ensuring the preservation and protection of the ecosystem and or biodiversity features.
- Rehabilitation strategy of the site especially areas not to be affected by the development.
- Proper storm water management plan to address the issue of storm water and how it is going to be disposed or and managed.
- Close monitoring of the site by qualified Environmental Control Officer to ensure that the proposed development has a minimal impact on the receiving environment.
- Evaluation of designs and provide recommendations to limit and reduce environmental, social and economic impacts associated with the proposed activities.
- The disturbed areas must be planted with deep rooted vegetation to stabilise the banks, provide shade to control the water temperature and provide habitat and food.
- The flooding of the river will also be dependent on the gradient of the area and since it

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is fairly flat, the flood waters may move onto the land and remain there for days. The proposed bridge will not contribute to flooding of the river banks as it will be constructed to avoid such and will span the width of the river thus not impeding the flow of the water or causing it to dam and cause flash floods downstream.

- The construction of the bridge will not significantly impact on the biotic and abiotic environment of the river but will enhance the river aesthetically and environmentally as the degraded areas of the banks will be re-vegetated.
- To avoid soil and water contamination in cases where the machine being used are faulty, the contractor will have to make sure of the following:
 - Provision of drip trays all the time onsite
 - Placing of generators over the drip tray
 - Avoid soil erosion by ensuring that rehabilitation/landscaping in all areas where construction is taking place.
 - Provision of waste bins to avoid pollution by means of waste
 - Use of chemical ablution facilities to avoid air pollution

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

- Pollution of immediate area surrounding the site will take place, this being in the form of construction rubble, dust and material stockpiles.
- Litter created by workers/ contractors would be required to be managed.
- Excavation activities with removal of vegetation and exposure of soils

Indirect impacts:

- Litter through the property as temporal storage for building material such as building sand, bricks etc.
- These might lead indirectly into air pollution or dust.
- Traffic interference by means of construction vehicles parking their cars in the road-side might be of nuisance to the public. This will be controlled and managed by the site manager or contractor.
- Increased strain on natural resources
- Continued employment for contractors completing work within the surrounding area.

Cumulative impacts:

- Establishment costs increased
- Reduced risk to criminal activity
- Improved socio-economic benefits for the communities.

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No-go alternative (compulsory)

Direct impacts:

- Money invested will not be recovered and the proposed bridge will not be constructed rendering the status quo as unsafe.

Indirect impacts:

- n/a

Cumulative impacts:

- n/a

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

- The design must take into account the dynamics of the river system and its associated processes.
- The bridge must span the river system so as to cause minimal impact to the river and to alleviate further flooding.

2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

Alternative S1 (preferred alternative)

Direct impacts:

- Destabilization of banks by cattle near river, as this area may be prone to an increase in residents for accessibility to transport.
- Lack of maintenance of the proposed bridge
- Safe access to a bridge that is not prone to flooding
- Safe access to goods and services and public transport in rainy weather

Indirect impacts:

- Human health from communities downstream might be negatively affected.

Cumulative impacts:

- Increased chances of diseases relating to water contamination as the result of oil leaks into the road washed to the river.

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No-go alternative (compulsory)

Direct impacts:

- Degradation of receiving environment due to poor management due to lack of care taken during construction and which affects the functionality or operation of the bridge

Indirect impacts:

- Economic loss for applicants

Cumulative impacts:

- Exposure of human health to degraded environment especially communities that totally depends on very basic environment's resources
- Risks such as injuries that community especially school children might be exposed to due to improper rehabilitation especially along the banks of the river in the vicinity where the bridge begins from either side of the river bank.
- Lack of on-going maintenance of the bridge and monitoring of rehabilitation of banks and degraded areas

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

- Awareness campaign during construction by Environmental Control Officer of the site by raising awareness of the risk that the completed bridge might have.
- Monitoring the rehabilitated area to ensure that vegetation grows and the area rehabilitated is compact, and cannot any stage collapse.
- Stabilization of banks is carried out with soft engineering practices.
- Ongoing maintenance of the bridge to ensure it is safe

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

- The layout and design must be complied with and the bridge managed and maintained on a regular basis

Indirect impacts:

- Not anticipated during this phase

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Cumulative impacts:

- Not anticipated during this phase

No-go alternative (compulsory)

Direct impacts:

- Not anticipated during this phase

Indirect impacts:

- Not anticipated during this phase

Cumulative impacts:

- Not anticipated during this phase

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

- Ongoing maintenance of the bridge to ensure that it is safe

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

Alternative S1 (preferred alternative)

Direct impacts:

The closure of the proposed bridge would imply that road users would have unsafe or limited or no access to the schools across or access to goods and services.

Indirect impacts:

Should it be demolished it would create a significant amount of waste which may be unusable.

Cumulative impacts:

Socio economic advantages will be reduced with the decommissioning of the bridge.

No-go alternative (compulsory)

Direct impacts:

Decommissioning of the proposed bridge will render the status quo and the norm and its associated disadvantages of poor public transport and access to schools and goods and services.

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Indirect impacts:

Not applicable

Cumulative impacts:

Not applicable

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

1. To avoid soil and water contamination in cases where the machine being used are faulty, the contractor will have to make sure of the following:
 - a) Provision of drip trays all the time onsite
 - b) Placing of generators over the drip tray
2. Avoid soil erosion by ensuring that rehabilitation/landscaping in all areas where construction is taking place.
3. Provision of waste bins to avoid pollution by means of waste
4. Use of chemical ablution facilities to avoid air pollution

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

The current negative impacts of the area being prone to flooding will continue. This will continue to be a hazard to road users.

Indirect impacts:

Development potential will be reduced

Cumulative impacts:

Socio economic status of community will remain the same

No-go alternative (compulsory)

Direct impacts:

Not Applicable

Indirect impacts:

Not Applicable

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Cumulative impacts:

Not Applicable

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

Ensure bridge is built and managed in an environmentally viable manner.

2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative S1 (preferred site)

- Develop Environmental Management Programme (EMPr)
- Appointment of Environmental Control Officer for the project
- ECO to review proposed project scope against Environmental Authorisation by DAEE

The following to be monitored by ECO during construction:

- Environmental scan of the site prior any excavations in preparation for construction
- Induction to all construction personnel on contents of EMPr and environmental authorisation and compliance and penalties associated there to.
- Advise the contractors areas suitable for contractor's temporal mobile site offices
- Advise on what to do with waste being produced on site by allowing such waste to be disposed of at a registered landfill sites
- Control of dust especially in areas that are in close proximity to residential areas
- Cleaning of spillages immediately'
- Demarcation of sites for no go areas
- Demarcation of construction sites and prevent public access to these areas
- Implement fines as part of the contract for unlawful activities
- Monitor complaints, investigate and implement rectifying measures
- Monitor areas for pollution and degradation.
- Rehabilitation of any damage to sensitive areas, including potential erosion from construction activities.
- Implement a process to capture and address public recommendations, complaints and or requests.
- Monthly audit report to be produced.

Alternative A1 (preferred alternative)

There is no other alternative as the area proposed for this bridge is the same as the area where there is an existing unfirm structure (low level bridge).

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3. ENVIRONMENTAL IMPACT STATEMENT

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

Alternative S1 (preferred site)

The community surrounding the Mlambonja river is in dire need of the bridge to assist them to undertake their normal daily activities especially the school children who require safe access to education facilities across the river. At present (and as indicated) these communities find it hard to access other areas especially during and after heavy rains as the river are full of water and very difficult if not possible to cross the river.

Despite the environmental impacts as indicated in this report, the proposed bridge is necessary and from the socio-economic perspective, it is recommended that the authorisation be granted by the Department of Agriculture and Environmental Affairs to the Department of Transport.

The proposed development will have a minimal impact on the environment as pointed out above. This impacts include:

- 1) Water contamination with oils
- 2) Soil contamination with oils
- 3) Dangers on the living species within the river system
- 4) River system characteristics and associated degradation

These impacts are vital if left unattended. It therefore requires that strong and strict measures need to be in place to avoid this from happening. In doing this there will be a need to ensure that the contractor understands fully the impacts that might affect the receiving environment and the impact these might have especially on the river that carries possible other living organisms. Should there be any major emissions, this must be reported to the relevant key stakeholders and emergency measures to control and stop such emission must be undertaken

The application of strict environmental principles in ensuring safe keeping of the environment is vital and adherence to the approved EMPr

Alternative A1 (preferred alternative)

The approval of the proposed development as proposed by Department of Transport is of vital importance for the socio-economic status of the communities surrounding the Mlambonja river. Despite the environmental impacts potential onsite during construction phase, the approval of this proposed development is of vital importance in improving the lives of the communities'

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especially young school kids crossing the river.

No-go alternative (compulsory)

The disapproval of this proposed development will not only affect the department's target of service delivery but also will affect economically and socially the lives of the communities within this area.

The loss of lives will increase during flood periods and access to goods and services in an effort for a better standard of living will be diminished.

SECTION F. RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report?

YES

If "NO", please contact the KZN Department of Agriculture & Environmental Affairs regarding the further requirements for your report.

If "YES", please attach the draft EMPr as **Appendix F** to this report and 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 Final Environmental Management Programme (EMPr) is attached to the report (Appendix F).

SECTION G: APPENDIXES

Appendix A:

Site Plan(s)

**Appendix B:
Photographs**

**Appendix C:
Facility Illustration(s)**

**Appendix D:
Specialist Reports**

**Appendix E:
Comments and Responses Report**

**Appendix F:
Final Environmental Management Programme (EMPr)**

Appendix G:

Other Information