



ETHEKWINI ENGINEERING UNIT

**DM/0039/2014:
EMANSOMINI
BRIDGE**

**PROPOSED
PEDESTRIAN**

Final Basic Assessment Report

Issue Date : 16th February 2016
Revision No. : 1
Project No. : 12527



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:

DC/
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.
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).**

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	DM/0038/2014
File reference number (Waste Management Licence):	N/A

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:	SIVEST S.A. (Pty) Ltd.		
Physical address:	4 Pencarrow Crescent, La Lucia Ridge Office Estate, Umhlanga Rocks		
Postal address:	PO Box 1899, Umhlanga Rocks		
Postal code:	4320	Cell:	
Telephone:	035-581 1576	Fax:	031-566 2371
E-mail:	luvanyan@sivest.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)
Michelle Nevette	M.Sc (Environmental Management)	<ul style="list-style-type: none"> IAIA 	15
Luvanya Naidoo	Currently completing 3rd Year BSc degree (Environmental Sciences)	<ul style="list-style-type: none"> Member of the Occupational Hygiene, Safety & Associated Professionals IAIA 	6

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
GCS - Ryan Edwards	MSc Environmental Science	Wetland Ecologist	Section C 3	Proposed Mbokodweni River Pedestrian

Basic Assessment 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
				Bridge between Emansomini and Umlazi Y Section in Umlazi, eThekwini Municipality, KwaZulu-Natal
David Styles		Vegetation Specialist	Section C 4	Assessment of Vegetation within and surrounding the footprint of a proposed pedestrian bridge between Umlazi and Emansomini
Active Heritage – Frans Prins	MA (Archaeology)	Heritage Specialist	Section C 6	A first phase Heritage Impact Assessment of the Proposed pedestrian bridge between Umlazi and Emansomini, eThekwini Metro Municipality
eThekwini Municipality – Roads Provision Paving and Geotechnical Branch		Engineering and Environmental Geologist	Section C 3	Geotechnical Assessments of founding conditions for proposed pedestrian bridge, Mbokodweni River, Umlazi

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

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

The proposed construction of the Emansomini Pedestrian Bridge in Emansomini, Durban.

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The eThekwini Municipality, Procurement and Infrastructure Department proposes the construction of a Pedestrian Bridge crossing the Mbokodweni River between Umlazi and Emansomini.

Residents crossing the river between Umlazi Y Section and Emansomini currently make use of a poorly constructed and unstable wooden bridge that crosses the river. This make-shift structure is highly dangerous as the height of the water during and after storms makes the bridge somewhat inaccessible

Basic Assessment Report

for pedestrians trying to cross the river. The high water level is also evident by the damage to embankments and planted crops. Therefore, a structure for pedestrian traffic is of high importance in this area.

The bridge will be a reinforced concrete structure. It will span approximately 90m and have piled foundations. The bridge deck will be 2m wide.

3. ACTIVITY DESCRIPTION

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

GN R.544 (18 June 2010)	11 (iii)	A bridge measuring 90m in length, no wider than 2 meters will be built over the Mbokodweni River.
GN R.544 (18 June 2010)	18 (i)	The construction of the bridge will result in the infilling or depositing of material of more than 5 cubic metres and the dredging, excavation, removal of soil, sand, pebbles or rock from the watercourse.

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.

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.

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 ¹ (preferred or only site alternative)	30	52	26.97	30	0	30.17
Alternative S2 (if any)						
Alternative S3 (if any)						

In the case of linear activities:

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only route alternative)						
• Starting point of the activity	0	'	"	0	'	"
• Middle point of the activity	0	'	"	0	'	"
• End point of the activity	0	'	"	0	'	"
Alternative S2 (if any)						
• Starting point of the activity	0	'	"	0	'	"
• Middle point of the activity	0	'	"	0	'	"
• End point of the activity	0	'	"	0	'	"
Alternative S3 (if any)						
• Starting point of the activity	0	'	"	0	'	"
• Middle point of the activity	0	'	"	0	'	"
• End point of the activity	0	'	"	0	'	"

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.

No alternatives (besides the 'No-Go' Alternative) are being considered for the proposed pedestrian bridge. The project is aimed in assisting residents who currently make use of an unstable wooden bridge to cross the Mbokodweni River. The applicant will not be considering alternatives due to cost constraints.

6. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	Size of the activity:
Alternative A1 ² (preferred activity alternative)	180m ²
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²

or, for linear activities:

Alternative:	Length of the activity:

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

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

Basic Assessment Report

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

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

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative)	m ²
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²

7. SITE ACCESS

Does ready access to the site exist?	YES ✓	NO
If NO, what is the distance over which a new access road will be built	m	
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.

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 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.

10. 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.

11. ACTIVITY MOTIVATION

11.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 1.5 million	
What is the expected yearly income that will be generated by or as a result of the activity?	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 phase of the activity?	Unknown at this stage	
What is the expected value of the employment opportunities during the development phase?	Unknown at this stage	
What percentage of this will accrue to previously disadvantaged individuals?	Unknown at this stage	
How many permanent new employment opportunities will be created during the operational phase of the activity?	n/a	
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?	n/a	

11.2. Need and desirability of the activity

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

Residents crossing the Mbokodweni River between Emansomini and Umlazi currently make use of a make-shift bridge, which is poorly constructed and unstable, to cross the river. This poses a risk to the people making use of it, especially during thunderstorms, and is unfeasible and highly dangerous.

Basic Assessment Report

The eThekweni Municipality IDP 2014-2015 has identified a backlog in service delivery for infrastructure and household service needs as a Strategic Focus Area. Programme 3.3 aims to deliver pedestrian bridges as part of this Strategic Focus Area.

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

- The proposed pedestrian bridge will provide a convenient and secure means of crossing the Mbokodweni River between Emansomini and Umlazi.
- The proposed pedestrian bridge will also provide one formal crossing for pedestrians and will assist in eliminating other informal crossings for the river.
- The proposed pedestrian bridge will allow for easier access to areas where public transport is available.
- While the exact number of jobs that will be made available during construction is not known at this time, it is part of eThekweni governance that 50% of the general labour be made available to those whom the structure will be serving via a Community Liaison Officer and Ward Councillor.

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

- The proposed pedestrian bridge will provide a safe means of crossing the Mbokodweni River between Emansomini and Umlazi, especially during periods of storms and floods.
- The proposed pedestrian bridge will also provide one formal crossing for pedestrians and will assist in eliminating other informal crossings for the river.
- The proposed pedestrian bridge will allow for easier access to areas where public transport is available.

12. 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 guideline:	Administering authority:	Date:
Animals Protection Act, Act No 71 of 1962	Department of Agriculture	1962
Atmospheric Pollution Prevention Act, No 45 of 1965	DEAT	1965
Conservation of Agricultural Resources Act, No 43 of 1983	Department of Agriculture	1983
Constitution of the Republic of South Africa Act 108/1996	The Constitutional Court	1996
Environmental Planning Act, Act No 88 of 1967	Development Planning and Management Unit	1967
Forest Act, No 122 of 1984	Department of Agriculture, Forestry and Fisheries	1984
Forest and Veld Conservation Act, Act No 13 of 1941	Department of Agriculture, Forestry and Fisheries	1984
Hazardous Substances Act, No 15 of 1973	Department of Health	1973
Land Survey Act, No 9 of 1921	Department of Land Affairs	1921
Minerals Act, No 50 of 1991	Department of Minerals and Energy	1991
National Environmental Management: Waste Act 59 of 2008	DWEA	2008
The National Heritage Resources Act 25 of 1999	South African Heritage Resource Agency (SAHRA)	1999

Basic Assessment Report

Title of legislation, policy or guideline:	Administering authority:	Date:
National Water Act, Act 36 of 1998	Department of Water Affairs	1998
Occupational Health and Safety Act, No 85 of 1993	Department of Labour	1993
Provincial and Local Government Ordinances and Bylaws	Department of Provincial and Local Government	
Soil Conservation Act, Act No 76 of 1969	Department of Agriculture	1969
Water Services Act No 108 of 1997	Department of Water Affairs	1997
eThekweni Municipality IDP	eThekweni Municipality	2014-2015

13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

13.1. Solid waste management

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

YES ✓	NO
-------	----

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

10m ³

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

Solid waste (construction waste and general waste) will be collected by independent contractors and disposed of at a registered licensed municipal landfill site with proof of safe disposal required.

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

The Buffelsdraai Landfill site will be the closest to the proposed site for waste disposal.

Will the activity produce solid waste during its operational phase?

YES	NO ✓
-----	------

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

N/A

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

N/A

Where will the solid waste be disposed 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 the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	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?

YES	NO ✓
-----	------

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

13.2. Liquid effluent

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

YES	NO ✓
-----	------

Basic Assessment Report

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

N/A	
YES	NO✓

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

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?

YES	NO✓
-----	-----

If yes, provide the particulars of the facility:

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

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

N/A

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO✓
YES	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:

N/A

13.4. Generation of noise

Will the activity generate noise?

YES✓	NO
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, during normal working hours (Monday to Friday – 08h00-17h00) associated with the construction phase of the project is anticipated. Any equipment used during the construction or operational phase will not exceed a noise level of 80 decibel amperes (dbA).

Measures to control daily noise activities during construction will be included in the Environmental Management Programme (EMPr – attached as **Appendix F**) for the project.

14. WATER USE

Basic Assessment Report

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

municipal✓	water board	groundwater	river, stream, dam or lake	other	the activity will not use water
------------	-------------	-------------	----------------------------	-------	---------------------------------

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	
YES✓	NO

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

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

The Client will be undertaking the water use authorisation process at a later stage.

15. ENERGY EFFICIENCY

Describe the design measures, if any, that 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

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	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than
	1:20		1:15		✓	1:7,5			1:5

Alternative S2 (if any):

Basic Assessment Report

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
------	-------------	-------------	-------------	--------------	-------------	------------------

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
------	-------------	-------------	-------------	--------------	-------------	------------------

2. LOCATION IN LANDSCAPE

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

Alternative S1 (preferred site):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills ✓	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	------------------------------	------	-----------

Alternative S2 (if any):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	----------------------------	------	-----------

Alternative S3 (if any):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	----------------------------	------	-----------

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

YES ✓	NO
-------	----

If YES, please complete the following:

Name of the specialist:	Ryan Edwards		
Qualification(s) of the specialist:	MSc Environmental Science		
Postal address:	PO Box 819, Gillitts		
Postal code:	3603		
Telephone:	031 764 7130	Cell:	-
E-mail:	ryane@gcs-sa.biz	Fax:	031 764 7140

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?

YES ✓	NO
-------	----

If YES, specify and explain:

The site is situated within a vegetation type designated as KwaZulu- Natal Coastal Belt Grassland (Scott-Shaw & Escott 2011). The site also falls within a Critically Endangered listed ecosystem, namely Interior South Coast Grasslands (KZN 7 – SANBI 2009).

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?

YES ✓	NO
-------	----

Basic Assessment Report

If YES, specify and explain:

The proposed location of the Emansomini Pedestrian Bridge crosses a section of the Mbokodweni River which provides a municipal boundary between the Emansomini and Umlazi suburbs.

The site also comprises of the following:

- Active channel with marginal and non-marginal riparian vegetation
- Relic bars and flood benches with seasonal wetland habitat
- Active floodplain with seasonal wetland habitat
- Macro channel banks
- Terraces
- Hillslope seepage wetland (associated with old terrace).

The detailed Wetland and Riparian Zone Assessment is attached in Appendix D.

Are any further specialist studies recommended by the specialist?

YES

NO ✓

If YES, specify:

N/A

If YES, is such a report(s) attached in Appendix D?

YES

NO

Signature of specialist: See Appendix D

Date:

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

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

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

4. GROUND COVER

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

YES ✓

NO

If YES, please complete the following:

Basic Assessment Report

Name of the specialist:	David Styles		
Qualification(s) of the specialist:			
Postal address:	PO Box 50030, Musgrave		
Postal code:	4062		
Telephone:	-	Cell:	082 555 8649
E-mail:	davidstyles@vodamail.co.za	Fax:	082 131 555 8649
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	YES ✓	NO	
If YES, specify and explain:	<p>The site is situated within a vegetation type designated as KwaZulu- Natal Coastal Belt Grassland (Scott-Shaw & Escott 2011). The site also falls within a Critically Endangered listed ecosystem, namely Interior South Coast Grasslands (KZN 7 – SANBI 2009).</p> <p>A protected tree <i>Millettia Grandis</i> occurs in a patch of woody vegetation near the Western alternative.</p> <p>A detailed Vegetation assessment is attached in Appendix D.</p>		
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?	YES ✓	NO	
If YES, specify and explain:	<p>The proposed location of the Emansomini Pedestrian Bridge crosses a section of the Mbokodweni River which provides a municipal boundary between the Emansomini and Umlazi suburbs.</p> <p>The site also comprises of the following:</p> <ul style="list-style-type: none"> - Active channel with marginal and non-marginal riparian vegetation - Relic bars and flood benches with seasonal wetland habitat - Active floodplain with seasonal wetland habitat - Macro channel banks - Terraces - Hillslope seepage wetland (associated with old terrace). <p>The detailed Wetland and Riparian Zone Assessment is attached in Appendix D.</p>		
Are any further specialist studies recommended by the specialist?	YES	NO ✓	
If YES, specify:			
If YES, is such a report(s) attached in <u>Appendix D</u> ?	YES	NO	

Signature of specialist: See Appendix D Date:

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	Natural veld with heavy alien infestation^E ✓	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

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

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	YES✓	NO	
Low density residential	YES✓	NO	
Medium density residential	YES✓	NO	
High density residential	YES	NO✓	
Informal residential	YES✓	NO	
Retail commercial & warehousing	YES	NO✓	
Light industrial	YES	NO✓	
Medium industrial	YES	NO✓	
Heavy industrial	YES	NO✓	
Power station	YES	NO✓	
Office/consulting room	YES	NO✓	
Military or police base/station/compound	YES	NO✓	
Spoil heap or slimes dam	YES	NO✓	
Quarry, sand or borrow pit	YES	NO✓	
Dam or reservoir	YES	NO✓	
Hospital/medical centre	YES	NO✓	
School/ creche	YES	NO✓	
Tertiary education facility	YES	NO✓	
Church	YES	NO✓	
Old age home	YES	NO✓	
Sewage treatment plant	YES	NO✓	
Train station or shunting yard	YES	NO✓	
Railway line	YES	NO✓	
Major road (4 lanes or more)	YES	NO✓	
Airport	YES	NO✓	
Harbour	YES	NO✓	
Sport facilities	YES	NO✓	
Golf course	YES	NO✓	
Polo fields	YES	NO✓	
Filling station	YES	NO✓	
Landfill or waste treatment site	YES	NO✓	
Plantation	YES	NO✓	
Agriculture	YES✓	NO	
River, stream or wetland	YES✓	NO	The proposed pedestrian bridge will be constructed over the Mbokodweni River between Emansomini and Umlazi.
Nature conservation area	YES✓	NO	The site falls within D'MOSS.
Mountain, hill or ridge	YES✓	NO	
Museum	YES	NO✓	
Historical building	YES	NO✓	
Protected Area	YES✓	NO	The site falls within D'MOSS.
Graveyard	YES	NO✓	

Basic Assessment Report

Archaeological site	YES	NO✓
Other land uses (describe)	YES	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 within 20m of the site?

YES	NO✓
-----	------------

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:

Mr. Frans Prins conducted a first phase heritage survey of the proposed Emansomini Pedestrian Bridge near Umlazi, eThekweni Metro Municipality. The report is attached in Appendix D. Below is a summary of the findings:

- The survey identified no heritage sites or features on the footprint.
- The proposed development may proceed from a heritage point of view.
- It should also be pointed out that the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act No 4 of 2008) requires that operations exposing archaeological and historical residues should cease immediately pending an evaluation by the heritage authorities.

Will any building or structure older than 60 years be affected in any way?
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO✓
YES	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—

Basic Assessment Report

- (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
- (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

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 ✓	NO
-------	----

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

The eThekweni Municipality had the following comments to the Background Information Document:

Electricity

- The department reviewed the application against its services and infrastructure and have no objections or comments to the application.

Coastal, Stormwater and Catchment Management

- A flood report must be undertaken for the bridge.

Framework Planning Branch

- The Framework Planning Branch is in support of the proposed Emansomini Pedestrian Bridge. The department also highlighted that a bridge will allow for easy access as identified in the Nsimbini Rural Functional Area Plan (2013).
- The Nsimbini Rural Functional Area Plan (2013) noted the need for a vehicular bridge.

Disaster Management

- There were no concerns raised by this department.

Fire and Emergency Services Unit

The department requested the following:

- Full compliance of dredging, excavation, removal of soil with petroleum product of flammable gas pipeline in close proximity.
- Full compliance with other relevant applicable legislative requirements.

Water and Sanitation – Wastewater technical support

- There were no concerns raised by this department.

Geotechnical Branch

- No objections in principle to the bridge locality.
- A geotechnical investigation must be undertaken to confirm depth to competent, rock founding.

eThekweni Transport Authority (ETA)

- No comment.

Durban Solid Waste

- DSW has no requirements for the proposed bridge.

City Health

- The department has no objection to the proposed project.

Environmental Planning & Climate Protection

- Bridge alternatives must be investigated. A suspension bridge is recommended so that the number of piles within the watercourse may be limited and habitat loss and degradation can be reduced.
- Site alternatives must be considered. A site which offers a reduced length will be preferred as the distance across the river will be reduced.
- Alternative locations for concrete structures outside the 1:100 year floodline must also be investigated to mitigate against the impact against flooding on the bridge structures.

Department of Water Affairs

This Department would like the following to be addressed in the Basic Assessment report with regard to the proposed activity:

1. Management of general and hazardous waste material generated during the construction phase. This should include the storage of any material, chemicals, fuels, etc. on site.
2. Identification of any environmental sensitive areas and water resources such as wetlands, streams, rivers, etc. as well as possible pollution impacts and proposed mitigation measures to protect such water resources.
3. If the proposed activity falls within a 500 meter radius from the boundary of a wetland then the applicant must apply for a water use licence for Section (c) and (i) water uses of the National Water Act, 1998 (Act 36 of 1998).
4. Should any activity be identified as a possible Section (c) and (i) water use the applicant must delineate the watercourse and riparian habitat using the Department guideline: "A practical field procedure for identification and delineation of wetlands and riparian areas" (DWAF, 2005) and indicate the proposed activity location in relation to the riparian area, the 1:50 and 1:100 year floodlines on a map of appropriate scale. The applicant with require an authorisation from the Department for any activity within the riparian habitat or 1:100 year floodline, whichever is the greatest distance from the watercourse
5. Wastewater, sewage treatment and its disposal including the provision of temporary toilets for construction workers.
6. Stormwater management on site both during and after construction.
7. Spill contingency plans for the construction phase of the project.
8. Environmental Management Programme.
9. Bridge design
10. Geotechnical report.
11. Due to the location of the bridge, it is expected that there will be disturbances/destruction of wetlands and/or riparian vegetation occurring. In this case, the extent of impact must be investigated and a rehabilitation plan must be drawn up

This office awaits a copy of the Basic Assessment report in order to provide more detailed comments.

This reply does not grant any exemption from the requirements of any Applicable Act, Ordinance, Regulation or Bylaw.

Please do not hesitate to contact this office should you have any concerns, comments or queries.

The eThekweni Municipality had the following comments on the Draft Basic Assessment Report:

1. Durban Solid Waste (DSW)

DSW has no requirements for this proposal.
2. Strategic Spatial Planning Branch

The Strategic Spatial Planning Branch (SSPB) has no objections to the draft Basic Assessment Report for the proposed Emansomini pedestrian bridge crossing the Mbokodeni River between Umlazi and Emansomini.

3. Disaster Management

No concerns from this department.

4. eThekweni Health

No objection is raised in principle subject to the maintenance and cleanliness of chemical toilets at all times. The chemical toilet effluent must be disposed of in an approved manner and a disposal certificate must be submitted to the Environmental Health Department., South 2 Area, Amanzimtoti. Once the construction resumes, the Department of Health must be notified.

5. Environmental Planning & Climate Protection Department

Following the review of the Draft Basic Assessment Report, this Department has the following comment:

The two proposed bridge sites (to the west and to the east) are across Mbokodweni River and have been included within the Durban Metropolitan Open Space System (D'MOSS) which is protecting the stream and the associated floodplain wetland.

Although the river system is considered disturbed due to the existing informal footbridge (western site) and sand mining activities, the system is still providing ecological connectivity to other systems downstream.

Please note that the western site already has an existing informal footbridge, has less wetland vegetation and therefore recommended by this department.

In addition to the floodplain wetland, the eastern site is however adjacent to a patch of Scarp Forest. Provision of a bridge across this site will expose this patch of forest to further human encroachment due to improved access. This site is therefore not recommended.

Alternatives:

This Department had during the Background Information stage of the EIA process recommended that alternative bridge designs such as a suspension bridge be considered. It is this Departments belief that the active channel bed and banks of the stream are sensitive habitats and therefore should be spanned. All direct and physical impacts must also be avoided.

This concern has however not been addressed due to reasons cited in the Comments and Responses Report, i.e. time and cost constraints. This is of concern, more so because Section 2.1 (b) of the BAR requires that alternatives are considered. This section of the BAR has not been adequately addressed, including the No-Go alternative which is compulsory.

It has been noted that the scope of work in the Wetland and Riparian Zone Assessment Report prepared by GCS (page 35) was based on a conceptual design with no definite clarity on the bridge's central pier/plinth's location. This Department recommends that the central bridge pier/plinth is not located within the active channel bed and banks. This will avoid the need for access by heavy machinery across and into the construction site.

A method statement for construction within the floodplain wetland and all sensitive habitats must also be included in the EMP.

Once the designs are finalised, the rehabilitation measures proposed in the Wetland and Riparian Zone Assessment Report prepared by GCS as well as those presented in the EMP must be revised to be specific to the approved design.

ETA

The Draft Basic Assessment for the Proposed Emansomini Pedestrian Bridge is SUPPORTED.

1. There are no approved subdivisions within the proposed pedestrian bridge location.
2. There is an existing informal dirt road which provides access to the road network for the pedestrian bridge users.

Department of Water Affairs

This Department has the following comments with regard to the proposed development:

1. Sewage and Wastewater Management

- 1.1. The use of temporary chemical toilets during the construction phase of the development must not cause any pollution to the water resources as well as pose a health hazard. The contents of these toilets must be emptied and safely disposed of. In addition, these toilets must be situated out of the 1:100 year Floodline of a watercourse or outside 100 metres from the riparian zone, whichever is greatest distance.
- 1.2. It is also this department's experience that projects of this nature may result in small volumes of water containing waste being generated during the construction phase. In this instance, the following is applicable:
 - Water containing waste must not be discharged into the natural environment
 - Measure to contain the water containing waste and the safe disposal of it must be implemented.
- 1.3. There must be no unacceptable health hazards or impacts arising from the disposal of sewage and wastewater during and post construction.

2. Water Resources, Water Use and Authorisations

- 2.1. It is noted from the report that water for construction will be obtained from the municipality. Please note that the abstraction of water from a water resource constitutes a water use in terms of Section 21 (a) of the National Water Act, 1998 (act 36 of 1998) (NWA) and must be authorised as such. Should the applicant wish to take water from a water resource for use during construction, this Department must be informed in writing of the volumes, and rate and period of abstraction in order to determine the applicable water use authorisation required prior to use.
- 2.2. Construction occurring within a 500 metre radius from the boundary of a wetland constitutes a water use in terms of Section 21 (c) and (i) of the NWA (i.e. 'impeding or diverting the flow of water in a watercourse' and 'altering the bed, banks, course or characteristics of a watercourse' respectively) and as such requires a water use license.
- 2.3. The insertion of crossings; bridges; culverts or any other structures of similar functionality in a watercourse also constitutes water use in terms of Section 21 (c) and (i) of the NWA and must be authorised as such.
- 2.4. It is the responsibility of the Applicant to identify all water uses, arising from the proposed project, in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998). These water uses are listed in Table 1.

S21 (a)	Taking water from a water resource
S21 (b)	Storing water
S21 (c)	Impeding or diverting the flow of water in a watercourse
S21 (d)	Engaging in a stream flow reduction activity (currently only commercial afforestation)
S21 (e)	Engaging in a controlled activity – activities which impact detrimentally on a water resource (activities identified in S37 (1) or Declared as such under S38 (1) namely: <ul style="list-style-type: none"> - Irrigation of any land with waste or water containing waste which is generated through an industrial activity or waterwork - An activity aimed at the modification of atmospheric precipitation - A power generation activity which alters the flow of regime of a water resource; or

Basic Assessment Report

	- Intentional recharge of an aquifer with any waste or water containing waste
S21 (f)	Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit
S21 (g)	Disposing of waste or water containing waste in a manner that may detrimentally impact on a water resource
S21 (h)	Disposing in any manner of water which contains waste from or has been heated in, any industrial or power generation process
S21 (i)	Altering the bed, banks, course or characteristics of a watercourse
S21 (j)	Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people and
S21 (k)	Using water for recreational purposes

- 2.5. The Applicant must delineate all watercourse and riparian habitats and indicate the proposed project route in relation to the riparian area, the 1:50 and 1:100 year floodlines on a map of appropriate scale. The Applicant will require an authorisation from the Department for any activity within the riparian habitat or 1:100 year Floodline, whichever is the greatest distance from the watercourse.
- 2.6. Please note that if one or more of the water uses for the project requires a water use license authorisation then by default all other water uses for the project, even those that are within the ambit of a general authorisation, must be applied for in a single Integrated Water Use Licence (IWUL) application.
- 2.7. Ms. Coleen Moonsamy (031 336 2700/2836) of this departments Water Use Authorisation Section must be contacted for a pre-application meeting to determine the type of authorisations required and the requirements thereof. The onus is on the Applicant to timeously submit a complete water use licence application to this Department for Water uses as stipulated under Section 21 of the NWA in time to avoid unnecessary delays.
- 2.8. Adequate measures must be put into place to protect any water resource(s) that flow, adjacent to, as well as through the proposed project area from being polluted and/or degraded. Visible markings showing/demarcating the buffers must be provided on site during the construction phase. If any pollution of any surface or groundwater occurs, it must be immediately reported to this Department.
- 2.9. The report titled 'Proposed Mbokodweni River Pedestrian Bridge between Emansomini and Umlazi Y Section in Umlazi, eThekweni Municipality, KwaZulu Natal: Wetland and Riparian Zone Assessment Report', dated 18th November 2014, is acknowledged. The mitigation measures proposed therein are noted.

3. Solid Waste Management

- 3.1. All waste areas must be demarcated and the waste must be stored within a designated waste collection/storage area. Access control to this area must be properly managed and the removal and disposal of the waste to a permitted waste disposal site must be carried out by a certified waste contractor or the eThekweni Municipality.
- 3.2. Should the Applicant wish to make use of a private contractor to dispose of the waste generated from the project, the following would apply:
 - 3.3.1. The details of the contractor must be made available to this Department
 - 3.3.2. Safe disposal certificates from a permitted waste disposal site must be kept at hand and must be furnished to this department when requested.
- 3.3. Contaminated/Hazardous materials are to be disposed of at a permitted hazardous landfill site that is authorised to accept such waste material.
- 3.4. All waste generated at the proposed development should be disposed of in a suitable manner so as not to cause any surface and groundwater pollution or a health hazard.
- 3.5. The recycling of suitable material (i.e. glass, paper, plastic, etc.) is encouraged by this Department, provided it is properly managed.

4. Stormwater Management

- 4.1. It is vitally important that stormwater is managed on site both during and after construction. The development and implementation of a stormwater management plan will facilitate this. The eThekweni Municipality must be consulted for the approval of the stormwater management. Proof of such consultation must be provided to this Office.
- 4.2. The stormwater drainage network system must be kept separate from the waste water (water containing waste) system.
- 4.3. After construction, the site should be contoured to ensure free flow of runoff and to prevent the ponding of water.
- 4.4. Drainage must be controlled to ensure that runoff from the site will not culminate in off-site pollution or result in damage to properties downstream of any stormwater discharge.
- 4.5. The Report titled 'Mbokodweni River Floodline at the proposed Emansomini Pedestrian Bridge', dated 3 July 2015, is acknowledged.

5. Erosion

- 5.1. Potential Sources of sediment must be minimised from the outset. Extra precautions must be taken in areas where soil are deemed as highly erodible. This means limiting the extent (area) and duration (time) of land disturbance to the minimum needed to protect these surface areas once they are exposed.
- 5.2. Erosion control measures to be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sandbags, hessian sheets, retention or replacement of vegetation.
- 5.3. Stockpiling of soil or any other materials used during the construction phase must not be allowed on or near steep slopes of a water resource. This is to prevent pollution or the impediment of surface runoff. The Applicant must control and establish mitigation measures to prevent the erosion of the stockpiles.
- 5.4. The report titled 'Geotechnical Assessment of Founding Conditions for Proposed Pedestrian Bridge, Mbokodweni River, Umlazi', dated 3 September 2015. Is hereby acknowledged.

6. General

- 6.1. No form of secondary pollution should arise from the disposal of sewage and refuse. All pollution problems arising from the above development are to be addressed immediately by the Applicant.
- 6.2. The storage of materials, chemicals, fuels, etc. to be used during the construction phase must not pose a risk to the surrounding environment. Such storage areas must be located out of the 1:100 year Floodline of any water resource and unauthorised access to these areas must be controlled. Temporary bunds must be constructed around chemical or fuel storage areas to contain possible spillages.
- 6.3. It is important that all significant spillages of chemicals, fuels, etc. during the construction phase are reported to this Office and other relevant authorities. In the event of a spill, the following steps can be taken:
 - Stop the source of the spill
 - Contain the spill
 - All significant spills must be reported to this department and other relevant authorities
 - Remove the spilled product for treatment or authorised disposal
 - Determine if there is any soil, groundwater or other environmental impact
 - If necessary, remedial action must be taken in consultation with this department
 - Incident must be documented
- 6.4. The development must comply with all relevant local municipal plans and bylaws.
- 6.5. An Environmental Management Programme (EMPr) must be developed for the project. Compliance to the final approved EMPr must be audited regularly by the designated Environmental Control Officer (ECO). Although Page 37 of the BAR makes reference to Appendix F: Draft EMPr, no EMPr was provided on the compact disc containing the Appendices of the report.

Basic Assessment Report

6.6. Notwithstanding the above, the responsibility rests with the Applicant to identify all sources or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the Environment. Failure to comply with the requirements of the National Water Act, 1998 (Act 36 of 1998) could lead to legal action being instituted against the Applicant.

This reply does not grant any exemption from the requirements if any applicable Act, Ordinance, Regulation or Bylaw.

Has any comment been received from the local municipality?

YES NO

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

N/A

Has any comment been received from a traditional authority?

YES NO

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

N/A

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 NO

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

N/A

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.

No issues were raised.

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):

N/A

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:

Every potential impact arising from the proposed development is an indirect product of activities occurring within the planning and design phase. However, these impacts are not realised until the construction and operational phases of the development. In order to avoid repetition, all identified impacts associated with the proposed development are included in **Section 2.2** (Construction Impacts) and **Section 2.3** (Operational Impacts) of this report.

No significant direct and indirect impacts are expected to occur during the planning and design phase.

Indirect impacts:

None identified.

Cumulative impacts:

None identified.

Alternative S2 (if any)

Direct impacts:

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Indirect impacts:

Cumulative impacts:

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2

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:

Basic Assessment Report

Indirect impacts:
Cumulative impacts:

Alternative A2 (if any)
Direct impacts:
Indirect impacts:
Cumulative impacts:

No-go alternative (compulsory)
Direct impacts:
Indirect impacts:
Cumulative impacts:

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:	Alternative A2:

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:

WETLAND AND RIPARIAN ZONE

- Reduction/ degradation in freshwater ecosystems and biodiversity as a result of physical disturbance impacts

The proposed construction of the pedestrian bridge will involve the physical modification of the wetland, riparian and in-stream areas within the construction footprint. The physical clearing of the construction servitudes will result in the clearing of wetland and riparian vegetation and topsoil, and the exposure of the bare surfaces to the elements. Such clearing and physical modification activities will likely result in the increased sedimentation of the in-stream areas, particularly during rainfall events. Furthermore, sedimentation is likely to occur as a result of soil and bank destabilization associated with the physical modification activities irrespective of rainfall events.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Local
DURATION	Medium – Short term
PROBABILITY	Definite
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	No loss
CUMULATIVE IMPACTS	Limited
SIGNIFICANCE RATING – PRE MITIGATION	Medium – Low
SIGNIFICANCE – POST MITIGATION	Medium – Low

- **Reduction/ degradation in freshwater ecosystems and biodiversity as a result of water quality impacts.**

The undertaking of construction work within the riparian and in-stream habitat will expose these habitats to increased pollution risks. Surface runoff and/or river water contamination may occur during the construction phase as a result of negligence, inappropriate planning, lack of supervision and general handling errors. Potential pollutants include cement, oils, hydrocarbons, chemical admixtures and waste from chemical toilets. The degree of contamination depends on the extent of the chemical spill or the cumulative effects of a number of chemical spills.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOPGRAPHICAL)	Local
DURATION	Medium – Short term
PROBABILITY	Probable
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	No loss
CUMULATIVE IMPACTS	Limited
SIGNIFICANCE RATING – PRE MITIGATION	Medium
SIGNIFICANCE – POST MITIGATION	Low

VEGETATION

- **Disturbance to vegetation**

The proposed development will destroy, damage or alter some vegetation. Impacts will occur within and close to the footprint, but indirect and cumulative impacts will probably also occur further away, particularly if better access is facilitated to Scarp Forest where timber and firewood can be gathered.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOPGRAPHICAL)	Site/ Local
DURATION	Construction – Long Term
PROBABILITY	Definite - Probable
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Low – High
CUMULATIVE IMPACTS	Medium - Low
SIGNIFICANCE RATING – PRE MITIGATION	Low
SIGNIFICANCE – POST MITIGATION	Medium (Positive)

HERITAGE

No impacts were identified as part of the first phase heritage survey undertaken.

Indirect impacts:

General Construction Impacts:

- **Erosion from vegetation removal and/or compaction of sand**

Potential erosion problems as a result of the removal of vegetation and the compaction of sand during the construction phase. The stabilizing vegetation cover of soils will be removed from

Basic Assessment Report

certain areas in order to facilitate construction. Soils may also be compacted by heavy vehicles and equipment used for construction. Once disturbed, soils become more susceptible to erosion.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Site
PROBABILITY	Possible
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Low
CUMULATIVE IMPACTS	Low
SIGNIFICANCE RATING – PRE MITIGATION	Low
SIGNIFICANCE – POST MITIGATION	Low

- Degeneration of the Mbokodweni River and surrounding areas as a result of direct construction related disturbances and alien vegetation encroachment during the construction phase.

Disturbance of the soils in and around the Mbokodweni River will likely lead to further alien invasive encroachment into these areas if the construction sites are not properly rehabilitated and managed after construction.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Local
PROBABILITY	Possible
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Medium
CUMULATIVE IMPACTS	Medium
SIGNIFICANCE RATING – PRE MITIGATION	Medium
SIGNIFICANCE – POST MITIGATION	Low

- Degeneration of the Mbokodweni River and surrounding areas as a result of the contamination of the groundwater and/or runoff entering the wetlands and streams during the construction phase.

Groundwater and surface runoff contamination may occur during the construction phase as a result of negligence, inappropriate planning, lack of supervision and general handling errors. Pollutants include hydrocarbons i.e. diesel or hydraulic oils from construction machinery, stored fuels, bitumen based substances and cement in solution. The degree of contamination depends on the extent of the chemical spill or cumulative effects of a number of chemical spills.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Local
PROBABILITY	Possible
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Medium
CUMULATIVE IMPACTS	Medium
SIGNIFICANCE RATING – PRE MITIGATION	Medium
SIGNIFICANCE – POST MITIGATION	Low

Cumulative impacts:

Alternative S2 (if any)

Direct impacts:

Indirect impacts:

Cumulative impacts:

Basic Assessment Report

<p>No-go alternative (compulsory)</p> <p>Direct impacts:</p> <p><u>Wetland and Riparian Zone:</u></p> <ul style="list-style-type: none"> • Slow degeneration in the health of the floodplain wetland over time. • Continued degeneration of the Mbokodweni River • Continued alien plant infestation <p><u>Vegetation</u></p> <ul style="list-style-type: none"> • Continued alien plant infestation • Limited access to the Scarp forest <p><u>Employment:</u></p> <ul style="list-style-type: none"> • No employment/training opportunities for the local people during the construction phase. <p><u>Social and Economic</u></p> <ul style="list-style-type: none"> • Continued informal crossing of the river. No safe formalised access across the river <p>Indirect impacts:</p> <p>Cumulative impacts:</p>
--

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2
<p><u>WETLAND AND RIPARIAN ZONE</u></p> <p><u>Bridge alignment and crossing design recommendations:</u></p> <ul style="list-style-type: none"> • The bridge must be aligned so that the river and associated floodplain are crossed at as close to right angles to the direction of flow as possible. • To minimise the impacts to the floodplain wetland, only piers/plinths may be established within the floodplain wetland and no fill material must be deposited within the floodplain wetland. Thus, the bridge must extend across the entire floodplain wetland. • Wherever possible, piers / plinths should be located outside of the active channel. Where unavoidable for substantiated reasons, only one pier/plinth must be established within the active channel. • The proposed bridge must not impact any existing sewerage or water infrastructure. <p><u>General site setup recommendations:</u></p> <ul style="list-style-type: none"> • The edge of the active channel, floodplain wetland, hillslope seepage wetland and riparian terrace must be clearly demarcated using danger tape and stakes prior to construction commencing. Failure to do so should warrant financial penalties / fines. • Access routes to the construction zone and the location of the construction laydown / storage areas must be agreed on by the Environmental Control 	

<p>Officer (ECO) prior to construction commencing. Thereafter, the access route and laydown/ storage must be clearly demarcated and all areas outside of these areas considered no-go areas. Laydown and storage areas must not be located within the floodplain wetland.</p> <ul style="list-style-type: none"> • Soil stockpiles areas must also be designated and be located outside of the floodplain wetland. The location of the soil stockpiles must be agreed upon by the ECO prior to construction commencing. • If applicable, the location of the existing sewer and water pipelines must be surveyed and demarcated prior to construction commencing. <p><u>Construction and rehabilitation recommendations for bridge crossing:</u></p> <p>Timing:</p> <ul style="list-style-type: none"> • Construction should be undertaken in the winter months between the months of April and August. • A photographic record of the state of the wetland riparian areas prior to construction must be compiled for reference and rehabilitation purposes. <p>Right of Way (ROW) Construction Areas</p> <ul style="list-style-type: none"> • Disturbance to the delineated wetland and riparian areas along the bridge route should be restricted to a one-way construction right-of-way (ROW) corridor. The width of the ROW corridor should be as narrow as practically possible and should be demarcated and fenced off during the site setup phase to the satisfaction of the ECO. • Once the construction ROW is established, all areas outside of the demarcated ROW must be considered no-go areas. Encroachment into no-go areas without prior approval from the ECO must be penalised with a fine. • The construction ROW should comprise a one-way running track of a maximum width of 4m. • Wherever possible, the running track should not be established within the active channel and should extend into the wetland/riparian areas from each valley side to the furthest pier construction site. • Where a running track across the active channel is necessary, the running track must be established on top of either a berm of sandbags or imported rock. The running track across the active channel should be as narrow as possible and must be strictly one way. • Flow should be diverted through the running track berm using short flume pipes established during the running track establishment or using the coffer dam method whereby the running track is only established from one side to the plinth/pier site. • Erosion control must be established at flume pipe or coffer dam diversion outlets. • If dewatering is required, a dewatering area must be designated on the floodplain 20m from the edge of the active and macro-channels. The pumped water should be discharged into discharge areas comprising haybales. <p>Vegetation:</p> <ul style="list-style-type: none"> • Before clearing, indigenous plants suitable for rescue are to be relocated to a temporary holding area by a vegetation specialist / botanist. Indigenous plants suitable for rescue include sedges and grass clumps. • Before stripping, all vegetation within the wetland and riparian areas must be chopped down by hand prior to more intensive clearing and alteration. Any fauna encountered during the clearing process must be relocated to the adjacent habitats under the supervision of the ECO. 	
--	--

Basic Assessment Report

<ul style="list-style-type: none">• Thereafter, the working servitude is to be stripped of topsoil and vegetation to a nominal depth and this top soil placed at a temporary stockpile area and maintained for re-use.• Topsoil and subsoil must be stored separately.• Wherever possible, excavations within the watercourses should be undertaken by hand. If this is unfeasible for sound reasons, a small excavation vehicle may be used.• Once the bridge is completed, the running track must be removed by hand wherever possible.• Once completed, the disturbed bed and banks of the streams and wetlands must be reshaped under the supervision of the ECO.• Compacted wetland and riparian soils along the running track must be ripped to a depth of 20cm.• Once the riparian areas are re-shaped and the compacted soils are ripped, topsoil from that particular area must be reinstated to the satisfaction of the ECO.• The prepared soils along the construction corridor must be re-vegetated via the planting of rescued plants and via hand broadcasting and plugs by a professional landscaper or horticulturalist. The seed mix should comprise an indigenous grass mix comprising of 'runner' grasses like <i>Cynodon dactylon</i> var. Sea Green.• If the river banks require rehabilitation, the banks must be armoured against erosion using biodegradable geofabrics to facilitate establishment of vegetation e.g. Geojute®. <i>C. dactylon</i> var. Sea Green plugs should be planted on the banks.• The areas to be hand broadcasted must be lightly watered before planting to ensure that the seed material does not come into contact with dry ground.• The seed mixture must be evenly broadcasted over the entire surface of the construction corridor. In this regard, a mechanical seeding device may be used in order to ensure a uniform distribution of grass seed over the area to be rehabilitated.• The grass seed must be lightly worked into the upper topsoil layer by means of hand labour (using a rake).• The seeded area must be watered daily until planting has been completed.• The soil must be kept moist for the first two weeks after hand broadcasting to ensure seed germination. Thereafter irrigation should be applied weekly until reasonable groundcover is obtained.• Watering should be gentle so that rill erosion is avoided and minimised.• Any erosion damage resulting from watering/irrigation must be repaired immediately.• The disturbed area should be monitored for erosion and alien plant encroachment weekly for a month, and monthly for 3 months.• Alien plants within the rehabilitated area must be eradicated immediately. The alien plant species should be removed by hand-pulling where possible. Herbicides should be utilised where hand pulling is not possible.• ONLY herbicides which have been certified safe for use in watercourses by independent testing authority to be used.• The ECO must undertake a close-out audit after the monitoring period and sign-off on the success of the rehabilitation.• A detailed method statement for the bridge crossing must be submitted to the ECO by the contractor for approval prior to construction commencing.	
--	--

General construction management measures:

- All contractor staff working onsite must undergo an environmental induction prior to moving onto site and all site managers must be well acquainted with the construction phase environmental management programme (EMPr). This EMPr must be kept onsite at all times. Failure to show proof of staff inductions and failure to keep the EMPr onsite must be penalised with a fine. The education of the contractor staff is the responsibility of the site manager. The appointed ECO must oversee the induction programme.
- Strict solid waste management and disposal measures must be included in the construction phase environmental management programme (EMPr).
- Chemical toilets must be provided for the construction workers and these toilets must be located at least 20m away from all wetland and riparian areas and should be regularly serviced.

Alien plant removal recommendations:

- All bare surfaces across the construction site must be checked for alien plants at the end of every week and alien plants removed by hand pulling and adequately disposed.

Stormwater management and erosion control recommendations:

- Stormwater and erosion control measures must be implemented during the construction phase to ensure that erosion and sedimentation impacts to the riparian and in-stream habitats are minimised and avoided. In this regard, the following measures should be implemented:
- Clearing activities must only be undertaken during agreed working times and permitted weather conditions. If heavy rains are expected, clearing activities should be put on hold. In this regard, the contractor must be aware of weather forecasts.
- Construction activities should be scheduled to minimise the duration of exposure to bare soils on site, especially on steep slopes.
- The full length of works must NOT be stripped of vegetation prior to commencing with other activities.
- The unnecessary removal of groundcover from slopes must be prevented, especially on steep slopes.
- Sandbags and silt fences must be available for use to control runoff, especially on sloping surfaces.
- The berms, sandbags and/or silt fences must be monitored for the duration of the construction phase and repaired immediately when damaged. The berms, sandbags and silt fences must only be removed once vegetation cover has successfully re-colonised the embankments.
- After every rainfall event, the contractor must check the site for erosion damage and rehabilitate this damage immediately. Erosion rills and gulleys must be filled-in with appropriate material and silt fences must be established along the gully for additional protection until grass has re-colonised the rehabilitated area.

Hazardous substances handling, storage and disposal recommendations:

- If applicable, hazardous storage and refuelling areas must be bunded prior to their use on site during the construction period. The number of bunds and their location and their construction should occur during the site setup phase.
- Mixing and/or decanting of all chemicals and hazardous substances must take place on a tray, shutter boards or on an impermeable surface and must be protected from the ingress and egress of stormwater.
- Cement and concrete mixing must not take place within the 10m of the active and macro-channels.
- Every effort must be made to capture concrete/cement spillage during the establishment of the piers / plinths within the macro and active channels.
- No vehicles transporting concrete, asphalt or any other bituminous product may be washed on site.
- Vehicle maintenance should not take place on site unless a specific bunded area is constructed for such a purpose.
- Ensure that transport, storage, handling and disposal of hazardous substances is adequately controlled and managed. Correct emergency procedures and cleaning up operations should be implemented in the event of accidental spillage.
- Implement appropriate operation and maintenance of construction equipment to avoid petrochemical products from polluting the soil.
- A spill contingency plan for both the construction phase must be drawn up and incorporated into the EMPr. This should include procedures to guide the clean-up of accidental spillages and its disposal.
- Bins should be provided to all areas that generate waste e.g. worker eating and resting areas and the camp site. General refuse and construction material refuse should not be mixed.

VEGETATION

- The main possibility the development provides mitigation is control of alien vegetation. However, rivers are dynamic systems, cattle graze and trample ground in the area and there is already much pedestrian movement. As there is also a large amount of alien vegetation in close proximity to the crossings, it is easy for seed and vegetative material to move to and grow on ground which is disturbed on an ongoing basis and is relatively moist. As a result, while alien control work can occur during and after the construction, once this ends alien plant invasion will resume.
- If access is facilitated to the Scarp Forest, particularly if the eastern alternative is selected, this cannot be feasibly mitigated, as it would be difficult to control the movement and activity of people resident near the crossings.

General Construction Mitigation Measures

Erosion from vegetation removal and/or compaction of sand

- Clearing activities should occur during agreed weather conditions to minimize runoff and therefore erosion.
- Clearing of vegetation must be undertaken in phases in order to prevent large areas at a time from being exposed and susceptible to erosion.
- Exposed areas must be revegetated as soon as possible.
- Silt fences and sandbags should be established within and around the development area to control soil erosion.

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:

Indirect impacts:

Cumulative impacts:

Alternative A2

Direct impacts:

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Indirect impacts:

Cumulative impacts:

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

Alternative A2:

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:

WETLAND AND RIPARIAN ZONE

- **Reduction/ degradation in freshwater ecosystem services and biodiversity as a result of floodplain deactivation impacts.**
If fill material is established within the floodplain wetland as part of bridge crossing, the sections of the floodplain immediately downstream of the fill material will be starved of sediment and inundation and thus be deactivated. This would essentially result in the loss of flood attenuation and phosphate removal services associated with the deactivated area and contribute to the cumulative reduction in flood attenuation and phosphate trapping services within the Mbokodweni River system. The outcome of this function reduction will be a small increase floodpeaks downstream, which, when considered cumulatively, could be a moderate impact.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Municipal
PROBABILITY	Probable
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Low

Basic Assessment Report

CUMULATIVE IMPACTS	Medium
SIGNIFICANCE RATING – PRE MITIGATION	Medium
SIGNIFICANCE – POST MITIGATION	Low

- **Reduction/ degradation in freshwater ecosystem services and biodiversity as a result of flow alteration impacts.**

Physical bank and bed modification and the establishment of piers / plinths within the riparian and in-stream habitat will likely to alter flow paths which could also lead to some channel erosion and sedimentation, especially during large storm events. Further erosion will contribute to increased bank disturbance and in-stream sedimentation and ultimately increased invasion of the riparian areas by alien and indigenous pioneer plant species and increased turbidity and bed sedimentation. Due to the already poor state of the in-stream and riparian habitat, the change in the state of the riverine habitat as a result of the anticipated flow diversion will likely be low to moderately-low at most and the impact will likely be localized.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Site
PROBABILITY	Possible
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	No Loss
CUMULATIVE IMPACTS	Medium – Low
SIGNIFICANCE RATING – PRE MITIGATION	Medium – Low
SIGNIFICANCE – POST MITIGATION	No Impact

- **Reduction/ degradation in freshwater ecosystem services and biodiversity as a result of solid waste impacts.**

By nature, the existing and proposed bridge increased/increases the risk of the disposal of solid waste and other waste materials (e.g. grey water) directly into the river, which would contribute to the degradation in water quality and in-stream bed and bank habitats. Due to the already poor state of the in-stream and riparian habitat, the change in the state of the riverine habitat as a result of increased solid waste inputs will likely be moderately low at most and the impact will likely be localized. Furthermore, the impact will be long term in duration and probable in terms of probability. It is important to note, however, that such an impact is already present with the existing bridge and as such the proposed bridge will not result in a new or more substantial impact relative to the current scenario.

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Local
PROBABILITY	Probable
REVERSIBILITY	Reversible
IRREPLACEABLE LOSS OF RESOURCES	Low
CUMULATIVE IMPACTS	Medium – Low
SIGNIFICANCE RATING – PRE MITIGATION	Low
SIGNIFICANCE – POST MITIGATION	Medium – Low

STORMWATER MANAGEMENT

- **Flooding as a result of effects on the flow of the river post construction**

The surface water elevation during a 100 year flood is estimated to increase by a negligible value post construction. Therefore the construction of the pedestrian bridge would not pose a significant impact on the receiving areas.

Basic Assessment Report

ASSESSMENT CRITERIA	RATING
EXTENT (GEOGRAPHICAL)	Site
DURATION	Short term
PROBABILITY	Unlikely
REVERSIBILITY	Irreversible
IRREPLACEABLE LOSS OF RESOURCES	Low
CUMULATIVE IMPACTS	Low
SIGNIFICANCE RATING – PRE MITIGATION	Low
SIGNIFICANCE – POST MITIGATION	Low

Indirect impacts:

Cumulative impacts:

Alternative S2 (if any)

Direct impacts:

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Indirect impacts:

Cumulative impacts:

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

Alternative S2

WETLAND AND RIPARIAN ZONE

- No fill material must be established within the floodplain wetland and the entire floodplain should be spanned using piers/plinths.
- Wherever possible, no piers or plinths should be established within the active channel. Where not feasible for substantiated reasons, a maximum of one pier/plinth must be established.
- Educational signs must be established on, or adjacent to, the bridge entrances to educate the local residents on the Mbokodweni River and prohibitions with regards to solid waste and other hazardous substances.

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:

Indirect impacts:

Cumulative impacts:

Alternative A2

Direct impacts:

Indirect impacts:

Cumulative impacts:

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

No-go alternative (compulsory) <i>Direct impacts:</i> <i>Indirect impacts:</i> <i>Cumulative impacts:</i>

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1	Alternative A2

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)

It is difficult to quantify the impacts that would likely result in the future should the proposed development be decommissioned.

The applicant will therefore need to assess the impacts that may result from the decommissioning or closure phase in terms of applicable legislation at the time of decommissioning.

Alternative S2

<i>Direct impacts:</i> <i>Indirect impacts:</i> <i>Cumulative impacts:</i>
--

No-go alternative (compulsory)

<i>Direct impacts:</i> <i>Indirect impacts:</i> <i>Cumulative impacts:</i>
--

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2

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)

<i>Direct impacts:</i> <i>Indirect impacts:</i> <i>Cumulative impacts:</i>
--

Alternative A2

<i>Direct impacts:</i>

Basic Assessment Report

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Indirect impacts:

Cumulative impacts:

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

Alternative A2

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)

Alternative S2

- The EMPr (Appendix F) setting out procedures and mitigation measures will need to be adhered to during the planning, construction and operational phases.
- The EMPr must be approved by the relevant authority before construction commences.
- The contractor must sign that he has read and understands the EMPr.
- A qualified Environmental Control Officer must be appointed to conduct monthly audits and submit a monthly report to the contractor and relevant authority during construction

Alternative A1 (preferred alternative)

Alternative A2

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 eThekweni Municipality, Procurement and Infrastructure Department proposes the construction of a Pedestrian Bridge crossing the Mbokodweni River between Emansomini and Umlazi. Residents crossing the river between Umlazi Y Section and Emansomini currently make use of a poorly constructed and unstable make-shift wooden bridge that crosses the river. This is highly dangerous and the height of the water during and after storms is evident by the damage to embankments and planted crops. In addition, as a result of the height of the water level on each embankment the informal crossing is inaccessible for people trying to cross the river. A structure for pedestrian traffic is of high importance in this area.

Basic Assessment Report

The development of the proposed construction of the pedestrian bridge between Emansomini and Umlazi has been assessed by a number of independent specialists and a summary of the findings and recommendations made by the following specialists are provided below:

- Wetland Assessment
- Vegetation Assessment
- Heritage Assessment
- Floodline Assessment
- Geotechnical Assessment

Mr Ryan Edwards of GCS conducted a wetland delineation and functional assessment for the site. The riverine system was assessed as being of moderate ecological importance and sensitivity despite the moderately-high level of modification due to the moderate value of the riverine system in terms of refuge value and moderate sensitivity to flow changes. It is also important to note that the riverine system is important in terms of ecological connectivity between upstream and downstream reaches and is currently included in D'MOSS. The floodplain wetland was assessed as being of moderate functional importance due largely to the moderate level at which flood attenuation, sediment trapping and water quality enhancement services are being provided as well as large size of the wetland's catchment. In terms of potential impacts, the development of a new pedestrian bridge is expected to result in a number of potential direct and indirect impacts to the Mbokodweni River instream and riparian habitat and floodplain wetland habitat during the construction and operational phases. However, with the implementation of the mitigation measures recommended by the Wetland specialist, minimized impacts may be achieved.

Mr Leon Hellberg of SiVEST Civil Engineering Division conducted the Floodline assessment for the site. The study revealed that the water surface elevation during a 100 year flood was estimated to increase by 0.09 metres which is considered a negligible value. The construction of the proposed pedestrian bridge as designed would therefore not impose any significant impacts on the flow of the river.

Mr David Styles conducted the Vegetation Assessment for the site. The assessment concluded that the site is situated within a vegetation type designated as Kwazulu-Natal Coastal Belt Grassland (Scott-Shaw & Escoott 2011) corresponding with the Kwazulu-Natal Coastal Belt of Mucina & Rutherford (2006). This vegetation type is seen as Critically Endangered. The site also falls within a Critically Endangered listed ecosystem namely, Interior South Coast Grasslands, KZN 7 (SANBI 2009) and falls within Category F. This ecosystem is situated within the Kwazulu-Natal Coastal Belt and is an amalgam of six vegetation types including Kwazulu-Natal Sandstone Sourveld, Ngongoni Veld, Kwazulu-Natal Coastal Belt, Pondoland Scarp Forest, Pondoland Ugu Sandstone Sourveld. One protected tree, *Millettia grandis*, was observed in a patch of woody vegetation. The removal of this tree must be avoided. Should this not be possible, a permit must be obtained from Ezemvelo KZN Wildlife. A large amount of alien vegetation was also observed within close proximity to the river. The proposed construction will destroy, damage or alter some vegetation. As such, the mitigation measures must be implemented.

Mr F Prins of Active Heritage was appointed to assess the site in order to establish whether the proposed development would impact on any features of heritage significance. The Heritage Specialist confirmed that no aspects of heritage value were found on the site.

In conclusion the site has been highly disturbed and transformed, however there are still some sensitive features on the site that need to be protected. With the recommended mitigation measures, the construction of the proposed pedestrian bridge will impact positively on the site. The need for the pedestrian bridge has been identified in the eThekweni Municipality IDP (2014-2015). The construction of the proposed pedestrian bridge will also assist in providing a formalised crossing for the Mbokodweni River.

Basic Assessment Report

Alternative S2

Alternative A1 (preferred alternative)

Alternative A2

No-go alternative (compulsory)

The no-go alternative refers to the option of not constructing the proposed pedestrian bridge. The need for the pedestrian bridge is of high importance in this area. The current wooden make-shift bridge is unstable and therefore unsafe for pedestrians. Therefore a formal crossing is urgently required.

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?

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

YES ✓	NO

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 Environmental Management Programme needs to be adhered to.
- A qualified Environmental Control Officer must be appointed to conduct monthly audits and submit a monthly report to the contractor and relevant authority.
- Recommendations contained within the Wetland and Riparian Zone Assessment Report prepared by Ryan Edwards of GCS (November 2014) must be followed.
- Recommendations contained within the Vegetation Report prepared by David Styles (August 2014) must be followed.
- Recommendations contained within the Heritage Impact Assessment prepared by Active Heritage (September 2014) must be followed.

SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

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: Draft Environmental Management Programme (EMPr)

Appendix G: Other information