



BACKGROUND INFORMATION DOCUMENT
AS PART OF THE
BASIC ASSESSMENT PROCESS AND
WATER USE LICENCE APPLICATION PROCESS FOR THE
PROPOSED MPUPHUSI RIVER SAND WINNING,
LOCATED WITHIN THE NONGOMA LOCAL MUNICIPALITY (KZN265),
ZULULAND DISTRICT (DC26).

Applicant:	Environmental Consultant:
	
<p>Zululand District Municipality Private Bag X76, ULUNDI, 3838 Tel: 035 874 5500 Fax: 035 874 5591 / 5589</p>	<p>EnviroEdge cc PO BOX 1009, Kloof, 3640 Tel:(031) 764 2569 Fax: (086) 654 6598 info@enviroedge.co.za www.enviroedge.co.za</p>

THE PURPOSE OF THIS DOCUMENT

This background information document aims to provide preliminary project information to you, as an interested and affected party (IAP), and to afford you the opportunity to comment on the proposed development. This initial project information forms the basis of the Public Participation Process and offers you the opportunity to become actively involved in the project from the outset. Input from I&APs helps to ensure that all potential environmental issues are considered within the context of the proposed sand winning site area. All issues and comments raised by IAPs during the Basic Assessment and Water Use Licence Process will be documented in the Basic Assessment Report. This will assist in the identification of environmental issues that could have a negative and/or positive impact on the site and the community as a whole.

THE PROJECT APPLICATIONS

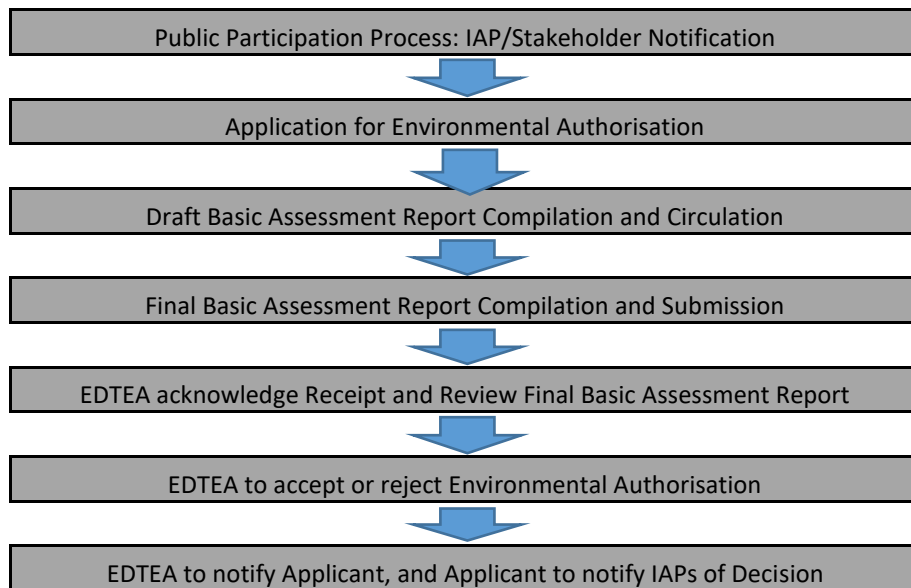
EnviroEdge cc is submitting an application for Environmental Authorisation (Mining Permit) and a Water Use Licence Application (WULA), on behalf of the applicant Zululand District Municipality for the proposed sand winning on the Mpuphusi River.

The proposed activity will be subject to a Basic Assessment in terms of the National Environmental Management Act 1998, (Act No. 107 of 1998), and associated Environmental Impact Assessment Regulations 2014, as amended 2017, and the Mineral and Petroleum Resources Development Act (No.28 of 2002).

A WULA will be submitted to the Department of Water and Sanitation in terms of the National Water Act (No.36 of 1998), Section 21(c) *Impeding or diverting the flow of water in a watercourse*, and, (i) *Altering the bed, banks course or characteristics of a watercourse*.

These regulations identify various activities which may have a substantial detrimental effect on the environment. In addition, the Regulations list procedures for assessing potential associated environmental impacts.

The Basic Assessment will consist of phases as illustrated below:



THE PROPOSED MINING

The proposed sand mining area is located within the Mpuphusi River which is the divide between ward 5 and ward 18 of the Nongoma Local Municipality, Zululand District. The project area is located 16km north east of Nongoma town, between the villages of KwaNcongoma and Nzondane. The proposed mining area covers an area of 4.9 hectares.

As part of the Mandlakazi Bulk Water Supply Scheme, bulk pipeline installation requires bedding material to be installed in pipeline trenches beneath laid pipe, so as to act as a protective layer, promote drainage, and prevent waterlogging within the trench. Suitable well graded and compacted bedding is required beneath, around and above the pipe. The proposed bedding material has been tested as part of the Geotechnical Investigation and found to be suitable for its intended purpose. Test results have also been verified by the cathodic protection specialist as suitable. The proposed mining site therefor shows evidence of sand that is free of clay, thus yielding material that is suitable for pipe bedding. Zululand District Municipality has identified the study site as having suitable sand material in this regard.

The proposed sand mining will entail mechanical excavation by excavator. The process will involve the follow activities, as required:

- Temporary diversion of the Mpuphusi River within the proposed mining area in order to access alluvial deposits, when river is flow.
- Mechanical excavation of river sand by excavator and stockpiling in a designated area on the river bank.
- On site screening of stockpiled river sand to desired diameter.
- Remaining larger sand particles, stone and pebbles will be returned to the river channel.
- Loading of haulage truck by tractor-loaded backhoe or excavator.
- Transportation of screened material to required end point.

A campsite and stockpile area is proposed on the eastern banks of the Mpuphusi River, so as to allow for easy access to the D1815 Road and the extended road network.



Figure 1. Image taken from the southern portion of the proposed mining area looking north east.



Figure 2. Image taken from the mid-section of the proposed mining area looking north east.



Figure 3. Image looking north showing the northern portion of the proposed mining area.



Figure 4. Image showing sand material proposed for mining.

5. AFFECTED AREA

Topography and Drainage

The site and surrounding areas comprises a steeply incised river valley. The study site drains in a northerly direction with non-perennial drainage lines draining into the study site from the south. The site shows evidence of high erosion on the eastern river banks, with deeper sand deposits expected on the western banks of the Mpuphusi River. The Mpuphusi River exhibits a well-defined river floodplain, which averages approximately 50m wide. The low flow channel of the river currently runs along the eastern river edge of the channel.

The Mpuphusi River is located within the W31F quaternary catchment of the Usuthu to Umhlathuze Water Management Area.

The study site is located at approximately 407masl with a gentle fall to the north.

According to DWS 2014, and the Terrestrial and Aquatic Ecological Assessment undertaken by

Whitehead 2016, the Mpuphusi River and its tributaries are mostly B rated in terms of the Present Ecological State (PES). Notable impacts on site are high sedimentation from upper catchment erosion and informal sand mining. No importance has been noted for wetlands within 500 metres of the proposed site.

EC	DESCRIPTION OF EC
A	Unmodified, natural.
A/B	Boundary category between A and B.
B	Largely natural with few modifications. A small change in natural habitats and biota may have taken place but the ecosystem functions are essentially unchanged.
B/C	Boundary category between B and C.
C	Moderately modified. Loss and change of natural habitat and biota have occurred, but the basic ecosystem functions are still predominantly unchanged.
C/D	Boundary category between C and D.
D	Largely modified. A large loss of natural habitat, biota and basic ecosystem functions has occurred.
D/E	Boundary category between D and E.
E	Seriously modified. The loss of natural habitat, biota and basic ecosystem functions is extensive.
E/F	Boundary category between E and F.
F	Critically / Extremely modified. Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural habitat and biota. In the worst instances the basic ecosystem functions have been destroyed and the changes are irreversible.

Table 1 Ecological Categories (ECs) and descriptions

Flora and Fauna

The larger extent of the study area falls within the Savanna Biome, and Mucina and Rutherford (2006) classify this vegetation group Zululand Lowveld (SVI23). The dominant vegetation type is wooded grasslands with rare dense bushveld thickets of *Dichrostachys cineria* and *Acacia sp.* Tall grassveld types with sparsely scattered solitary trees and shrubs form a mosaic with the typical savannah thornveld, bushveld and thicket patches.

According to the Ezemvelo KZM Wildlife Terrestrial Systematic Conservation Plan (2010), the proposed site is not located near to any Biodiversity Priority Area or Critical Biodiversity Area. The potential presence of the *Edouardia conulus* (Conical Bark Snail), and *Zinophora laminate* (Millipede) is however indicated.

A Terrestrial and Aquatic Ecological Assessment has been commissioned and the findings of the assessment will be included in the Draft Basic Assessment Report.

Culture and Heritage

No areas of cultural or heritage significance were noted from preliminary site investigations. A Heritage Impact Assessment and Desktop Palaeontological Assessment has been commissioned. The findings of these assessments will be incorporated into the Draft Basic Assessment. KwaZulu-Zulu Natal Heritage (AMAFA) will be consulted as part of the Public Participation Process.

National and District Roads

The proposed Mpuphusi River Sand Mining will gain primary access from an existing dirt track on the eastern river bank, and the formal D1815 gravel road. These roads would be the main transportation route for haulage vehicles.

Services

No powerlines, telecommunications were noted on site, however, the presence of underground services is not known. All relevant government departments or parastatals will be consulted as part of the Public Participation Process.

Geology

Mucina and Rutherford (2006) describe the SVI23 geology as black-clay soils and duplex soils derived from a variety of clastic sediments of the Dwyka, Ecca, Beaufort and igneous rocks of the Lebombo

Groups, also all of the Karoo Supergroup. Soils of the SVI23 are generally well drained, especially on stony slopes.

Land use and Socio-economic structure

Land use for the proposed site and the general surrounding areas consists of predominantly natural, with isolated rural homesteads. Subsistence agricultural fields occur on the eastern banks of the Mpuphusi River. The nearest rural village is KwaNcongoma, located 2.5km to the east.

6. POTENTIAL KEY ISSUES

Watercourse Ecology

Disturbance to hydrological patterns of the Mpuphusi River by mining activities may cause damage to the terrestrial and aquatic fauna and flora associated with this system. Sediment characteristics and flow patterns may be altered. Permanent alteration of river flow patterns is a risk and could impact on *in-situ* ecological systems and communities as well as those located both up and downstream of the proposed mining site.

Sediment Loss

Sand mining is an extractive process, and if not correctly managed the cumulative impacts of sediment loss will impact the river system.

Vegetation clearance

Vegetation may be disturbed in order for mining vehicles to gain access to the Mpuphusi River, site camp establishment and the stockpile area. This should not occur as a once off clearance, but should rather be approached in phases, in order to help reduce soil erosion potential and the proliferation of exotic weeds. Weeds will thrive on disturbed soil, and will spread and present an eradication problem later should these plants set seed, especially near watercourses. Cleared areas would require re-vegetation. Disturbance to riparian vegetation along the edges of the watercourse must be avoided where possible. The riparian area will be delineated by the ecological specialist.

Erosion

Potential erosion should always be considered during and after mining. If strict mitigation measures are implemented these potential factors can be prevented / reduced. Mitigation measures include river embankment stabilisation and re-vegetation of affected areas as well as the avoiding of areas susceptible to erosion.

Positive Impacts - The proposed Mpuphusi River Sand Mining will create and sustain employment opportunities for the duration of the mining permit. The proposed mining activity will provide a sustainable yield of pipeline bedding material for the Mandlakazi Bulk Water Supply Scheme. This will provide a social upliftment to the local community and extended water stricken region. There is currently a shortage of suitable bedding material in the area. Commercial bedding therefore needs to be brought in from great distances outside of the area at exorbitant rates which adds significant costs to the project.

7. INTERESTED AND AFFECTED PARTIES

All Interested and Affected Parties (IAPs) wishing to become registered as such and receive additional information, should one be required, should complete and return the overleaf registration form or contact the environmental consultant to register as soon as possible (within 14 days of receiving this document). If you would be so kind, if you are aware of any IAPs who have not been informed or identified by ourselves, please let us know, so that they too may have the opportunity to register and / or receive information. Any issues, which you would like to raise and have not been identified to date, would be welcomed.

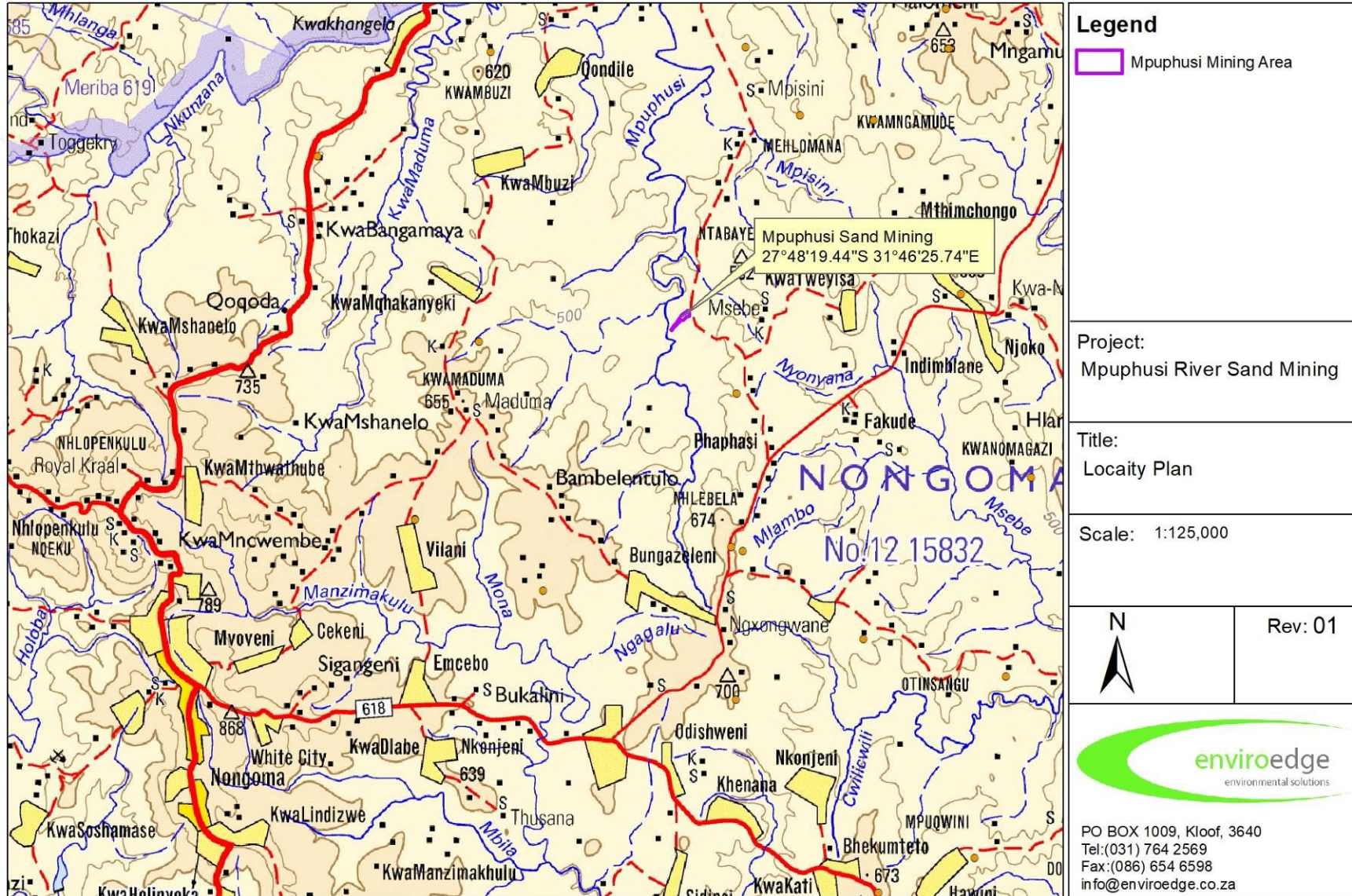


Figure 5 – Locality Plan

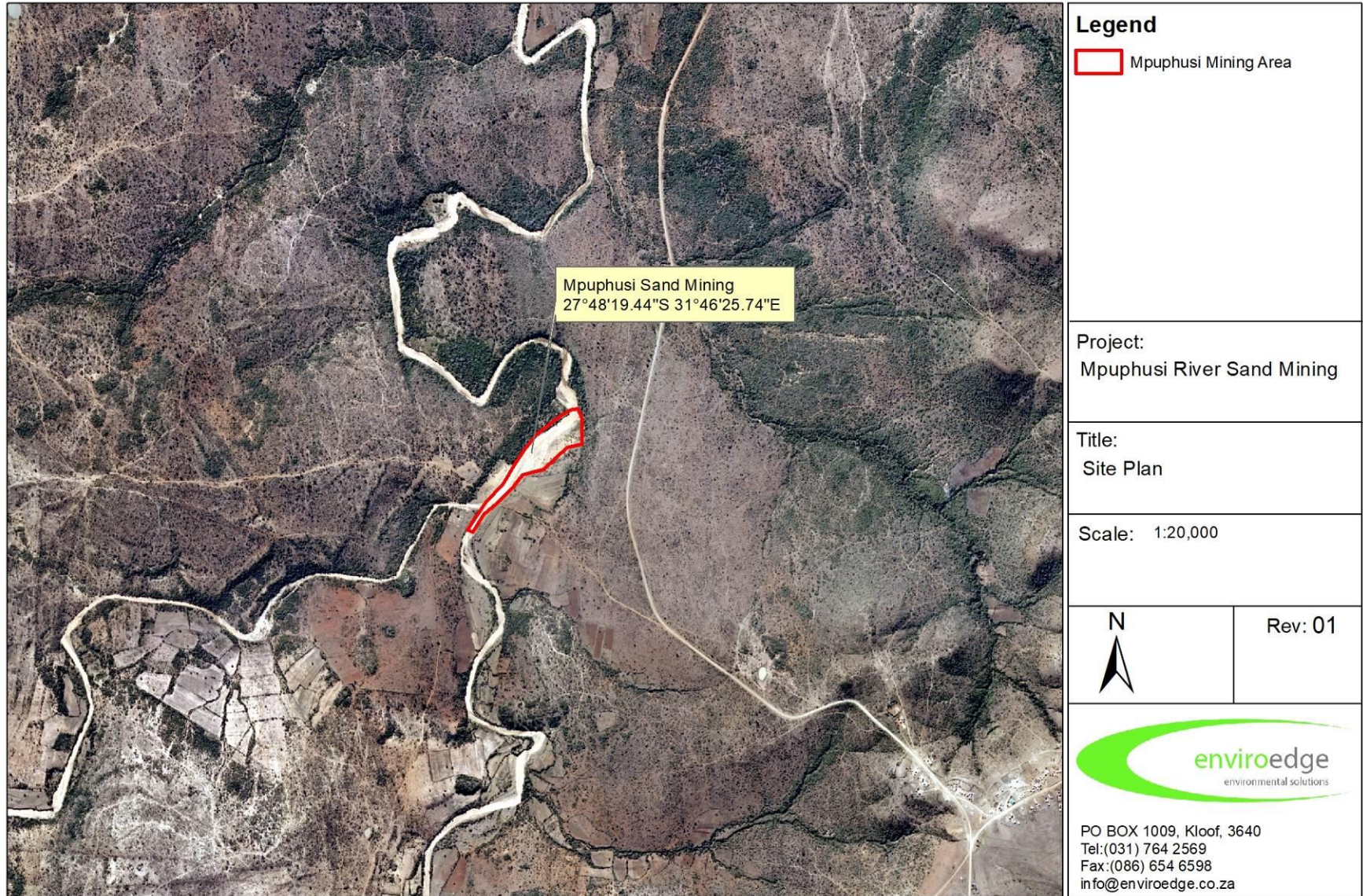


Figure 6 – Site Plan

**Basic Assessment for the Proposed Mpuphusi River
Sand Mining –
Registration and Comment Form**

KINDLY COMPLETE THIS FORM AND RETURN IT TO:

EnviroEdge cc

PO BOX 1009, Kloof, 3640

Tel:(071) 140 8350

Fax: (086) 654 6598

info@enviroedge.co.za

Title	
First Name	
Surname	
Email	
Telephone	
Fax	
Organisation	
Capacity	
Physical Address	
Postal Address	

1. What is your main interest with regards to the proposed project?

2. Do you have any issues or points of concern or support regarding the proposed project?

3. Are there any additional stakeholders who you feel should be consulted with regards to the proposed project?
