

BACKGROUND INFORMATION DOCUMENT

as part of the

BASIC ASSESSMENT PROCESS

for the

PROPOSED MASOYI ACCESS ROAD AND FOUR WATERCOURSE CULVERT CROSSINGS UPGRADE, VULINDELA, WARD 8, MSUNDUZI LOCAL MUNICIPALITY, UMGUNGUNDLOVU DISTRICT MUNICIPALITY

1. Introduction

The Msunduzi Local Municipality has proposed the construction and upgrade of the Masoyi Access Road and Watercourse Culvert Crossings, located within Ward 9 of the Msunduzi Municipality, Umgungundlovu District Municipality. Before any construction of the road upgrade and watercourse culvert crossings may commence, an environmental authorisation is required from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA), in compliance with the Environmental Impact Assessment Regulations of 2014. In order to obtain this authorisation a Basic Assessment is currently being undertaken by Enviroedge cc.

2. The Project

The proposed road upgrade, which includes four culvert crossing points and 2.5km road length to be upgraded to asphalt surface, with stormwater drainage, aims to allow local residents to have improved, formalised access to their homes, schools, shops and the extended road network. The proposed road construction would include a 2.5km long by 6m wide asphalt surface road and the construction of four concrete culvert crossing structures 6m wide, three of which cross tributaries of the Msunduze River, which flows to the north-east of the site. One of these crossings traverses an area of stormwater collection. The proposed road width is approximately 6m. The road upgrade and construction has been designed to align predominantly with the existing roads and existing pipe crossing points. The road start point can be found at: 29°42'23.15"S; 30° 5'59.86"E, and the end point at: 29°42'19.87"S; 30° 6'5.76"E. The three watercourse crossing points can be found at:

Portal Culvert A1: 29°42'21.71"S; 30° 5'57.30"E	Pipe Culvert A2: 29°42'16.48"S; 30° 5'49.71"E
Portal Culvert A4: 29°41'57.26"S; 30° 6'10.99"E	Pipe Culvert A3: 29°41'58.78"S; 30° 5'59.87"E (Stormwater crossing point)



Figure 1. Image showing the start point of the proposed road from the P7-2, north of Songonzima.



Figure 2. Image of Watercourse crossing A1 looking north-west along Masoyi Road.



Figure 3. Image of Watercourse crossing 2 looking north-east along non-perennial drainage line.



Figure 4. Image of crossing 3 looking north-east along Masoyi Road.



Figure 5. Image of Watercourse crossing 4 looking north-east back along Masoyi Road.



Figure 6. Image showing the road end point along the P7-2 road looking north.

3. Receiving Environment

Vegetation and Climate: According to The Vegetation of South Africa, Lesotho and Swaziland, the vegetation within the study area, is classified as Gs 9 Midlands Mistbelt Grassland and forms one of a number of major patches of this vegetation unit. This vegetation unit is also grouped under sub-escarpment grassland and the landscape features are described as forming a hilly and rolling landscape mainly associated with discontinuous eastern facing scarp formed by dolerite intrusions, south of the Thukela River. The vegetation unit is dominated by forb rich sour *Themeda triandra* grasslands which have in turn been transformed by the spread of *Aristida junciformis* (Ngongoni grass).

The project study area is located along the existing access road, which consists of a developed school, some small shops and residential buildings. Sections of associated subsistence agriculture occur along the road length. As such, the vegetation along the road edges is predominantly disturbed, cleared and modified through anthropogenic activities, with

very little of the natural plant communities remaining intact. Fruit trees were noted on site, and at Watercourse crossing A1 scattered *Acacia mearnsii* (Black wattle), *Eucalyptus sp.* (Gums) and *Solanum mauritianum* (Bugweed), were noted.

The average annual summer rainfall is from 730mm to 1 280mm in Gs9, and heavy and frequent mist provides significant amounts of additional moisture. Thunderstorms are common in the area in summer and autumn and the overall average daily temperature is 15.8°C, with the absolute minimum temperature recorded in this region in the month of June as -10.8°C. Frosts are generally moderate, but occasional severe frost may occur. Further climatic conditions include short term drought spells, hail and hot north-western berg winds particularly in spring and early summer. The vegetation unit is described as endangered and one of the most threatened vegetation types of KwaZulu-Natal, and only a small fraction is statutorily conserved in a number of reserves.

The Midmar Dam and Midmar Nature Reserve is located 17km north-east of the project area.

The EKZNW Terrestrial Systematic Conservation Plan, TSCP (2010) indicates that the study area does not fall within a Biodiversity Priority Area, however, a Biodiversity Priority Area 3 (BP3) is located to the north of the study area. The following species are listed in this BP3, *Spinotarsus triangulosus* and *Spinotarsus glomeratus*, *Spinotarsus* being Snake millipedes, *Bradypodion thamnobates* (endemic Natal Midlands Dwarf Chamaeleon), which is on the IUCN Red List of Threatened Species as Near Threatened, *Eremidium erectus* (Wingless grasshopper) which is endemic to KwaZulu-Natal, *Doratogonus natalensis* Natal Black Millipede KwaZulu-Natal-endemic (Vulnerable), *Doratogonus peregrinus* Wandering Black Millipede KwaZulu-Natal-endemic, *Doratogonus montanus* (Least Concern), *Capys penningtoni* Vulnerable (VU) on the IUCN Red List, endemic to South Africa and this butterfly is restricted to the KwaZulu-Natal Drakensberg foothills, with the larvae feeding on the flower buds of *Protea caffra* and *Protea simplex*, and only one generation per year, and *Hesperantha woodii* (Least Concern) iris bulb plant.

The above-mentioned threatened endemic species have critical life cycle links to both plant species and insects found within the Natal Midlands, and are capable of movement in and around the area as a whole. It is noted though, that a large part of the study area is disturbed through informal and semi-formal housing, building, subsistence farming and access tracks, with only small areas of remnant vegetation near the watercourse crossing areas.

Subsistence agriculture is noted all around the study site, including pasturelands together with scattered tree stands, fruit trees, bush clump areas and screen tree planting along boundaries and access roads. There is a wetland area located at Watercourse crossing 4.

Geology and Soils: The geology and soils of the project area consist apedal and plinthic soil forms derived predominantly from Ecca Group (Karoo Supergroup) shale, minor sandstone and Jurassic dolerite and sills.

Hydrology: Groundwater could be expected to occur in the vicinity of drainage lines. Seepage and perched groundwater flow at the soil/rock interface are likely to become more prolific in rainy months.

Fauna: The existing Masoyi Access Road crosses over three non-perennial drainage line areas, and it is likely that these riverine/drainage line watercourse crossing areas and their associated vegetation may provide habitat for species such as avifauna, reptiles and amphibians, Watercourse crossing 4 is located within a wetland area, and there are likely to be associated species present. As the Ezemvelo KZN Wildlife Terrestrial Systematic Conservation Plan 2010 (TSCP) does not allocate a Biodiversity Priority Area status for the study area, no specific species lists are provided as associated with the study area.

Culture and Heritage: No elements of cultural or heritage significance have been identified along the proposed road upgrade length.

National and District Roads: The proposed road upgrade and culvert crossings link into the existing P7-2 road to the south. It is unlikely to impact on any regional or national road.

Topography and Drainage: The study area is located in a large open valley area with one main branched non-perennial drainage line running from south-west to north-east across the central portion of the study area, which is a non-perennial tributary of the Msunduze River, flowing to the north-east of the study area. A second branched non-perennial drainage line is located north of the study area, also flowing into the Msunduze River to the north-east. A high point of 1 461masl, the Look-out Tower is located to the west, 1 446masl is located to the north-north-west, 1 284masl to the east, 1 454masl to the south and 1 464 to the south-west of the study area. The start point of the road is situated at 1 374masl and the end point is situated at 1 371masl, with the lowest point along the road at Watercourse crossing 4 at 1 320masl.

Land use and Socio-economic structure: Land use in the surrounding areas consists predominantly of agricultural use. The majority of the existing Masoyi road edge is flanked by housing and small subsistence agriculture fields, with some small shops near the main road. The Clover Khokhwane School is located at the north-western access road turning point. Songonzima and Elandskop are located to the south of the study area and KwaMncane to the east. The town of Howick is located to the north-east and the Midmar Dam to the north, together with the Midmar Nature Reserve.

Utilities: Powerlines, telecommunications and water services were noted near the proposed road upgrade and watercourse crossings. All relevant government departments or parastatals will be consulted as part of the Public Participation Process.

4. Public Consultation

Members of the public have the right to be consulted during the Public Participation Process. If you would like to be part of this process please register with the environmental consultant using the contacts below.

Consultants: Enviroedge cc.

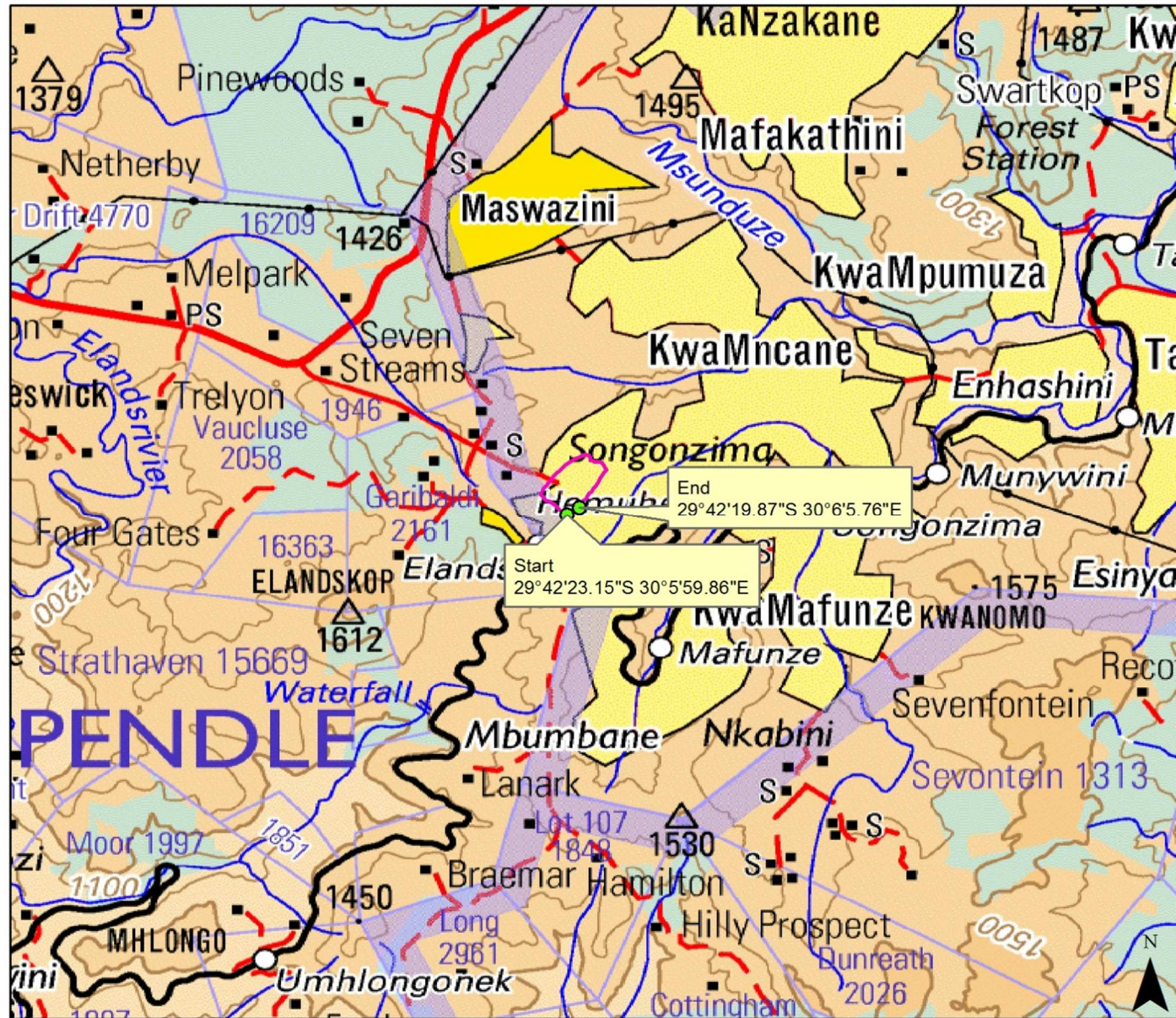
Contact: Karin Samouilhan

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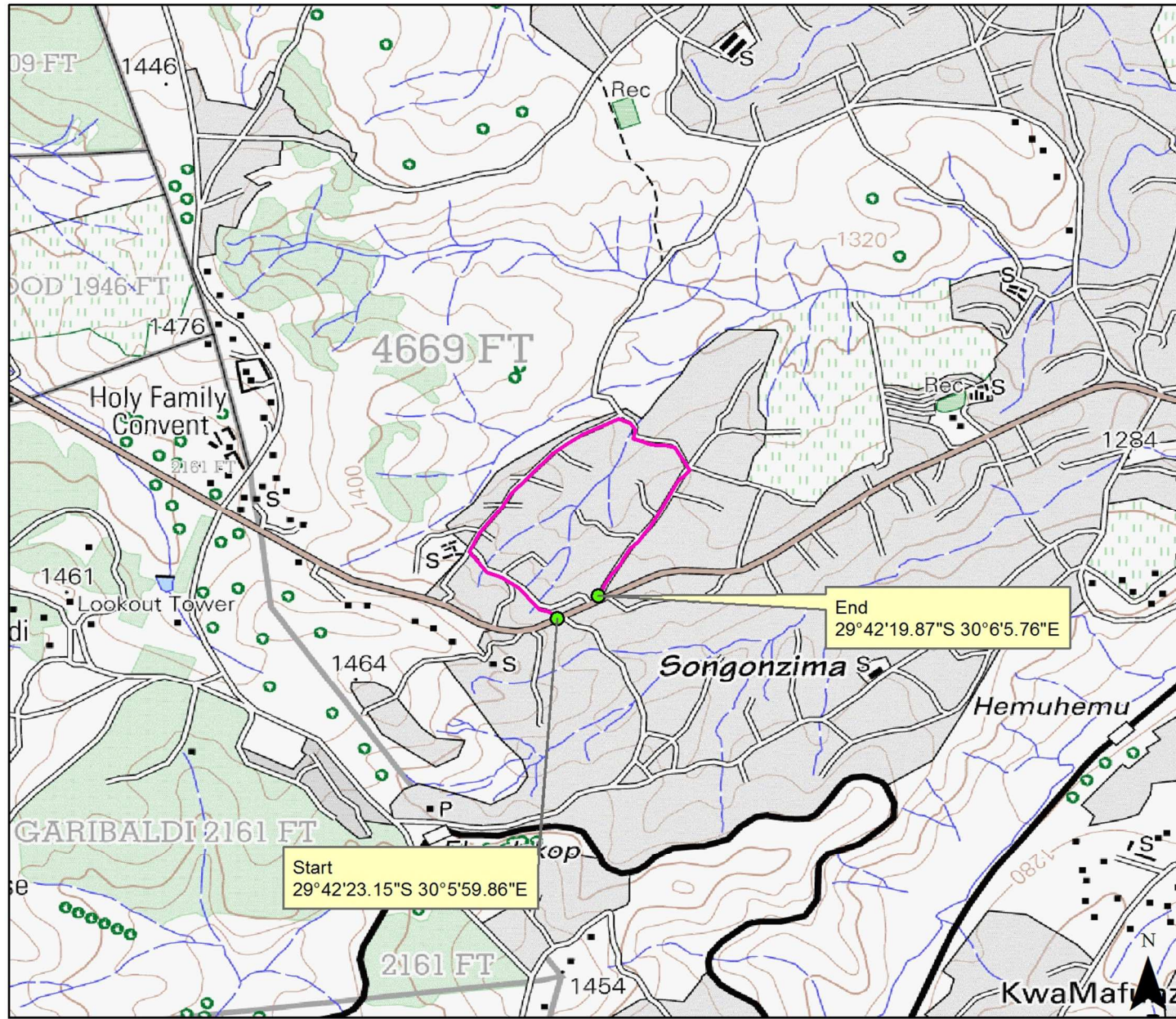
E-mail: info@enviroedge.co.za





Project:	
Masoyi Road	
Title:	
Locality Plan	
Scale: 1:80 000	
Rev: 01	
PO BOX 1009, Kloof, 3640 Tel: (031) 764 2569 Fax: (086) 654 6598 info@enviroedge.co.za	

Figure 7. Locality Plan



Project:
Masoyi Road

Title:
Topographical Plan

Scale: 1:24 000
 0 305 610 1220
 Meters

Rev: 01



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Figure 8. Topographical Plan



Project:
Masoyi Road

Title:
Site Plan

Scale: 1:8 000
0 105 210 420
Meters

Rev: 01



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Figure 9. Site Plan