DRAFT BASIC ASSESSMENT REPORT

PROPOSED ESTABLISHMENT OF A CEMETERY ON PORTION A (PORTION OF PORTION 148) OF THE FARM KAAP BLOCK SECTION F, IN MBOMBELA LOCAL MUNICIPALITY, MPUMALANGA PROVINCE

DEDET REF: 17/2/3/E-200

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DEDET Ref: 17/2/3/E-200

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PROJECT INFORMATION

REPORT TITLE:	Basic Assessment Report
REPORT STATUS:	Draft
PROJECT TITLE:	Proposed Establishment of a Cemetery on Portion A (a portion of portion 148) of the Farm Kaap Block Section F, in Mbombela Local Municipality, Mpumalanga Province
USER CLIENT (APPLICANT):	Mbombela Local Municipality
ENVIRONMENTAL CONSULTANTS:	Wandima Environmental Services
DEDET REFERENCE NUMBER:	17/2/3/E-200
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EXECUTIVE SUMMARY

1. ACTIVITY INFORMATION

1.1 Background

The increasing need for burial site, in the Nkambeni Area, has prompted the applicant, Mbombela Local Municipality, to consider a new bigger and better positioned site for burial purposes. The current cemetery is already running out of burial space, hence a need for another burial ground site. The proposed cemetery will also cater for the nearby communities, Shabalala; Numbi; Mahushu; etc. The proposed cemetery establishment is to be situated on Portion A (A Portion of Portion 148) of the farm Kaap Block Section F, colloquially known as Sand River, Numbi in Mbombela Local Munucipality, Mpumalanga Province.

1.2 Proposed Activities

The proposed project will involve the transformation of approximately 41 ha of vacant land into a public cemetery for the primary use of the residents of Numbi and nearby communities. It is proposed that the cemetery development will include the following:

- Grave cell for both adults and young.
- Palisade fencing and gate.
- A parking area.
- Ablution facilities.
- Security Offices.
- Two access road (Existing road to be utilized).

The cemetery will also be divided in to three sections: first sections for Muslim; second sections for Cultural and last section for Municipal. It is estimated that the grave yard will last for a life span of about 30-50 years.

1.3 Activity Listing

The establishment of a cemetery covering 2500m^2 or more is a listed activity according to the Environmental Impact Assessment (EIA) Regulations, 2010 and it must be adhered to in terms of Sections 24(2)(a) and 24(d) of the National Environmental Management Act (NEMA), Act no 107 of 1998. The proposed activity is listed in:

Listing Notice 1, R543 of June, 2010: Activity No 21: The establishment of cemeteries of 2500 square metres or more in size.

This listing requires the Applicant to carry out a Basic Assessment Process and no commencement of any listed activity may commence prior to obtaining an environmental authorisation from the competent authority.

2. PROPERTY DESCRIPTION

2.1 Location and Particulars of Property

The proposed cemetery is to be situated on Portion A (a portion of portion 148) of the Farm Kaap Block Section F, colloquially known as Sand River, Numbi in Mbombela Local Municipality, Mpumalanga Province. The proposed site is vacant with an aerial extent of approximately 41 hectares. It is bordered by rivers and drainage buffers north and south and Hazyview Comprehensive School and residences on the west. It is zoned agricultural and occupying a spur sloping to the south, east and north, comprises virgin ground with grass veld, scattered trees and areas of dense scrub. It is located approximately 1km from Hazyview Comprehensive School and approximately 7-kilometres south-southeast of Hazyview. The site is accessed off the R538 provincial road. The property is owned by the applicant and the locals use this area for grazing their livestock (mainly cattle), dumping of refuse and collecting of firewood.

2.2 Current Land Use & State

The property is vacant and is used for collecting of wood and grazing, it is dominated by dry grass and few trees. It is bordered by rivers and drainage buffers north and south and it is zoned agricultural and occupying a spur sloping to the south.

2.3 Description of the Environment

2.3.1 Climate

The Lowveld is subtropical, due its proximity to the warm Indian Ocean and latitude. The summers are hot while the winters are cold and dry. Average daily temperatures ranges above 29^0C in summer and are lower than 23^0C in winter. Winter minimum ranges above 6^0 C in June, July and August. Annual rainfall ranges between 550 mm and 767 mm. The prevailing wind direction is from the northwest at an average speed of less than 5 m/s. the windiest months are September, October and November.

General climate conditions of the project area and those of the surrounding areas are dictated by the surrounding physiological conditions and activities that may affect the rainfall patterns of the area. Due to the topography, rainfall varies considerably according to altitude and compass direction. The climatic data presented so that the planning and implementation of the proposed project is planned for the less rain period to minimise stoppages of project implementation due to rains, which may be costly to the project.

2.3.2 Topography and Drainage

The geological report indicated that recommended gradient for cemeteries is 2E to 6E. Sites with slopes steeper than 6E are susceptible to erosion, while slopes shallower that 2E are susceptible to the ponding of surface water and development of areas with impeded drainage. The overall gradient of the proposed site is mostly less than 6E, although with sporadic slopes as steep as 8E; these steeper slopes, coupled with the non- or slightly cohesive surficial regolith, will make these localized areas more susceptible to erosion once denuded of vegetation.

Pits throughout the site mostly encountered groundwater seepage near the interface between the unconsolidated regolith comprising hillwash and reworked residual granite, and the more competent residual granite and/or weathered bedrock. The seepage represents a perched, groundwater table, consistent with our experience in the Lowveld, and formed as a result of infiltrating surface water, perching on top of the more competent and less permeable residua. Overall therefore, the site is susceptible to the development of a perched, groundwater table after periods of prolonged precipitation, i.e. non-perennial. The minimum recommended buffer of at least 2m below internment depth, for the promotion of anaerobic conditions, is therefore not achieved.

2.3.3 Geology and Soil profile

The geotechnical report results from the fieldwork phase of the investigation reveal the site is underlain by granite bedrock, albeit below a mantle of thin transported soils and residua. In terms of the published 1:250,000 scale geological series map of the area, Barberton 2530, the granite is grey to white in colour, coarse-grained and biotite-rich, and belongs to the Nelspruit Suite of Basement Granitic Rocks (Zn). The geology map also indicates the presence of a diabase sill, extending around the western and southern sides of the site and a shear zone some six kilometres to the east. The near horizontal sill intrusion is situated up-slope of the site and will not influence the hydro-geological or geotechnical characteristics of the site. Similarly, the shear zone is well beyond the influence of the site, i.e., beyond the Mbabala River that constitutes an area of recharge.

3. PUBLIC PARTICIPATION PROCESS

3.1 Approach

A public participation process (PPP) was followed according to the 2010 EIA regulations, R543, section 54. This process was executed as follows:

All possible Interested & Affected Parties (I&AP's) were contacted and afforded an opportunity to meaningfully participate in the process. Contact was made with nearby property owners and key Interested & Affected

Parties. Some issues and concerns were raised during the public participation meeting and all these issues are recorded in the Public participation report. (See attached Appendix E for the PPP Report).

All issues raised were properly addressed. Before the report is submitted to the competent authority, it will be subjected to public review for 30 days for scrutiny and comments thereof. This also gives the I&AP's an opportunity to voice their concerns regarding the proposed project. The draft report will also be available on the Wandima Environmental Services (WES) website for download to review.

3.2 Further Participation

After the 30 days for I&AP comment period, all issues raised will be recorded and included in the Final Draft BAR. The Final Draft BAR will be available for reviewing for another 21 days. After the issuing of the Environmental Authorization (EA), the decision will be communicated to all registered I&AP's and will be afforded the opportunity to appeal against any decision.

4. IMPACT ASSESSMENT

This phase identifies and analyzes the potential impacts of the activities of the proposal on the biophysical and socio-economic components of the environment. Activities throughout the project; i.e. Design/Preconstruction, construction, operational and decommissioning phases were considered during the assessment. Both negative and positive impacts were assessed, negative for mitigation and positive for enhancement. The assessment also covered three (3) areas of specialization such as ecological study, heritage study and geo-tech study.

4.1 Findings of Specialists

The Specialist studies for the establishment and operation of the proposed cemetery was undertaken to determine the possible impacts likely to arise due to the construction and operational phase. The findings of the three (3) specialists are summarised as follows:

4.1.1 Geo-technical

According to the geo-technical study the current site can be pursued for a cemetery, providing the following mitigating measures are implemented:

- A buffer at least 100m wide must be included around the perimeter of the site – extending up-slope from the centre of the adjacent streams; deep-rooted, indigenous, hydrophilic vegetation/trees should be planted in this buffer to reduce the amount of percolating groundwater entering the adjacent streams.

- The non- or slightly cohesive surficial regolith is susceptible to erosion. As such, it is recommended that a phased approach be undertaken to clearing and grubbing the site for use, i.e., areas up to 1-hectare only, should be cleared and grubbed for use as necessary.

4.1.2 Heritage study

The heritage study recommended that the poorly defined features (broken lower grinder and rough clay potsherds) are situated out of any archaeological context and are not believed to have any historic or cultural value. They are not close to or in the vicinity of any visible archaeological sites. Mr. Billy Mphanga and Mr. V. Malope who has been staying adjacent to the study area for most of their lives, were also not aware of any archaeological features or graves in the study area. The survey of the access roads as indicated in Appendix 2 & 3, (points A – B – C) have revealed no archaeological or historical material. Based on the findings in this report, Adansonia Heritage Consultants, have no compelling reasons which may prevent the proposed cemetery development, on Nkambeni to continue.

The study concluded by stating that Archaeological material or graves are not always visible during a field survey and therefore some significant material may only be revealed during construction activities of the proposed development. It is therefore recommended that the developers be made aware of this possibility and when human remains, clay or ceramic pottery etc. are observed, a qualified archaeologist must be notified and an assessment be done. Further research might then be necessary in this regard for which the developer will be responsible.

4.1.3 Ecological study

Based on the ecological study, **the vegetation unit is considered endangered**. The conservation target is 19%. About 2% is statutorily conserved mainly in the Bosbokrand and Barberton Nature Reserves; at least a further 2% is conserved in private reserves including the Mbesan and Kaapsehoop Reserves and Mondi Cycad Reserve. It has been greatly transformed (50%), mainly by plantations and also by cultivated areas and urban development. Scattered alien plants include *Lantana camara*, *Psidium guajava* and *Solanum mauritianum*. Erosion is very low to moderate.

Croplands and residential sites (low sensitivity) predominate on the edges of the development area. The area itself forms part of an Endangered vegetation unit according to Ferrar and Lotter (2007) – The Mpumalanga Biodiversity Conservation Plan. The area is however fairly degraded and mostly infested/encroached with Sickle bush, guava and lantana. This however, does not signify the absence of other natural vegetation species.

Should the layout require the transformation of intact vegetation, then it would be preferable for this to occur within the degraded areas as this would minimize biodiversity loss.

Again, it is important to ensure that roads and service areas are located in a manner which does not result in the loss or degradation of these fragments.

4.2 Summary of Impact Assessment

According to the findings of the three (3) specialists, the nature of predicted impacts, there extent, duration, intensity, probability and significance are summarized in Table 1.

Table 1: Summary of Impact Assessment

ALTERNATIVE S1 (PREFERRED ALTERNATIVE)							
Phase	**Nature of Impact**	**Extent**	**Duration**	**Intensity/ Severity**	**Probability/ Certainty**	**Significance**	
						Before	**After mitigation**
Planning	Topography	Site	Long term	Low	Definite	Medium	Low
	Land use	Site	Long term	Low	Definite	Low	Low
	Geology	Site	Long term	Low	Probable	Low	Low
	Locality	Site	Long term	Low	Definite	Low	Low
Construction	Geology - Topography	Local	Short term	Medium	Probable	Medium	Low
	Surface & groundwater	Site	Short term	High	Definite	High	Medium
	Generation of spoil material and general waste	Site	Short term	Low	Definite	Medium	Low
	Loss of Fauna & Flora	Site	Long term	High	Definite	High	Medium
	Workforce management	Local	Short term	Low	Definite	Medium	Low
	Erosion	Local	Short term	Low	Probable	Medium	Low
	Visual impacts	Local	Short term	High	Definite	Medium	Low
	Traffic and Neighbourhood disruptions	Local	Short term	Medium	Probable	Medium	Low
Operational	Surface & groundwater	Local/ downstream	Long term	Low	Unlikely	Low	Low
	Erosion	Site	Long term	Low	Probable	Medium	Low
	Visual impacts	Site	Long term	High	Definite	High	Medium

	Availability of services and waste management	Local	Long term	Medium	Probable	Medium	Low
	Positive Social Impacts	Local	Long term	High	Definite	High	
	Negative Social Impacts (unavailability of employment)	Local	Long term	Medium	Definite	High	

5. CONCLUSIONS AND RECOMMENDATIONS

A basic environmental impact assessment, underpinned by an extensive Public Participation Process, was conducted. As per the DEAT Guidelines (2006), all relevant Interested and/or Affected Parties (I&APs) were identified, notified and every effort made to ensure their involvement and participation in the process. Also, all relevant Authorities, notably the Local Municipality, non governmental organizations, service providers as well as key stakeholders, were notified and invited to participate in the process.

The assessment has revealed that the project will have significant positive socioeconomic impacts. It has also revealed that some negative biophysical impacts may result. From the analysis given in the specialist reports and other site impact assessments, the proposed development will have the minimal impacts both ecologically, socially and in terms of heritage. It is however recommended that the mitigation measures presented in the Environmental Management Program (EMPr) be fully implemented. If there is vagueness in the wording and actions to be undertaken, clarifications must be sought from the environmental consultant and specialists involved in the compilation of the reports and the contact details are presented within the main report.

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Definition of Terms

"Activity" means an activity identified in Government Notice No. R. 544 and No. R. 545 of 2010 as a listed activity

"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 property, activity, design or technology.

"Associated Infrastructure" means any building or infrastructure that is necessary for the functioning of a facility or activity or that is used for an ancillary service or use from the facility.

"Cumulative impact", in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

"Environmental impact assessment', means the process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of that application.

"Environmental management programme" means a detailed plan of action prepared to ensure that recommendations for enhancing positive environmental impacts and/or limiting or preventing negative environmental impacts are implemented during the life-cycle of a project.

"Interested and Affected Party" means any person, group of persons or organization interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity;

"Public Participation Process" means a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters;

"Significant impact" means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment;

"The Act" means the National Environmental Management Act, 1998 (Act No.107 of 1998).

Abbreviations

BA	Basic Assessment
BID	Background Information Document
DEAT	Department of Environment, Agriculture and Tourism
DEDET	Department of Economic Development, Environment and Tourism
DAFF	Department of Agriculture, Forestry and Fishery
DWA	Department of Water Affairs
DWA&E	Department of Water Affairs and Environment
EA	Environmental Authorization
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Program
I&APs	Interested and Affected Parties
MAP	Mean Annual Precipitation
MBCP	Mpumalanga Biodiversity Conservation Plan.
MDEDET	Mpumalanga Department of Economic Development, Environment and Tourism
MTPA	Mpumalanga Tourism and Parks Agency
NEMA	National Environmental Management Act, Act No 107 of 1998
NEM:WA	National Environmental Management: Waste Act, Act No 59 of 2008.
SABS	South African Bureau of Standards
RoD	Record of Decision
WES	Wandima Environmental Services

ASSUMPTIONS & LIMITATIONS

For the purpose of this report it has been assumed that all information received from the owner has been correct.