



MOGALAKWENA LOCAL MUNICIPALITY

FINAL BASIC ASSESSMENT REPORT


LEDET REF: 12/1/9/1-W164

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**BASIC ASSESSMENT AND INTEGRATED WATER USE
LICENSE APPLICATION FOR THE DIPITHSI CLUSTER
WATER MINI SCHEME**

19 SEPTEMBER 2018



	Title: Basic Assessment And Integrated Water Use License Application For The Dipithsi Cluster Water Mini Scheme	Number: 13010	Revision: 000	Date: 10 Sep 18
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Date	Revision	Name	Role	Signature
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DOCUMENT CHANGE HISTORY

Date	From Version	To Version	Paragraph Reference	Change Description

	Title: Basic Assessment And Integrated Water Use License Application For The Dipithsi Cluster Water Mini Scheme	Number: 13010	Revision: 000	Date: 10 Sep 18
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EXECUTIVE SUMMARY

The villages of Diphitshi, Diretsaneng, Buffelshoek and Kgopeng in the Waterberg District Municipality in Limpopo Province are currently supplied by a cluster of independent systems which draws their water from boreholes using pumps that are mechanically powered by electric or diesel combustion engines. These independent system which are sometimes not reliable due to inadequate water infrastructure and low pressure in the system with increasing clean water demand. Only the village of Diretsaneng draws water from the Sand Abstraction well from the Mogalakwena River, which is one of the main water courses in the Limpopo province and a tributary of the Limpopo River. The existing infrastructure storage and abstraction is not adequate to cater for all the communities and it has been recommended that it should be upgraded.


Mogalakwena Local Municipality Mini scheme project aims to provide safe drinking water to the communities within the municipality. Diphitshi, Kgopeng, Diretsaneng and Buffelshoek, these villages are approximately 72 km northwest of Mokopane Town and are in Ward 2 of the Municipality. The four villages (Diphitshi, Kgopeng, Diretsaneng and Buffelshoek) water scheme are collectively called the Diphitshi Mini Scheme Cluster. The Mogalakwena Local Municipality proposes to upgrade these infrastructure and enable adequate water supply and storage to the communities.

The proposed upgrade will include:

- Construction of a new electrical powered pump station (approximately 60m²) next to the existing diesel pump station.
- Replacing of the old steel tank with a new 450kl (450m³) command ground steel tank at the Booster Pump station
- Construction of a new pump house and new pumps at the Booster pump station to pump water to the new 450KL command
- Construction of a package water treatment plant to clean the water from the sand pit with capacity of 350kl/day at the Booster pump station area.
- Construction of new pumping mains with 160mm diameter which will pump water to the new 450KL command tank at the Diphitshi village
- Construction of a new a 200kl (200m³) new reservoir that will store water to be pumped to the new 450KL Command tank.

The locations of each of these proposed upgrades are shown in **figure 1 in the main report**

These proposed upgrades triggers a number of Listed Activities in terms of the National Environmental Management Act (NEMA) EIA Regulations of 2014 that requires environmental authorisation prior to commencement, the proposed project also triggers a water use license application in terms of the National Water Act (NWA). The triggered Listed Activity associated with the proposed Diphitshi Cluster Mini Scheme water infrastructure upgrades are reflected in the table below.

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Listing Notices	Activity No	Description of listed activity	Core area of Waterberg biosphere reserve
Listing Notice 1			
R 327, 08 December 2014	12 (ii) (c)	The construction of a new pump station next to the existing pump station within 32 metres of the Mogalakwena River.	Zone 2
R 327, 08 December 2014	19	The construction of a new pump station next to the existing pump station and the refurbishment of the existing sand pit abstraction well in the Mogalakwena river.	Zone 2
Listing Notice 3			
R 324, 08 December 2014	2 e (ii) Bb,dd	The construction of a new 450m ³ ground steel command tank at the Booster pump station.	Zone 2
R 324, 08 December 2014	12 e.ii	The construction of the new pump station, booster pump house and the new reservoirs will clear vegetation with a footprint greater than 300m ²	Zone 2
R 324, 08 December 2014	14 (ii) (e) (i) (ff)-	The construction of approximately 60m ² new pump station next to the existing pump station within 32 metres of the Mogalakwena River. The area is within the Critical Biodiversity Area 2.	Zone 2
R 324, 08 December 2014	14 (ii) (e) (i) (ff)-	The construction of a 350kl/day water treatment works in Critical Biodiversity Area 2.	Zone 2

Public Participation Process

A comprehensive Public Participation Process (PPP) was implemented as part of the basic assessment process. The Project and environmental assessment process was widely announced with an invitation to the general public to register as I&APs and to actively participate in the PPP.

The main activities undertaken as part of the PPP in were as follows:

- Print media advertisements in English and Sepedi that were placed in the Capricorn Voice to announce the EIA Process and the availability of the Draft Basics Assessment Report for public review;
- A Background Information Document (BID) and comment sheet were produced in English, and Sepedi detailing the proposed Project and explaining the Basic Assessment process,
- Copies of the BID were made available to I&APs as and when requested. Public documents were also made available in public libraries and other local public venues, including:

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- Mogalakwena Public Library
- Diphitshi/Thusong Services center
- Mogalakwena Local Municipality Offices
- The official site notices were erected as per the NEMA EIA Regulations at the Public venues and distributed to neighbouring I&AP's and the local councillor.
- Public meeting was held with the Kgopeng Community Committee, on 29 June 2017.

A 30 calendar day commenting period (4 July 2018 to 2 August 2018) was allowed for I&APs to comment on the Draft Basic Assessment Report (DBAR). All comments received were captured and responded to in the Comment and Response Report.

The Draft Basic Assessment Report was made available for public review and comment from **Wednesday, 4 July 2018 to Thursday 2 August 2018 (30 calendar days)**. During the review period a public participation process (PPP) was undertaken, allowing (I&APs) to engage with the project proponents and independent environmental consultants.

The Draft Basic Assessment Report was take ton external independent reviewer and his comments have been incorporated into this Final basic Assessment Report.

Impact Assessment

This report identifies and assesses the impacts associated with the proposed upgrade of the Diphitshi water mini scheme. These have been identified through a combination of desktop research, site investigation and assessed by specialists.

Preferred Alternative Technologies


Two technology alternatives were considered for the operation of the pump station.

Diesel Powered Motor (Currently Used)

- Diesel has more carbon emissions due to its chemical structure- Diesel is Diesel fuel is a mixture of hydrocarbons.
- There is always a probability of spillage into the ground and the nearby Mogalakwena river
- The pump station is in very close proximity to the Mogalakwena River (less than 20 meters from the edge of the river) which serves the communities with drinking water, thus if diesel was to spill into the river it would cause drinking water problems in the communities.
- Diesel also requires a permit for the storage of dangerous goods which is an added cost to the community.

Electricity Powered Motor (Proposed to be used)

- An electric motor runs possess less risk to land and soil pollution, no diesel spillages.
- The electricity utilities are also always looking into alternate energy sources, such as wind and solar, provide electricity with virtually zero carbon emissions.
- There is less risk of pillage (diesel for instance) into the ground and unto the Mogalakwena River and less risk of soil and water contamination

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Specialist studies and reviews were conducted by the following specialists:

Specialist Study	Specialist	Organisation
Ecology Scoping Study	Danie Brummer	Lidwala (SA)
Heritage Impact Assessment (Scoping)	Johnny van Schalkwyk	J A van Schalkwyk
Aquatic/Wetland Study	Wayne Jackson	The Biodiversity Company
DBAR External reviewer	Peter Teurlings	Peter Teurlings


Impact Statement

- The Ecological/Vegetation assessment conducted at the site indicated a moderately degraded ecosystem, this is reflected by tracks, bare places, rubble, pioneer species, trees with branches cut-off and various alien invasive plant species. Sensitivity at the site is medium to low (Significance rating attached in **Appendix G**). The savanna vegetation type, Makhado Sweet Bushveld, is not listed as a threatened ecosystem according to the National List of Threatened Ecosystems (2011).
- There are moderate risks associated with the construction phase of the project which are associated with the removal of old infrastructure, clearing of vegetation, operation of machinery proximate to and within the watercourse, and installation of new infrastructure, potentially resulting in the sedimentation of the river. Moderate risks can be lowered to low risks through the implementation of adequate mitigation measures during the construction phase.
- The risks associated with the operational phase are associated with the operation of the pump adjacent to the water sources. It is proposed that a diesel and electric pump be in operation for the water supply scheme. This poses a potential risk of contamination of petrochemicals into the Mogalakwena system, modifying water quality. This risk is further considered moderate during maintenance of pumps. The pump house yard should be fenced and stormwater inside the yard be prevented into running the stream to ensure no contamination of the Mogalakwena River occurs.
- Abstraction from the Mogalakwena River poses a high risk. It is proposed that 18m³/h of water is abstracted during the low flow season. Flows within the Mogalakwena River are already modified due to abstraction within the system, and further abstraction may significantly impact maintenance flows. It is recommended that a reserve determination be undertaken, this usually is the responsibility of the Department of Water and Sanitation (DWS).
- The heritage assessment conducted indicated that the significance of the archaeological findings on the site ranges from high, medium to low significance. From a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the proposed mitigation measures

No-go Alternative

Social No-go

If the pump station was not refurbished, i.e. the No-Go Option was to be implemented, the site would remain as it is at present. As such, the water crisis will remain as is for the communities. The refurbishment of the pump house

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and the installation of pipeline and development of reservoirs forms part of the Municipality Development Programme which is aimed at being an effective response against the provision of safe clean drinking water to the Mogalakwena communities by maximising the use and management of natural resources to create vibrant, equitable and sustainable rural communities. If the development is not approved then the development programme will have a major setback, and the community is in real need of the safe clean drinking water as was observed during the public participation process.

Environmental No-go

The pump station will continue to run on diesel with the possible risk of environmental contamination through spillage either on land and the water courses.


No impact on erosion, the near threatened fish species in the Mogalakwena River, no impact on *Vachellia erioloba* during construction or any of the other protected trees.

- The communities might abstract water illegally from the river, thus no proper environmental management will occur when individual boreholes are constructed. The water uses will not be recorded with the Department of water and sanitation.


Recommendations by the EAP

It is the recommendation of the practitioner that the development be authorised provided all the necessary applications (Water use license Application) are put in place and all mitigation measures provided in the EMP are strictly adhered to. Should the project be approved, the following recommendations must be considered:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. All work should stop within 2m of the exposed grave or site.
- Should any substantial fossil remains (e.g. permineralised mammalian bones, teeth) be encountered during excavation, however, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA, the South African Heritage Resources Agency.
- If the project is approved, a reserve determination study should be undertaken to determine environmental flow requirements for the active management of water abstraction from the Mogalakwena River, this remains the responsibility of the department of Water and Sanitation.
- It is recommended that an aquatic monitoring programme be implemented, should the project proceed to determine any modifications to the Mogalakwena Reach.
- The *Vachellia erioloba* Camel Thorn and any *Sclerocarya birrea* subsp. *caffra* as well as *Combretum imberbe* (Leadwood) should be avoided during construction. These are all protected species under the National Forests Act, (Act 84 of 1998) and may not be touched without an official permit.
- It is preferable that construction takes place during the dry season to reduce the erosion potential of the exposed surfaces;
- It is preferable that construction takes place during the dry season to reduce the erosion potential of the exposed surfaces;
- Temporary storm water channels and preferential flow paths should be filled with aggregate and/or logs (branches included) to dissipate and slow flows limiting erosion; Pump houses should be bunded to isolate oil spills from the water courses during wet season.


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- Avoid the disturbance of the water courses as far as possible during construction.
- A botanist is to be present for the vegetation clearance and site development to provide site specific mitigatory measures.
- Indigenous vegetation which does not interfere with the safe construction and operation of the pump station should be left undisturbed.
- Weeds and invasive vegetation should be removed prior to construction activities preventing spreading into newly disturbed areas or areas cleared of vegetation
- The use of permitted access roads only at all times during construction and operations will play a big role in ensuring that the vegetation re growth can be successful and the area outside the servitude can be rehabilitated
- All the identified protected trees (*Vachellia erioloba*; *Sclerocarya birrea* subsp. *Caffra* as well as *Combretum imberbe*) should be avoided during construction.

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ABBREVIATIONS

BA	Basic Assessment
BAR	Basic Assessment Report
BID	Background Information Document
CBD	Convention on Biological Diversity
DEA	Department of Environmental Affairs
DAFF	Department of Agriculture, Forestry and Fisheries
DBAR	Draft Basic Assessment Report
LEDET	Limpopo Department of Economic Development Environmental and Tourism
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EMPr	Environmental Management Programme
FBAR	Final Basic Assessment Report
GIS	Geographic Information System
Ha	Hectare
HIA	Heritage Impact Assessment
I&AP(s)	Interested and Affected Party (-ies)
IDP	Integrated Development Plan
IWUL	Integrated Water Use Licence
Km	Kilometre
LSA	Late Stone Age
m	Metre
MSA	Middle Stone Age
NEMA	National Environmental Management Act (Act 73 of 1989)
NEMBA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
NHRA	National Heritage Resources Act (Act 25 of 1999)
NWA	National Water Act (No 36 of 1998)
PPP	Public Participation Process
SAHRA	South African Heritage Resource Agency
SANS	South African National Standards
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
ToR	Terms of Reference
WMA	Water Management Area
WULA	Water Use Licence Application

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LIMPOPO
PROVINCIAL GOVERNMENT
 REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF
 ECONOMIC DEVELOPMENT,
 ENVIRONMENT & TOURISM**

BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014

Basic Assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

File Reference Number:

NEAS Reference Number:

Date Received:

Due date for acknowledgement:


Due date for acceptance:

Due date for decision

(For official use only)

Kindly note that:


1. The report must be compiled by an independent Environmental Assessment Practitioner.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily 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 typing.
3. Where applicable **tick** the boxes that are applicable in the report.
4. 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 Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.
5. An incomplete report may be returned to the applicant for revision.
6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

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7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.
8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014
9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.
10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address: Central Administration Office Environmental Impact Management P. O. Box 55464 POLOKWANE 0700	Physical Address: Central Administration Office Environmental Affairs Building Cnr Suid and Dorp Streets POLOKWANE 0699
Queries should be directed to the Central Administration Office: Environmental Impact Management:- For attention: Mr E. V. Maluleke Tel: (015) 290 7138/ (015) 290 7167 Fax: (015) 295 5015 Email: malulekeev@ledet.gov.za	

View the Department's website at <http://www.ledet.gov.za/> for the latest version of the documents.

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SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

Yes

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in **Appendix D**.

1 ACTIVITY DESCRIPTION

The villages of Diphitshi, Diretsaneng, Buffelshoek and Kgopeng in the Waterberg District Municipality in Limpopo Province are currently supplied by a cluster of independent systems which draws their water from boreholes using pumps that are mechanically powered by electric or diesel combustion engines. These independent system which are sometimes not reliable due to inadequate water infrastructure and low pressure in the system with increasing clean water demand. Only the village of Diretsaneng draws water from the Sand Abstraction well from the Mogalakwena River, which is one of the main water courses in the Limpopo province and a tributary of the Limpopo River. The existing infrastructure storage and abstraction is not adequate to cater for all the communities and it has been recommended that it should be upgraded.


Mogalakwena Local Municipality Mini scheme project aims to provide safe drinking water to the communities within the municipality. Diphitshi, Kgopeng, Diretsaneng and Buffelshoek, these villages are approximately 72 km northwest of Mokopane Town and are in Ward 2 of the Municipality. The four villages (Diphitshi, Kgopeng, Diretsaneng and Buffelshoek) water scheme are collectively called the Diphitshi Mini Scheme Cluster.

Status Of Existing Infrastructure (full details in appendix G-Design report and Geohydrological Report)

The villages (Diphitshi, Kgopeng, Diretsaneng and Buffelshoek) are currently supplied by a cluster of independent systems which either draws their water from boreholes, or the sand abstraction well located in the area. Water is drawn from these different sources using diesel pumps.

Kgopeng is currently supplied by borehole namely Borehole H03-1366 with a yield of 34.56 m³/day which is reported to be unreliable. Borehole H03- 3489 which is also located in the area is reported to be unreliable and was last used around 2007. The supply to the village is erratic due to seasonal and operational reasons.

Diphitshi is currently supplied by one borehole H03-1158. The yield for the borehole currently being used is 12.96 m³/day. Borehole number H03-3541 which is located in the area is rarely utilized by the community due to unreliability and operational challenges it has. The area has serious water challenges resulting in the community resorting to buying water so as to meet the shortages. The community get water on average once in 4 days, with water running in the taps for a period of 6 hours at most in that instance. The boreholes and the reservoir also supplies water to the Ramoseseane village nearby.

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Buffelshoek is currently supplied by 2 boreholes. The first one is H03-2088 with a yield of 172.8 m³/day and is used by the community although it is seasonal and unreliable. Water is pumped into the reservoir from borehole H03-2088 twice a week. The 2nd one numbered H03-3148 is used as a source of water for livestock. From site visits done, it was noted that the community didn't experience any major water problems, due to strict rationing by the pump operator.

Diretsaneng draws most of its water from the sand abstraction well H03W2359. Borehole number H03-3777 located in the area is not functional at the moment although it has a low yield capacity of 5.18 m³/day.

Sand Abstraction Well H03W2359-Diretsaneng

According to findings of the geo-hydrologist, VSA Leboa Consulting, "sand point H03W2359", is 4.17m deep and dug in the river sand. The filtration system is still efficient, as evidenced by pumping rates as high as 30.6l/s which were reached during testing. However, for most of the testing period, the turbidity of water was not satisfactory, as it had a brownish color for the most part of the testing period. This indicates that the filtration properties of the sand blanket are not effective enough to prevent micro sediments from entering the well during pumping / extraction.

The yield and water quality of H03W2359 sand well abstraction points was tested to be 432 m³/day. The micro biological analysis of the water at this point was not done as it will be best to treat the shallow sand points as surface water. Currently water is being abstracted from a sandpit in the Mogalakwena River and pumped to a reservoir some 5km away. From enquiries undertaken with the DWS and the local Municipality it appears that there is no Water use license is in place for this water use.


The existing pump station at the abstraction point is equipped with a single diesel pump via a 160mm uPVC pipeline to an interim reservoir site/booster pump station site which is located approximately midway between Diretsaneng and Kgopeng. The pump is old and experiences frequent breakdowns.

Also when the diesel tank runs dry long outages are experienced before the diesel supply is provided. The pump station pumps water from the sand abstraction point to the booster pump station where the water is stored in a 105 cubic meter steel panel tank. The existing infrastructure have no environmental permits.

The Mogalakwena Local Municipality proposes to upgrade these infrastructure and enable adequate water supply and storage to the communities.

The proposed upgrade will include:

- Construction of a new electrical powered pump station (approximately 60m²) next to the existing diesel pump station.
- Construction of a new 450kl (450m³) command ground steel tank at the Booster Pump station
- Construction of a new pump house and new pumps at the Booster pump station to pump water to the new 450kl command

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- Construction of a package water treatment plant to clean the water from the sand pit with capacity of 350kl/day at the Booster pump station area.
- Construction of new pumping mains with 160mm diameter which will pump water to the new 450Kl command tank at the Diphitshi village
- Construction of a new a 200kl (200m3) new reservoir that will store water to be pumped to the new 450KL Command tank.
- The locations of each of these proposed upgrades are shown in **figure 1**

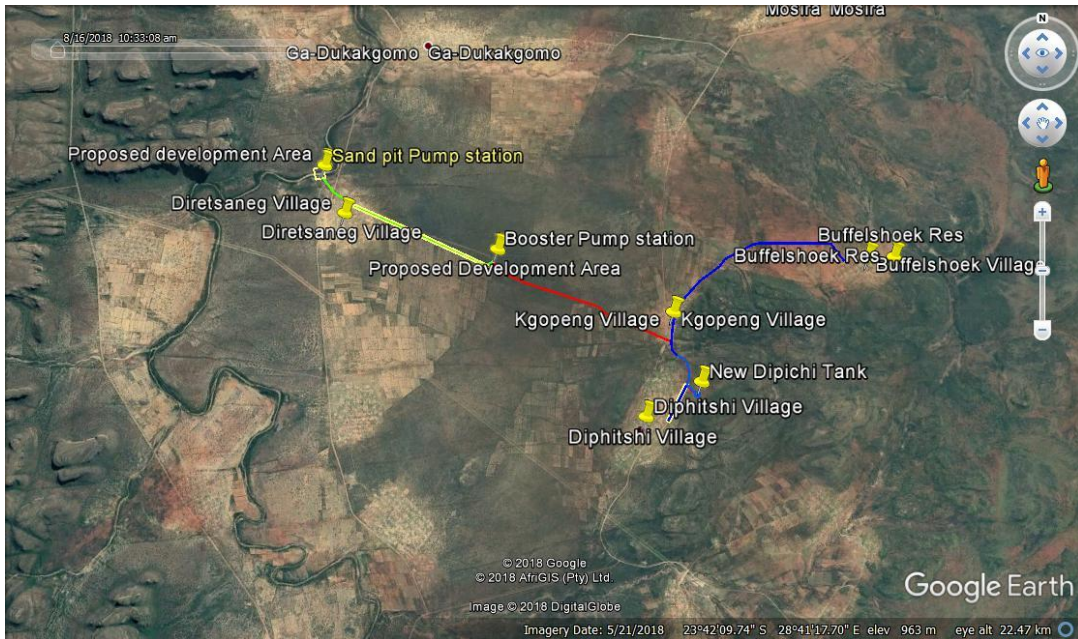



Figure 1: Localities of the infrastructure

2 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 application. 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

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informed by the specific circumstances of the activity and its environment. After receipt of this report the Department 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.

2.1 Preferred Site Alternative

The site location of the existing pump station is the preferred site for the refurbished pump station and is considered feasible and reasonable for the following reasons:

- There is an already existing pump station operated with Diesel.
- The new electrical pump house be constructed at least 32meter away from the water course edge.
- The new pump houses should also avoid the Combretum imberbe (Leadwood) protected trees present in the yard of the existing pump house.
- The presence of alien invasive species, and no red data faunal species identified within the study sites. Furthermore, the proposed site was rated medium to low in terms of ecological sensitivity. Refer to **Appendix D** for the detailed Vegetation assessment undertaken for the proposed project.
- The proposed refurbishment of the pump station is a requirement for the long term environmental management (the change from Diesel to electricity decrease the chances of spillages and contamination of the surrounding areas including the Mogalakwena River)
- The proposed refurbishment will also aid in the provision of clean safer drinking water to the communities affected.

No alternative sites have been assessed as this is a refurbishment of an existing pump station.

2.2 Preferred Design or Layout Alternative


In terms of the alternative layout designs for the proposed development, the site is relatively small 1000m² and irregularly shaped. Therefore, the design of the facility and its associated infrastructure is specific to the size and shape of the site. Due to these physical limitations, consideration must be given to the entering and exiting of vehicles, both to and from the site. Refer to **Appendix C** for the preferred layout plan.

2.3 Preferred Alternative Technologies

Two technology alternatives were considered for the operation of the pump station.

Diesel Powered Motor (Currently Used)

- Diesel has more carbon emissions due to its chemical structure- Diesel is Diesel fuel is a mixture of hydrocarbons.
- There is always a probability of spillage into the ground and the nearby Mogalakwena river
- The pump station is in very close proximity to the Mogalakwena River (less than 20 meters from the edge of the river) which serves the communities with drinking water, thus if diesel was to spill into the river it would cause drinking water problems in the communities.

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- Diesel also requires a permit for the storage of dangerous goods which is an added cost to the community.

Electricity Powered Motor (Proposed to be used)

- An electric motor runs possess less risk to land and soil pollution, no diesel spillages.
- The electricity utilities are also always looking into alternate energy sources, such as wind and solar, provide electricity with virtually zero carbon emissions.
- There is less risk of pillage (diesel for instance) into the ground and unto the Mogalakwena River and less risk of soil and water contamination

2.4 No-go Alternative

2.4.1 Social No-go

- If the pump station was not refurbished, i.e. the No-Go Option was to be implemented, the site would remain as it is at present. As such, the water crisis will remain as is for the communities. The refurbishment of the pump house and the installation of pipeline and development of reservoirs forms part of the Municipality Development Programme which is aimed at being an effective response against the provision of safe clean drinking water to the Mogalakwena communities by maximising the use and management of natural resources to create vibrant, equitable and sustainable rural communities. If the development is not approved then the development programme will have a major setback, and the community is in real need of the safe clean drinking water as was observed during the public participation process.


2.4.2 Environmental No-go

- The pump station will continue to run on diesel with the possible risk of environmental contamination through spillage either on land and the water courses.
- There is a possibility of unlawful abstraction by communities, thus no proper environmental management will occur if or should individual boreholes be constructed. The water uses will not be recorded with the Department of Water and Sanitation.

3 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. The projection that must be used in all cases

Alternative: (preferred)	Latitude (S):			Longitude (E):		
Existing Pump station	23°	40'	12.23"	28°	38'	07.43"
New Pump Station	23°	40'	12.29"	28°	38'	6.9"
Pit Abstraction	23°	40'	11.53"	28°	38'	07.50"

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Reservoir (450KL)	23°	43'	10.51"	28°	43'	15.12"
Booster Pump Station	23°	41'	21.84"	28°	40'	35.04"

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4 PHYSICAL SIZE OF ACTIVITY

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

Alternative:

Size of the activity:

Alternative A (preferred activity alternative)

Approximately 1000 m²

Pump station

Booster Pump Station

Approximately 100m²

5 SITE ACCESS

Does ready access to the site exist?

Yes

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

[Redacted area]


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.

6 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 document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;

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- 6.5 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;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 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
- 6.11 the positions from where photographs of the site were taken.

7 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 form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

8 FACILITY ILLUSTRATION


A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

9 ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

- What is the expected capital value of the activity on completion?
- What is the expected yearly income that will be generated by or as a result of the activity?
- Will the activity contribute to service infrastructure?
- Is the activity a public amenity?
- How many new employment opportunities will be created in the development phase of the activity?
- What is the expected value of the employment opportunities during the development phase?
- What percentage of this will accrue to previously disadvantaged individuals?
- How many permanent new employment opportunities will be created during the operational phase of the activity?

R 27 979 194.23
Unknown
Yes
Yes
To be determined in construction phase
To be determined in construction phase
Tbc
Tbc

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What is the expected current value of the employment opportunities during the first 10 years?

Tbc


What percentage of this will accrue to previously disadvantaged individuals?

Tbc

9(b) Need and desirability of the activity

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

NEED:		
i.	Was the relevant municipality involved in the application?	Yes
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	Yes
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:	
DESIRABILITY:		
i.	Does the proposed development fit the surrounding area?	Yes
ii.	Does the proposed development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	Yes
iii.	Will the benefits of the proposed development outweigh the negative impacts of it?	Yes
iv.		
v.	Will the proposed development impact on the sense of place?	No
vi.	Will the proposed development set a precedent?	No
vii.	Will any person's rights be affected by the proposed development?	No
viii.	Will the proposed development compromise the "urban edge"?	No
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.	
BENEFITS:		
i.	Will the development have any benefits for society in general?	Yes
ii.	Explain: The refurbishment of the water system will prevent possible spillages of diesel in the watercourse and thus prevent possible water pollution. The proposed refurbishment are in line with the	

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	masterplan is termed the Olifants River Water Resources Development Programme (ORWRDP Water Master Plan). The proposed refurbishments will also provide the communities with a more reliable water source.		
iii.	Will the development have any benefits for the local communities where it will be located?	Yes	
iv.	Explain: The refurbishment of the water system will provide much more reliable and cleaner water to the communities.		

10 APPLICABLE LEGISLATION, POLICIES AND / OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Date:
Constitution of South Africa, 1996 (Act No. 108 of 1996)	National Government	1996
National Environmental Management Act, 1998 (Act No. 107 of 1998)	National Department of Environmental Affairs	1998
National Water Act, 1998 (Act No.36 of 1998)	Department of Water and Sanitation	1998
Water Service Act, 1997 (Act No 108 of 1997)	Department of Water and Sanitation	1997
National Environmental Management Amendment Act, 2004 (Act No 8 of 2004)	National Department of Environmental Affairs	2004
National Environmental Management: Waste Act, 2008 (Act no 59 of 2008)	National Department of Environmental Affairs	2008
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)	National Department of Environmental Affairs	2004
National Heritage Resources Act (Act 25 of 1999)	SAHRA	1999
National Environmental Management: Protected Areas Act	National Department of Environmental Affairs	
National Forests Act	National Department of Agriculture, Fisheries and Forestry	1998
The Waterberg District Bioregional Plan of 2016	Waterberg District Municipality	2016

11 WASTE EFFLUENT, EMISSION AND NOISE MANAGEMENT


11(a) Solid waste management

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

Yes	
-----	--

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

3000m ³

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

The solid waste will be collected and stored for a week on site for disposal (weekly)

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

The solid waste will be disposed at the Mogalakwena' s waste disposal facilities.

Will the activity produce solid waste during its operational phase?

No

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

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

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

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 department to determine whether it is necessary to change to an application for scoping and EIA.

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

No

If yes, inform the department and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

No

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

11(b) Liquid effluent

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

No

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

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

No

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

Will the activity produce effluent that will be treated and/or disposed of at another facility?

No


If yes, provide the particulars of the facility:

Facility name:

Contact person:

Postal address:

Postal code:

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Telephone: [REDACTED] Cell: [REDACTED]
 E-mail: [REDACTED] Fax: [REDACTED]

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

[REDACTED]

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere? No
 If yes, is it controlled by any legislation of any sphere of government? No
 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 emissions in terms of type and concentration:

[REDACTED]

11(d) Generation of noise

Will the activity generate noise? Yes No
 If yes, is it controlled by any legislation of any sphere of government? No
 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 will only be generated during the construction phase (machinery, generator etc.) The level of the Since the site is in a rural area, a noise level of 45dB during the day and 35dB during the night should be adhered to. During operation the noise will also be minimal and the pump station is situated on the outskirts of the community, the impact can be minimised with effective monitoring and auditing.

12 WATER USE

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

municipal water board	groundwater	<input checked="" type="checkbox"/> 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: 12960 m³

Does the activity require a water use permit from the Department of Water and Sanitation? Yes No

If yes, please submit the necessary application to the Department of Water and Sanitation and attach proof thereof to this application if it has been submitted. **Proof attached in Appendix G (Other Information).**

13 ENERGY EFFECIENCY

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

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The energy efficiency measures is that diesel will be replaced with electricity which has the possibility/potential of being sourced off solar PV panels in the future.

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

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. 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):

2. Has a specialist been consulted to assist with the completion of this section? **Yes**

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:

All specialist reports must be contained in **Appendix D**.

Property description/physical address: **Farm Raadslid 718/0, LR Diretsaneng Village**


(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

Farm Raadslid 718/0, LR Diretsaneng Village

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning: **Undetermined**

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

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Is a change of land-use or a consent use application required?

No

Must a building plan be submitted to the local authority?

No

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

1 GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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
x-Booster Pump house						
						x- Pump Station

2 LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	X	2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

3 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

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 GROUNDCOVER

Indicate the types of groundcover present on the site:


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

Ecology Specialist Report attached in Appendix D.

5 LAND USE CHARACTER OF SURROUNDING AREA

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

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5.1 Natural area	x	5.22 School	
5.2 Low density residential	X	5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial ^{AN}		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam ^A		5.29 Sewage treatment plant ^A	
5.9 Light industrial		5.30 Train station or shunting yard ^N	
5.10 Heavy industrial ^{AN}		5.31 Railway line ^N	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport ^N	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station ^H		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	X
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	X
5.21 Dam or Reservoir	X	5.42 Other land uses (describe)	


If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity?

If any of the boxes marked with an "AN" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:	
If NO, specify:	


If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:	
If NO, specify:	

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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	YES
Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES
If YES, explain:	<p>Archaeological (figure 1 below indicating the identified sites)</p> <p>Stone Age</p> <ul style="list-style-type: none"> ➤ Scattered surface occurrences of Middle Stone Age (MSA) stone tools and flakes were identified in a few areas across the pipeline route, but no habitation or tool processing areas were identified. The material used for the artefacts is felsite, which is known to occur in the Waterberg and seems to have been the material of choice for MSA people in this region. This feature has Low local significance – Grade IV-C (8.3.1.1) <p>Historic period</p> <ul style="list-style-type: none"> ➤ Two graves. One is marked only with a stone cairn; the second has a headstone indicating that R.M. Ramaru (22/07/1930-19/05/1983) was buried here.- High/Medium local significance – Grade IV-A (8.3.3.1) ➤ A single grave located inside the road reserve. The headstone indicated that M J Mahlanya, born in June 1930, was buried here. High/Medium local significance – Grade IV-A (8.3.3.2) ➤ A single grave marked only by means of packed stones. This feature can probably be linked to the homestead feature located a few metres to the south (see No. 8.3.3.4 below). High/Medium local significance – Grade IV-A ➤ The remains of an old homestead structure, at present consisting only of the foundations and a few scraps of artefacts, e.g. broken glass, ceramics and pieces of metal. Due to its proximity, this feature can in all probability be linked to the single grave described above. Low significance – Grade IV-C (8.3.34) ➤ Remains of a few homestead structures were identified on the farm Rhenostertrap 719LR. All of them occur at the foot of a ridge and well away from the road reserve. The sites are made up of remains of house foundations, broken pottery, field clearing cairns and a possible grave. These features have Low local significance – Grade IV-C (8.3.3.5) <p>Palaeontological</p> <p>The study area for the Mogalakwena Local Municipality Mini Scheme Project near Mokopane, Limpopo Province is underlain at depth by Precambrian basement rocks including unfossiliferous dolerites as well as Aeolian sediments of Waterberg Group (Makgabeng Formation). Fossils of microbial mats have been recorded from this last formation in the Soutpansberg area of Limpopo but not as yet from the present study area further to the south.</p>
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.	

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Briefly explain the findings of the specialist:	<p>Archaeological</p> <p>Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. All work should stop within 2m of the exposed grave or site.</p> <p>Palaeontological</p> <p>It is therefore recommended that, pending the discovery of significant new fossils remains (e.g. permineralised mammalian bone, teeth) during construction of the proposed water supply and storage infrastructure, exemption from further specialist palaeontological studies and mitigation be granted for this project.</p> <p>Reports attached in Appendix D</p>
Will any building or structure older than 60 years be affected in any way?	No
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	No
If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.	

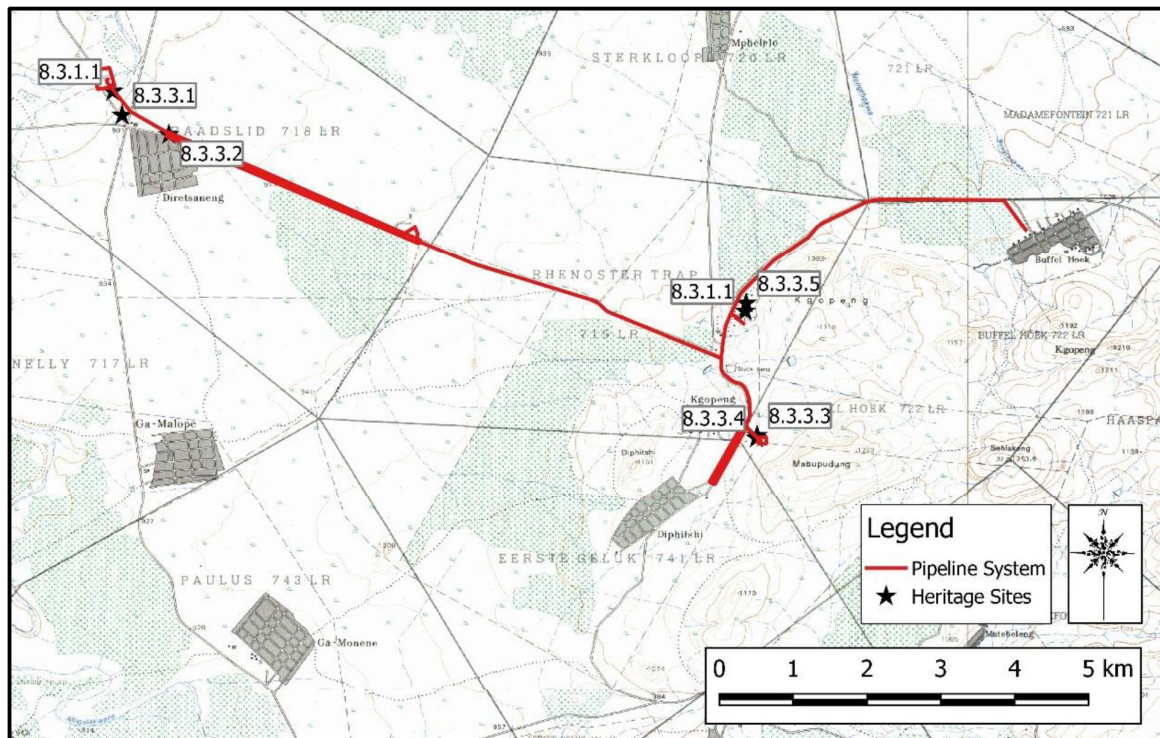


Figure 2: Heritage Location of the identified sites.


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Figure 3: Grave number 8.3.3.1.

SECTION C: 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 department) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;

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- (v) the municipality which has jurisdiction in the area;
- (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
- (vii) any other party as required by the department;
- (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 local 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 department, 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.

A comprehensive Public Participation Process (PPP) was implemented as part of the basic assessment process. The Project and environmental assessment process was widely announced with an invitation to the general public to register as I&APs and to actively participate in the PPP.


The main activities undertaken as part of the PPP in were as follows:

- Print media advertisements in English and Sepedi that were placed in the Capricorn Voice to announce the EIA Process and the availability of the Draft Basics Assessment Report for public review;
- A Background Information Document (BID) and comment sheet were produced in English, and Sepedi detailing the proposed Project and explaining the Basic Assessment process,
- Copies of the BID were made available to I&APs as and when requested. Public documents were also made available in public libraries and other local public venues, including:
 - Mogalakwena Public Library
 - Diphitshi/Thusong Services center
 - Mogalakwena Local Municipality Offices
- The official site notices were erected as per the NEMA EIA Regulations at the Public venues and distributed to neighbouring I&AP's and the local councillor.
- Public meeting was held with the Kgopeng Community Committee, on 29 June 2017.

A 30 calendar day commenting period (4 July 2018 to 2 August 2018) was allowed for I&APs to comment on the Draft Basic Assessment Report (DBAR). All comments received were captured and responded to in the Comment and Response Report.

Adverts have been placed on the **4th of July 2018** in the Capricorn Voice newspaper. Proof of advertisement will be included In the Final Basic Assessment Report (FBAR).

Newspaper	Publication Date	Language
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Capricorn Voice	4 July 2018	English
Capricorn Voice	4 July 2018	Sepedi

PPP- Adverts and Notification letters are attached in **Appendix E**

The DBAR was also sent out to an external reviewer specialist during the 30 day public review period and his comments have been addressed in this FBAR. The external reviewer report is attached in **Appendix D**

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 the application has been submitted to the department in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained; and
 - (v) the manner in which and the person to whom representations in respect of the application may be made.


Site notices were distributed amongst the local community members by the Ward Councillor Mr Baloyi. Project notification were sent out, and a public meeting was held on Wednesday, 29 July 2017 to inform the local community members of the project. Please refer to Appendix E for the contents of comments and response report.

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 department 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 these Regulations.

Advertisements and notices must make provision for all alternatives.

Site notices were distributed amongst the local community members by the Ward Councillor Mr Baloyi. Site Notices were also put up at the local venues where the DBAR was made available for public review.		
Adverts have been placed on the 4th of July 2018 in the Capricorn Voice newspaper. Proof of advertisement will be included In the Final Basic Assessment Report (FBAR).		
Newspaper	Publication Date	Language
Capricorn Voice	4 July 2018	English

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Capricorn Voice	4 July 2018	Sepedi
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4 DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. 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 department 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 the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

The Comments and Response Report is attached in Appendix E.

6 AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.


Authorities are 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.

Name of Authority informed:	Contact Person	Comments received (Yes or No)
Department of Water and Sanitation	Rendani Maugana	Yes
Limpopo Department of Agriculture and Rural Development	Mrs N.A Mudau	Yes
South African Heritage Resources Agency	Phillip Hine	No
Limpopo department of economic development, tourism and environment	Mrs Rodgers	Yes

7 CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

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Has any comment been received from stakeholders?

No

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

All comments and responses are recorded in a Comment and Response Report which is attached in Appendix E.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, 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.

The issues listed below, where noted/recorded during the project notification meetings with the local leaders and community members on **29 June 2017**.

- There is no water in the areas;
- People share the same water source as the animals; this is a health issue;
- People have to go and buy water, which is difficult so some because they don't have money; and
- The project has been long awaited but there hasn't been any movement so far.

The Comments and Response Report is attached in **Appendix E**

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 to this report as Annexure E):

Response to Issues raised by Interested and affected parties during the public review period and the public meetings are included in a Comment and Response Report which is attached in Appendix E

2 POTENTIAL 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.


Alternative (preferred alternative)

POTENTIAL DIRECT IMPACTS:

2.1 Biodiversity

2.1.1 Direct impacts on threatened flora species

This direct impact results in physical damage or destruction of Red Data species/ communities, areas where these species are known to occur or areas that are considered particularly suitable for these species. Threatened plant species, in most cases, do not contribute significantly to the species richness of an area in terms of sheer numbers, as there are generally few of them, but a high ecological value is placed on the

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presence of such species in an area as they represent an indication of pristine habitat conditions. Conversely, the presence of pristine habitat conditions can frequently be accepted as an indication of the potential presence of species of conservation importance, particularly in moist habitat conditions.

Protected flora was identified on site (*Vachellia erioloba*; *Sclerocarya birrea* subsp. *Caffra* as well as *Combretum imberbe*).

2.1.2 Direct impacts on protected flora species

Similar to Red Data plants, these species do not contribute significantly towards the local and regional species richness, but their presence indicates a relatively pristine status of the habitat. Preservation of these species is a social obligation in light of increasing pressure on these species that causes a continuous decline and an eventual inclusion in conservation categories.

The protected species on site are the *Vachellia erioloba*; *Sclerocarya birrea* subsp. *Caffra* as well as *Combretum imberbe*, care should be taken not to remove these plants without a permit from the Department of Agriculture, Fisheries and Forestry.

2.1.3 Direct impacts on threatened faunal taxa

Similar to Red Data plants, the presence of Red Data animal species is seen as a significant attribute to the biodiversity of an area. Any impact is therefore viewed as significant. Additional aspects that will be affected include migration patterns and suitable habitat for breeding and foraging purposes.

No Red Data animal species were observed within the study area during the investigation.


2.1.4 Direct impacts on common fauna species/ faunal assemblages

The presence of diverse faunal assemblages in most areas is accepted. Considering the moderate levels of habitat transformation and degradation on a local scale, animal species are likely to evacuate towards adjacent areas of natural habitat during periods of high impact. While the tolerance levels of most animal species is generally of such a nature that surrounding areas will suffice in their habitat requirements, some species are not able to relocate, such as ground living and small species. The proposed activity will take place in most instances with little ground disturbance and should therefore not severely affect these species.

In light of the moderate fragmentation and habitat isolation levels of the region, it is reasonable to assume that the animals utilising habitat within the proposed areas will also migrate extensively across the region for various reasons. Foraging, available water, food sources, breeding patterns and seasonal climate changes include some of the more obvious explanations for migration of animals.

2.1.4.1 Recommended Mitigation and Management Measures

- A botanist is to be present for the vegetation clearance and site development to provide site specific mitigatory measures.
- Indigenous vegetation which does not interfere with the safe construction and operation of the pump station should be left undisturbed.
- Weeds and invasive vegetation should be removed prior to construction activities preventing spreading into newly disturbed areas or areas cleared of vegetation
- The use of permitted access roads only at all times during construction and operations will play a big role in ensuring that the vegetation re growth can be successful and the area outside the servitude can be rehabilitated
- All the identified protected trees (*Vachellia erioloba*; *Sclerocarya birrea* subsp. *Caffra* as well as *Combretum imberbe*) should be avoided during construction

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2.2 Direct impact on Archaeological sites

There are a few archaeological sites identified in the study area and these include homestead and graves. These areas should be avoided.

2.2.1.1 Recommended Mitigation and Management Measures

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. All work should stop within 2m of the exposed grave or site.

2.3 Impacts on Water Courses

Direct impact on Aquatic Habitat- Construction activity will involve vegetation clearing and top soil removal within the primary study area. This will result in an alteration of surface runoff characteristics and will impact on the hydrology of downslope watercourses.

Erosion - Construction activity will involve vegetation clearing and top soil removal of wetlands within the primary study area. This will result in an alteration of soil erosion and this will lead to Sedimentation of the watercourse. Disturbance of vegetation and soil during construction will pose the risk of erosion. Eroded soils are likely to increase downslope sedimentation which will lead to changes in vegetation composition and aquatic fauna

Water Quality deterioration - During the construction phase water quality deterioration will result as a consequence of increased sediment loads within the downslope wetlands and through pollutants derived from spillage, leakage and incorrect disposal of hazardous substances on site

2.3.1.1 Recommended Mitigation and Management Measures

- It is preferable that construction takes place during the dry season to reduce the erosion potential of the exposed surfaces;
- Temporary storm water channels and preferential flow paths should be filled with aggregate and/or logs (branches included) to dissipate and slow flows limiting erosion; Pump houses should be banded to isolate oil spills from the water courses during wet season.
- Avoid the disturbance of the water courses as far as possible during construction.

INDIRECT IMPACTS:


Human - Animal conflicts

While animals generally avoid contact with human structures, they do grow accustomed to structures after a period. While the structures are visible, injuries and death of animals could potentially occur because of accidental contact.

Increase in local and regional fragmentation/ isolation of habitat

Uninterrupted habitat is a precious commodity for biological attributes in modern times, particularly in areas that are characterised by moderate and high levels of transformation. The loss of natural habitat, even small areas, implies that biological attributes have permanently lost that ability of occupying that space, effectively meaning that a higher premium is placed on available food, water and habitat resources in the immediate surrounds. This, in some instances might mean that the viable population of plants or animals in a region will decrease proportionally with the loss of habitat, eventually decreasing beyond a viable population size.

CUMULATIVE IMPACTS:

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Cumulative impacts associated with this type of development could lead to initial, incremental or augmentation of existing types of environmental degradation, including impacts on the air, soil and water present within available habitat. Pollution of these elements might not always be immediately visible or readily quantifiable, but incremental or fractional increases might rise to levels where biological attributes could be affected adversely on a local or regional scale. In most cases, these effects are not bound and are dispersed, or diluted over an area that is much larger than the actual footprint of the causal factor.

Impacts on SA's conservation obligations & targets

This impact is regarded a cumulative impact since it affects the status of conservation strategies and targets on a local as well as national level and is viewed in conjunction with other types of local and regional impacts that affects conservation areas or threatened areas. The importance of vegetation types is based on the conservation status ascribed to regional vegetation types (VEGMAP, 2006) and therefore impacts that result in irreversible transformation of natural habitat is regarded significant.


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 A (preferred alternative)

Impact Statement

- The Ecological/Vegetation assessment conducted at the site indicated a moderately degraded ecosystem, this is reflected by tracks, bare places, rubble, pioneer species, trees with branches cut-off and various alien invasive plant species. Sensitivity at the site is medium to low (Significance rating attached in **Appendix G**). The savanna vegetation type, Makhado Sweet Bushveld, is not listed as a threatened ecosystem according to the National List of Threatened Ecosystems (2011).
- There are moderate risks associated with the construction phase of the project which are associated with the removal of old infrastructure, clearing of vegetation, operation of machinery proximate to and within the watercourse, and installation of new infrastructure, potentially resulting in the sedimentation of the river. Moderate risks can be lowered to low risks through the implementation of adequate mitigation measures during the construction phase.
- The risks associated with the operational phase are associated with the operation of the pump adjacent to the water sources. It is proposed that a diesel and electric pump be in operation for the water supply scheme. This poses a potential risk of contamination of petrochemicals into the Mogalakwena system, modifying water quality. This risk is further considered moderate during maintenance of pumps. The pump house yard should be fenced and stormwater inside the yard be prevented into running the stream to ensure no contamination of the Mogalakwena River occurs.
- Abstraction from the Mogalakwena River poses a high risk. It is proposed that 18m³/h of water is abstracted during the low flow season. Flows within the Mogalakwena River are already modified due to abstraction within the system, and further abstraction may significantly impact maintenance flows. It is recommended that a reserve determination be undertaken, this usually is the responsibility of the Department of Water and Sanitation (DWS).

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- The heritage assessment conducted indicated that the significance of the archaeological findings on the site ranges from high, medium to low significance. From a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the proposed mitigation measures
 - (8.3.1.1): Scattered surface occurrences of Middle Stone Age stone tools and flakes were identified in a few areas along the pipeline route. Significance weighting for the impact on the identified sites is rated as low.
 - (8.3.3.1): Two graves. Significance weighting for the impact on the identified sites is rated as low. The site is to avoided, maintain buffer zone of 5 metres demarcated with danger tape.
 - (8.3.3.2): A single grave located inside the road reserve. Significance weighting for the impact on the identified sites is rated as medium. The site is to avoided, maintain buffer zone of 5 metres demarcated with danger tape.
 - (8.3.3.3): A single grave marked only by means of packed stones. Significance weighting for the impact on the identified sites is rated as medium. The site is to avoided, maintain buffer zone of 5 metres demarcated with danger tape.
 - (8.3.3.4): The remains of an old homestead structure. Significance weighting for the impact on the identified sites is rated as medium. The site is to avoided, maintain buffer zone of 5 metres demarcated with danger tape.

No-go alternative (compulsory)

Social No-go


If the pump station was not refurbished, i.e. the No-Go Option was to be implemented, the site would remain as it is at present. As such, the water crisis will remain as is for the communities. The refurbishment of the pump house and the installation of pipeline and development of reservoirs forms part of the Municipality Development Programme which is aimed at being an effective response against the provision of safe clean drinking water to the Mogalakwena communities by maximising the use and management of natural resources to create vibrant, equitable and sustainable rural communities. If the development is not approved then the development programme will have a major setback, and the community is in real need of the safe clean drinking water as was observed during the public participation process.

Environmental No-go

The pump station will continue to run on diesel with the possible risk of environmental contamination through spillage either on land and the water courses.

No impact on erosion, the near threatened fish species in the Mogalakwena River, no impact on *Vachellia erioloba* during construction or any of the other protected trees.

The communities might abstract water illegally from the river, thus no proper environmental management will occur when individual boreholes are constructed. The water uses will not be recorded with the Department of water and sanitation.

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SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the department in respect of the application:

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3.1 Recommendations based on specialist findings

The proposed development/refurbishment of water infrastructure can be viewed as a positive development in the broader context of the Municipality Development plans and to the four communities (Dipithshi, Kgopeng, Ramosesane and Buffelshoek) in the local context, as this will result in improved drinking water services and better environmental management of the site/s. This includes improved infrastructure and installation and operational methods that will reduce environmental risks associated with operation of the pump station and all other related infrastructure. It is the recommendation of the EAP that the project be authorised based on the following findings from specialist studies.

3.1.1 Biodiversity

Vegetation at the site is moderately degraded such as reflected by tracks, bare places, rubble, pioneer species, trees with branches cut-off and various alien invasive plant species. Sensitivity at the site is medium to low. The savanna vegetation type, Makhado Sweet Bushveld, is not listed as a threatened ecosystem according to the National List of Threatened Ecosystems (2011) in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004).

The protected trees observed on site can be avoided during construction and operational phase of the pump station. No protected or endangered faunal species were observed on the site. The new pump station should be constructed at least 32m away from the edge of the water course

3.1.2 Heritage

The heritage assessment conducted indicated that the significance of the archaeological findings on the site ranges from high, medium to low significance -From a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the proposed mitigation measures


3.1.3 Aquatic

Considering limitations of existing infrastructure to provide water to surrounding communities, it is apparent that continued abstraction from the Mogalakwena River is required. However, the modified nature of the system requires adequate management and implementation of mitigation measures to ensure no further modifications to the Mogalakwena River occur. The project poses moderate risks to the system during the construction phase, however, these risks can be lowered through implementation of mitigation measures. The abstraction from the Mogalakwena River does pose a high risk to the system, as the system is already in a modified state According to the IHIA results instream and riparian habitat integrity in the reach are rated as Class C (moderately modified).

3.2 Recommendations

It is the recommendation of the practitioner that the development be authorised provided all the necessary applications (Water use license Application) are put in place and all mitigation measures provided in the EMP are strictly adhered to. Should the project be approved, the following recommendations must be considered:


- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. All work should stop within 2m of the exposed grave or site.

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- Should any substantial fossil remains (e.g. permineralised mammalian bones, teeth) be encountered during excavation, however, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA, the South African Heritage Resources Agency.
- If the project is approved, a reserve determination study should be undertaken to determine environmental flow requirements for the active management of water abstraction from the Mogalakwena River, this remains the responsibility of the department of Water and Sanitation.
- It is recommended that an aquatic monitoring programme be implemented, should the project proceed to determine any modifications to the Mogalakwena Reach.
- The *Vachellia erioloba* Camel Thorn and any *Sclerocarya birrea* subsp. *caffra* as well as *Combretum imberbe* (Leadwood) should be avoided during construction. These are all protected species under the National Forests Act, (Act 84 of 1998) and may not be touched without an official permit.
- It is preferable that construction takes place during the dry season to reduce the erosion potential of the exposed surfaces;
- It is preferable that construction takes place during the dry season to reduce the erosion potential of the exposed surfaces;
- Temporary storm water channels and preferential flow paths should be filled with aggregate and/or logs (branches included) to dissipate and slow flows limiting erosion; Pump houses should be banded to isolate oil spills from the water courses during wet season.
- Avoid the disturbance of the water courses as far as possible during construction.
- A botanist is to be present for the vegetation clearance and site development to provide site specific mitigatory measures.
- Indigenous vegetation which does not interfere with the safe construction and operation of the pump station should be left undisturbed.
- Weeds and invasive vegetation should be removed prior to construction activities preventing spreading into newly disturbed areas or areas cleared of vegetation
- The use of permitted access roads only at all times during construction and operations will play a big role in ensuring that the vegetation re growth can be successful and the area outside the servitude can be rehabilitated
- All the identified protected trees (*Vachellia erioloba*; *Sclerocarya birrea* subsp. *Caffra* as well as *Combretum imberbe*) should be avoided during construction.

Is an EMPr attached? Yes

The EMPr must be attached as Appendix F.

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SECTION F: APPENDICES

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: Public Participation Process

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

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SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, Moseketsi Mochesane -

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
 - (h) will keep a register of all interested and affected parties that participated in a public participation process; and
 - (i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.


Signature of the Environmental Assessment Practitioner:

Lidwala Consulting Engineers


Name of company:

19 September 2018


Date:

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APPENDIX A: SITE PLANS

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APPENDIX B: SITE PHOTOGRAPHS

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APPENDIX C: FACILITY ILLUSTRATIONS

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APPENDIX D: SPECIALIST REPORTS

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APPENDIX E: COMMENTS AND RESPONSES REPORT

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APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME

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APPENDIX G: OTHER INFORMATION