ENVIRO LOGIC
Environmental Impact Assessment, Planning and Management Services
Omgewingsimpakbeoordeling, Beplanning- en Bestuursdienste

ENVIRONMENTAL IMPACT ASSESSMENT

PUBLIC PARTISIPATION PROCESS: BASIC IMPACT ASSESSMENT

BACKGROUND INFORMATION DOCUMENT

PROPOSED BULK WATER SUPPLY AND EVAPORATION PONDS, GARIES

Department of Environmental Affairs Ref. No: 12/9/11/L1443/7
Department of Environment and Nature Conservation Ref. No: NC/BA/06/NAM/KAM/GAR12/014

July 2014

P.O.Box/Posbus 3731
TYGER VALLEY/
TYGERVALLEI, 7536
Fax/Faks: (021) 919 4048
Cell/Sel: 082 458 9844
E-mail/ E-pos: gpec12@telkomsa.net

Background Information Document

Notice is hereby given of a public participation process in terms of the Environmental Impact Assessment ("EIA") Regulations 2010 promulgated in terms of National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA").

1. Introduction

The bulk of Garies's water is supplied by three freshwater boreholes located east of the town. This is supplemented by a well in the Groen River.

Two new boreholes were drilled on the northern side of the town of Garies adjacent to the Groen River to supply the town with additional water due to increasing water demand. The new boreholes were tested and the quantity of water that can be abstracted over the long term for use was found to be sufficient. The water quality was also tested and found to be unfit for long-term human consumption due to high levels of dissolved salts creating health problems. The water is salty with electric conductivity (EC), chloride and sodium well in excess of the recommended limits as prescribed by the South African National Standards for Drinking Water.

Kamiesberg Municipality is proposing to install a Reverse Osmosis (RO) water desalination plant and associated infrastructure to augment the supply of potable water to the town of Garies. (See **Location Map: Appendix A)**

The proposed project entails the equipment of five boreholes, construction of a power line to boreholes, construction of a 500 kl/ day Reverse Osmosis (RO) water desalination plant, construction of pipeline from boreholes to desalination plant, construction of brine evaporation ponds, expansion of existing sewer evaporation ponds and installation of HDPE lining to prevent leakage from dams.

ENVIRO LOGIC has been appointed by the Kamiesberg Municipality as independent Environmental Assessment Practitioners (EAP) to carry out the Environmental Impact Assessment process for the proposed project in terms of the *National Environmental Management Act (NEMA) 1998, (Act No. 107 of 1998)* as amended and the *National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)*. This is required as the proposed project triggers several of the listed activities identified in the *Environmental Impact Assessment Regulations 2010* as well as the *National Environmental Management: Waste Act, 2008 (No. 59 of 2008), "List of Waste Management Activities that have , or are likely to have a detrimental effect on the environment*." The process will investigate if there are any potential significant detrimental impacts to the receiving environment from the proposal. It will also provide an opportunity for the public and key role players to give input and participate in the process, as well as for specialist input on specific aspects.

An Application for Authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, and the Environmental Impact Assessment Regulations, 2010 was submitted to the Department of Environment and Nature Conservation, Northern Cape Province. Reference No. NC/BA/06/NAM/KAM/GAR12/014

An application for a Waste Management Licence in terms of the *National Environmental Management: Waste Act, 2008 (No. 59 of 2008),* was submitted to the Department of Environmental Affairs. Reference No. 12/9/11/L1443/7.

2. Applicant & Consultants

The Applicant for the proposed development is the **Kamiesberg Municipality, Garies.**
The Consulting Engineers are **BVi Consulting Engineers (Springbok).**
The Environmental Assessment Practioner ("EAP") *is* ***ENVIRO LOGIC*.**

3. Legal Processes

Before any development can occur, the applicant has to satisfy the requirements of several sets of legislation. The requirements of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the National Water Act, 1998 (Act No. 36 of 1998) and the National Heritage Resources Act, 1999 (Act No. 25 of 1999) will be satisfied simultaneously with this current EIA process.

4. Environmental Impact Assessment process for the proposed development

The proposed project triggers a combination of the National Environmental Management Act EIA Regulations and a Waste Management Licence in terms of the National Environmental Management: Waste Act ("NEM: WA"), 2008 (Act No. 59 of 2008). The listed activities in terms of the above mentioned legislation differ in the EIA process to be followed (i.e. Scoping & EIR process in terms of the National Environmental Management: Waste Act vs. Basic Assessment process in terms of the National Environmental Management Act EIA regulations). A request to follow a Basic Assessment process instead of a Scoping and EIA process (as required in terms of the National Environmental Management: Waste Act, 2008, listed activities published under Government Notice 921 in Government Gazette 37083 dated 29 November 2013 Category B) has been approved by the national Department of Environmental Affairs.

A combined EIA process will be followed that meets the information requirements needed to conclude on both the Environmental Authorisation and Waste Management Licence applications.

Application for Environmental Authorisation in terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), to undertake the following activities:

Listed activities in terms of Government Notice No. R.544 (Listing Notice 1 dated 18 June 2010):

Activity No. 11: The construction of: (iv) Dams; (xi) Infrastructure or structures covering 50 square metres or more Where such construction occurs within a water-coarse or within 32 metres of a watercourse, measured from the edge of the water-coarse, excluding where such construction will occur behind the development setback line.
Activity No. 18: The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from: (i) a watercourse.
Activity No. 40: The expansion of (iv) infrastructure by more than 50 square metres within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, but excluding where such expansion will occur behind the development setback line.

Listed activities in terms of Government Notice No. R.546 (Listing Notice 3 dated 18 June 2010):

Activity No. 14: The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation (a) In … Northern Cape… 1. All areas outside urban areas.

Application for a Waste Management Licence in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), to undertake the following activities:

***Listed activities in terms of Government Notice No. 37083 dated 29 November 2013,* Category B**

Activity B 4(1): The storage of hazardous waste in lagoons excluding the storage of effluent, wastewater or sewage.	**Activity B 4(5):** The treatment of hazardous waste in lagoons, excluding the treatment of effluent, wastewater or sewage.
Activity B 4(10): The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity).	

5. Project Proposal:

5.1 Equipment of Boreholes

The installation of new borehole pumps and switch boards at the three existing production boreholes located east of the town of Garies and at the two new boreholes located on the northern side of the town of Garies, adjacent to the Groen River.

5.2 Electricity Supply to Boreholes

The construction of a ± 210m above ground 16kVA power line and a ± 120m underground 16kVA power line from the existing electricity supply network to the new boreholes located on the banks of the Groen River.

5.3 Installation of Water Pipelines

The excavation of 1 300m of trenches ± 1,0m wide and 1,0m deep

- The installation of two 650m Class 9 uPVC water supply pipelines (160mm and 110mm diameter) in one trench from the boreholes on the banks of the Groen River to the existing reservoirs located in town. The underground pipeline will cross the Groen River.
- The installation of a 550m Class 9 uPVC water supply pipeline(110mm diameter) (extension of existing pipeline between reservoirs).

- Installation of valves and accessories

5.4 Construction of Desalination Plant

Construction of a ± 101m² building near the existing reservoirs in town for the installation of a 500 kl/day reverse osmosis desalination plant. The total delivery capacity will be ± 375kl/day of drinking water.

5.5 Construction of Brine Evaporation Ponds

- The construction of seven (7) brine evaporation ponds at the existing waste water treatment site.
- Installation of HDPE lining to prevent leakage from the ponds.
- Construction of inlet, outlet and overflow structures
- The total area to be disturbed is ± 2,9 ha.

5.6 Extension of sewer evaporation ponds

Seven sewer evaporation ponds will be constructed at the existing waste water treatment site.

The works include the following:

- Cut and Fill, and construct dam walls
- Import ± 1500 m³ sandy materials to be used as additional fill material and placed beneath the HDPE lining in the ponds. Material will be obtained by the removal of silt/ sediment that has been deposit in the earth dam located northwest of Kheis.
- Installation of HDPE lining to prevent leakage from ponds.
- Construction of inlet, outlet and overflow structures
- The total area to be disturbed is ± 4,6 ha.

5.7 The activities on site will be as follows:

The raw water from the two new brackish water boreholes will be pumped to an existing 350kl reservoir in town. The brackish water will be conveyed to the desalination plant to be located next to the existing water reservoirs. The treated water from the desalination plant will be mixed with the freshwater from the existing three operational boreholes in an existing 750kl reservoir. The water will then be conveyed by an existing water pipeline to a 1.5Ml existing concrete reservoir and from the reservoir distributed through the existing distribution system to town.

Brine (effluent with high salt concentrate) of ± 125 m³/ day will be conveyed to the proposed brine evaporation ponds. An existing 110mm diameter underground water pipeline will be extended with 550m to the brine evaporation ponds to be located at the existing waste water treatment site.
(See **Project Location Plan: Appendix B and Evaporation Ponds Layout Plan: Appendix C)**

6. Environmental considerations
Various environmental considerations will be taken into account through the Scoping Process. A specialist Geohydrologist and Archaeologist will be appointed to access potential impacts within their specialty field.

7. Project Location
Boreholes are located on the northern side of the town of Garies, adjacent to the Groen River. Existing and new pipelines and infrastructure are located in town. The existing waste water treatment site is located south and adjacent to the town of Garies on community land and falls within the Kamiesberg Municipal area. (See **Project Location Plan: Appendix B**)

8. Alternatives

8.1 Alternative 1 (Preferred Alternative)
The proposed brine evaporation ponds and expansion of the existing sewer evaporation ponds will be located south of the town of Garies inside the existing waste water treatment site with desalination plant, pipelines and other associated infrastructure to be brought on towards and in the town itself.

Coordinates Waste water Treatment Site:

Number of corner	Latitude (S)			Longitude (E)		
1:	30°	34'	40,5"	17°	59'	13,8"
2:	30°	34'	37,8"	17°	59'	24,3"
3:	30°	34'	52,2"	17°	59'	27,6"
4:	30°	34'	51,8"	17°	59'	17,3"

(See **Evaporation Ponds Layout Plan: Appendix C**).

8.2 "No-Go" Alternative
The "No-Go" Alternative although always considered, will only be recommended if severe issues cause the project to become problematic.

Any alternatives put forward through written comment by Interested and Affected Parties will be considered.

9. Registration
ENVIRO LOGIC has invited registration and comments of I&AP's through written means by advertisements placed in "Die Plattelander" and the "Ons Kontrei" of 11 July 2014.This Background Information Document will be made available to Interested and Affected Parties, which will include relevant statutory authorities and interest groups thus far identified.

To be registered as an interested and affected party (I&AP) please refer to the reference number above and send your name and contact details (preferred method of notification, e.g. e-mail address or fax number) and an indication of any direct business, financial, personal, or other

interest which you have in the application to the under mentioned consultant (see attached **Comment Sheet**). Any names and contact details of Interested and Affected Parties would be appreciated and can be send to the under mentioned consultant.

All registered Interested and Affected Parties will be given an opportunity to comment on the draft and final Basic Assessment report and Environmental Management Programme.

Environmental issues can be identified by authorities, consultants, the applicant, or Interested and Affected Parties (I&APs) who may be individuals or groups that have either positive or negative comments to make regarding a proposed development.

The closing date for registration and initial comment is Tuesday 12 August 2014**.** Further information regarding the application can be obtained from the under mentioned Environmental Assessment Practitioner.

Environmental Assessment Practitioner:
ENVIRO LOGIC
P.O. Box 3731
Tyger Valley
7536.

Fax: (021) 919 4048
E-mail: gpec12@telkomsa.net

Contact person: Gert Pretorius Cell: 082 458 9844

Date: 11 July 2014