

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA),  
WASTE MANAGEMENT LICENCE AND WATER USE LICENCE**

**PROPOSED FILLING STATION AND ASSOCIATED INFRASTRUCTURE ON  
PORTION 140 (A PORTION OF PORTION 73) OF THE FARM KROONDAL 304  
JQ, RUSTENBURG, NORTH WEST PROVINCE**

**NEAS REF: DEA/EIA/0001453/2012**

**REF: 14/12/16/3/3/3/59**

**BACKGROUND INFORMATION DOCUMENT (BID)**

Prepared by



**Address: P.O. Box 1322, Ruimsig, 1732  
Tel: 082 850 5482  
Fax: 086 692 8820  
[paulette@hydroscience.co.za](mailto:paulette@hydroscience.co.za)**

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## LIST OF ABBREVIATIONS

BID	Background Information Document
CARA	Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)
CBD	Central Business District
DAFF	Department of Agriculture, Forestry & Fisheries
DEA	Department of Environmental Affairs (DEA)
DPWRT	Department of Public Works, Roads & Transport
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMF	Environmental Management Framework
EMP	Environmental Management Programme
GDP	Gross Domestic Product
GNR	Government Notice Regulation
GPS	Global Positioning System
I&AP	Interested and Affected Party
NEMA	National Environmental Management Act, 1998 .. (Act 107 of 1998) as amended
NEMWA	National Environmental Management Waste Act, .. 2008 (Act 59 of 2008)
NWA	National Water Act, 1998 (Act 36 of 1998)
NW DEDECT	North West Department of Economic Development, Environment, Conservation and Tourism
PPP	Public Participation Process
RLM	Rustenburg Local Municipality
SANRAL	South African National Roads Agency Limited
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SAHRA	South African National Heritage Resources Act, 1999 (Act No. 25 of 1999)
WML	Waste Management Licence
WUL	Water Use Licence

## **1. INTRODUCTION**

HydroScience cc, an independent Environmental Assessment Practitioner (EAP), has been appointed by Rotabrite, to undertake a full Environmental Impact Assessment (EIA) process and submit a Scoping Report and Environmental Impact Report (EIR) to the relevant authority to apply for integrated environmental authorisation and a waste management licence (WML), for the proposed development of a filling station and associated infrastructure on Portion 140 (a portion of portion 73) of the farm Kroondal 304 JQ, Rustenburg, in the North West Province.

As part of the EIA process (Figure 1), an application, in terms of the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998), as amended, the National Environmental Management Waste Act (NEMWA), 2008 (Act 59 of 2008) and associated EIA Regulations of 2010, has been submitted to the North West Department of Economic Development, Environment, Conservation and Tourism (NW DEDECT) and Department of Environmental Affairs (DEA). The application will be handled by DEA, the national authority as it has been delegated by NW DEDECT to DEA. The Waste Management License (WML) application in terms of NEMWA relate to the construction and operation of a package sewage treatment plant as part of the development. Department of Water Affairs (DWA) will also be consulted in terms of the sewage treatment plant and the effluent from this plant as well as its subsequent use which will require a water use licence (WUL) in terms of the National Water Act (NWA), 1998 (Act 36 of 1998) Section 21 water uses.

## **2. PURPOSE OF THIS DOCUMENT**

The purpose of this document is to provide background information (in addition to the notices on the site and published in the newspaper) in terms of Government Notice Regulation (GNR) 543 (Sections 54 through 57) of NEMA to all Interested and Affected Parties (I&APs) regarding the intention of the proposed project as described above.

In addition, this document will provide a platform from which to obtain comments and contributions from stakeholders with regard to the potential environmental impacts of the proposed project as part of the Public Participation Process (PPP). The aim of the PPP is not only to adhere to the required legislation, but also to give as many stakeholders and I&APs as possible an opportunity to be actively involved in this process.

The PPP will be carried out in accordance with Chapter 6 of NEMA as amended and in support of the EIA Regulations, 2010 and associated guidelines.

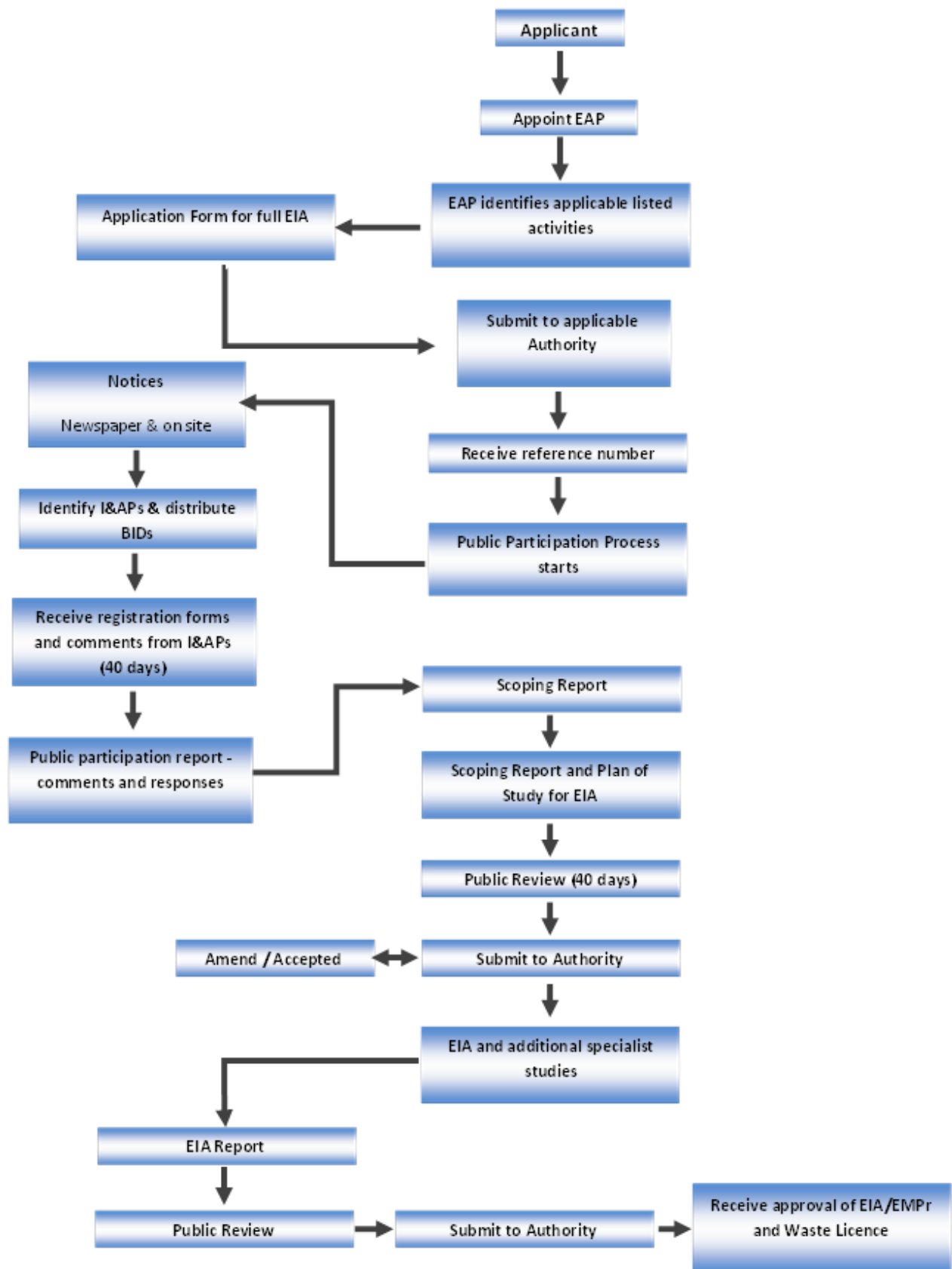


Figure 1: Simplified diagram presenting the EIA process

### 3. ROLE OF I&APs

You are invited to register as an I&AP (see contact details and registration form attached) and to assist us in:

- Identifying issues of concern that need to be investigated as well as possible impacts of the proposed project on the environment;
- Suggesting alternatives to mitigate possible negative impacts and enhance positive impacts.

Your input is considered valuable as it contributes to:

- The decision-making process;
- Information on public needs, values and expectations; and
- Local and traditional knowledge.

The following authorities will also be notified and requested to provide comments:

- The South African Heritage Resources Agency in terms of the South African Heritage Resources Act (SAHRA), 1999 (Act 25 of 1999).
- The Department of Agriculture, Forestry and Fisheries (DAFF) as the property is currently zoned for agricultural use.
- The Department of Water Affairs (DWA) in terms of sewage treatment plant and subsequent use of treated effluent as well as any water use licences (WUL) required in terms of the National Water Act, 1998 (Act 36 of 1998).
- The Rustenburg Local Municipality (RLM), who is the local authority under whose jurisdiction the property falls and who needs to ensure that the development fits in with their Spatial Development Framework (SDF), Strategic Environmental Assessment (SEA) and Environmental Management Framework (EMF).

### 4. PROPOSED PROJECT

#### 4.1. Project motivation

The proposed service and rest area will be located along the Bakwena N4 Platinum Toll Road. The N4 leads west from Pretoria past Rustenburg, Groot Marico and Zeerust to the Botswana border at Skilpadhek. From there it links through to Walvis Bay in Namibia, effectively linking Maputo in Mozambique, Nelspruit in the Mpumalanga Province, Gauteng, North West, Botswana and Namibia via the Trans-Kalahari Highway.

The route carries a large traffic flow of both commuter and transient traffic, which is steadily increasing owing to the phenomenal mining growth in the area. Around ten years ago, there were few mines in the area but today new mines are evident from east of the town of Brits, right across the region past Rustenburg to Sun City. The area is now the largest platinum and chrome producing area in the world and the route traverses the whole area giving excellent potential for new developments. The filling stations will be located on either side of the highway some 9km south-east of Rustenburg and will provide direct access to both east- and west-bound traffic flows. The east bound service station will form part of Phase I whereas the west bound filling station will form part of Phase II.

Precise traffic growth patterns were calculated and analysed. The 2008 and 2011 Average Daily Traffic (ADT) counts at Marikana Plaza Traffic Station were considered to gauge traffic growth for the respective periods. The 2008 and 2011 South African National Road Agency Limited (SANRAL) traffic counts at Marikana Plaza Traffic Station tallied 9 400 and 11 305 vehicles per day, respectively. This indicates a growth rate of 20.27% over a period of three (3) years. Thus, the annual non-compounded average annual growth rate is approximately 6.75%.

The following growth rates were calculated and applied to the analysis:

- A traffic growth rate of 4.5% per annum is assumed for the first five (5) operational years;
- A traffic growth rate of 3.5% per annum is assumed for the following five (5) operational years; and
- A traffic growth rate of 1.25% per annum is assumed for the remainder of the operational life cycle for both stations.

#### **4.2. Project objective**

The main objective of the project is to develop a filling station to provide a service to the anticipated increasing number of travellers due to the increase in traffic growth rate. The project will be for the convenience and safety of travellers as the development will include a filling station, convenience store, food take-away/restaurant and hotel accommodation.

#### **4.3. Project locality**

The proposed filling station with associated infrastructure (hotel, shop and take-away/restaurant) including a sewage treatment plant will be established along and adjacent to the N4 on Portion 140 (a portion of portion 73) of the farm Kroondal 304 JQ, Rustenburg, North West Province. The proposed portion of land is situated south-east from Rustenburg, approximately 9km from the Waterfall Mall and 14km from Rustenburg CBD. The Marikana Toll Plaza is approximately 6.3km east of the property. Global Positioning System (GPS) coordinates are 25° 44' 25.12" South and 27° 20' 11.59" East (please refer to the locality map, Figure 2). The farm portion is bordered by agricultural land (Figure 3).

Other filling stations in the area and accessible to traffic on the N4 include:

- Total Petroport on the N4 which is 31.7km away from this site.
- Filling station in the town of Kroondal, Kroondal Viva, 3.5km away from this site.
- Filling stations in the town of Rustenburg – BP at Waterfall Mall; Shell Ultra City and Rudan 1-Stop Engen (approximately 9km away)

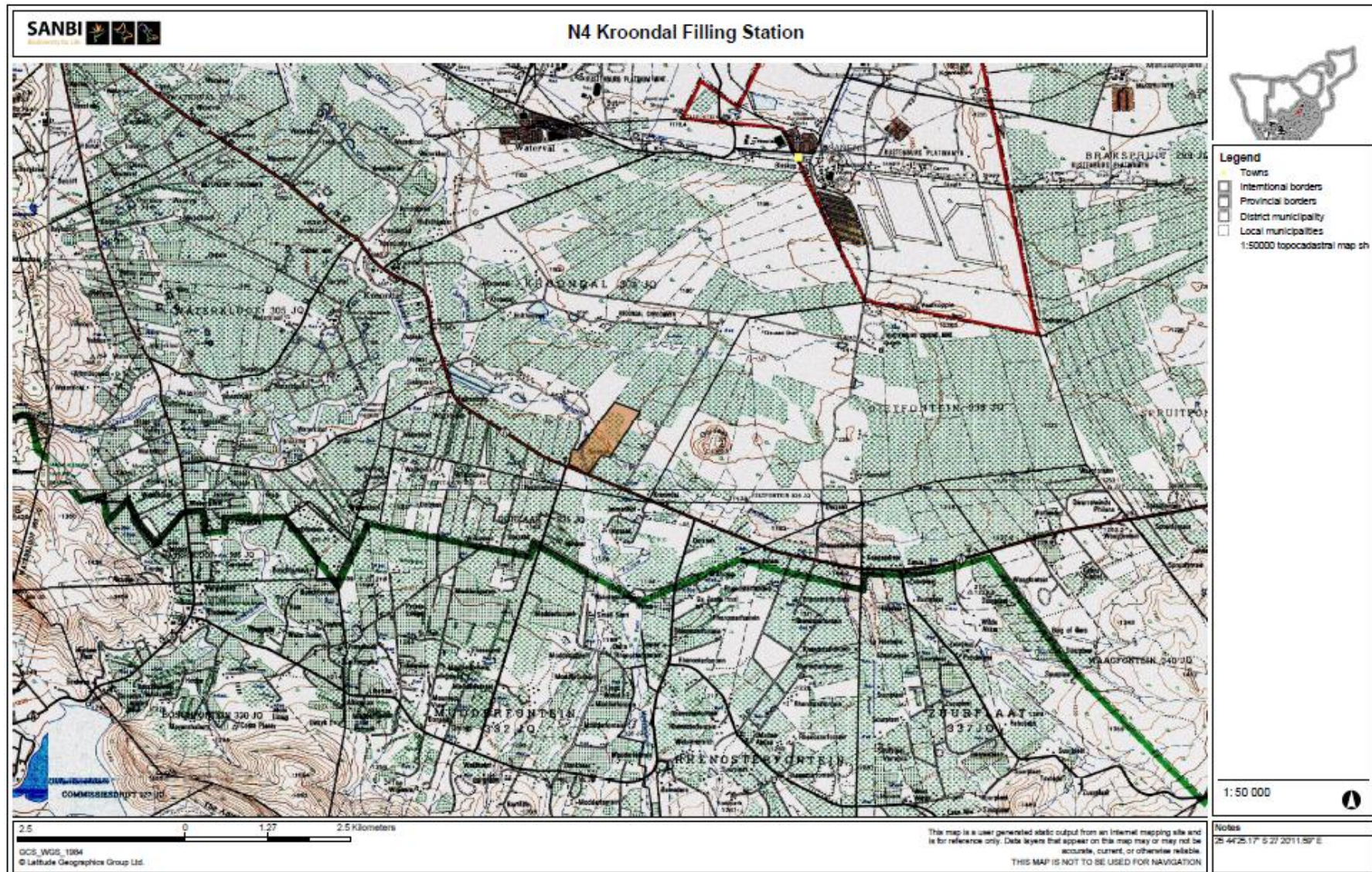


Figure 2: Locality map of the project area on the farm Kroondal 304 JQ

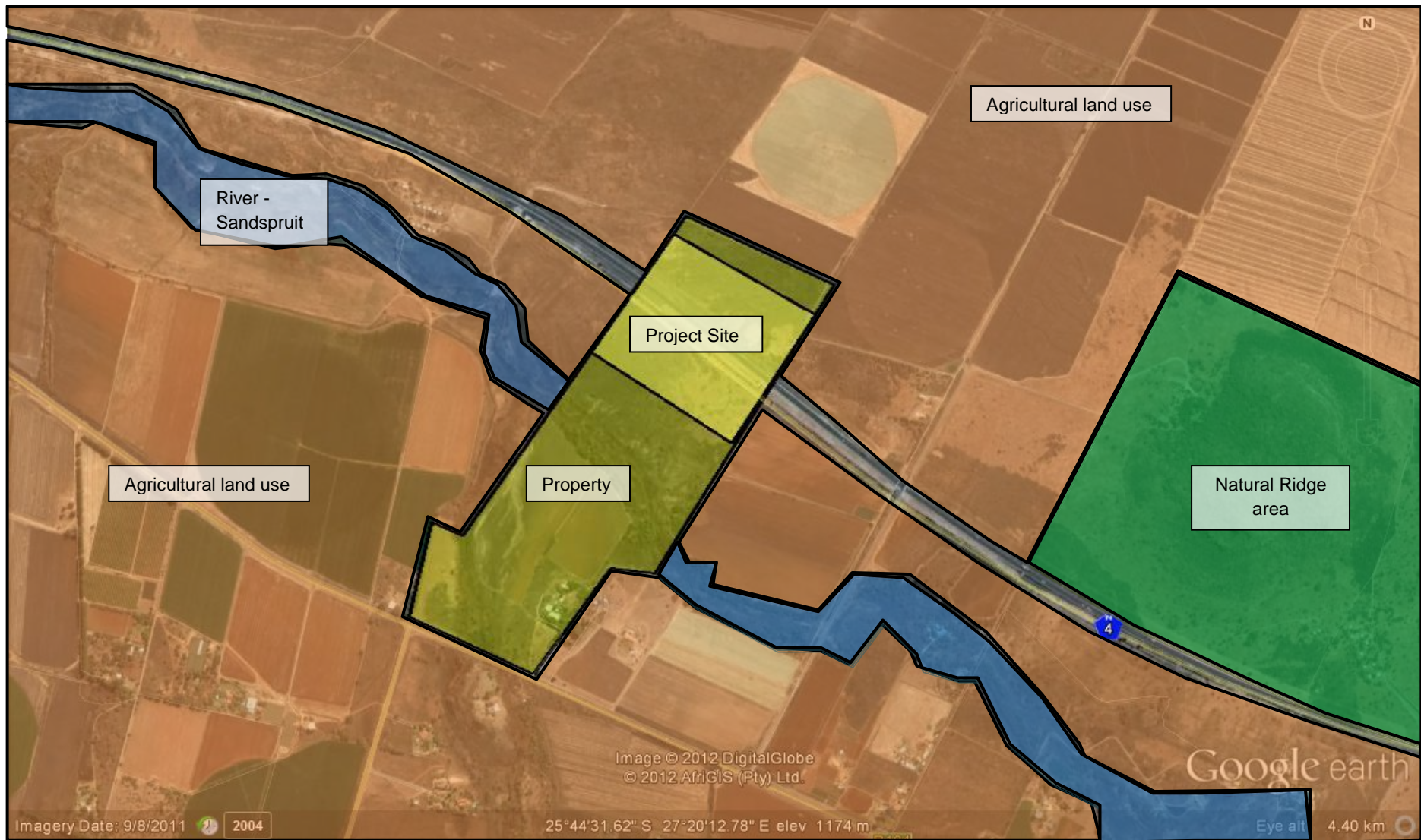


Figure 3: Google™ image showing surrounding land use



#### 4.4. Project description

The proposed filling station and associated infrastructure will encompass only sections of the farm portion (approximately 40% of the property or 21 ha) adjacent to the N4 and not the entire farm portion which is approximately 51 ha. The N4 cuts through the property. The property is surrounded by agricultural land use and a section of the property itself is currently being cultivated (tobacco). Secondary growth of vegetation covers the sections not cultivated and which will be developed. In the process of developing the site, the following main activities will take place:

- Vegetation will be cleared during earth works and construction phase;
- Access roads (off-ramps from the N4);
- Bulk services (sewage, electricity, water supply and roads) will be built/installed which includes a sewage pipeline, a water pipeline and a sewage treatment plant; and
- Infrastructure will be built during the construction phase.

The planned infrastructure will include:

- A filling station with underground petrol and diesel storage tanks on either side of the N4;

Number of tanks:	Capacity of tank (kl or m <sup>3</sup> ):	Fuel stored:
1	46 kilolitre (46 000 litre)	Diesel 50 ppm
1	46	Diesel 500 ppm
1	46	Unleaded Petrol (ULP) 93
1	46	ULP 95
<b>8</b>	<b>368</b>	<b>TOTAL for two (2) filling stations</b>

- Access and internal roads and parking;
- A sewage treatment plant with an estimated capacity of 16 000 cubic metres per annum (44m<sup>3</sup>/day);
- A water supply pipeline from the R104 to the development area across the property;
- A sewage pipeline;
- A hotel providing accommodation (120 rooms); and
- A convenience store and food take-away / restaurant.

#### 4.5. Project schedule

The projected leading time on completion of Phase I is two (2) to three (3) years once environmental authorisation has been obtained. The environmental authorisation process will take approximately twenty four (24) months.

#### 4.6. Additional Work

The following additional work will be conducted:

- A geotechnical study will be conducted to establish soil conditions and stipulate building requirements.
- A wetland delineation will be done due to the river system in close proximity.
- Due to the amount of vegetation to be cleared over a large surface area, a fauna and flora study will be done.
- A rezoning application will be submitted by the Town Planner to the RLM in terms of Town Planning requirements in terms of the Township Ordinance.
- A traffic study looking at traffic volumes expected as well as fuel requirements and impacts on other filling stations will be conducted.

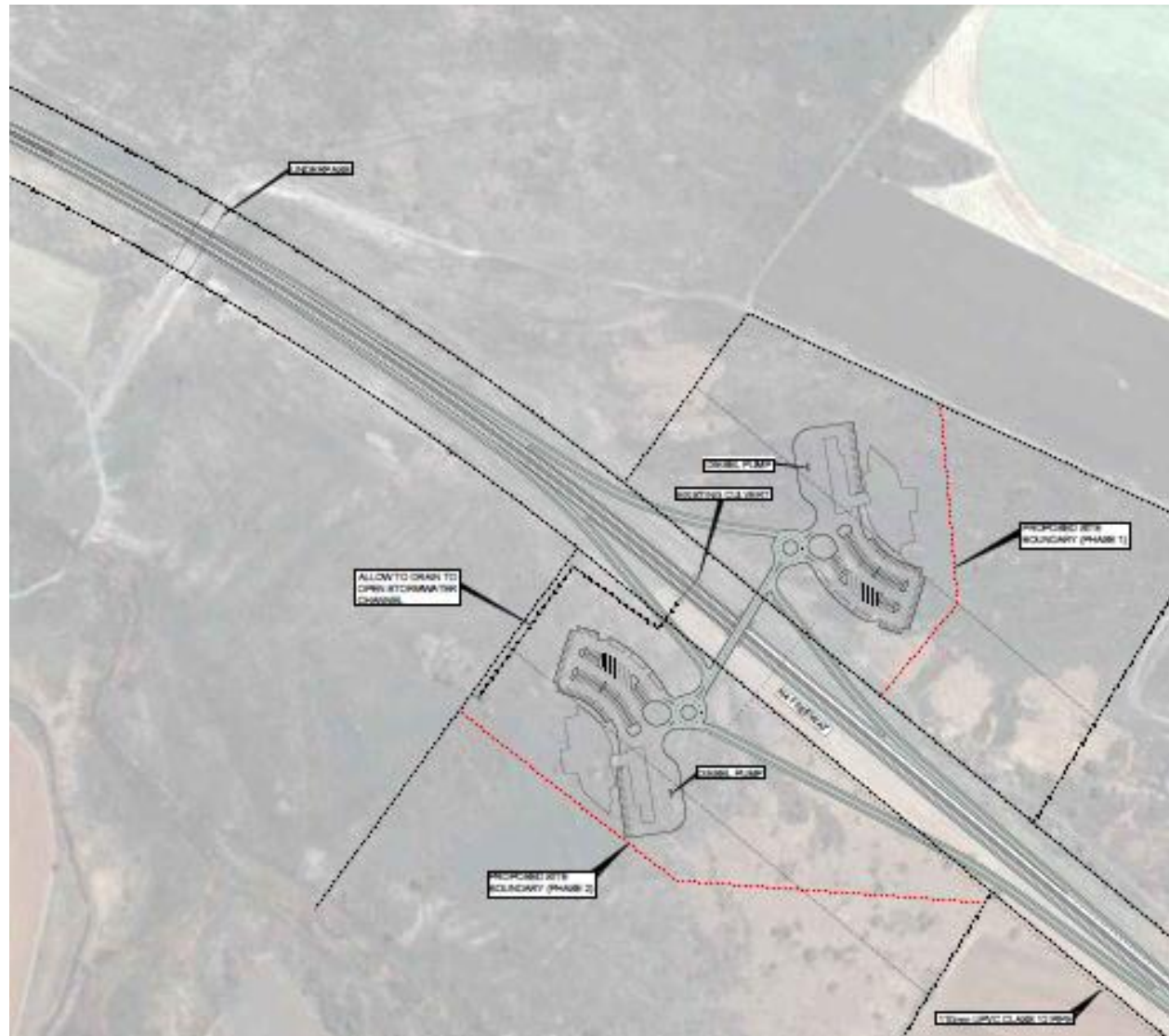


Figure 4: Proposed layout on site

- A services report will be done and agreements will be entered into with the RLM and/or other service providers in terms of the provision of solid waste removal services, water and electricity supply. Sewage will be managed on site in a package sewage treatment plant. Storm water from the site will flow into the existing storm water management infrastructure along roads.
- Engineering designs will be completed in terms of sewage management, water supply pipeline and distribution, access roads, storm water management, infrastructure etc.
- A heritage impact assessment (HIA) will be conducted to locate all possible objects, sites and features of cultural significance in the area of the proposed development.
- Geohydrological study will be conducted to determine risk of groundwater contamination.
- A Waste Management Licence (WML) application for the construction and operation of a sewage treatment plant will form part of the integrated application for environmental authorisation.
- A Water Use Licence (WUL) will also be applied for in terms of the sewage treatment plant and associated use of the plant effluent. This application will be submitted to Department of Water Affairs (DWA) in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998).

## 5. POTENTIAL IMPACTS

Preliminary predictions of possible impacts that may occur and need to be managed and monitored as part of the Environmental Management Programme (EMP) include:

- Dust generation due to vegetation removal and site clearance (soils are exposed) as well as earth works and construction (construction vehicle movement etc);
- Removal of a large quantity of vegetation over a surface area of approximately 21ha due to site clearance and associated loss of fauna habitat;
- Erosion potential due to vegetation removal and site clearance (soils are exposed);
- Noise generation during the construction phase (workers, vehicles, machinery, equipment) and operational phase (people, vehicles, music, traffic);
- Change of land use and characteristic of area;
- Improper waste and wastewater (including sewage) management;
- Possible leakage of pipelines during the operational phase;
- Possible spillage or leakage of hydrocarbons (petrol, diesel, oil, grease); and
- Fire hazard throughout the life of project.

If the scoping phase indicates that other specific specialist studies are required, these will be further pursued.

## 6. APPLICABLE LEGISLATION

An application, for environmental authorisation in terms of the NEMA, as amended as well as a Waste Management Licence (WML) in terms of the NEMWA, has been submitted to the NW DEDECT and DEA. NW DEDECT has delegated the application to DEA who will be handling the integrated application - Reference number 14/12/16/3/3/3/59 (NEAS Reference: DEA/EIA/0001453/2012).

Notification, in the form of site notices and an advertisement placed in the Rustenburg Herald and Government Gazette (5 October) as well as BID distribution, was given to all I&APs, as prescribed in Chapter 6 of NEMA, informing them that a full EIA process (Scoping and EIA) will be followed and an EIR will be submitted to the relevant authorities to obtain environmental authorisation and a WML (integrated authorisation) for the proposed development as set out in Section 4 of this document.

The following listed activities which require environmental authorisation were identified in terms of the relevant legislation:

**NEMA: GNR 544, (18 June 2010):**

**Activity 13:** The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.

*The proposed development includes the construction of a filling station on either side of the N4 with the associated commercial shop for the convenience of the public. The development therefore includes two (2) filling stations, each with facilities (underground storage tanks) with a capacity (combined) to contain 184 m<sup>3</sup> fuel (diesel and petrol) which is considered a dangerous good.*

**NEMA: GNR 545 (18 June 2010):**

**Activity 15:** Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use, where the total area to be transformed is 20 hectares or more.

*The proposed development will take place on land that is currently undeveloped and vacant. The proposed development will encompass only sections of the farm, approximately 40% of the property (about 21 ha) next to the N4 and not the entire farm (approximately 51 ha). The portion of the property will be physically altered for other uses such as a filling station, convenience shop, take-away/restaurant and hotel (120 rooms) for overnight accommodation.*

**NEM:WA: Category B (3 July 2009):**

The treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more.

*Other infrastructure include a sewage treatment plant (package plant) with an estimated capacity of 16 000 cubic metres per annum (44m<sup>3</sup>/day).*

The **NWA, 1998 (Act 36 of 1998)** states in Section 22 (1) that a person may only use water

- a) without a licence –
  - (i) if that water use is permissible under Schedule 1;
  - (ii) if that water use is permissible as a continuation of an existing lawful use; or
  - (iii) if that water use is permissible in terms of a general authorisation issued under section 39;
- b) if the water use is authorised by a licence under this Act; or
- c) if the responsible authority has dispensed with a licence requirement under subsection (3).

Water use is defined in Section 21 of the NWA. For the purposes of this Act, water use includes:

- a) taking water from a water resource;
- b) storing water;
- c) impeding or diverting the flow of water in a watercourse;
- d) engaging in a stream flow reduction activity contemplated in section 36;
- e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
- f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- g) disposing of waste in a manner which may detrimentally impact on a water resource;

- h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- i) altering the bed, banks, course or characteristics of a watercourse;
- j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- k) using water for recreational purposes.”

Therefore, the sewage treatment plant and the management of its associated effluent will require an application to Department of Water Affairs (DWA) in terms of the NWA Section 21.

## 7. PROCESS AND WAY FORWARD

- An application for environmental authorisation and a WML (integrated authorisation) has been submitted to NW DEDECT who has delegated it to DEA as the relevant authority. The reference number 14/12/16/3/3/3/59 and NEAS reference number DEA/EIA/0001453/2012 have been assigned and the application will be handled by Mamatlala Rabothata/Pumeza Skepe in the National DEA offices in Pretoria, reachable on 012 395 1768.
- Notices have been placed in the Rustenburg Herald and Government Gazette (5 October 2012) and on the site (5 October 2012).
- Further notification and Background Information Documents (BID) are to be delivered by hand, fax or email to other identified I&APs, including neighbours, authorities and other stakeholders in the area throughout the impact assessment process.
- Initial comments/registration from I&APs should be received on or before 4 December 2012.
- A draft Scoping Report will become available for public review during January 2013.
- The final Scoping Report will be submitted to the authorities for consideration by March/April 2013.
- The EIR will become available in later in 2013 after approval of the Scoping Report and completion of the specialist studies.

## 8. CONTACT DETAILS

Please complete the attached form or contact the person below should you wish to be registered as an I&AP or make any comments regarding this project.

### HydroScience cc

Person: Paulette Jacobs  
Tel: 082 850 5482  
Fax: 086 692 8820 / 086 588 1770  
E-mail: paulette@hydroscience.co.za  
Postal address: P.O. Box 1322, Ruimsig, 1732

**COMPLETE & FAX OR E-MAIL TO:  
HYDROSCIENCE 086 692 8820 / paulette@hydroscience.co.za**

**ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED FILLING STATION WITH ASSOCIATED INFRASTRUCTURE ON PORTION 140 (A PORTION OF PORTION 73) OF THE FARM KROONDAL 304 JQ, RUSTENBURG, NORTH WEST PROVINCE  
REFERENCE: 14/12/16/3/3/3/59  
NEAS REFERENCE: DEA/EIA/0001453/2012**

**INTERESTED AND AFFECTED PARTY REGISTRATION AND COMMENT SHEET**

<b>Title:</b>	Mr		Mrs		Ms		Dr	
<b>Surname:</b>				<b>First name &amp; initials:</b>				
<b>Organisation / Company:</b>								
<b>Postal / physical address:</b>				<b>Postal code:</b>				
<b>Tel:</b>				<b>Fax:</b>				
<b>Email:</b>				<b>Cell:</b>				
<b>Interest in approval or refusal:</b>	<b>Business:</b>	YES	NO	<b>Preferred method of notification / communication</b>	<b>Post/mail:</b>			
	<b>Financial:</b>	YES	NO		<b>Fax:</b>			
	<b>Personal:</b>	YES	NO		<b>Email:</b>			
<b>Details of interest:</b>								
<b>Name of other I&amp;AP to be contacted:</b>								
<b>Contact details:</b>								

**Comments: (please use separate sheets if you wish/require)**

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**Thank you for your comments, participation and time. Your contribution is appreciated and will form part of the final submission to the authority for decision-making.**