green LANTERN
environmental solutions

Draft Basic Assessment Report for the proposed development of Hennops Wedding Venue and Conference Centre on Portion 200 (a portion of portion 62) of Farm Hennopsrivier 489 JQ, Hennops River Valley, City of Tshwane Metropolitan Municipality, Gauteng Province

GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.
4. A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. 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.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
10. 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 competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.

12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

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DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development

Attention: Administrative Unit of the of the Environmental Affairs Branch

P.O. Box 8769

Johannesburg

2000

Administrative Unit of the of the Environmental Affairs Branch

Ground floor Diamond Building

11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377

Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

Not applicable

Is a closure plan applicable for this application and has it been included in this report?	N/A

if not, state reasons for not including the closure plan.

This application does not relate to the decommissioning or closure of a facility.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity?	YES

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?	YES

If no, state reasons for not attaching the list.

N/A

Have State Departments including the competent authority commented?	NO

If no, why?

The comments received from the competent authority and State Departments will be included in the Final Basic Assessment Report.

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

The proposed development of Hennops Wedding Venue and Conference Centre on Portion 200 (a portion of portion 62) of Farm Hennopsrivier 489 JQ, Hennops River Valley, City of Tshwane Metropolitan Municipality, Gauteng Province.

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development	X	Other, specify	

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	

If yes, describe the legislation and the Competent Authority administering such legislation

An application with the Department of Water and Sanitation for General Authorisation in accordance with the National Water Act, 1998 (Act No. 36 of 1998) is required.

If yes, have you applied for the authorisation(s)?

The proof of submission will be included with the Final Basic Assessment Report.

If yes, have you received approval(s)? (attach in appropriate appendix)

NO	
	NO

2. 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:

Title of legislation, policy or guideline:	**Administering authority:**	**Promulgation Date:**
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
The Constitution of the Republic of South Africa, 1996	National	18 December 1996
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	National & Provincial	07 June 2004
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	National & Provincial	April 1999
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	National & Provincial	24 February 2005
National Environmental Management: Protected Areas Act, (Act 57 of 2003)	National & Provincial	November 2003
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	National & Provincial	10 March 2009
National Water Act, 1998 (Act No. 36 of 1998)	National & Provincial	06 December 1999
National Veld and Forest Fire Act, 1998 (Act No 101 of 1998)	National & Provincial	27 November 1998
Environmental Impact Assessment Regulations as amended on 07 April 2017 (GNR 327 and GNR 324)	National & Provincial	07 April 2017
National Road Traffic Act, 1996 (Act No. 93 of 1996)	National & Provincial	November 1996
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)	National & Provincial	June 1993
National Dust Control Regulations, 2013	National & Provincial	1 November 2013

Gauteng Provincial Environmental Management Framework (GPEMF) 2015	Provincial	2015
Gauteng Provincial Government Noise Control Regulations (as published in the Gauteng Provincial Gazette Extraordinary, Volume 5 Number 75 of 20 August 1999).	Provincial	January 1999
The National Development Plan 2030 National Strategy for Sustainable Development	National	November 2011
Gauteng Environmental Implementation Plan (2015 – 2020)	Provincial	March 2015

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	**Description of compliance**
The Constitution of the Republic of South Africa, 1996	The right to an environment that is not harmful to the health and well-being of people will be protected.
National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended. NEMA Environmental Impact Assessment Regulations, as amended of December 2014	The proposed development triggers activities listed in listing notices GNR 327 and GN R. 324 of the NEMA EIA Regulations 2014 (as amended), A Basic Assessment is therefore being undertaken for Environmental Authorization as per GNR 326.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The proposed development falls within a Critical Biodiversity Area and an Ecological Support Area.
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	A Heritage Impact Assessment was undertaken in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	Reasonable measures will be undertaken to prevent the pollution of air and ecological degradation ensuring that the development is ecologically sustainable.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	Reasonable measures have been provided for the prevention of pollution and ecological degradation to ensure that the development is ecologically sustainable.
National Water Act, 1998 (Act No. 36 of 1998)	A General Authorisation will be applied for in terms of the National Water Act, 1998 (Act No. 36 of 1998).

National Road Traffic Act, 1996 (Act No. 93 of 1996)	All vehicles and relevant operators will adhere to the National Road Traffic Act, 1996 (Act No. 93 of 1996) and all regulations under this Act.
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)	The Contractor will ensure the health and safety of all workers and that of others that may be at risk as per the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
National Dust Control Regulations, 2012	The Contractor shall abide by the regulations in order to control the generation of dust.
Gauteng Provincial Government Noise Control Regulations (as published in the Gauteng Provincial Gazette Extraordinary, Volume 5 Number 75 of 20 August 1999).	The Gauteng Provincial Government Noise Control Regulations have been taken into account and will be implemented as required.
Gauteng Provincial Environmental Management Framework (GPEMF)	The Gauteng Provincial Environmental Management Framework is a legal instrument in terms of the Environmental Management Framework Regulations, 2010. The purpose of the regulations is to assist environmental impact management including EIA processes, spatial planning and sustainable development, the GPEMF has been taken into account as part of this Environmental Impact Assessment. The proposed development lies in a Special Control Zone for conservation, recreation and tourism.
Gauteng Department of Agriculture and Rural Development Requirements for Biodiversity Assessments.	The Gauteng Department of Agriculture and Rural Development Requirements for Biodiversity Assessments provides guidelines for the preparation of various biodiversity assessment, the guidelines have been taken into account in the preparation of the Biodiversity

	Assessment.
Bioregional Plan for the City of Tshwane Metropolitan Municipality	The purpose of a bioregional plan is to inform land-use planning, environmental assessment and authorizations, and natural resource management this is done by providing a map of biodiversity priority areas, including Critical Biodiversity Areas and Ecological Support Areas, with accompanying land-use planning and decision-making guidelines. The Bioregional Plan has been taken into account as part of this Environmental Impact Assessment.

3. ALTERNATIVES

Describe the proposal and 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. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority 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.

Please describe the process followed to reach (decide on) the list of alternatives below

The alternatives considered are with regards to activity alternatives. Various activity alternatives were considered for the proposed development taking into account the following factors:

1) Location of the site
2) Current land use and zoning: The site currently lies vacant and is zoned as undetermined. A rezoning application has been submitted to the Municipality for the rezoning from undetermined to private open space.
3) Receiving environment including environmentally sensitive features
4) Land ownership : The site is owned by the proponent
5) Potential environmental impacts of the proposed activities
6) Economic viability of the project

This therefore culminated in the preference for the proposal/preferred alternative based on the proposed activities to be undertaken. The main difference between the preferred alternative and the alternate Alternative 1 is mainly with regards to operational activities of the proposed project i.e. the establishment of a filling station, convenience store and car wash. Alternative 1 includes the above mentioned activities of the filling station and associated infrastructure and therefore inclusion of these activities would result in the increased potential pollution of ground water resources, potential for increased waste generation, increased traffic/ vehicular movement as well as a larger built up area which could potentially result in increased storm water run off. The Proposal/ Preferred alternative therefore has less environmental impacts as compared to Alternative 1. A detailed description of the alternatives is given in the section below.

Provide a description of the alternatives considered

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, energy,	**Description**

	operational or other(provide details of "other")	
1	**Proposal (Preferred alternative)**	The proposed development of the Hennops Wedding and Conference Venue including the following: • Wedding Hall/ Multi-purpose hall • Chapel • Changing rooms • Chalets • Guard house • Walkways and paving • Parking bays • Pond • Swimming pool • Children's play area • Marquee tent area • Putt-putt area • Outdoor ablution facilities • Landscaping including planting of indigenous shrubs and lawn The development foot print is 3,99 ha. The proposal /preferred alternative site plan has been included as **Appendix A1.1** .
2	Alternative 1	The proposed development of the Hennops Wedding and Conference Venue including the following: • Filling station • Convenience store • Car wash

		• Wedding Hall/ Multi-purpose hall • Chapel • Changing rooms • Chalets • Walkways and paving • Parking bays • Pond • Swimming pool • Children's play area • Marquee tent area • Putt-putt area • Outdoor ablution facilities • Landscaping including planting of indigenous shrubs and lawn The development foot print is 3,99 ha. The site plan has been included as **Appendix A1.2**.
3	Alternative 2	None

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

Not Applicable

DISCUSSION AND MOTIVATION FOR NOT PROVIDING 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.

f) the option of not implementing the activity.

In terms of the definition for "alternatives" listed above, the below section provides a discussion and motivation for the exclusion of alternatives in relation to the proposed development.

a) The property on which or location where it is proposed to undertake the activity

b) The type of activities 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:

f) The option of not implementing the activity: **The option of not implementing the activity would result in the status qou being maintained. The land is currently lying vacant and is not being utilised. This would therefore result in the loss of socio economic benefits in the area including the loss of temporary and permanent employment opportunities and associated ripple economic benefits in the local and regional area. The option of not implementing the activity was therefore not considered for the above mentioned reasons.**

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity ***(Total environmental (landscaping, parking, etc.) and the building footprint)***	3,99 ha
Alternatives:	
Alternative 1 (if any)	3,99ha
Alternative 2 (if any)	

Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity	
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	

m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

Size of the site/servitude:

Proposed activity	3,99 ha

Alternatives:

Alternative 1 (if any)	3,99 ha
Alternative 2 (if any)	

Ha/m^2

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?	YES	■
If NO, what is the distance over which a new access road will be built	N/A	

Describe the type of access road planned:

The proposed development is located adjacent to the R511 from Centurion to Hartbeespoort. Therefore there is existing access to the site.

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

No sensitive features will be traversed as there is existing access to the site.

Alternative 1

Does ready access to the site exist, or is access directly from an existing road? YES ■

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

Describe the type of access road planned:

The proposed development is located adjacent to the R511 from Centurion to Hartbeespoort. Therefore there is existing access to the site.

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

Does ready access to the site exist, or is access directly from an existing road? YES NO

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

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated	**0**	Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000

- A2 = 1: 2000
- A3 = 1: 4000
- A4 = 1: 8000 (±10 000)

- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be 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 locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and

- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

7. SITE PHOTOGRAPHS

Colour photographs from the center 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 the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 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 to be attached in the appropriate Appendix.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities

1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route	**"insert No. of duplicates"**	**0 times**

Instructions for completion of Section B for location/route alternatives

1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alterative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives	**"insert No. of duplicates"**	**0 times**

(complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way:

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then

- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route ☐ (complete only when appropriate for above)

Section B – Location/route Alternative No. ☐ (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)

The proposed project is located on Portion 200 (a portion of portion 62) of the Farm Hennopsrivier 489JQ, Hennops Valley, City of Tshwane Metropolitan Municipality, Gauteng Province

Property Description for the Proposed Project	
Province	Gauteng Province
Municipality	City of Tshwane Metropolitan Municipality
Nearest town(s)	Centurion
Farm name(s) and number(s)	Farm Hennopsrivier 489JQ
SG 21 Digit Code	T0JQ0000-00000489-00062

2. 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 decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Proposal:	**Latitude (S):**	**Longitude (E):**
	25°50'28.33"S	27°58'47.51"E
	25°50'29.85"S	27°58'52.88"E
	25°50'20.63"S	27°58'47.01"E
	25°50'19.60"S	27°58'54.77"E

Alternative 1: Same as above	**Latitude (S):**	**Longitude (E):**
	25°50'28.33"S	27°58'47.51"E
	25°50'29.85"S	27°58'52.88"E
	25°50'20.63"S	27°58'47.01"E
	25°50'19.60"S	27°58'54.77"E

In the case of linear activities: N/A

Alternative:	**Latitude (S):**	**Longitude (E):**

Starting point of the activity	o	o
Middle point of the activity	o	o
End point of the activity	o	o

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached	**N/A**

The 21 digit Surveyor General code of each cadastral land parcel

T0JQ0000-00000489-00062

PROPOSAL	T	0	J	Q	0	0	0	0	0	0	0	0	0	4	8	9	0	0	0	6	2
ALT.1	T	0	J	Q	0	0	0	0	0	0	0	0	0	4	8	9	0	0	0	6	2

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

	1:50 – 1:20					

4. LOCATION IN LANDSCAPE

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

				Plain		

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)		**NO**
Dolomite, sinkhole or doline areas	**YES**	
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		**NO**

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)		**NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**

c) are any caves located within a 300m radius of the site(s) [redacted] NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

d) are any sinkholes located within a 300m radius of the site(s) : **Unsure** [redacted]

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

If any of the answers to the above are “YES” or “unsure”, specialist input may be requested by the Department

Geotechnical investigations were undertaken on the site (**refer to Appendix G1**) and the following was noted: The study area was found characterised of carbonaceous rock (dolomite) of the Chuniespoort group, in the Malmani supergroup. Other rocks that are onsite are the quartzite rocks.

- The subsurface soil at the site generally consists of transported material (Upper layer) comprising of slightly moist, brownish, Loose, intact, and sandy gravel with clay matrix. The top soil also consist of ferricrete nodules and fine grass roots. The material was found immediately from surface to an average depth of 1.30 meters. The residual dolomite material was encountered below the transported material. This soil layer comprised of slightly moist, brownish to orange, Dense, intact, silty sand and extend beyond the depth of 1.95 meters.
- Soil erodibility is low
- The site is characterised by non-expansive soil, as such the material on site meets the requirements for bedding and backfilling.

- Water table permanently deeper than 1.5 m below surface
- The area is considered partly suitable, however dolomite studies will be required for registration with NHBRC. It is recommended that a dolomite investigation study be carried out to assess the possibility of sink holes prior to any development. Should the study find the area to be absent of potential sink holes, it is recommended that a modified normal foundation be considered to accommodate slight movement of underlying materials.

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?	**NO**

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 50%	Natural veld with scattered aliens % =15%		Veld dominated by alien species % =20%	
				Bare soil % =15%

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site	NO

If YES, specify and explain:

The vegetation of the study is a classified as belonging to the vulnerable Carletonville Dolomite Grassland vegetation type (Gh 15) (Mucina & Rutherford 2006). Carletonville Dolomite grasslands occurs at altitudes ranging between 1360-1620 m within the Gauteng Province. The shallow Mispah soil is sandy and varies from red to yellow. The vegetation is dominated by the grasses *Digitaria tricholaenoides, Cynodon dactylon, Diheteropogon amplectens, Eragrostis chloromelas, Heteropogon contortus, Loudetia simplex, Setaria sphacelata, Schizachyrium sanguineum, Setaria sphacelata* and *Themeda triandra.* Prominent forbs include *Dianthus mooiensis, Chamaecrista mimosoides, Acalypha angustata, Helichrysum miconiifolium, Helichrysum nudifolium, Kohautia amatymbica* and *Pollichia campestris.* Geophytic forbs include *Boophone disticha, Habenaria mossii,* while low-growing woody species such as *Ziziphus zeyheriana, Parinari capensis, Elephantorrhiza elephantina* and *Searsia magalismontana* are also present.

The study site was scanned for the presence of or suitable habitat for any red data plant with specific emphasis on the species as listed in Annexure 1. Apart from the declining geoxylic plant Boophone disticha (vegetation unit 2), no red data species were found to be present in the study area. None of the medicinal plants were found within the study area are threatened and occur abundantly throughout the Province. No or red data plant species were identified within vegetation units 1 and 3 and it is highly unlikely that these areas will have such species due to the degraded condition thereof. All alien plant species identified should be eradicated from the property.

Medicinal plants observed on site

A total of eight (8) different medicinal plants were identified within the study area. None of these species are threatened, while *Gomphocarpus fruticosus* is a pioneer weed that grows in degraded areas. The declining as well as medicinal geoxylic plant *Boophone disticha* is present within vegetation unit 2.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	[redacted]	NO

If YES, specify and explain:

N/A

Are there any special or sensitive habitats or other natural features present on the site?	YES	

If YES, specify and explain:

According to GDARD C-Plan3.3 the study area is classified as a Critical Biodiversity Area (CBA). The study site borders onto the Hennops river in the north (**outside of the development footprint area**).The Witwatersberg Pretoria Mountain Bushveld vegetation type is present to the north of the river. The study area has limited connectivity with similar grasslands due to the degraded condition of the areas in the west and east.

The vegetation of this area consists of tall to medium-sized woody species such as *Vachellia karroo, Combretum erythrophyllum, Celtis africana, Searsia lancea* and *Gymnosporia buxifolia.* The herbaceous layer is not well-developed and includes the grasses *Panicum maximum, Setaria lindenbergiana, Sporobolus africana* and the forbs *Gomphocarpus fruticosus, Pellaea calomelanos, Bidens pilosa* and *Amaranthus hybridus.*

Was a specialist consulted to assist with completing this section	**YES**	

The Ecological Assessment Report has been included as Appendix G2.

If yes complete specialist details

Name of the specialist:	Professor LR Brown		
Qualification(s) of the specialist:	PhD Terrestrial plant ecology MSc. Water ecology BSc Hons (Botany) BSc (Ed) (Botany, Zoology, Education) Wetland and Riparian Delineation (DWAF Accredited Course) Professional Natural Scientist Reg. No. 400075/98 (Botanical Science and Ecological Science).		
Postal address:	PO Box 703 Heidelberg		
Postal code:	1438		
Telephone:	Cell: 082 4641021		
E-mail:	envguard@telkomsa.net		

Are any further specialist studies recommended by the specialist?	[redacted]	NO
If YES, specify:	A once off survey was conducted while the study was done on 18 August 2019. The survey was conducted within the winter period thus, some inconspicuous species and ones with few flowers or leaves may have been overlooked. The survey of the study site is however considered as successful with a correct identification of the different vegetation units. It is however recommended that a Reconnaissance Survey be undertaken before the commencement of the development, ideally in the growing season: November-April, to further confirm the findings and identify any other species including any listed red data species.	
If YES, is such a report(s) attached?	[redacted]	NO

If YES list the specialist reports attached below

N/A

Signature of specialist: _____ Date:

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

Was a specialist consulted to assist with completing this section		**YES**	[redacted]
The Geotechnical Investigation has been included as Appendix G1.			
If yes complete specialist details			
Name of the specialist:	Thendo Nelwamondo		
Qualification(s) of the specialist:	(BSc Geology) (Pr.Sci.Nat) Registration No: 400299/14		
Postal address:			
Postal code:			
Telephone:	+2711 038 0131		
E-mail:	Thendo@crysbol.co.za		
Are any further specialist studies recommended by the specialist?		**YES**	[redacted]
If YES, specify:	It is recommended that a dolomite investigation study be carried out to assess the possibility of sink holes prior to any development.		
If YES, is such a report(s) attached?		[redacted]	NO
If YES list the specialist reports attached below			
N/A			

Signature of specialist: _____ Date:

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	**2. River, stream, wetland**	3. Nature conservation area	4. Public open space	**5. Koppie or ridge**
6. Dam or reservoir	7. Agriculture	8. Low density residential	**9. Medium to high density residential**	10. Informal residential
11. Old age home	12. Retail	13. Offices	**14. Commercial & warehousing**	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
Other land uses (describe):	The proposed development area falls within a Special Control Zone for conservation, recreation and tourism (refer to Appendix A4 for the **Environmental Management Zone Map**).			

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

	5	5	5	5	1
	9	2	2	2	2
WEST	9	9		14	9
	9	1	3	3	3
	1	1	3	3	3

EAST

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached	**YES**
If yes indicate the type of reports below	

Specialist studies have been attached as follows:

Appendix G1: Geotechnical Investigations

Appendix G2: Ecological Assessment

Appendix G3: Heritage Impact Assessment

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

Socio-Economic Profile:

The study area lies within Region 4. In this section, the main aspects of Region 4's socio-economic profile will be discussed.

Region 4 Development Overview

The main characteristics of Region 4 are:

- The Region consists of an urban area to the east and a rural area to the west of which both areas are currently under pressure for development.
- The core area of Region 4 is located between two major highways, the Ben Schoeman Highway (N14) and the N1 Highway (M1).
- The N1 corridor represents one of the most sought after development strips in South Africa. This corridor manifests primary within the Midrand and Centurion areas and it is known as one of the high technology belts within the South African economy.
- The region falls within the Economic Core identified for Gauteng Province with the legs of the triangular core the N1 Highway on the western side and the R21 Highway with its linkage to the Oliver Tambo International airport on the eastern side. This economic core is the primary growth focus for Gauteng Province.
- Region 4 is located at the southern gateway of the City of Tshwane and is easily accessible from the Johannesburg financial and corporate district and the Oliver Tambo International Airport.
- The region includes and shares with other regions a number of conservancies within reach of Johannesburg and the greater Tshwane area.
- The Hennops River basin is situated within this region. The Crocodile River basin in Region 3 also contributes water to this region. These are important natural resources which provide opportunities for tourism and recreational activities.

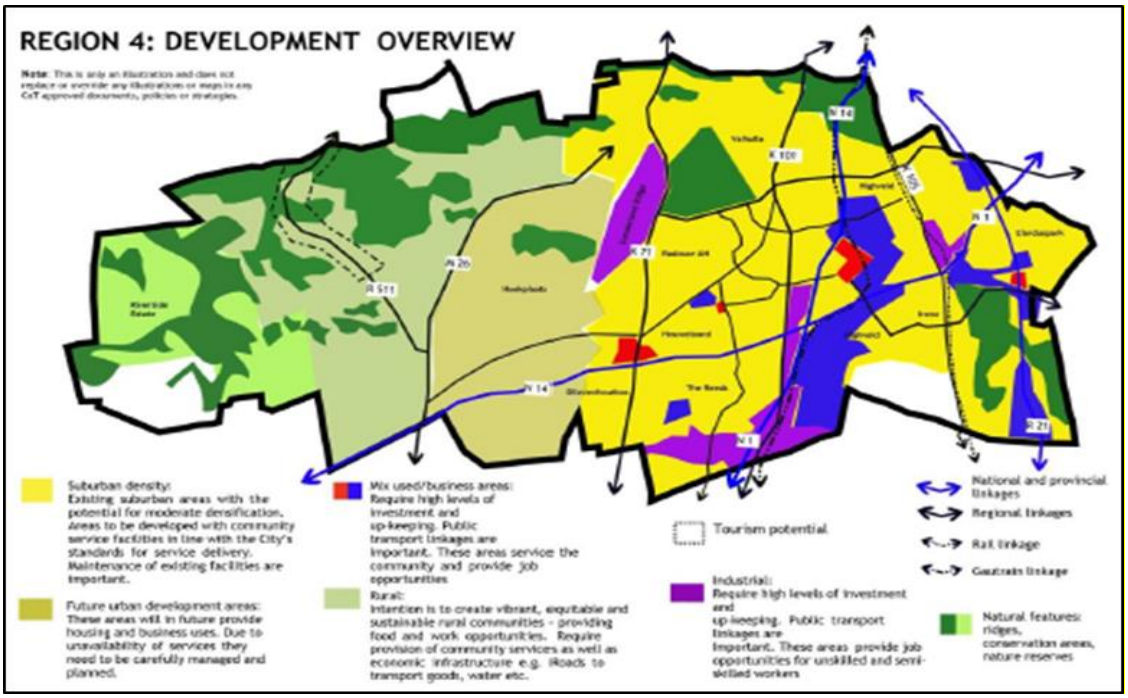
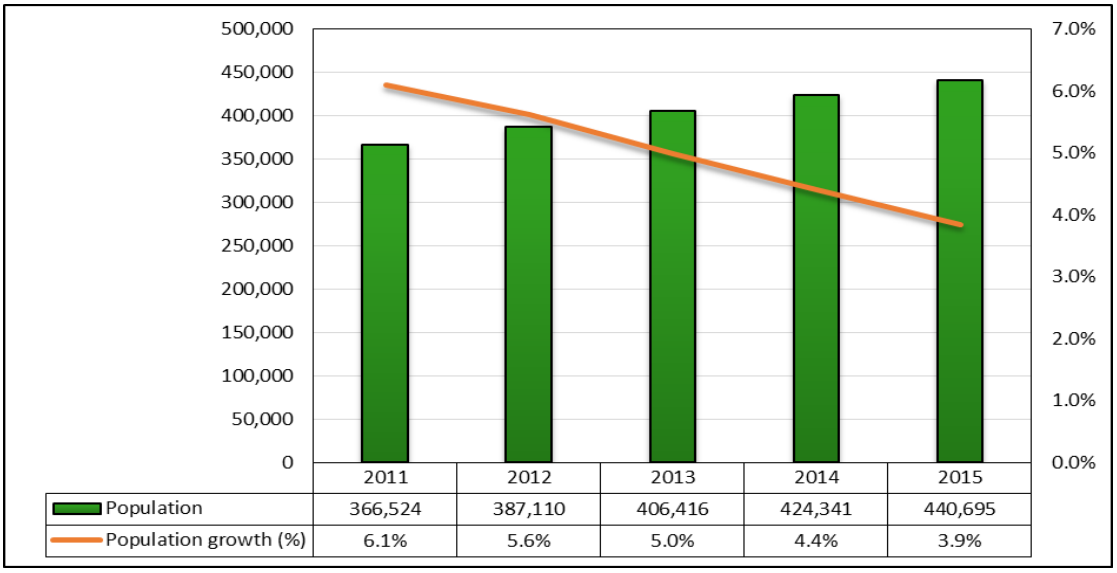


Figure 1: Illustration of development overview

Demographics



	2011	2012	2013	2014	2015
Population	366,524	387,110	406,416	424,341	440,695
Population growth (%)	6.1%	5.6%	5.0%	4.4%	3.9%

Figure 1: Population growth rate and actual numbers in Region 4, 2011 - 2015

Figure 2 indicates the total population in Region 4 and the associated percentage growth rate since 2011 to 2015. In 2011, the total population was approximately 366 524 and grew to 440 695 in 2015, representing 20 percent growth over the period. The population growth is growing at declining rate, in 2011 the population growth rate was at 6,1 percent and this has declined to 3,9 percent in 2015.

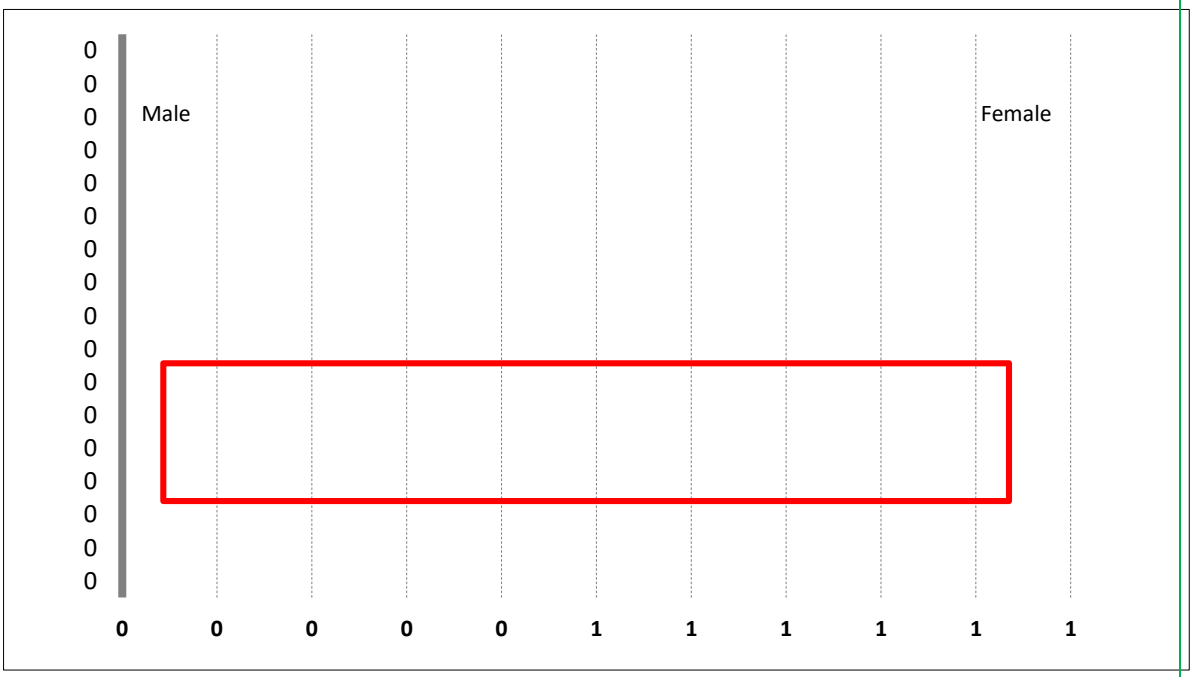
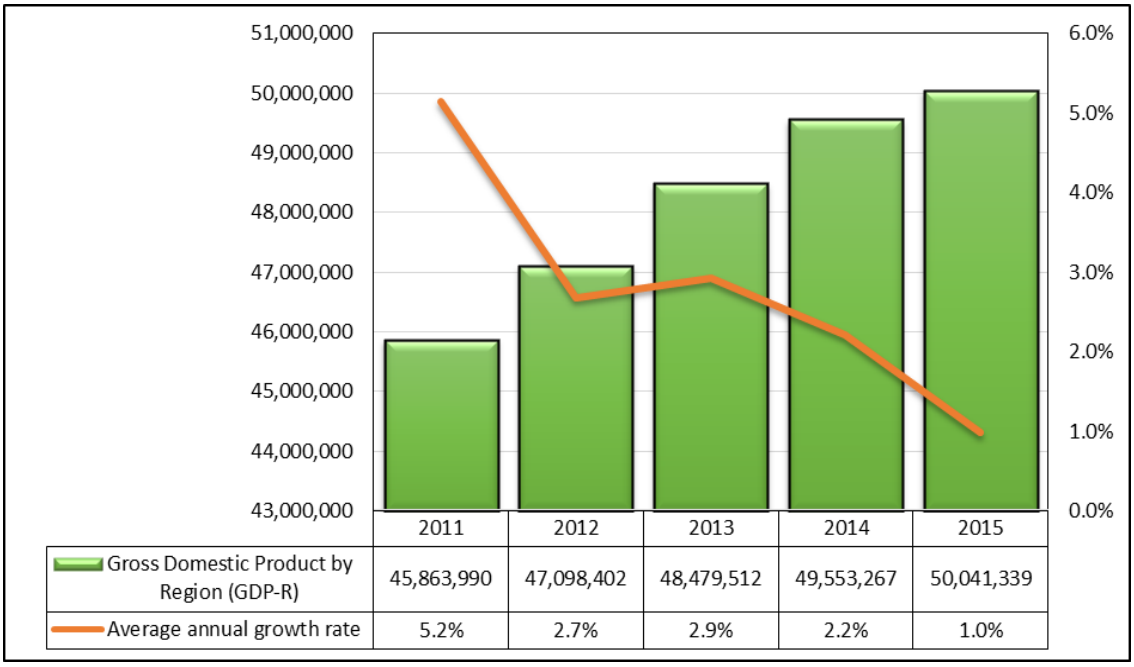


Figure 3: Region 4's population pyramid, 2015

Figure 3 indicates the 2015 population pyramid for Region 4, from the figure, it can be noted that there is a youth bulge in Region 4's population i.e. it can be observed that a significant portion of Region 4's population is younger than 35. The majority of people in this region are within the economically active age group (16 to 65 years of age). This means a relatively low dependency ratio, as most people in this area should be able to access employment. The latter however depends on the number of job opportunities and access to areas of economic activity.

Economy

Figure 4 below indicates the GDP-R in constant 2010 prices for Region 4 over the 2011 – 2015 period. As indicated in the figure, the region's GDP-R is estimated to have increased from R 45.9 billion in 2011 to R 50.0 billion 2015. On the other hand, the average year on year growth rate over the same period started to decline sharply in 2012 from 5.2 percent to 1.0 percent in 2015.



	2011	2012	2013	2014	2015
Gross Domestic Product by Region (GDP-R)	45,863,990	47,098,402	48,479,512	49,553,267	50,041,339
Average annual growth rate	5.2%	2.7%	2.9%	2.2%	1.0%

Figure 4: Region 4's GDP-R (2010, Constant prices), 2011 -2015

Figure 5 below indicates the average annual growth by economic sector for Region 4 over the 2011 – 2015 period. As indicated in the figure, most sectors over the 2011 – 2015 period appear to have been quite volatile explaining the picture depicted by figure 6. To elaborate, the largest contributors to the region's economic output performed as follows;

- community services sector's (contributes approx. 31.1 percent to GVA-R in 2015) average annual growth declined from 6.3 percent in 2011 to 0.3 percent in 2015;
- finance sector's (contributes approx. 28.4 percent to GVA-R in 2015) average annual growth declined from 4.9 percent in 2011 to 1.8 percent in 2015; and
- trade sector's (contributes approx. 11.5 percent to GVA-R in 2015) average annual growth declined from 5.3 percent in 2011 to 1.2 percent in 2015

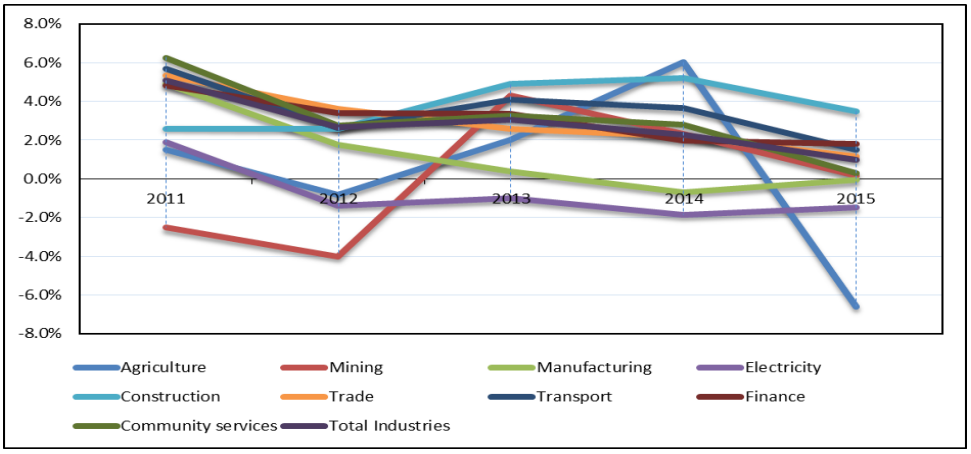
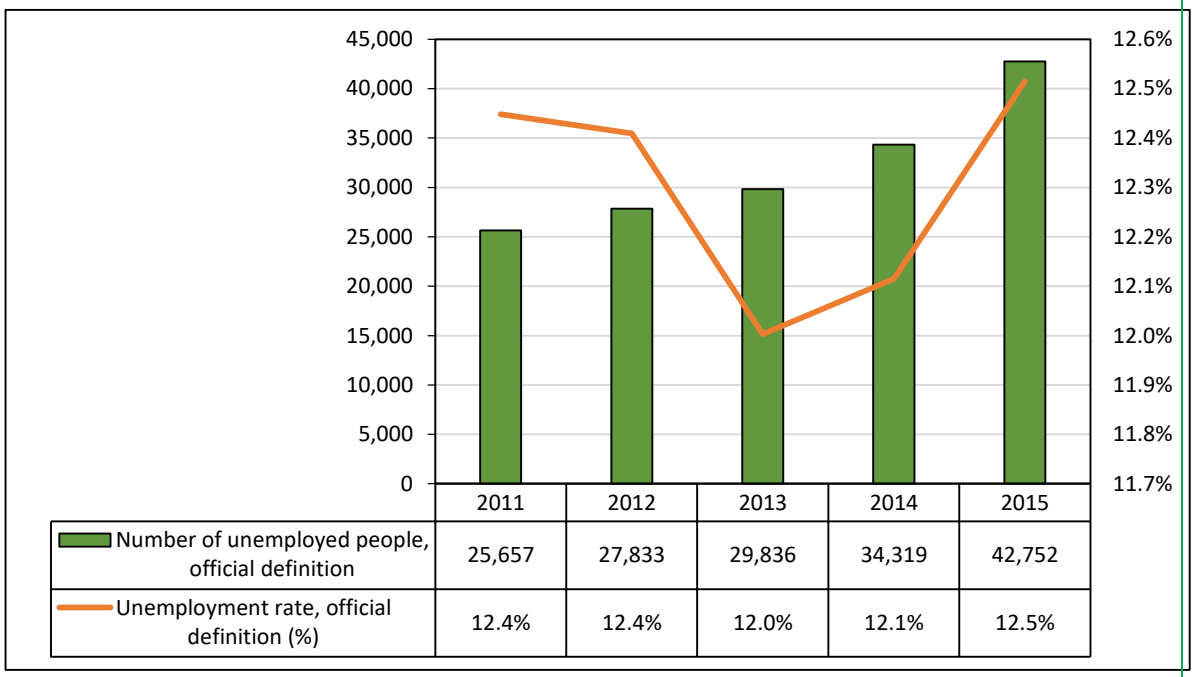


Figure 5: Average annual growth (%, Constant 2010 prices) of economic sectors in Region 4, 2011 – 2015

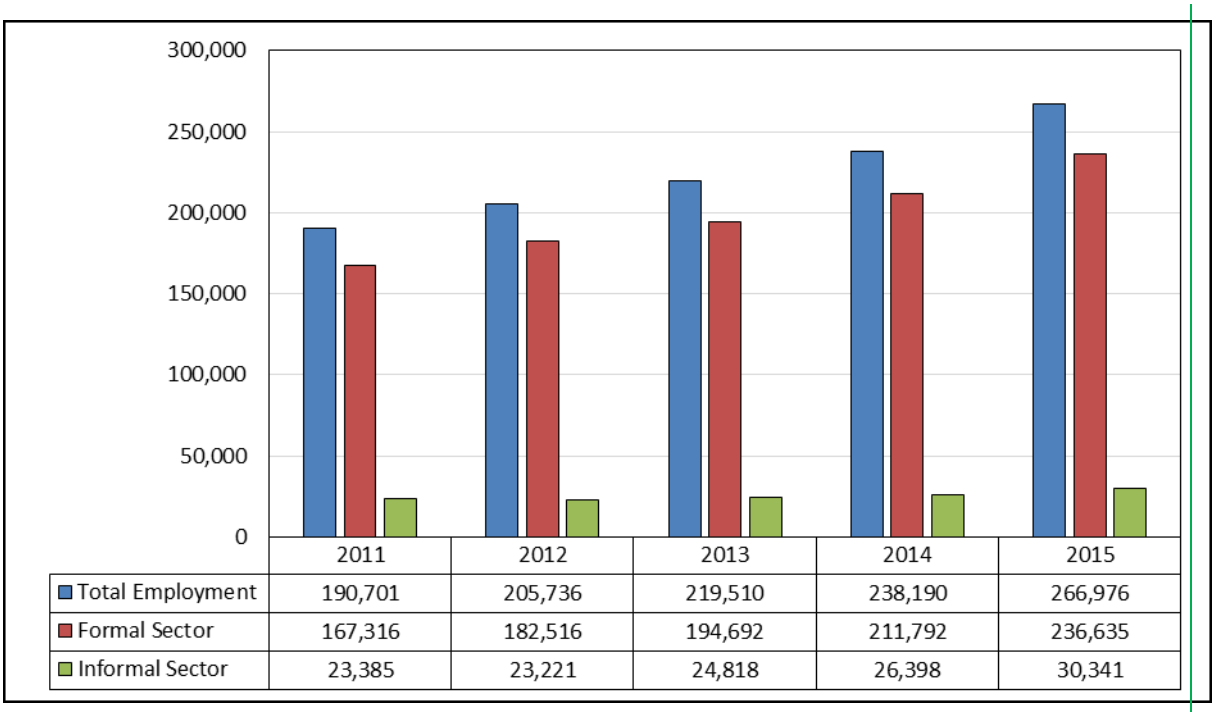
Figure 6 below indicates the unemployment rate and the number of unemployed persons in actual terms in Region 4. It can be noted from the figure that the unemployment rate in Region 4 has increased slightly from 12.4 percent in 2011 to 12.5 percent in 2015. This represents an increase from approx. 25 657 unemployed people in 2011 to approx. 42 752 unemployed people in 2015.



	2011	2012	2013	2014	2015
Number of unemployed people, official definition	25,657	27,833	29,836	34,319	42,752
Unemployment rate, official definition (%)	12.4%	12.4%	12.0%	12.1%	12.5%

Figure 6: Unemployment in Region 4 (2011-2015)

Figure 7 overleaf indicates the total employment in Region 4 disaggregated by formal or informal sector. As indicated in the figure, employment (absolute terms) across both sectors in Region 4 has been steadily increasing over the 2011-2015 period. In 2011, total number of individuals employed in the region were approximately 190 701 and have since increased to 266 976 in 2015. As one would expect, the largest composition of this growth can be attributed to growth in formal sector employment, which was 167 316 in 2011 and has since increased to 236 635 in 2015. Informal sector employment has increased from 23 385 in 2011 to 30 635 in 2015.



	2011	2012	2013	2014	2015
Total Employment	190,701	205,736	219,510	238,190	266,976
Formal Sector	167,316	182,516	194,692	211,792	236,635
Informal Sector	23,385	23,221	24,818	26,398	30,341

Figure 7: Employment in Region 4, 2011 - 2015

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site-

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?	[redacted]	**NO**

If YES, explain:

N/A

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

No archaeological resources were found in the study area. The Heritage Impact Assessment Report is included as **Appendix G3**.

Will any building or structure older than 60 years be affected in any way?	[redacted]	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	[redacted]	**NO**

If yes, please attached the comments from SAHRA in the appropriate Appendix

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

1. LOCAL AUTHORITY PARTICIPATION

Local 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. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?	**YES**	[redacted]
If yes, has any comments been received from the local authority?	[redacted]	**NO**

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

N/A

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

No comments have been received thus far. Any comments received during the public review period will be included with the Final BAR.

2. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

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):

N/A

If "NO" briefly explain why no comments have been received

No comments have been received thus far. Any comments received during the public review period will be included with the Final BAR.

3. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process 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 and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

4. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 –Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

Appendix E10- Background Information Document

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed

4) Each alterative needs to be clearly indicated in the box below

5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives | **0 times** | 0 times

(complete only when appropriate)

Section D Alternative No. | **0 times** | (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES** [redacted]
If yes, what estimated quantity will be produced per month?	**100m^3**

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

Spoil material will consists of excess spoil material from soil excavation and trenching activities. Spoil material will be reused where possible (as backfill or erosion mitigation works) while excess spoil will need to be disposed of off-site. Spoil material will be hauled with tipper trucks to the nearest registered waste disposal facility for appropriate disposal.

Construction waste will comprise mainly of vegetation, construction material and general waste from site personnel (including packets, plastic, rubble, off-cut building materials, etc.). Construction waste must be kept in bins within the construction site camp and be collected and disposed of on a weekly basis at the nearest landfill site.

Hazardous Waste: Waste will comprise mainly of spent canisters for paint, solvents, oil, diesel and adhesives. The safe disposal will be the responsibility of the respective contractor and shall be disposed of at a suitably licensed landfill site or recycled as required. Certificates of safe disposal must be obtained and records must be kept on site.

Waste Management Requirements

- The contractor should consider alternatives that will eliminate, reduce, reuse and recycle waste during construction operations.
- The Site Managers/supervisors/foremen should ensure that waste in their area of responsibility is sorted or separated between general and hazardous waste to manage each waste category in a manner that leads to good housekeeping and reduces disposal costs.
- The managers/supervisors/foremen should ensure that reusable waste, recyclable waste and waste to be disposed will be stored in designated waste bins and/or storage facilities.
- The Site Manager should ensure that only permitted or licensed off-site waste disposal

facilities are used for the final disposal of waste.

All waste management records (i.e. waste manifests, certificate of issue and safe disposal) should be kept by the appointed superintendent responsible of the waste management contractors. The records must be kept for reporting and audit purposes.

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

A general waste storage area should be provided at the construction camp site. All general waste must be disposed of at a licensed landfill site.

Will the activity produce solid waste during its operational phase?	**YES** [redacted]
If yes, what estimated quantity will be produced per month?	100 - 200m^3

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

Solid waste will be disposed of at a licensed landfill site.

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?	[redacted] **NO**

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

Solid waste will be disposed of at a licenced landfill site.

Note: 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, the applicant should consult with the competent authority 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?	[redacted] NO

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

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

Waste will be collected in waste skips and disposed of at a registered licensed landfill site. Domestic waste generated during the construction will be separated where possible, into recyclable and non-recyclable waste. Recyclable waste will be collected in separate waste skips and removed by a licensed waste collector and delivered to reputable recycling facility.

Liquid effluent (other than domestic sewage)

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?	m^3
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	NO
If yes, what estimated quantity will be produced per month?	m^3

If yes describe the nature of the effluent and how it will be disposed.

N/A

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority 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:			
Telephone:		Cell:	
E-mail:		Fax:	

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

- Grey water will be reused for watering of the landscaped area.
- Rain water harvesting will also be undertaken

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	NO
If yes, what estimated quantity will be produced per month?	m^3
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	NO

If yes describe how it will be treated and disposed off.

N/A

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:

Local fugitive dust fallout through wind, movement of vehicles and stack emissions during the construction phase. The acceptable standard rate for dust-fall in residential and non-residential areas is set out in Table 1 of the National Dust Control Regulations, 2013 (as shown below) and shall be adhered to.

	Dustfall rate (D) (30 days average)	**Permitting frequency of exceeding dust fall rate**
Residential Areas:	D less than 600mg/m2/day	2 within a year, not sequential months
Non-Residential Areas:	600mg/m2/day less than D less than 1200mg/m2/day	2 within a year, not sequential months

The method to be used to determine dustfall, should the contractor receive complaints regarding dust, is ASTM D1739:1970.

2. WATER USE

Indicate the source(s) of water that will be used for the activity

Municipal		**groundwater**	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:	300 liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?	**YES**

If yes, list the permits required

A General Authorisation Application in terms of the National Water Act, 1998 (Act No. 36 of 1998) is required. The proof of submission of the application will be submitted with the Final Basic Assessment Report.

If yes, have you applied for the water use permit(s)?	NO
If yes, have you received approval(s)? (attached in appropriate appendix)	NO

The application has not been lodged with the Department of Water and Sanitation, once it has been lodged the proof and/or Authorisation will be included with the Final Basic Assessment Report.

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

Power will be sourced from Eskom and backup generators as well as solar lighting will also be utilised.

If power supply is not available, where will power be sourced from?

Backup generators as well as solar lighting will be utilised.

4. ENERGY EFFICIENCY

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

In order to ensure energy efficiency hence reducing demand on electricity supply the following has been considered:
- Solar energy, especially for the heating of water but also space heating, will be utilised in all buildings.
- Solar energy for the purpose of lighting together with the use of LED globes will also be utilised.
-The maximum usage of natural lighting will be incorporated into design facilities and
- Time switches will be used for outdoor lighting.

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

Alternative energy sources will be considered and built into the design of the facilities, such as the provision of solar panels and the usage of backup generators. All structures, where applicable, will be compliant with the relevant standards regarding energy efficiency e.g. SANS 204:11 relating to Energy Efficiency in Buildings.

SECTION E: 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 as well as the impacts of not implementing the activity (Section 24(4)(b)(i).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarize the issues raised by interested and affected parties.

No issues have been raised by Interested and Affected Parties (IAPs) at this stage.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)

(A full response must be provided in the Comments and Response Report that must be attached to this report):

No issues have been raised by IAPs thus far. All issues raised during the Public Participation Period will be noted and included in the Comments and Response Report which will be included with the Final BAR.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

The potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- **Nature:** A brief written statement of the environmental aspect being impacted upon by particular action or activity.
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration:** Indicates what the lifetime of the impact will be;
- **Intensity:** Describes whether an impact is destructive or benign;

- **Probability:** Describes the likelihood of an impact actually occurring; and
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Table 1: Impact Assessment Methodology

CRITERIA	DESCRIPTION			
Extent	**National (4)** The whole of South Africa	**Regional (3)** Provincial and parts of neighbouring provinces	**Local (2)** Within a radius of 2 km of the construction site	**Site (1)** Within the construction site
Duration	**Permanent (4)** Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	**Long-term (3)** The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	**Medium-term (2)** The impact will last for the period of the construction phase, where after it will be entirely negated	**Short-term (1)** The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
Intensity	**Very High (4)** Natural, cultural and social functions and processes are altered to extent that they permanently cease	**High (3)** Natural, cultural and social functions and processes are altered to extent that they temporarily cease	**Moderate (2)** Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way	**Low (1)** Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
Probability of	**Definite (4)** Impact will	**Highly Probable (3)** Most likely that the impact	**Possible (2)** The impact ma	**Improbable (1)** Likelihood of the

Occurrence	certainly occur	will occur	occur	impact materializing is very low
Reversibility of Impact	**Highly Impossible** Impact reversal will certainly be impossible.	**Impossible** Impact can be reversed to some extent with loss of natural resources	**Moderate** Impact can be reversed with subsequent residual effects which can be mitigated.	**Probable** Impact can be totally reversed without any adverse or residual effects
Loss of irreplaceable resources	**Definite** Irreplaceable resources will definitely be lost.	**Highly Probable** Most likely that resources will be lost	**Possible** Some irreplaceable resources may be lost.	**Improbable** Loss of irreplaceable resources is highly unlikely

Significance is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Significance=Extent+ Duration +Intensity x Probability

Table 2: Significance Ratings

Low impact/Minor (3 -10 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact/Moderate (11 -20 points)	Mitigation is possible with additional design and construction inputs.

High impact (21 -30 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact/Major (31 - 48 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

The suitability and feasibility of all proposed mitigation measures is included in the assessment of significant impacts. This was achieved through the comparison of the significance of the impact before and after the proposed mitigation measure is implemented.

A detailed Impact Assessment has been included as Appendix I1.

No Go
The option of not implementing the activity would result in the status qou being maintained. The land is currently lying vacant and is not being utilised. This would therefore result in the loss of socio economic benefits in the area including the loss of temporary and permanent employment opportunities and associated ripple economic benefits in the local and regional area. The option of not implementing the activity was therefore not considered for the above mentioned reasons.

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

The Specialist studies undertaken include the following: Appendix G1- Geotechnical Investigations Appendix G2- Ecological Assessment Appendix G3-Heritage Impact Assessment

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

The impacts identified and assessed are based on the site investigations conducted by the EAP, the scope of work communicated by the applicant and the findings and recommendations of the specialist studies undertaken.

3. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Proposal

It is not anticipated that the proposed development will be decommissioned or closed in the near future, however typical impacts and mitigation measures recommended are with regards to the rehabilitation of the site after any decommissioning of activities. These are included in the EMPr included as Appendix H.

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

The Specialist studies undertaken include the following: Appendix G1- Geotechnical Investigations Appendix G2- Ecological Assessment Appendix G3-Heritage Impact Assessment

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

N/A

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

The cumulative impacts associated with the proposed development are discussed below, it is however anticipated that the significance of the negative impacts will be *Medium-Low*, and *Medium –High* for positive impacts after the implementation of mitigation measures. The cumulative impacts associated with the proposed project include the following;

- Proliferation of alien invasive species due to site clearing activities;
- Fragmentation and loss of flora and faunal species diversity and habitat due to construction and operational activities,
- Increased soil erosion (during construction phase) and generation of storm water run-off (during the operational phase) due to hardened surfaces such as pavements and parking areas;
- Creation of short and long term employment opportunities for locals and utilisation of local businesses and SMME's as well as contribution to the local economy throughout the life span of the proposed development

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal 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.

PROPOSAL

A detailed Impact Statement has been included as **Appendix I1**. However a summary of the environmental impact statement is given below:

Construction Phase

ASPECT	Nature of potential impact	Parameters				BEFORE Significance mitigation	Parameters				AFTER Significance Mitigation
		E	D	I	P		E	D	I	P	
Flora and Fauna	Loss of plant species through site clearance activities	1	3	3	3	High (-21)	1	2	3	2	Medium (-12)
	Loss of rare/medicinal species through site clearance activities	1	2	1	2	(-8) Low	1	1	1	2	Low(-6)
	Proliferation of alien plant invasions in disturbed areas due to site clearance activities	1	2	2	2	Low (-10)	1	1	1	2	Low(-6)
	Faunal mortality and displacement due to site clearance activities	1	1	2	2	(-8)Low	1	1	1	2	(-6)Low
	Loss of faunal habitat due to site clearance activities	1	1	2	2	(-8)Low	1	1	1	2	(-6)Low

Surface water resources	-Increased sedimentation of the Hennops River resulting in loss or disturbance of aquatic habitat for flora and fauna	2	2	2	2	Medium(-12)	2	1	1	1	Low (-4)
	- Loss of aquatic biodiversity due to construction activities e.g vegetation clearing activities, movement of vehicles within riparian zone	2	2	3	1	Low(-7)	1	1	2	1	Low (-4)
	-Alteration/ Deterioration of surface water quality due to sedimentation and associated construction activities e.g. movement of vehicles, concrete mixing, dumping of litter/waste or construction rubble in the river or within the buffer zone area.	2	2	3	2	Medium (-14)	1	2	2	1	Low (-5)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	2	4	4	2	Medium (-20)	2	1	1	2	Low (-8)

	-Pollution of ground water due to construction activities e.g. fuel leakages from faulty vehicles or re-fuelling activities.	2	3	2	2	Medium (-14)	2	2	1	1	Low (-5)
Geology and soils	-Potential for soil erosion, degradation and loss of topsoil due to construction activities as well as storm water runoff	1	2	3	2	Medium(-12)	1	1	2	2	Low (-8)
Geology and soils	- Destabilisation of surface geology and soils structure	1	3	4	3	High (-24)	1	1	1	1	Low (-3)
Storm water management	-Erosion of topsoil -Potential for increased occurrence of localised flooding	2	4	3	2	Medium (-18)	1	1	2	2	Low (-8)

Air Quality	-Dust emissions from vehicular movements on gravel roads and stockpile areas. -Greenhouse gases emissions from vehicles, machinery and equipment used on site.	1	1	3	2	Low (-10)	1	1	1	2	Low (-5)
Visual intrusion	-Visual intrusion on natural aesthetics of the area due to construction activities e.g. campsite	1	1	2	2	Low (-8)	1	1	1	1	Low (-3)
Waste Management	-Littering of campsite and surrounding areas -Visual nuisance and generation of odour and vermin	1	1	2	3	Medium (-12)	1	1	1	2	Low (-6)

Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)
Access roads and accommodation of traffic	- Traffic congestion - Poor maintenance of roads	2	1	2	2	Low (-10)	2	1	1	1	Low (-4)
Cultural/Heritage and Paleontological Resources	- Unearthing/ discovery of gravesites and cultural and historical artefacts during excavation works and/or construction activities. - Damage to cultural/heritage and paleontological resources	1	1	3	2	Low (-10)	1	1	1	2	Low (-6)
Health and Safety	-Potential for accidents and injuries to workers, adjacent land occupants and business owners	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)
Social - Security	-Increased prevalence of crime in the area. – Theft of construction equipment/machinery/fencing - Safety of	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)

	nearby residents and business owners in the area										
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's -Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	3	3	2	2	Medium (+16)	3	3	4	3	High (+30)

Operational Phase

ASPECT	Nature of potential impact	Parameters				BEFORE	Parameters				AFTER
		E	D	I	P	Significance mitigation	E	D	I	P	Significance Mitigation
Flora and Fauna	Loss of plant species	1	3	2	1	Low (-6)	1	2	1	1	Low (-4)
	Loss of rare/medicinal species	1	2	1	2	(-8) Low	1	1	1	2	Low(-6)
	Proliferation of alien plant invasions	1	2	2	2	Medium (-12)	1	1	1	2	Low(-6)

	Faunal mortality and displacement	1	1	2	1	(-4)Low	1	1	1	1	(-3)Low
	Loss of faunal habitat	1	1	2	1	(-4)Low	1	1	1	1	(-3)Low
Surface water resources	-Increased sedimentation of the Hennops River due to operational activities	2	1	2	2	Low(-10)	2	1	1	1	Low (-4)
	- Loss of aquatic biodiversity	2	1	2	1	Low(-5)	1	1	1	1	Low (-3)
	-Contamination of surface water due to operational activities	2	2	2	2	Medium (-12)	1	2	1	1	Low (-4)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	2	2	3	2	Medium (-14)	2	1	1	2	Low (-8)

	-Pollution of ground water due to operational activities	2	2	1	2	Low (-10)	2	1	1	1	Low (-4)
Storm water management	-Potential for increased occurrence of localised flooding	2	4	4	2	Medium (-20)	1	2	2	2	Low (-10)
Visual intrusion	-Visual intrusion due to operational activities e.g. lighting	1	2	3	2	Medium (-12)	1	2	2	1	Low (-5)
Waste Management	-Littering of venue -Visual nuisance and generation of odour and vermin	1	1	2	3	Medium (-12)	1	1	1	2	Low (-6)
Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	2	2	2	2	Medium (-12)	1	1	1	2	Low (-6)
Health and Safety	-Potential for accidents and injuries to staff and patrons.	1	3	2	3	Medium (-18)	1	1	1	2	Low (-6)

Social - Security	– Theft of equipment at the venue -Safety of nearby residents and business owners in the area	2	2	2	2	Medium (-12)	1	2	1	1	Low (-4)
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's -Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	3	4	3	2	Medium (+20)	3	4	4	3	High (+33)

ALTERNATIVE 1

Construction Phase

ASPECT	Nature of potential impact	Parameters				BEFORE	Parameters				AFTER
		E	D	I	P	Significance mitigation	E	D	I	P	Significance Mitigation
Flora and Fauna	Loss of plant species through site clearance activities	1	3	3	3	High (-21)	1	2	3	2	Medium (-12)
	Loss of rare/medicinal species through site clearance activities	1	2	1	2	(-8) Low	1	1	1	2	Low(-6)
	Proliferation of alien plant invasions in disturbed areas due to site clearance activities	1	2	2	2	Low (-10)	1	1	1	2	Low(-6)
	Faunal mortality and displacement due to site clearance activities	1	1	2	2	(-8)Low	1	1	1	2	(-6)Low
	Loss of faunal habitat due to site clearance activities	1	1	2	2	(-8)Low	1	1	1	2	(-6)Low
Surface water resources	-Increased sedimentation of the Hennops River resulting in loss or disturbance of aquatic habitat for flora and fauna	2	2	2	2	Medium(-12)	2	1	1	1	Low (-4)

	- Loss of aquatic biodiversity due to construction activities e.g vegetation clearing activities, movement of vehicles within riparian zone	2	2	3	1	Low(-7)	1	1	2	1	Low (-4)
	-Alteration/ Deterioration of surface water quality due to sedimentation and associated construction activities e.g. movement of vehicles, concrete mixing, dumping of litter/waste or construction rubble in the river or within the buffer zone area.	2	2	3	2	Medium (-14)	1	2	2	1	Low (-5)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	2	4	4	2	Medium (-20)	2	1	1	2	Low (-8)
	-Pollution of ground water due to construction activities e.g. fuel leakages from faulty vehicles or re-fuelling activities.	2	3	2	2	Medium (-14)	2	2	1	1	Low (-5)
Geology and soils	-Potential for soil erosion, degradation and loss of topsoil due to construction activities as well as storm water runoff	1	2	3	2	Medium(-12)	1	1	2	2	Low (-8)
Geology and soils	- Destabilisation of surface geology and soils structure	1	3	4	3	High (-24)	1	1	1	1	Low (-3)

Storm water management	-Erosion of topsoil -Potential for increased occurrence of localised flooding	2	4	3	2	Medium (-18)	1	1	2	2	Low (-8)
Air Quality	-Dust emissions from vehicular movements on gravel roads and stockpile areas. -Greenhouse gases emissions from vehicles, machinery and equipment used on site.	1	1	3	2	Low (-10)	1	1	1	2	Low (-5)
Visual intrusion	-Visual intrusion on natural aesthetics of the area due to construction activities e.g. campsite	1	1	2	2	Low (-8)	1	1	1	1	Low (-3)
Waste Management	-Littering of campsite and surrounding areas -Visual nuisance and generation of odour and vermin	1	1	2	3	Medium (-12)	1	1	1	2	Low (-6)

Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)
Access roads and accommodation of traffic	- Traffic congestion - Poor maintenance of roads	2	1	2	2	Low (-10)	2	1	1	1	Low (-4)
Cultural/Heritage and Paleontological Resources	- Unearthing/ discovery of gravesites and cultural and historical artefacts during excavation works and/or construction activities. - Damage to cultural/heritage and paleontological resources	1	1	3	2	Low (-10)	1	1	1	2	Low (-6)
Health and Safety	-Potential for accidents and injuries to workers, adjacent land occupants and business owners	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)
Social - Security	-Increased prevalence of crime in the area. -Theft of construction equipment/machinery/fencing -Safety of nearby residents and business owners in the area	1	1	2	2	Low (-8)	1	1	1	2	Low (-6)

Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's -Contribution to the local economy. -- Relations with community, local business owners, adjacent landowners and land occupants	3	3	2	2	Medium (+16)	3	3	4	3	High (+30)

Operational Phase

ASPECT	**Nature of potential impact**	**Parameters**				**BEFORE** **Significance mitigation**	**Parameters**				**Significance AFTER Mitigation**
		E	**D**	**I**	**P**		**E**	**D**	**I**	**P**	
Flora and Fauna	Loss of plant species	1	3	2	1	Low (-6)	1	2	1	1	Low (-4)
	Loss of rare/medicinal species	1	2	1	2	(-8) Low	1	1	1	2	Low(-6)
	Proliferation of alien plant invasions	1	2	2	2	Medium (-12)	1	1	1	2	Low(-6)
	Faunal mortality and displacement	1	1	2	1	(-4)Low	1	1	1	1	(-3)Low

	Loss of faunal habitat	1	1	2	1	(-4)Low	1	1	1	1	(-3)Low
Surface water resources	-Increased sedimentation of the Hennops River due to operational activities	2	1	2	2	Low(-10)	2	1	1	1	Low (-4)
	- Loss of aquatic biodiversity	2	1	2	1	Low(-5)	1	1	1	1	Low (-3)
	-Contamination of surface water due to operational activities	2	2	2	2	Medium (-12)	1	2	1	1	Low (-4)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	2	2	3	2	Medium (-14)	2	1	1	2	Low (-8)
	-Pollution of ground water due to operational activities of the filling station and car wash e.g. hydro carbon pollution	2	3	3	2	Medium (-16)	2	1	2	2	Low (-10)

Storm water management	-Potential for increased occurrence of localised flooding	2	4	4	2	Medium (-20)	1	2	2	2	Low (-10)
Visual intrusion	-Visual intrusion due to operational activities e.g. lighting	1	2	3	2	Medium (-12)	1	2	2	1	Low (-5)
Waste Management	-Littering at the filling station and car wash -Visual nuisance and generation of odour and vermin at the filling station and car wash	1	2	2	3	Medium (-15)	1	2	1	2	Low (-8)
Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	2	2	2	2	Medium (-12)	1	1	1	2	Low (-6)
Health and Safety	-Potential for accidents and injuries to staff and patrons.	1	3	2	3	Medium (-18)	1	1	1	2	Low (-6)
Social - Security	– Theft of equipment from the venue -Safety of nearby residents and business owners in the area	2	2	2	2	Medium (-12)	1	2	1	1	Low (-4)

Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's -Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	3	4	3	2	Medium (+20)	3	4	4	3	High (+33)
Traffic	- Traffic congestion during operational activities of the filling station	2	1	2	2	Low (-10)	2	1	1	1	Low (-4)

Alternative 2

N/A

No-go (compulsory)

The option of not implementing the activity would result in the status qou being maintained. The land is currently lying vacant and is not being utilised. This would therefore result in the loss of socio economic benefits in the area including the loss of temporary and permanent employment opportunities and associated ripple economic benefits in the local and regional area. It is believed that the environmental impacts posed by the proposed development could be sufficiently mitigated if the mitigation measures included in the EMPr are adhered to. The option of not implementing the activity was therefore not considered for the above mentioned

reasons.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

The impacts associated with the proposed project include the following:

- Loss of indigenous plant species and vegetation cover due to site clearing activities;
- Loss of faunal species and faunal habitat;
- Disturbance or destruction of riparian vegetation and habitats during construction and operational activities;
- Ground and surface water contamination due to construction and operational activities;
- Soil erosion due to loss of vegetation cover and placement of hardened surfaces i.e. paving, walkways and drive ways;
- Visual intrusion due to construction activities and operational activities;
- Generation of dust and air emissions due to site clearance activities;
- Traffic congestion during construction activities (and operational activities for Alternative 1) ;
- Generation of waste and bad odour during and operational activities;
- Generation of noise during construction and operational activities;
- Accidents and/or injuries to workers, staff and patrons during the construction and operational phases of the proposed development;

The main difference between the preferred alternative and the alternate Alternative 1 is mainly with regards to **operational activities of the proposed project i.e. the establishment of a filling station, convenience store and car wash**. Alternative 1 includes the above mentioned activities of the filling station, convenience store and car wash, and therefore inclusion of these activities would result in the following impacts:

- increased potential pollution of ground water resources due to hydrocarbon pollution during the operation of the filling station,

- potential for increased waste generation during the operational phase of the project due to the establishment of the filling station, car wash and convenience store,
- increased traffic/ vehicular movement due to the operation of the filling station, and
- increased storm water runoff due to the increased built up area

The Proposal/ Preferred alternative therefore has less environmental impacts as compared to Alternative 1 and is therefore considered the most preferable option due to the above mentioned reasons.

For proposal:

The impacts associated with the Preferred Alternative have a significance of *High-Medium* before mitigation and can largely be mitigated to *Medium–Low* for negative impacts and *(+ve High for socio-economic impacts,)* with the implementation of the recommended mitigation measures from the specialists, as well as the provisions stipulated in the EMPr. The identified impacts are discussed below:

Construction Phase

ASPECT	Nature of potential impact	Significance BEFORE mitigation	Significance AFTER Mitigation
Flora and Fauna	Loss of plant species through site clearance activities	High (-21)	Medium (-12)
	Loss of rare/medicinal species through site clearance activities	(-8) Low	Low(-6)
	Proliferation of alien plant invasions in disturbed areas	Low (-10)	Low(-6)

	due to site clearance activities		
	Faunal mortality and displacement due to site clearance activities	(-8)Low	(-6)Low
	Loss of faunal habitat due to site clearance activities	(-8)Low	(-6)Low
Surface water resources	-Increased sedimentation of the Hennops River resulting in loss or disturbance of aquatic habitat for flora and fauna	Medium(-12)	Low (-4)
	- Loss of aquatic biodiversity due to construction activities e.g vegetation clearing activities, movement of vehicles within riparian zone	Low(-7)	Low (-4)
	-Alteration/ Deterioration of surface water quality due to sedimentation and associated construction activities e.g. movement of vehicles, concrete mixing, dumping of litter/waste or construction rubble in the river or within the buffer zone area.	Medium (-14)	Low (-5)

Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	Medium (-20)	Low (-8)
	-Pollution of ground water due to construction activities e.g. fuel leakages from faulty vehicles or re-fuelling activities.	Medium (-14)	Low (-5)
Geology and soils	-Potential for soil erosion, degradation and loss of topsoil due to construction activities as well as storm water runoff	Medium(-12)	Low (-8)
Geology and soils	- Destabilisation of surface geology and soils structure	High (-24)	Low (-3)
Storm water management	-Erosion of topsoil -Potential for increased occurrence of localised flooding	Medium (-18)	Low (-8)

Air Quality	-Dust emissions from vehicular movements on gravel roads and stockpile areas. -Greenhouse gases emissions from vehicles, machinery and equipment used on site.	Low (-10)	Low (-5)	
Visual intrusion	-Visual intrusion on natural aesthetics of the area due to construction activities e.g. campsite	Low (-8)	Low (-3)	
Waste Management	-Littering of campsite and surrounding areas -Visual nuisance and generation of odour and vermin	Medium (-12)	Low (-6)	

Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	Low (-8)	Low (-6)
Access roads and accommodation of traffic	- Traffic congestion - Poor maintenance of roads	Low (-10)	Low (-4)
Cultural/Heritage and Paleontological Resources	- Unearthing/ discovery of gravesites and cultural and historical artefacts during excavation works and/or construction activities. - Damage to cultural/heritage and paleontological resources	Low (-10)	Low (-6)
Health and Safety	-Potential for accidents and injuries to workers, adjacent land occupants and business owners	Low (-8)	Low (-6)
Social - Security	-Increased prevalence of crime in the area. – Theft of construction equipment/machinery/fencing - Safety of nearby residents	Low (-8)	Low (-6)

	and business owners in the area		
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's - Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	Medium (+16)	High (+30)

Operational Phase

During the operational phase it is anticipated that operational impacts such as visual intrusion, waste management, noise pollution, ground water pollution, health and safety aspects would be increased due to operational activities. These impacts can largely be reduced to a *medium-low* significance, it is not anticipated that these impacts would prove largely detrimental if mitigation measures provided in the EMPr are adhered to.

ASPECT	**Nature of potential impact**	**BEFORE Significance mitigation**	**AFTER Significance Mitigation**
Flora and Fauna	Loss of plant species	Low (-6)	Low (-4)
	Loss of rare/medicinal species	(-8) Low	Low(-6)

	Proliferation of alien plant invasions	Medium (-12)	Low(-6)
	Faunal mortality and displacement	(-4)Low	(-3)Low
	Loss of faunal habitat	(-4)Low	(-3)Low
Surface water resources	-Increased sedimentation of the Hennops River due to operational activities	Low(-10)	Low (-4)
	- Loss of aquatic biodiversity	Low(-5)	Low (-3)
	-Contamination of surface water due to operational activities	Medium (-12)	Low (-4)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	Medium (-14)	Low (-8)
	-Pollution of ground water due to operational activities	Low (-10)	Low (-4)

Storm water management	-Potential for increased occurrence of localised flooding	Medium (-20)	Low (-10)
Visual intrusion	-Visual intrusion due to operational activities e.g. lighting	Medium (-12)	Low (-5)
Waste Management	-Littering of venue -Visual nuisance and generation of odour and vermin	Medium (-12)	Low (-6)
Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	Medium (-12)	Low (-6)
Health and Safety	-Potential for accidents and injuries to staff and patrons.	Medium (-18)	Low (-6)
Social - Security	– Theft of equipment at the venue -Safety of nearby residents and business owners in the area	Medium (-12)	Low (-4)
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's -Contribution to the local economy. - Relations with community, local business owners, adjacent	Medium (+20)	High (+33)

	landowners and land occupants		

For alternative: **Alternative 1**

Construction Phase

The impacts associated with the construction phase for Alternative 1 have a significance of *High-Medium* before mitigation and can largely be mitigated to *Medium–Low* for negative impacts and *(+ve High for socio-economic impacts)*. The impacts are discussed below;

ASPECT	Nature of potential impact	BEFORE Significance mitigation	AFTER Significance Mitigation
Flora and Fauna	Loss of plant species through site clearance activities	High (-21)	Medium (-12)
	Loss of rare/medicinal species through site clearance activities	(-8) Low	Low(-6)
	Proliferation of alien plant invasions in disturbed areas due to site clearance activities	Low (-10)	Low(-6)
	Faunal mortality and displacement due to site clearance activities	(-8)Low	(-6)Low
	Loss of faunal habitat due to site clearance activities	(-8)Low	(-6)Low

Surface water resources	-Increased sedimentation of the Hennops River resulting in loss or disturbance of aquatic habitat for flora and fauna	Medium(-12)	Low (-4)
	- Loss of aquatic biodiversity due to construction activities e.g vegetation clearing activities, movement of vehicles within riparian zone	Low(-7)	Low (-4)
	-Alteration/ Deterioration of surface water quality due to sedimentation and associated construction activities e.g. movement of vehicles, concrete mixing, dumping of litter/waste or construction rubble in the river or within the buffer zone area.	Medium (-14)	Low (-5)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	Medium (-20)	Low (-8)
	-Pollution of ground water due to construction activities e.g. fuel leakages from faulty vehicles or re-fuelling activities.	Medium (-14)	Low (-5)
Geology and soils	-Potential for soil erosion, degradation and loss of topsoil due to construction activities as well as storm water runoff	Medium(-12)	Low (-8)
Geology and soils	- Destabilisation of surface geology and soils structure	High (-24)	Low (-3)

Storm water management	-Erosion of topsoil -Potential for increased occurrence of localised flooding	Medium (-18)	Low (-8)
Air Quality	-Dust emissions from vehicular movements on gravel roads and stockpile areas. -Greenhouse gases emissions from vehicles, machinery and equipment used on site.	Low (-10)	Low (-5)
Visual intrusion	-Visual intrusion on natural aesthetics of the area due to construction activities e.g. campsite	Low (-8)	Low (-3)
Waste Management	-Littering of campsite and surrounding areas -Visual nuisance and generation of odour and vermin	Medium (-12)	Low (-6)
Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	Low (-8)	Low (-6)

Access roads and accommodation of traffic	- Traffic congestion - Poor maintenance of roads	Low (-10)	Low (-4)
Cultural/Heritage and Paleontological Resources	- Unearthing/ discovery of gravesites and cultural and historical artefacts during excavation works and/or construction activities. - Damage to cultural/heritage and paleontological resources	Low (-10)	Low (-6)
Health and Safety	-Potential for accidents and injuries to workers, adjacent land occupants and business owners	Low (-8)	Low (-6)
Social - Security	-Increased prevalence of crime in the area. – Theft of construction equipment/machinery/fencing - Safety of nearby residents and business owners in the area	Low (-8)	Low (-6)
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's - Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	Medium (+16)	High (+30)

Operational Phase

During the operational phase it is anticipated that operational impacts such as traffic congestion, storm water run off, visual intrusion, waste management, noise pollution, ground water pollution, health and safety aspects would be prevalent due to the operational activities of the establishment of a filling station, convenience store and car wash. These impacts are discussed below;

ASPECT	Nature of potential impact	Significance BEFORE mitigation	Significance AFTER Mitigation
Flora and Fauna	Loss of plant species	Low (-6)	Low (-4)
	Loss of rare/medicinal species	(-8) Low	Low(-6)
	Proliferation of alien plant invasions	Medium (-12)	Low(-6)
	Faunal mortality and displacement	(-4)Low	(-3)Low
	Loss of faunal habitat	(-4)Low	(-3)Low
Surface water resources	-Increased sedimentation of the Hennops River due to operational activities	Low(-10)	Low (-4)

	- Loss of aquatic biodiversity	Low(-5)	Low (-3)
	-Contamination of surface water due to operational activities	Medium (-12)	Low (-4)
Ground water resources	-Borehole water will be utilised for the proposed development therefore there is likelihood of reduced yield/depletion of ground water resources to surrounding groundwater users.	Medium (-14)	Low (-8)
	-Pollution of ground water due to operational activities of the filling station and car wash e.g. hydro carbon pollution	Medium (-16)	Low (-10)
Storm water management	-Potential for increased occurrence of localised flooding	Medium (-20)	Low (-10)
Visual intrusion	-Visual intrusion due to operational activities e.g. lighting	Medium (-12)	Low (-5)
Waste Management	-Littering at the filling station and car wash -Visual nuisance and generation of odour and vermin at the filling station and car wash	Medium (-15)	Low (-8)
Noise pollution	Noise pollution on neighbouring land owners/ occupants and businesses	Medium (-12)	Low (-6)

Health and Safety	-Potential for accidents and injuries to staff and patrons.	Medium (-18)	Low (-6)
Social - Security	– Theft of equipment from the venue -Safety of nearby residents and business owners in the area	Medium (-12)	Low (-4)
Socio-economic	-Creation of employment opportunities for locals and utilisation of local businesses and SMME's - Contribution to the local economy. - Relations with community, local business owners, adjacent landowners and land occupants	Medium (+20)	High (+33)
Traffic	- Traffic congestion during operational activities of the filling station	Low (-10)	Low (-4)

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The alternatives considered are with regards to activity alternatives. Various activity alternatives were considered for the proposed development taking into account the following factors:

1) Location of the site

2) Current land use and zoning: The site currently lies vacant and is zoned as undetermined. A rezoning application has been submitted to the Municipality for the rezoning from undetermined to private open space.

3) Receiving environment including environmentally sensitive features

4) Land ownership: The site is owned by the proponent

5) Potential environmental impacts of the proposed activities

6) Economic viability of the project

This therefore culminated in the preference for the proposal/preferred alternative based on the proposed activities to be undertaken. The main difference between the preferred alternative and the alternate Alternative 1 is mainly with regards to **operational activities of the proposed project i.e. the establishment of a filling station, convenience store and car wash**. Alternative 1 includes the above mentioned activities of the filling station, convenience store and car wash, and therefore inclusion of these activities would result in the following impacts:

- increased potential pollution of ground water resources due to hydrocarbon pollution during the operation of the filling station,
- potential for increased waste generation during the operational phase of the project due to the establishment of the filling station, car wash and convenience store,
- increased traffic/ vehicular movement due to the operation of the filling station, and
- increased storm water runoff due to the increased built up area

The Proposal/ Preferred alternative therefore has less environmental impacts as compared to Alternative 1 and is therefore considered the most preferable option due to the above mentioned reasons.

7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

National Framework – The National Development Plan 2030 (NDP)

The NDP notes amongst others that infrastructure is not just essential for a faster growing economy and higher employment. It also promotes inclusive growth, providing citizens with the means to improve their own lives and boost their incomes. Public transport infrastructure and systems are infrastructure investments that should be prioritized according to the NDP.

Gauteng Conservation Plan (C-Plan)

The Gauteng C-Plan was developed to serve as a primary decision support tool for the biodiversity component of the EIA process. The GIS software tool was utilized to determine if the proposed development area falls within areas of conservation concern. The proposed development falls within a Critical Biodiversity Area and Ecological Support Area.

Gauteng Provincial Environmental Management Framework (EMF), 2015

The proposed development area falls within a Special Control Zone for conservation, recreation and tourism (refer to **Appendix A4 for the Environmental Management Zone Map).** The study area lies outside of the buffer area of the Cradle of Humankind World Heritage Site.

8. RECOMMENDATION OF THE 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 as bound by professional ethical standards and the code of conduct of EAPASA).	**YES**

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

N/A

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 competent authority in respect of the application:

The following recommendations as noted by the specialists and EAP should be considered;

Geotechnical studies*: It is recommended that a dolomite investigation study be carried out to assess the possibility of sink holes prior to any development. The dolomite studies will be required for registration with NHBRC. Should the study find the area to be absent of potential sink holes, it is recommended that a modified normal foundation be considered to accommodate slight movement of underlying materials.*

Ecological*: A once off survey was conducted while the study was done on 18 August 2019. The survey was conducted within the winter period thus, some inconspicuous species and ones with few flowers or leaves may have been overlooked. The survey of the study site is however considered as successful with a correct identification of the different vegetation units. It is however recommended that a Reconnaissance Survey be undertaken before the commencement of the development, ideally in the growing season: November-April, to further confirm the findings and identify any other species including any listed red data species.*

- All necessary authorisations required from the Department of Water and Sanitation (DWS) and any other authorities should be acquired before the commencement of the development. No development may take place within the 1:100 year flood line;
- No development should be undertaken within the riparian area. A buffer zone of 40m from the Hennops River should be demarcated and designated as a "No-Go area".
- Any development taking place on dolomitic land must be in accordance with the current relevant standard for development of dolomitic land;

- Only the necessary bulbous or succulent plant species occurring in the natural grassland area should be removed. The removal of indigenous woody species should be avoided as far as possible. All plant species removed should then be temporarily planted in a suitable container and replanted in suitable areas after construction activities have been completed. Large areas of the natural grassland should be left as open green space to ensure connectivity as well as conservation of biodiversity. It is recommended that only indigenous vegetation be utilised for landscaping purposes A Re-vegetation and Rehabilitation Plan should be compiled for usage by contractors and sub- contractors to rehabilitate disturbed areas. All translocated plants should be re-utilized for rehabilitation purposes.;
- Storm water management measures must be implemented to ensure that there is no contaminated water entering the Hennops River;
- Green roofs and green building design should be used to reduce energy requirements for lighting, heating and cooling;
- The provisions of the EMPr must be adhered to.

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT

(as per notice 792 of 2012, or the updated version of this guideline)

QUESTIONS AS PER GUIDELINE	EAP'S RESPONSE
Securing ecological sustainable development and use of natural resources	
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?	The impacts of the proposed development include the following: • Loss of indigenous plant species and vegetation cover due to site clearing activities; • Loss of faunal species and faunal habitat • Disturbance or destruction of riparian vegetation and habitats during construction and operational activities. • Ground and surface water contamination due to construction and operational activities • Soil erosion due to loss of vegetation cover and placement of hardened surfaces i.e. paving, walkways and drive ways; • Visual intrusion due to construction activities and operational activities • Generation of dust and air emissions due to site clearance activities • Traffic congestion during construction activities • Generation of waste and bad odour during and operational activities • Generation of noise during construction and operational activities • Accidents and/or injuries to workers, staff and patrons during the construction and

	operational phases of the proposed development. The significance of impacts associated with the proposed development are considered to be of medium-high to medium-low significance for all phases of the development prior to mitigation taking place. With mitigation fully implemented, the impacts can be reduced to low significance impacts. The sensitive feature of concern around the study area includes the Hennops River located northwards of the site. A buffer zone of 40 m from the river will be maintained and the area regarded as a "No-go" area. The area can thus not be wholly considered as pristine as there are sections of the study area that have already been degraded and adjacent areas are already built up. The proposed development is considered an "ecological tourism" development and as such the ecological integrity of the area is vital for it's successful implementation. It is therefore believed that the ecological integrity of the area can thus still be maintained if the recommendations given in the EMPr are adhered to.
1. How were the following ecological integrity considerations taken into account?	
1.1.1. Threatened Ecosystems 1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure 1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs") 1.1.4. Conservation targets	The study area falls under a Critical Biodiversity Area and Ecological Support Area and as such specialist studies were undertaken and mitigation measures included in the EMPr to ensure that there is sustainable development. The study area lies outside of the buffer area of the Cradle of Human Kind World Heritage (CHWHS) site and as such provisions of the Gauteng Environmental Management Framework and the CHWHS environmental guidelines have been duly

1.1.5. Ecological drivers of the ecosystem 1.1.6. Environmental Management Framework 1.1.7. Spatial Development Framework 1.1.8. Global and international responsibilities relating to the environment	considered. The proposed land use is compatible with the *desirable developments and associated infrastructure* allowed in the buffer areas of the CHWHS as it is a low impact ecological tourism development. Though the area lies outside of the buffer zone best practice management in terms of services provision and impact mitigation have been applied to minimise negative impacts.
1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimize and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The proposed development might potentially impact the riverine ecosystem of the Hennops River resulting in disturbance and fragmentation of the ecosystem. Therefore as such specialist input was sought to determine any species of concern occurring in the area, the potential impacts of the proposed development and recommended mitigation measures in order to minimise environmental impacts Furthermore, operational activity alternatives were investigated by the proponent to ensure minimal impact on the river and it's associated ecosystems. Therefore as such the preferred activity alternative, which excludes the construction of and operation of a filling station and associated infrastructure i.e. car wash, parking bays and convenience store, was then considered the most favourable option due to it's lower environmental impacts. In order to offset the impacts of the proposed development , it was deemed that a buffer zone of 40m will be maintained from the river and no construction activities will be undertaken within the demarcated buffer area. Any other recommendations that will be obtained from state departments e.g. DWS and local authorities

	including municipal authorities will also be duly considered. It was also considered that as the natural vegetation cover of the area must be maintained the proposed development will include landscaping of a larger portion of the site and minimise the built up area. It was also ensured that there is adequate screening of the built up area through landscaping around structures and infrastructures to be placed on site (refer to **Appendix A1.1** for the Site Plan). The proposed development will create employment opportunities and also utilise the natural scenic landscape associated with the river as an "attraction feature" to ensure that the riverine area is well maintained as the proponent will be liable for the conservation of the area and associated levies to be paid will contribute towards the general maintenance of the area.
1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimize and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The impacts of the proposed development include the following: • Loss of indigenous plant species and vegetation cover due to site clearing activities; • Loss of faunal species and faunal habitat • Disturbance or destruction of riparian vegetation and habitats during construction and operational activities. • Ground and surface water contamination due to construction and operational activities • Soil erosion due to loss of vegetation cover and placement of hardened surfaces i.e. paving, walkways and drive ways; • Visual intrusion due to construction activities and operational activities

	• Generation of dust and air emissions due to site clearance activities • Traffic congestion during construction activities • Generation of waste and bad odour during construction and operational activities • Generation of noise during construction and operational activities • Accidents and/or injuries to workers, staff and patrons during the construction and operational phases of the proposed development. The impacts posed by the proposed development have been discussed in detail in the Alternatives Impact Assessment included as **Appendix I 1**. The measures considered to avoid these impacts included the assessment of various activity alternatives that would result in minimal impact to the environment. Hence, the preferred activity alternative, which excludes the construction of and operation of a filling station and associated infrastructure i.e. car wash, parking bays and convenience store, was then considered the most favourable option due to it's lower environmental impacts. Measures to minimise and remedy the negative impacts as well as maximize the positive impacts have been discussed in the EMPr included as **Appendix H**.

1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimize reuse and/or recycle the waste? What measures have been explored to safely reat and/or dispose of unavoidable waste?	Excavated material and building rubble/construction waste will be generated during the construction phase. The waste management hierarchy including the reuse of inert material for rehabilitation of construction areas; green procurement of construction materials; and reuse of non-contaminated materials from decommissioning as construction material will be utilised. All other waste generated will be disposed of at a registered landfill site. During the operational phase of the development general waste generated will be, in as far as possible sorted and recycled and all other waste will be disposed of at registered landfill site.
1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The proposed development will not disturb/enhance any landscapes or sites that constitute the nation's cultural heritage. A Heritage Impact Assessment was undertaken on the site (refer to **Appendix G3**) and no cultural/heritage artefacts were discovered on site.
1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the nonrenewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimize and remedy (including offsetting) the impacts? What measures were explored to enhance positive	In order to ensure energy efficiency hence reducing demand on electricity supply, aspects such as solar heating and lighting will be considered in the design and operational aspects of the proposed development.

impacts?	
1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?	The proposed development will utilise ground water resources to minimize water supply demand. Therefore to ensure that the ground water resources are not depleted the stipulated thresholds will be informed by prior consultation with the Department of Water and Sanitation and all necessary approvals acquired and any recommendations given will be adhered to. In order to minimise impacts on ground water resources various activity alternatives were considered and as such the preferred activity alternative, which excludes the construction of and operation of a filling station and associated infrastructure i.e. car wash, parking bays and convenience store, was then considered the most favourable option. The proposed development will also utilise solar lighting and heating. Mitigation measures to ensure that negative impacts are minimized and positive impacts maximized have been included in the EMPr.
1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)	The proposed development will lead to utilisation of resources including natural resources e.g. the utilisation of the land for the site development and other resources such as energy supply and water. Principles of sustainable development will however be incorporated into the design and operational aspects of the development e.g. re-use of grey water for watering landscaped areas, rain water harvesting, utilization of solar energy for lighting and heating.

1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intraand intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?	The utilization of the area for the proposed development does constitute the best use as the land has been lying vacant and was therefore not being utilized. Furthermore in comparison with adjacent land uses, which include residential purposes and commercial warehousing the proposed use is considered a more favourable option. The proposed development will create employment opportunities and also utilise the natural scenic landscape associated with the river as an "attraction feature" to ensure that the riverine area is well maintained as it will be liable for the conservation of the area and associated levies to be paid will contribute towards the general maintenance of the area.
1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?	The proposed location offers the maximum utilization of natural resources i.e. scenic landscape, therefore in turn the natural features occurring on site will be better managed if the proposed development is undertaken. It can therefore be considered that the development will offer co dependency with the resources through generation of revenue that will be used to further enhance the area and ensure it is well maintained. Furthermore the implementation of the proposed development will ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local resources, this accountability would be negated if the proposed development were to be located elsewhere. As explained in previous sections above the type of development is considered

	compatible with the proposed desirable developments to be undertaken in the area in accordance with the CHWHS environmental guidelines.
1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts?	As explained above various alternatives were considered and the most favourable alternative with regards to minimal ecological impacts and maximization of profits was chosen as the preferred option. The mitigation measures to minimize the impacts emanating from the preferred alternative have been included in the EMPr.
1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	Limits of current knowledge were noted from specialist studies undertaken with regards to geotechnical and ecological aspects. The following were noted: **Geotechnical studies**: *The area is considered partly suitable, however dolomite studies will be required for registration with NHBRC. It is recommended that a dolomite investigation study be carried out to assess the possibility of sink holes prior to any development. Should the study find the area to be absent of potential sink holes, it is recommended that a modified normal foundation be considered to accommodate slight movement of underlying materials.* **Ecological**: *A once off survey was conducted while the study was done on 18 August 2019. The survey was conducted within the winter period thus, some inconspicuous species and ones with few flowers or leaves may have been overlooked. The survey of the study site is however considered as successful with a correct identification of the different vegetation units. It is however recommended that a Reconnaissance Survey be*

	undertaken before the commencement of the development, ideally in the growing season: November-April, to further confirm the findings and identify any other species including any listed red data species.
1.8.2. What is the level of risk associated with the limits of current knowledge?	The risk is considered as *MEDIUM-LOW* if the recommendations given by the specialists are adhered to.
1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	Adherence to the specialist recommendations will ensure that a risk averse and cautious approach is applied.
1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following:	
1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	If unmitigated the negative impacts arising from the proposed development could result in the permanent loss of natural resources such as plant species and the disturbance or destruction of the Hennops River ecosystem. In order to avoid these impacts various activity alternatives were considered, as mentioned above in previous sections, to ensure that the alternative with the least environmental impacts is considered. Mitigation measures to minimize, manage and remedy negative impacts have been included in the EMPr.
1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	The positive impacts generated by the project are associated with the creation of employment opportunities and associated ripple effects of the operation of the development. Furthermore, the implementation of the proposed development will ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local natural resources.

1.10. Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socioeconomic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	The proposed development is considered a low impact ecological tourism project as the main attraction feature of the site is the natural scenic landscape which will offer a tranquil area for recreational activities for patrons. The positive impacts generated by the project are associated with the creation of employment opportunities and associated ripple effects of the operation of the development. Furthermore, the implementation of the proposed development will ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local natural resources.
1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	The implementation of the proposed development will ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local natural resources.
1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	Activity alternatives were investigated by the proponent to ensure minimal impact on the biophysical environment. Therefore, as such the proposal/preferred activity alternative, which excludes the construction of and operation of a filling station and associated infrastructure i.e. car wash, parking bays and convenience store, was then considered the most favourable option due to it's lower environmental impacts. The best practicable environmental option was chosen based on the potential impacts of the various alternatives.
1.13. Describe the positive and negative cumulative	Cumulative impacts have been discussed in

ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	Section E 4 of this report.
Promoting justifiable economic and social development	
2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?	
2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,	The socio-economic context of the study area has been discussed in Section B 9 of this report. The proposed site is located in Region 4, and the Hennops River basin is considered an important natural resource which provides opportunities for tourism and recreational activities within the region. The proposed development is therefore compatible with the intended regional economic overview of the region. The land is zoned as "*Undetermined"* and a rezoning application has been lodged with CoT to rezone the land to "*Private Open Space*". The land lies currently vacant and is not being utilised. As the land is privately owned by the proponent there are no other planned land uses. The proposed development is in line with the CoT's strategic development pillars, as identified in the municipal IDP, namely "*Strategic Development Pillar 1: A City that facilitates economic growth and job creation"* .This strategic pillar focuses on The City's plan to create a city of opportunity. The plan centres around five focus areas, which are believed will create economic growth, which in turn will be labour-absorbing, provide many more residents with new employment opportunities and develop the city further. The focus for this pillar is supported
2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.	
2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and	
2.1.4. Municipal Economic Development Strategy ("LED Strategy").	

	by the following priorities: • Attracting investment and encouraging growth by making it easy to do business in Tshwane • Revitalising and supporting Tshwane's entrepreneurs • Empowering individuals to take advantage of opportunities • Infrastructure-led growth to catalyse and revitalise existing nodal economies • Encouraging tourism and recreation The proposed development therefore facilities the aspect relating to the encouraging of tourism and recreational development.
2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?	The proposed development will ensure the creation of employment opportunities for locals and utilisation of local businesses and SMME's.
2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	The proposed development is in line with the CoT's strategic development pillars, as identified in the municipal IDP, namely "*Strategic Development Pillar 1: A City that facilitates economic growth and job creation"* .This strategic pillar focuses on The City's plan to create a city of opportunity. The plan centres around five focus areas, which are believed will create economic growth, which in turn will be labour-absorbing, provide many more residents with new employment opportunities and develop the city further. The focus for this pillar is supported by the following priorities: • Attracting investment and encouraging growth by making it easy to do business in

	Tshwane • Revitalising and supporting Tshwane's entrepreneurs • Empowering individuals to take advantage of opportunities • Infrastructure-led growth to catalyse and revitalise existing nodal economies • Encouraging tourism and recreation The proposed development therefore facilities the aspect relating to the encouraging of tourism and recreational development.
2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	The proposed development will ensure the creation of employment opportunities for locals and utilisation of local businesses and SMME's. This will result in improved livelihood for the communities. The development will also provide recreational facilities that will be utilised to address the psychological aspects of individuals.
2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	The creation of employment opportunities will result in improved livelihoods for the communities which will impact positively in both the short and long term. The impact will be sustainable in both the short and long term as the lifespan of the development will be long.
2.5. In terms of location, describe how the placement of the proposed development will:	
2.5.1. Result in the creation of residential and employment opportunities in close proximity to or integrated with each other	The proposed development will result in employment opportunities as it is ideally located in area which already has a precedence of tourism and recreational facilities.
2.5.2. Reduce the need for transport of people and goods.	The proposed development will not affect transportation of either people or goods.

2.5.3. Result in access to public transport or enable non-motorized and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),	The proposed development will not affect public transport nor enable non-motorized and pedestrian transport.
2.5.4. Compliment other uses in the area	There is already a precedent in the area for the establishment and utilisation of recreational facilities therefore the proposed development will compliment those existing uses. The presence of the Hennops River in the area renders the development of tourism and recreational facilities as the most favourable developmental option.
2.5.5. Be in line with the planning for the area,	There is already a precedent in the area for the establishment and utilisation of recreational facilities therefore the proposed development will compliment those existing uses. The presence of the Hennops River in the area renders the development of tourism and recreational facilities as the most favourable developmental option. The IDP further states that the presence of the Hennops River basin in the area provides opportunities for tourism and recreational activities.
2.5.6. For urban related development, make use of underutilized land available with the urban edge,	The site is currently under utlised as it lying vacant, the proposed development will therefore ensure maximum utilisation of the land.
2.5.7. Optimize the use of existing resources and infrastructure.	The proposed development is considered a low impact ecological tourism project as the main attraction feature of the site is the natural scenic landscape including the presence of the Hennops River which will offer a tranquil area for recreational activities for patrons
2.5.8. Opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that	A rezoning application has been submitted to the Municipality to rezone the site from undetermined to private open space these will therefore allow for

reflects the spatial reconstruction priorities of the settlement),	a reduction in costs for bulk infrastructure.
2.5.9. Discourage "urban sprawl" and contribute to compaction/densification,	Not applicable to the development
2.5.10. Contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,	Not applicable to the development.
2.5.11. Encourage environmentally sustainable land development practices and processes	The proposed development has incorporated environmental sustainability measures within the design, construction and operational aspects of the development.
2.5.12. Take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),	The proposed site is suitably situated near existing access roads such as the R511. The proposed development's main attraction feature of a natural scenic landscape due to the presence of the Hennops River will offer a tranquil area for recreational activities for patrons.
2.5.13. The investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),	The proposed site is suitably located due to ease of access, size and availability of the land as well as natural scenic aesthetics. The area already has a precedent of the proposed use therefore the proposed development is considered compatible.
2.5.14. Impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and	There will be no impact on the history, heritage, socio-cultural and cultural historic characteristics and sensitivities of the area
2.5.15. In terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	Not applicable to this project.
2.6. How were a risk-averse and cautious approach applied in terms of socioeconomic impacts?	The proposed development was chosen based on the natural aesthetics of the area which will in turn

	result in the maximum return of investments hence resulting in positive socio economic impacts i.e creation of employment opportunities and associated ripple effects such as improved lielihoods.
2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)	Limits of current knowledge were noted from specialist studies undertaken with regards to geotechnical and ecological aspects. The following were noted: **Geotechnical studies**: *The area is considered partly suitable, however dolomite studies will be required for registration with NHBRC. It is recommended that a dolomite investigation study be carried out to assess the possibility of sink holes prior to any development. Should the study find the area to be absent of potential sink holes, it is recommended that a modified normal foundation be considered to accommodate slight movement of underlying materials.* **Ecological**: *A once off survey was conducted while the study was done on 18 August 2019. The survey was conducted within the winter period thus, some inconspicuous species and ones with few flowers or leaves may have been overlooked. The survey of the study site is however considered as successful with a correct identification of the different vegetation units. It is however recommended that a Reconnaissance Survey be undertaken before the commencement of the development, ideally in the growing season: November-April, to further confirm the findings and identify any other species including any listed red data species.*
2.6.2. What is the level of risk (note: related to	The risk is considered as *MEDIUM-LOW* if the

inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?	recommendations given by the specialists are adhered to.
2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	Adherence to the specialist recommendations will ensure that a risk averse and cautious approach is applied.
2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following	
2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimize, manage and remedy negative impacts?	The impacts and mitigation measures have been discussed in detail in the Impact Assessment (refer to Appendix 1 1) and EMPr (refer to Appendix H).
2.7.2 Positive impacts. What measures were taken to enhance positive impacts?	The impacts and mitigation measures have been discussed in detail in the Impact Assessment (refer to Appendix 1 1) and EMPr (refer to Appendix H).
2.8 Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilization of natural resources, etc.)?	The implementation of the proposed development will ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local resources. This will result in a reduction of ecological impacts on the river and surrounding eco system as the area will be better maintained.
2.9 What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socioeconomic considerations?	The maxim utilisation of the site as a recreational facility due it's natural aesthetics and the precedent in the area will result in the maximum return of profits which will in turn affect socio economic aspects such as creation of long term opportunities and improved livelihoods.
2.10 What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to	The alternatives considered are with regards to activity alternatives. Various activity alternatives were considered for the proposed development

unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	taking into account the following factors: 1) Location of the site 2) Current land use and zoning: The site currently lies vacant and is zoned as undetermined. A rezoning application has been submitted to the Municipality for the rezoning from undetermined to private open space. 3) Receiving environment including environmentally sensitive features 4) Land ownership : The site is owned by the proponent 5) Potential environmental impacts of the proposed activities 6) Economic viability of the project This therefore culminated in the preference for the proposal/preferred alternative based on the proposed activities to be undertaken. The main difference between the preferred alternative and the alternate Alternative 1 is mainly with regards to operational activities of the proposed project i.e. the establishment of a filling station, convenience store and car wash. Alternative 1 includes the above mentioned activities of the filling station and associated infrastructure and therefore inclusion of these activities would result in the increased potential pollution of ground water resources, potential for increased waste generation, increased traffic/ vehicular movement as well as a larger built up area which could potentially result in increased storm water runoff. The Proposal/ Preferred alternative therefore has less environmental impacts as compared to Alternative 1.
2.11 What measures were taken to pursue equitable	Implementation of the proposed development will

access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	ensure accountability by the proponent for the state of the environment thus ensuring there is custodianship of local resources which will result in maintenance of the area. Historically disadvantaged individuals will be considered for employment opportunities during the construction and operational phases of the development in as far as practically possible.
2.12 What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	A comprehensive EMPr was compiled that gives recommendations on the appropriate mitigation measures to be employed to address impacts. Specialist input was also garnered to assist in the avoidance, minimization and mitigation of potential environmental health and safety aspects.
2.13 What measures were taken to:	
2.13.1 Ensure the participation of all interested and affected parties, 2.13.2 provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation 2.13.3 ensure participation by vulnerable and disadvantaged persons 2.13.4 promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means 2.13.5 Ensure openness and transparency, and access to information in terms of the process 2.13.6 Ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge 2.13.7 Ensure that the vital role of women and youth in	The public participation process will be undertaken in accordance with the requirements of the EIA Regulations, 2014 (as amended). The involvement of local authorities such as the Ward Councillor will be employed to ensure there is maximum representation of the community.

environmental management and development were recognized and their full participation therein were promoted?	
2.14 Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	The proposed development will create employment and business opportunities for the low and middle income earners and will provide recreational facilities for the affluent to utilise when they need to relax or rejuvenate.
2.15 What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	The EMPr has included provisions regarding health and safety aspects including environmental awareness training, toolbox talks and site meetings.
2.16 Describe how the development will impact on job creation in terms of, amongst other aspects.	
2.16.1 the number of temporary versus permanent jobs that will be created	The proposed development will create both short and long term opportunities.
2.16.2 Whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),	The proponent is a private developer therefore skills training will not likely be offered at a mass level, however in as far as possible local labourforce will be considered through the involvement of local authorities such as the Ward Councillor to assist in the recruitment of skilled candidates.
2.16.3 the distance from where labourers will have to travel	Not known at this stage.
2.16.4 the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and	Not known at this stage.

2.16.5 the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.)	The precedent in the area is towards tourism and recreational facilities therefore opportunity costs will be minimal. There is also a high level of unemployment therefore it is not anticipated that the opportunity cots will be realised.
2.17 What measures were taken to ensure:	
2.17.1. that there were intergovernmental coordination and harmonization of policies, legislation and actions relating to the environment, and	All applicable legislation and guidelines pertinent to the development were considered.
2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	There are no conflicts of interest between organs of state at this stage.
2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	The EMPr provides recommendations and mitigation measures to avoid and reduce environmental impact. This document will become a legally binding document, should Environmental Authorization be granted. The EMPr also includes responsibilities for implementation of mitigation measures
2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	The mitigation measures proposed have been kept as realistic as possible to ensure implementation thereof.
2.20. What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The EMPr is deemed comprehensive and covers the development in its entirety. The EMPr has also included provisions regarding penalities which can be enforced should contractors not adhere to the recommendations given.
2.21. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different	The alternatives considered are with regards to activity alternatives. Various activity alternatives were considered for the proposed development

impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	taking into account the following factors: 1) Location of the site 2) Current land use and zoning: The site currently lies vacant and is zoned as undetermined. A rezoning application has been submitted to the Municipality for the rezoning from undetermined to private open space. 3) Receiving environment including environmentally sensitive features 4) Land ownership : The site is owned by the proponent 5) Potential environmental impacts of the proposed activities 6) Economic viability of the project This therefore culminated in the preference for the proposal/preferred alternative based on the proposed activities to be undertaken. The main difference between the preferred alternative and the alternate Alternative 1 is mainly with regards to operational activities of the proposed project i.e. the establishment of a filling station, convenience store and car wash. Alternative 1 includes the above mentioned activities of the filling station and associated infrastructure and therefore inclusion of these activities would result in the increased potential pollution of ground water resources, potential for increased waste generation, increased traffic/ vehicular movement as well as a larger built up area which could potentially result in increased storm water runoff. The Proposal/ Preferred alternative therefore has less environmental impacts as compared to Alternative 1.
2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale,	Cumulative impacts have been discussed in Section E 4 of this report.

scope and nature of the project in relation to its location and other planned developments in the area?	

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

The Environmental Authorization should be authorized for the full lifecycle of the proposed project.

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

(Must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers "Yes" to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached	**YES**

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A 1: Site plans

Appendix A1.1: Site Plan (Preferred Alternative)

Appendix A1.2: Site Plan (Alternative 1)

Appendix A 2: Locality Map

Appendix A 3: Sensitivity Map

Appendix A 4: Environmental Management Zone Map

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix E1 – Proof of site notice

Appendix E2 – Written notices issued as required in terms of the regulations

Appendix E3 – Proof of newspaper advertisements

Appendix E4 –Communications to and from interested and affected parties

Appendix E5 – Minutes of any public and/or stakeholder meetings

Appendix E6 - Comments and Responses Report

Appendix E7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix E8 –Comments from I&APs on amendments to the BA Report

Appendix E9 – Copy of the register of I&APs

Appendix E10- Background Information Document

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix G1- Geotechnical Investigations

Appendix G2- Ecological Assessment

Appendix G3- Heritage Impact Assessment

Appendix H: EMPr

Appendix I: Other Information

Appendix I1: Alternatives Impact Assessment

Appendix I2: EIA Screening Report