BASIC ASSESSMENT REPORT

CES

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

RAMOTSHERE MOILOA LOCAL MUNICIPALITY (RMLM) BERG AND DROOGE STREET RESIDENTIAL EXTENSION, ZEERUST, NORTH WEST

BASIC ASSESSMENT REPORT

REFERENCE: NWP/EIA/65/2019

Prepared for:

Ramotshere Moiloa Local Municipality

Prepared by:

CENTURION
70 Regency Dr, Route 21 Business Park,
Centurion, 0178
Tel: +27 10 045 1372|

Also in Cape Town, East London, Grahamstown, Port Elizabeth, Maputo (Mozambique) and Romsey (UK)

www.cesnet.co.za

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CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES
Info@cesnet.co.za
www.cesnet.co.za

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Summary of where requirements of Appendix 1(3) of the 2017 NEMA EIA Regulations (GN R982, as amended) are provided in this Basic Assessment Report.

NEMA 2014 Regs - Appendix 1(3) Requirement	Relevant section in report
(1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include— (a) Details of— (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including a curriculum vitae;	Appendix K
(b) The location of the activity, including; (i) The 21 digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; (iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section A1 (c)
(c) A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale; or, if it is— (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix B
(d) A description of the scope of the proposed activity, including— (i) All listed and specified activities triggered and being applied for; and (ii) A description of the activities to be undertaken including associated structures and infrastructure;	Section A1 (a) and (b)
(e) A description of the policy and legislative context within which the development is proposed including— (i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments;	Section A11
(f) A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	Section A10
(g) A motivation for the preferred site, activity and technology alternative;	Section A2 (f)
(h) A full description of the process followed to reach the proposed preferred alternative within the site, including—	
(i) Details of all the alternatives considered;	Section A2
(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Section D
(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section D3 and D4

(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section B
(v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts (aa) Can be reversed; (bb) May cause irreplaceable loss of resources; and (cc) Can be avoided, managed or mitigated;	Section C and Appendix H
(vi) The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Appendix H-1
(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section C and Appendix H-2
(viii) The possible mitigation measures that could be applied and level of residual risk;	Section C, Appendix H-2 and Appendix J
(ix) The outcome of the site selection matrix;	Section A2
(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and	NA
(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity;	Section E
(i) A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including— (i) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;	Section C
(j) An assessment of each identified potentially significant impact and risk, including— (i) Cumulative impacts; (ii) The nature, significance and consequences of the impact and risk; (iii) The extent and duration of the impact and risk; (iv) The probability of the impact and risk occurring; (v) The degree to which the impact and risk can be reversed; (vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) The degree to which the impact and risk can be avoided, managed or mitigated;	Section C and Appendix H-2
(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report;	Section C2
(l) An environmental impact statement which contains— (i) A summary of the key findings of the environmental impact assessment; (ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and	Section C2

infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and (iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for the development for inclusion in the EMPr;	Section C2, Appendix H-2 and Appendix J
(n) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;	Section E
(o) A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Section A1 (a)
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;	Section E
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised;	Section E
(r) An undertaking under oath or affirmation by the EAP in relation to— (i) The correctness of the information provided in the reports; (ii) The inclusion of comments and inputs from stakeholders and I&APs; (iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties; and	Section F
(s) Where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;	NA
(t) Any specific information that may be required by the competent authority; and	Appendix L
(u) Any other matters required in terms of section 24(4)(a) and (b) of the Act.	NA

SECTION A: ACTIVITY INFORMATION

1. PROJECT DESCRIPTION

a) Describe the project in association with the listed activities applied for

Introduction:

CES Environmental and Social Advisory Services has been appointed by Ramotshere Moiloa Local Municipality to undertake the environmental services required for the construction works associated with the extension of the residential area, within Zeerust, Ramotshere Moiloa Local Municipality, North West Province. Extensive pre-planning and assessment work undertaken by the Applicant and their appointed specialists has informed the selection of the proposed layout for development and this is elaborated on further in other sections of this report.

As per GN R982 of the EIA Regulations, 2014, a Basic Assessment (BA) Process must be undertaken in such a manner that the environmental outcomes, impacts and residual risks of the proposed Listed Activity being applied for are noted in the BA Report and assessed accordingly by the Environmental Assessment Practitioner (EAP). In this regard, the requirements of the BA Process are noted in the EIA Regulations (2014), as amended (2017), Listing Notice 1, Appendix 1 of GN R982 and are consequently adhered to in this report.

Ultimately, the outcome of the BA Process is to provide the Competent Authority, the Department of Economic Development, Environment, Conservation and Tourism (DEDECT) with sufficient information to provide a decision on the Application in terms of Environmental Authorisation (EA), in order to avoid or mitigate any detrimental impacts that the activity may inflict on the receiving environment.

Project Location:

Ramotshere Moiloa Local Municipality (RMLM) proposes to facilitate the extension of the residential area on the corner of Berg and Drooge Street – RE Portion 5 of Farm Hazia JP No 240, Zeerust, North West Province. Zeerust is located approximately 70km north-east of Mafikeng, 130km west of Rustenburg and 130km south south-east of Gaborone.

The 12.65ha area will be subdivided into approximately 100 stands. Stands will be sold to prospective residents who will then construct their own housing. Adjacent municipal services, including water, electricity, waste removal and roads will be extended into the area.

The proposed site is a green field's site zoned for agriculture and comprised of indigenous vegetation. The clearing of indigenous vegetation and transformation of open space into residential housing requires an environmental licence. The municipality will be responsible for providing a formal layout, rezoning from agriculture to residential, the clearing and pegging of the site, as well as the extension of services.

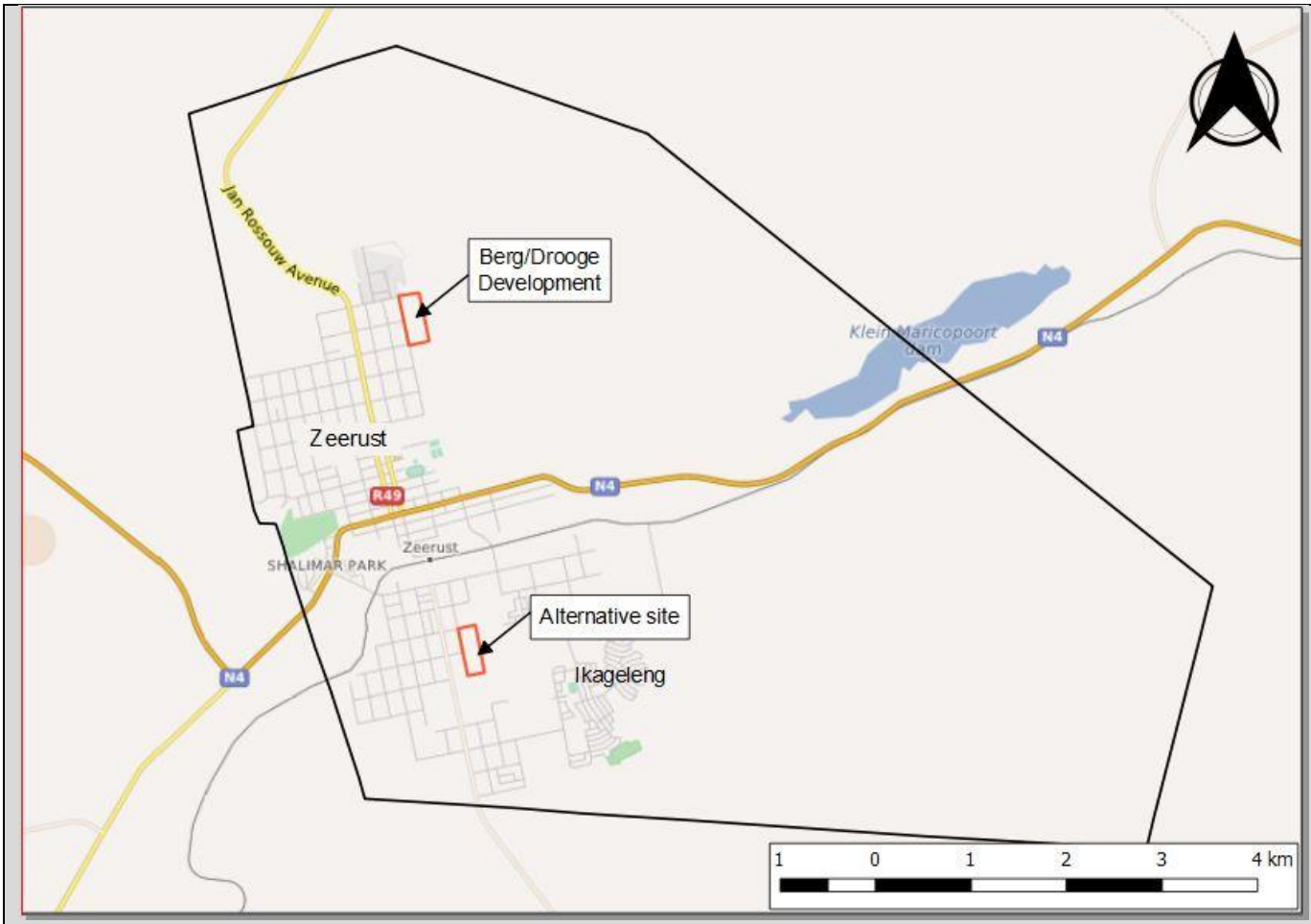


Figure 1: Location of the Ramotshere Berg/Drooge development to the north west of Zeerust

Road access:
The development site will have existing access via the Drooge and Berg Street entrances.

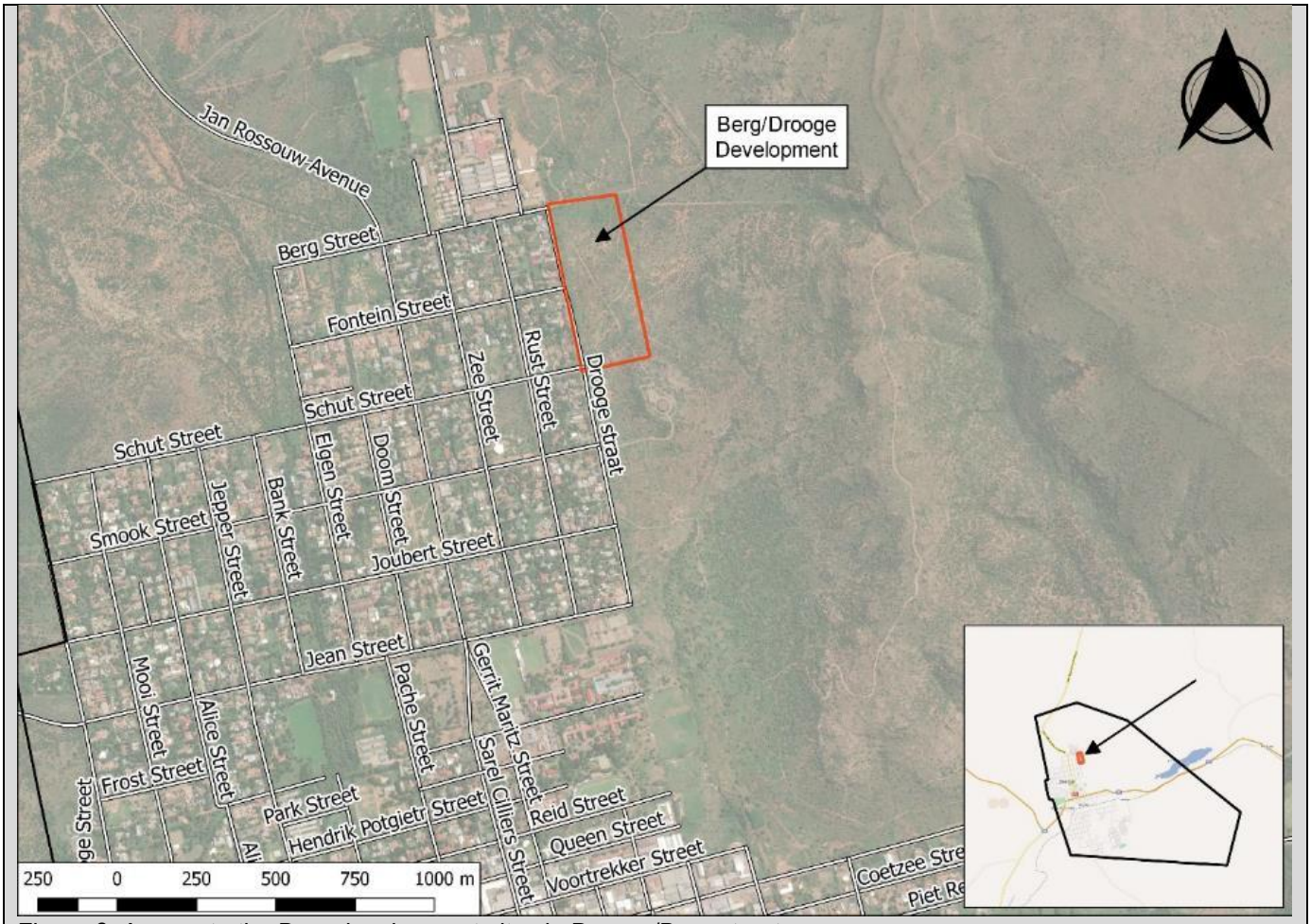


Figure 2: Access to the Berg development site via Drooge/Berg street

Municipal services:
The RMLM will be required to install new stormwater infrastructure, water and sewage pipelines, and electrical lines. The designs for these services have yet to be finalised this project is still in the prefeasibility phase. Once EA is received the RMLM will commission formal plans and the final layout will be submitted to DEDECT for approval.

b) Provide a detailed description of the listed activities associated with the project as applied for

Activity Number	Activity	Project component triggering activity
Listing Notice 1 (GNR 983, as amended)		
GNR **983**, Listing Notice 1, No. 27.	The clearance of an area of 1 hectare or more, but less than 20ha of indigenous vegetation	The development will require the clearance of approximately 12.65 hectares of indigenous vegetation for the Berg Street development.
Listing Notice 3 (GNR 985, as amended)		
GNR **985**, Listing Notice 3, 4h	The development of a road wider than 4 metres with a reserve less than 13.5 metres. h. North West iv. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;	There is a portion of CBA in the northern corner of the site.

GNR **985**, Listing Notice 3, 12h	The clearance of an area of 300 square metres or more of indigenous vegetation h. North West iv. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;	The development will require the clearance of approximately 12.65 hectares of indigenous vegetation for the Berg Street development. There is a portion of CBA in the northern corner of the site.
GNR **985**, Listing Notice 3, 15e	The transformation of land bigger than 1000 square metres in size, to residential, where such land was zoned open space after 2 August 2010. e. North West i. Inside urban areas;	The development will entail the transformation of approximately 12.65 hectares of open space in an urban area for the Berg Street development.

c) Property description/physical address

Province	North West Province
District Municipality	Ngaka Modiri Molema District Municipality
Local Municipality	Ramotshere Moiloa Local Municipality (RMLM)
Ward Number(s)	Ward 16
Farm name and number	Farm Hazia JP No 240
Portion number	RE Portion 5
21 digit Surveyor General Code	T0JP00000000024000005

Where a large number of properties are involved (e.g. linear activities) please attach a full list to this application including the same Information as indicated above

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", **in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—**

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

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by EIA Regulation, 2014 Appendix 1(h). Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

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

Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds using the Hartebeeshoek94 WGS84 co-ordinate system.

a) Site alternatives

List alternative sites, if applicable.

Site Alternatives	Description
Alternative Site 1 (preferred or only site alternative)	This site has been selected as is currently open and owned by the applicant, the municipality (RMLM). The site is easily accessible from Drooge Street and is adjacent to existing middle income housing to the west and a military base to the north west. The proposed development site was selected based on the preferred areas listed in the municipalities SDF layout for low density residential housing (D5). The adjacency of the site to existing infrastructure such as sewage and water reticulation systems will also make it more cost effective to extend these services into the site. Currently, the site is in near-natural condition, however it appears to be used as an illegal dumping ground for rubble, garden waste and household refuse.
Alternative Site 2	This site was considered as is owned by the applicant, the municipality (RMLM). The site is easily accessible from Bok Street and is surrounded by existing development, namely low-to-middle income housing. The adjacency of the site to existing infrastructure such as sewage and water reticulation systems would also make it more cost effective to extend these services into the site. However, the area is currently widely occupied by an informal settlement and will not be accessed further as it is no longer considered a viable option.
~~**Alternative Site 3**~~	

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	25º	31'	28.169"	26º	04'	47.022"
Alternative S2 (if any)	25º	33'	24.4"	26º	05'	12.9"
~~**Alternative S3 (if any)**~~	º	'	"	º	'	"

~~**In the case of linear activities:**~~

~~**Alternative:**~~	~~**Latitude (S):**~~			~~**Longitude (E):**~~		
~~Alternative S1 (preferred or only route alternative)~~						
~~• Starting point of the activity~~	º	'	"	º	'	"
~~• Middle/Additional point of the activity~~	º	'	"	º	'	"
~~• End point of the activity~~	º	'	"	º	'	"
~~Alternative S2 (if any)~~						
~~• Starting point of the activity~~	º	'	"	º	'	"
~~• Middle/Additional point of the activity~~	º	'	"	º	'	"
~~• End point of the activity~~	º	'	"	º	'	"
~~Alternative S3 (if any)~~					'	"
~~• Starting point of the activity~~	º	'	"	º	'	"
~~• Middle/Additional point of the activity~~	º	'	"	º	'	"
~~• End point of the activity~~	º	'	"	º	'	"

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

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

Points	Longitude	Latitude
1	26° 4' 47.022" E	25° 31' 28.169" S
2	26° 4' 54.706" E	25° 31' 27.200" S
3	26° 4' 58.572" E	25° 31' 43.530" S
4	26° 4' 50.901" E	25° 31' 45.055" S

Figure 3: Proposed development boundary and corner points

b) Lay-out alternatives

Alternatives	Description
Alternative 1 (preferred or only alternative)	No layout alternative exists as this project is still in the prefeasibility phase. Once EA is received the department will commission formal plans of individual erfs and the final layout will be submitted to DEDECT for approval.
~~**Alternative 2**~~	
~~**Alternative 3**~~	

c) Technology alternatives

Alternatives	Description
Alternative 1 (preferred or only alternative)	Technology alternatives such as solar panels and geysers, LED lighting, etc. will be considered by the municipality prior to construction, but will be cost-dependant. Energy efficiency and water saving techniques will be encouraged in the design. Soft engineering practices will be encouraged where feasible to limit hard paved surfaces and promote use of the natural landscape in storm water drainage design.
~~**Alternative 2**~~	
~~**Alternative 3**~~	

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternatives	Description
Alternative 1 (preferred or only alternative)	Residential (current proposed land use). Residential development was selected because of high demand from the public for serviced stands for residential purposes.
Alternative 2	Conservational/recreational land use. The site could be transformed into a conservational and recreational area – for example, for walking trails, picnics, birding, etc.
~~**Alternative 3**~~	

e) No-go alternative

This refers to the current status quo and the risks and impacts associated to it. Currently, the site is in near-natural condition with existing dirt roads, however it appears to be used as an illegal dumping ground for rubble, garden waste and household refuse. The site will remain being used as such.

f) Please motivate for preferred site, activity and technology alternative

The main determining factors for selecting the proposed location were:-

- Available, unoccupied land, which is owned by the applicant (RMLM).
- Proximity to existing residential neighbourhood.
- Close to existing infrastructure such as internal access roads, sewage system and water reticulation.
- Adjacent to both developed and natural areas.
- High demand from the public for serviced stands for residential purposes.

Paragraphs 3 – 13 below should be completed for each alternative.

ANALYSIS OF ALTERNATIVES: *FUNDAMENTAL, INCREMENTAL AND NO-GO ALTERNATIVES*

Fundamental alternatives

Fundamental alternatives are developments that are totally different to where the project is currently proposed usually includes the following:

- Alternative property or location where it is proposed to undertake the activity (i.e. site alternatives);
- Alternative type of activity to be undertaken (i.e. land-use alternatives);

Incremental alternatives

Incremental alternatives relate to modifications or variations to the design or technology of a project that provide different options to reduce or minimise environmental impacts.

No-go alternative

It is mandatory to consider the "no-go" option in the EIA process. The "no-go" alternative refers to the current status quo and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable.

CONCLUSION

Location alternative – the current preferred location is unoccupied, available land owned by the applicant and is adjacent to an existing residential area and associated municipal services.

Location alternative – the current preferred location is unoccupied, available land owned by the applicant and is adjacent to an existing residential area and associated municipal services.

Layout alternative – No layout exists as this project is still in the prefeasibility phase. Once EA is received the department will commission formal plans of individual erfs and the final layout will be submitted to DEDECT for approval.

Technology alternative – Environmentally-sound technological alternatives such as solar panels and geysers, LED lighting and soft engineering practices will be encouraged where feasible, but will be cost-dependant.

It was determined that the current proposal (the preferred option), together with the No-Go option was the only reasonable and feasible option.

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	126,500m^2
Alternative A2 (if any)	10,250m^2
~~Alternative A3 (if any)~~	~~m^2~~

or, ~~for linear activities:~~

~~Alternative:~~	**~~Length of the activity:~~**
~~Alternative A1 (preferred activity alternative)~~	~~m~~
~~Alternative A2 (if any)~~	~~m~~
~~Alternative A3 (if any)~~	~~m~~

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur): (Size of farm portion)

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	12,173,465.47 m^2
Alternative A2 (if any)	12,173,465.47 m^2

.

~~Alternative A3 (if any)~~	~~m^2~~

4. SITE ACCESS

Does ready access to the site exist?	**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:

The Ramotshere Housing Development can be accessed via Berg Street and Drooge Street. The municipality will be extending the existing street access into the proposed new development area. The development is 500m east of the R49 and 1.7km north of the N4 national highway.

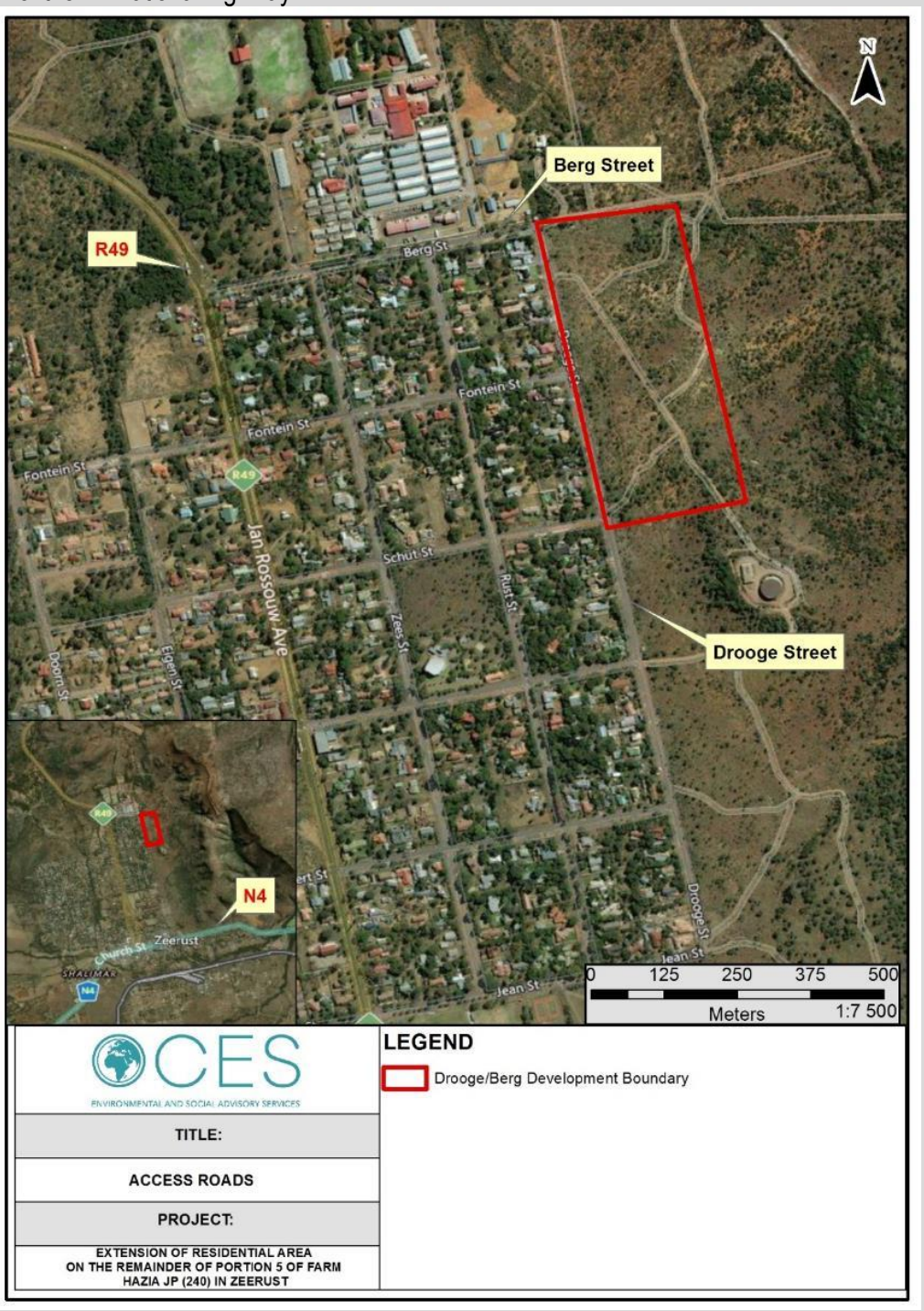


Figure 4: View of the proposed development and available access roads.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

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

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- the accurate indication of the site in relation to closest protected environments or national parks (i.e. within 2.5 km)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds using the Hartebeeshoek94 WGS84 co-ordinate system

Please refer to Appendix A for the Locality map.

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix B to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; an
- a north arrow.

Please refer to Appendix B for the layout map

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;

- the 1:100 year flood line (where available or where it is required by Department of Water and Sanitation);
- ridges;
- for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas and ecological support area.
- protected areas (e.g Magaliesberg Protected Environment, Pilanesberg National Park etc.)

The sensitivity map must also cover areas within 100m of the site and must be part of Appendix B.

Please refer to Appendix B for the sensitivity map.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under **Appendix C** to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

Please refer to Appendix C for photographs of the site.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as **Appendix D** 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.

Please refer to Appendix D for technical drawings.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	**YES**	~~**NO**~~	**Please explain**

The proposed development is located within the 'Low Density Residential' zone in the SDF (Figure 5, Portion D5). It is therefore completely in line with the Local Municipality's main objective for a smaller urban edge to curb urban sprawl and promote densification and better utilization of the existing land in Zeerust.

As per the SDF areas labelled D5 should only be considered for developed once all the land allocated in zones D1 – D4 have been developed. As illustrated below zones D1-D4 have been developed.

Residential (D):
The Ramotshere Moiloa Municipality recently invited tenders for township establishment of Ikageleng Ext. 3 in the yellow area labelled as D1 in Figure 5 below. The area should accommodate around 500 houses at a gross density of 30 units per hectare (120m^2 – 180m^2 erven). The residential proposals for the 2015 update of the SDF deviate slightly from those proposed in 2008 in that more emphasis is placed on densification and fewer future developments proposed around the periphery of Zeerust/Ikageleng.

The area to the south of the golf course and Shalimar Park (D2) should be subject to a re-layout process. This area is more than 50 hectares in extent and could accommodate between 1500 and 3000 households depending on density. It is proposed that this area be developed with a minimum density of 30 units per hectare. The area labelled

(D3) includes proposals for high density residential. Proposed built form includes flats yielding a density of between 100 and 120 units per hectare. Development controls should include a maximum height restriction of 4 storeys. Between 2500 and 3000 households can be accommodated in this zone.

The zone labelled (D4) is currently undeveloped. Around 485 erven are vacant equalling 108 hectares. Land uses proposed for this area include single residential (with supporting community facilities such as crèches). Almost 130 of these vacant properties are larger than 5 000 square metres. More than 600 households (at a very low density) can be accommodated in this zone. Development controls for this area should accommodate smaller stand sizes. This area may be geotechnical unsound – more information is required from the municipality.

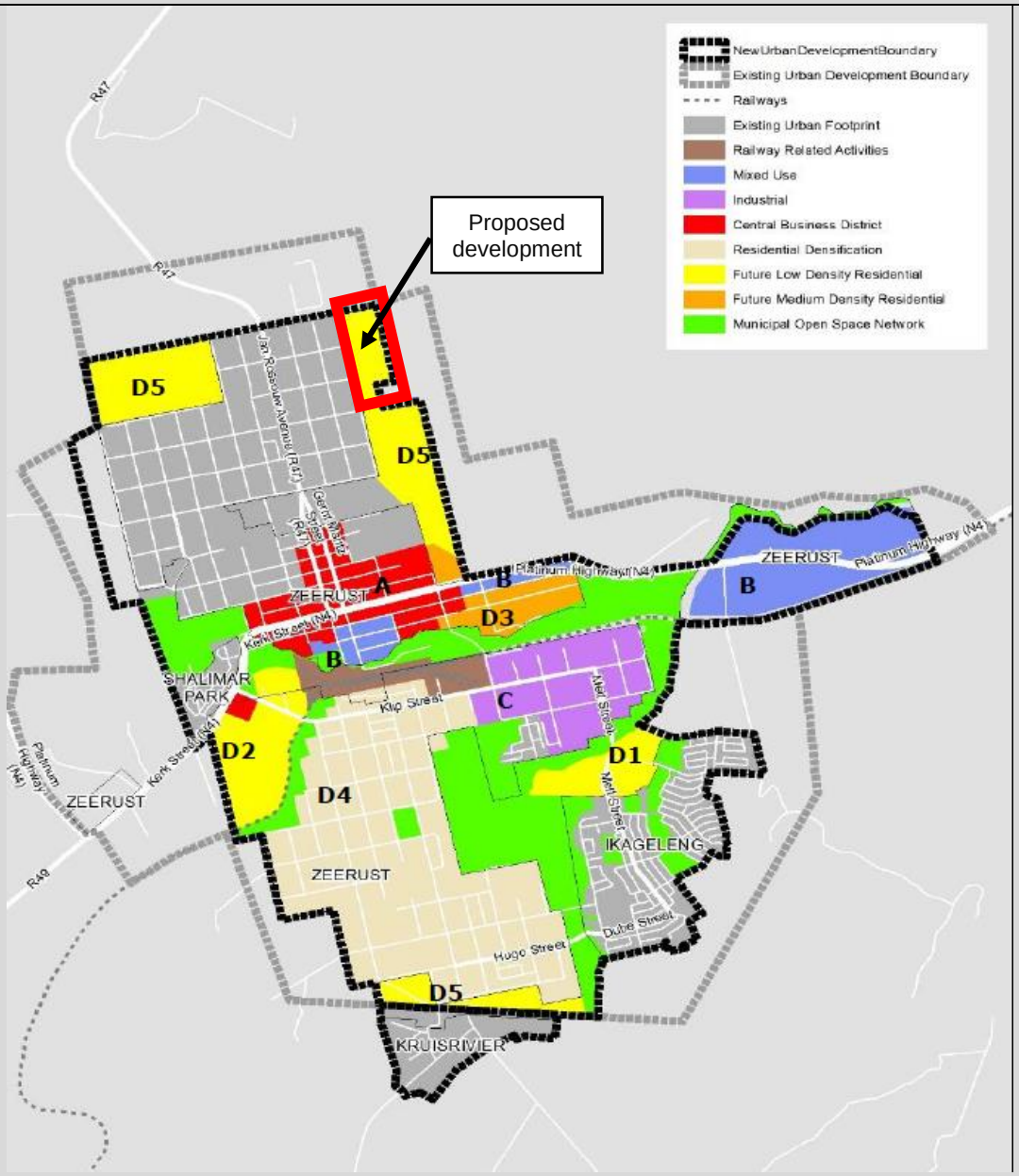


Figure 5: Land use proposals as per the SDF specifically for the Zeerust/Ikageleng Node

(***Source**: RMLM LED Framework 2014_2015 [Pg119]*)

2. Will the activity be in line with the following?

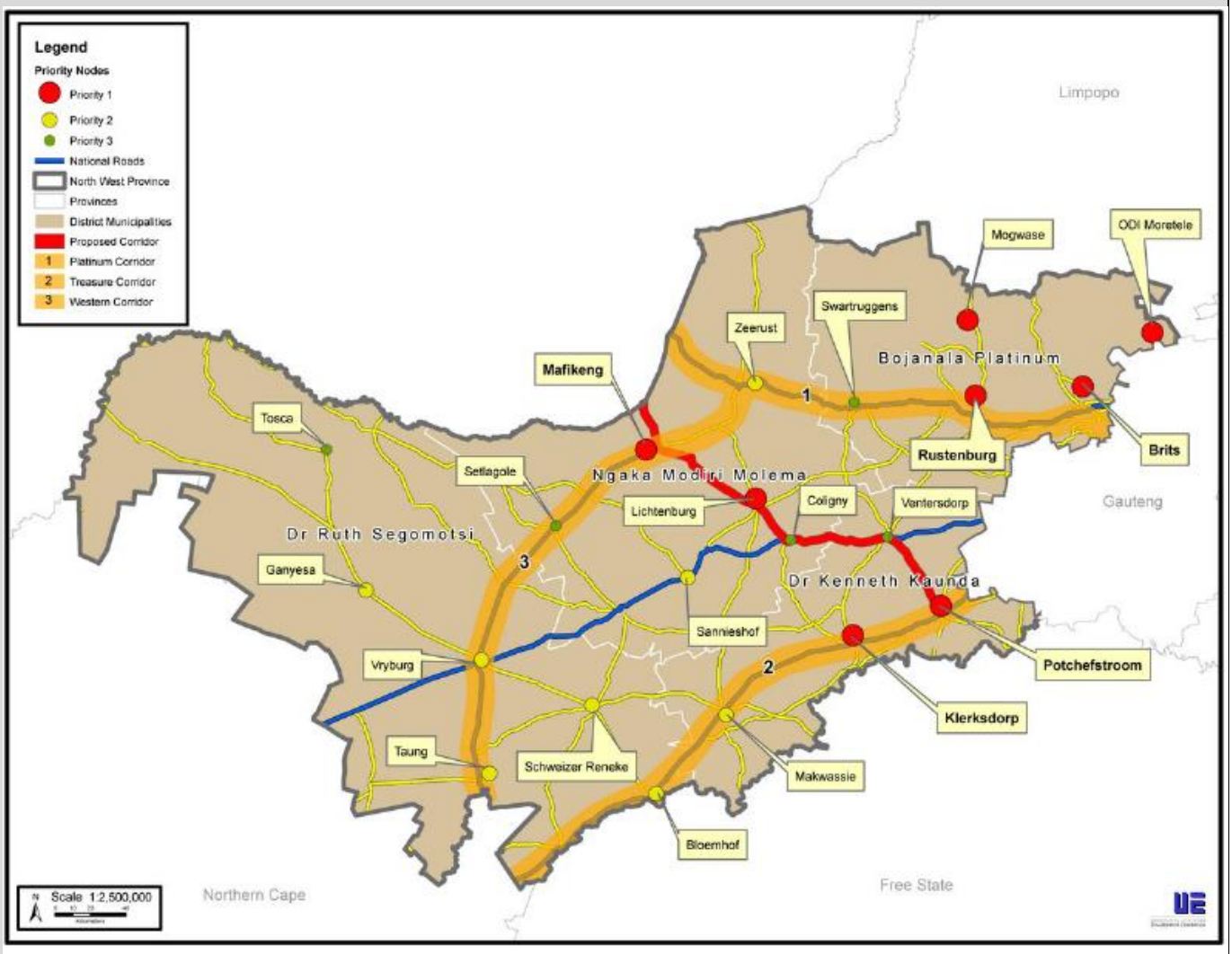
	YES	~~NO~~	Please explain
(a) Provincial Spatial Development Framework (PSDF)			

NORTH WEST PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK, 2012/2013

Key development corridors have been developed along three of the four national transport routes throughout the North West province. These corridors are considered Spatial Development Initiatives (SDIs) and play an important role in encouraging corridor and cluster development throughout the province. Corridor and cluster development aims to build and stimulate the economic potential of the region. Cluster development will be established through a hierarchy of functional nodes located throughout the province.

The linkages formed between the functional nodes and development corridors will enable the movement of people, goods, energy and information throughout the North West province which in turn will promote sustainable growth. The key provincial development corridors referred to as Spatial Development Initiatives (SDI's) and functional nodes are illustrated on a map. The development corridors illustrated in the Map below includes:

- The **Platinum Corridor** presents the western portion of the N4 corridor that links Maputo with Walvis Bay. The route passes through Nelspruit, Pretoria, Rustenburg, Lobatse and Windhoek.
- The **Treasure Corrido**r is aimed at strengthening linkages between Johannesburg, Potchefstroom, Klerksdorp and areas further south along the N12 national road.
- The **Western Corridor** is intended to strengthen a north-south initiative from the South-African Development Community (SADC) through Botswana southwards.



Source: NWPSDF drawn by Urban-Econ, 2012

Figure 6: Land use proposals as per the SDF specifically for the Zeerust/Ikageleng Node

A new development corridor is proposed to be formed between Potchefstroom through Ventersdorp to Mafikeng and Botswana. The proposed new corridor will promote north south interaction to markets and mobility in the province. The development and infrastructure corridors serve as linkages between urban nodes in the province.

The functional urban areas are classified as a hierarchy of nodes on the Map above. The development corridors link the majority of the identified primary urban nodes in the province. The urban hierarchy in the province are as follows:

- **Primary nodes**: Rustenburg; Madibeng; Mogwase; Odi; Moretele; Potchefstroom; Klerksdorp; Carletonville; Lichtenburg; and Mahikeng.
- **Secondary nodes**: Zeerust; Coligny; Sannieshof; Schweizer Reneke; Bloemhof; Makwassi; Vryburg; Ganyesa; and Taung.
- **Tertiary nodes**: Koster; Swartruggens; Ventersdorp; Tosca and Setlagole.

The scattered and dispersed settlement pattern makes service delivery and access very challenging and typically hampers economic growth in rural areas. To address this scattered settlement pattern, attempts need to be made to encourage settlement consolidation and concentration through the selective investment of transportation infrastructure and services.

(b) Urban edge / Edge of Built environment for the area	**YES**	~~**NO**~~	**Please explain**

The proposed development falls within the Urban Development Boundary (UDB) (also known as an Urban Edge), as illustrated in Figures 5 and 7. However, care should be taken to ensure that the development stay within the proposed footprint and not migrate northwards or eastwards as it would then cross the UDB. Although a UDB was determined in 2008, it was amended with the 2014-2015 SDF by narrowing it substantially. The main intention was to curb urban sprawl and promote densification and better utilization of the existing land in Zeerust. Land use proposals were made for Zeerust within the new UDB (urban edge). Refer to Map below showing the new Urban Development Boundary (black dotted lines), as well as the areas earmarked for specific types of development; i.e. CBD, Mixed use, Residential, Municipal open space network, Industrial, etc.

Figure 7: SDF specifically for the Zeerust/Ikageleng Node (Dark dotted line = New Urban Development Boundary)

*(**Source**: RMLM LED Framework 2014_2015 [Pg116])*

(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	~~**YES**~~	**NO**	**Please explain**

This application aligns with the objectives and upholds the integrity of the RMLM IDP and SDF. The proposed development falls within the D5 Residential zone, which has been designated for future residential development. The development aids in meeting the medium and long term growth of the municipality, while remaining within the urban edge to discourage urban sprawl.

Zeerust town is seen as a regional / district node serving the urban area of Zeerust town, as well as the rural areas (villages / commercial farms). Zeerust town is situated on the intersection of two development corridors of national importance namely the Western Frontier (Zeerust-Mafikeng-Vryburg-Taung) and the Platinum SDI (Pretoria–Rustenburg-Swartruggens-Zeerust-Lobatsi).

The primary focus of these development corridors is to establish economic development along the major transport routes in order to promote economic growth and the creation of job opportunities. It not only links with neighbouring provinces, but also opens up international linkages with Botswana and Mozambique.

Real estate is arguably the best form of investment and is a popular form of investment throughout the world. In encouraging densifications, the depicted zones in the attached map are proposed.

Low density residential land use is proposed in the areas marked in yellow (Figure 7 above), which includes the proposed development site. Mixed land use zones are critical components of achieving better places to live. By putting residential, commercial and recreational uses in close proximity to one another, alternatives to driving, such as walking or cycling, become viable. Mixed land uses also provide a more diverse and sizable population and commercial base for supporting viable public transit. Mixed use can enhance the vitality and perceived security of an area by increasing the number and activity of people on the street. It attracts pedestrians and helps revitalize community life by making streets, public spaces and pedestrian-oriented retail become places where people meet. The low density residential areas proposed for Zeerust town provide an interface or transitional area between commercial uses and residential areas.

(d) Approved Structure Plan of the Municipality	**YES**	**~~NO~~**	**Please explain**

The proposed middle-high income housing development (red block in Figure 8) is located within an area earmarked for residential development (D5) as per the SDF. The proposed development is thus in line with the Approved Structure Plan of the Municipality.

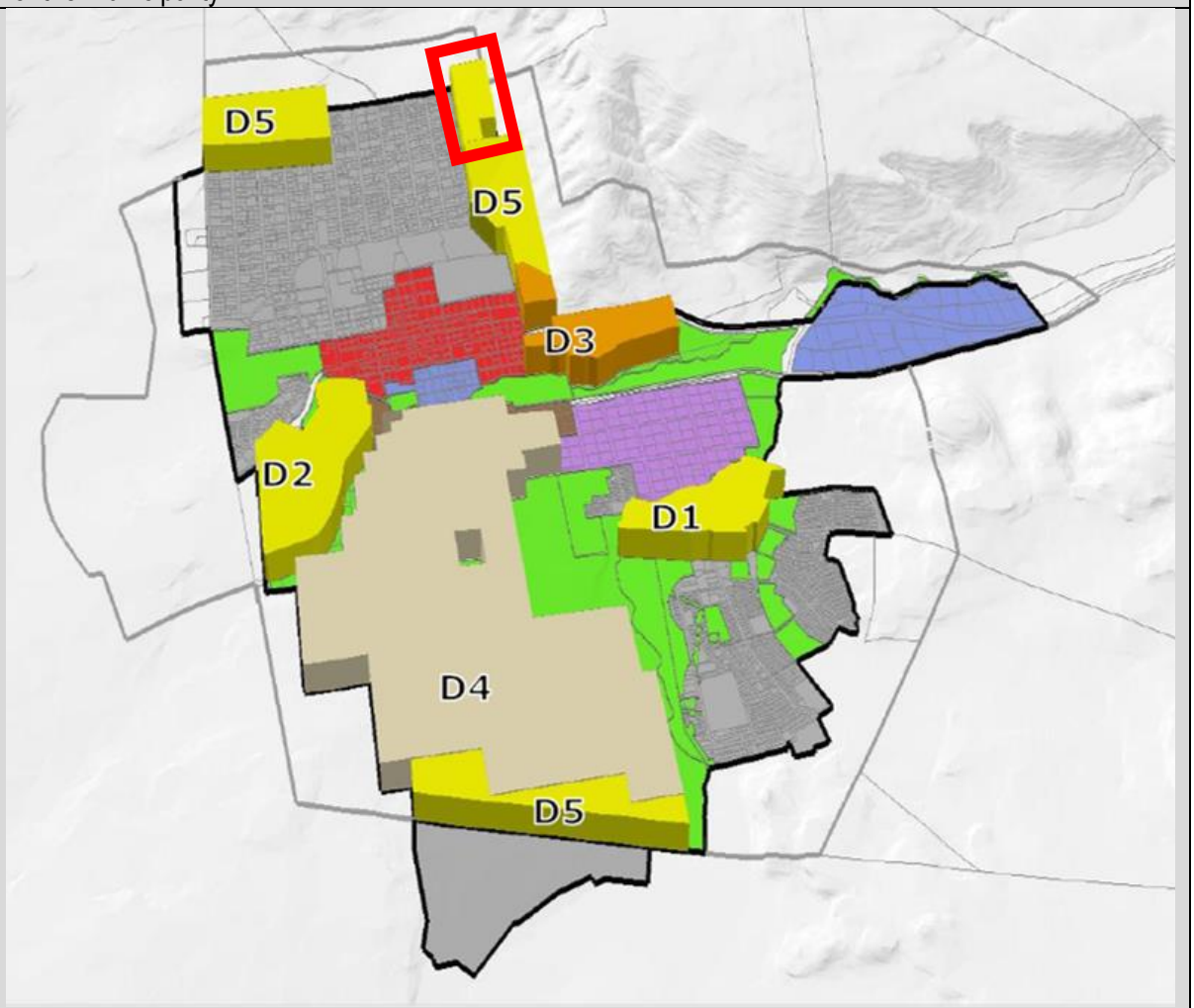


Figure 8: Proposed new Residential (D) areas as per the SDF specifically for the Zeerust/Ikageleng Node

*(**Source**: RMLM LED Framework 2014_2015 [Pg153])*

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	**YES**	**~~NO~~**	**Please explain**
According to the Draft environmental management By Law of Ramotshere Moiloa Municipality (2017), the municipality is yet to develop a sensitive habitat management and conservation plan. In addition, the environmental management by law also outlines the principles of NEMA which promotes development that is socially, economically and environmentally sustainable. The undertaking of the Basic Assessment ensures that negative environmental impacts are avoided and minimised where possible.			
(f) Any other Plans (e.g. Guide Plan)	**~~YES~~**	**NO**	**Please explain**
The EAP is not aware of any other plans within the proposed development site			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	**YES**	**~~NO~~**	**Please explain**
Housing development with the urban edge is currently a focal point in developmental prospects within the municipality. As such the proposed development of a low density housing area aligns with the priorities identifies in the IDP (2014/2015).			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	**YES**	**~~NO~~**	**Please explain**
According to the municipal IDP (2014/2015), Zeerust have identified local economic growth as a priority of development within the municipality. Therefore, Zeerust has been recognized as a development node that requires investment, of which housing development is one, in order to inspire the growth of the local economy.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix E.)	**YES**	**~~NO~~**	**Please explain**
The applicant shall lodge an application with Eskom for electricity needs of the project.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	**YES**	**~~NO~~**	**Please explain**
If required the applicant shall lodge an application for additional capacity with the municipality. Proof of this application will be included in the Final BA Report.			
7. Is this project part of a national programme to address an issue of national concern or importance?	**~~YES~~**	**NO**	**Please explain**
This project is not part of the national program but speaks to the importance for the development of housing, a basic human right as per the South African Constitution.			

8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	**YES**	~~**NO**~~	**Please explain**
In alignment with the SDF, the proposed site is located within an already developed low density housing sector, zoned for future residential development, with existing infrastructure near to the site that can be expanded on and access to service delivery. The site is also located near to the CBD of Zeerust. The clearing of indigenous vegetation and transformation of open space into residential housing requires an environmental licencing that will be carried out by the EAP.			
9. Is the development the best practicable environmental option for this land/site?	**YES**	~~**NO**~~	**Please explain**
The development footprint of the site has been carefully informed by the sensitivities on site and will occur in areas of low-moderate sensitivities ensuring minimal destruction of important flora and fauna.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	**YES**	~~**NO**~~	**Please explain**
The project benefits outweigh the negative impacts. Although the project will result in the loss of vegetation and infringe on the natural environment, habitat fragmentation will be minimized due to the proposed site falling on the edge of the natural area. The development will be undertaken in a manner that aims to minimise environmental impacts of the housing development site. The development will place additional pressure on the existing municipal services (e.g. water, electricity, waste removal services). However, these pressures may be alleviated if effectively managed. The project will also make a positive contribution to sustainable economic growth, skills development and employment opportunities in Ramotshere Moiloa Local Municipality.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	~~**YES**~~	**NO**	**Please explain**
The proposed development has already been identified in both the IDP and SDF for this area. Other similar areas have also been identified as suitable sites for future development.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	~~**YES**~~	**NO**	**Please explain**
The project will not affect the rights of the local community. The project developer is the municipality itself and have ensured community engagement in order to ensure that people's rights are not affected; in fact it will economically benefit the local community by creating job opportunities for construction of the future housing sites.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	~~**YES**~~	**NO**	**Please explain**
The proposed development is located within the urban edge as defined by the local municipality and SDP.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	~~**YES**~~	**NO**	**Please explain**
The proposed development is on a small scale and does not contribute towards the Strategic Integrated projects.			

15. What will the benefits be to society in general and to the local communities?	**Please explain**
The benefits of the project entail employment and skills development within the construction sector for the local community. Further housing will also lead to an increase in the population base within Zeerust that will further promote growth within the CBD.	
16. Any other need and desirability considerations related to the proposed activity?	**Please explain**
No further need can be put forward by the EAP.	
17. How does the project fit into the National Development Plan for 2030?	**Please explain**
The National Development Plan (NDP) sets out an integrated strategy for accelerating growth, eliminating poverty and reducing inequality by 2030. The NDP, supported by the New Growth Path and other relevant programmes, provides a platform to look beyond the current constraints to the transformation imperatives over the next 20 to 30 years. The NDP's human settlement targets, focuses on transforming human settlements and the national space economy. They include: more people living closer to their places of work; better quality public transport; and more jobs in proximity to townships. To achieve these targets the NDP advocates strong measures to prevent further development of housing in marginal places, increased urban densities to support public transport, incentivising economic activity in and adjacent to townships; and engaging the private sector in the gap housing market. The North West Provincial Development Plan (PDP) is predominantly based on the National Development Plan (NDP) in an attempt to align with the objectives and priorities it identifies as well as with the vision for 2030 of a united South-Africa.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in Section 23 of NEMA as amended have been taken into account.	
The general objectives of Integrated Environmental Management were taken into account by considering all the potential negative and positive impacts of the proposed project on both the biophysical and socio-economic environments. In order to avoid potentially significant impacts, specialist inputs were obtained in relation to terrestrial and aquatic ecology. Based on the findings of the specialist studies a number of recommendations / mitigation measures have been identified for consideration in further project design and implementation. The public and authorities will be given adequate opportunity to comment on the proposed project and to participate in the Basic Assessment Process.	
19. Please describe how the principles of environmental management as set out in Section 2 of NEMA as amended have been taken into account.	
The basic needs of landowners and the public were taken into account during the planning phase of the proposed project, which aims to stimulate economic growth, create employment opportunities and make significant contribution towards food security. Minimisation of potential negative impacts and optimisation of potential positive impacts will be ensured by way of effective implementation of the EMPr. Thus, the proposed project is deemed to be socially, environmentally and economically sustainable.	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	**Applicability to the project**	**Administering authority**	**Date**
National Environmental Management Act, 1998 (Act 107 of 1998).	The proposed development triggers listed activities within this act	DEFF and DEDECT	27 November 1998

2014 Environmental Impact Assessment Regulations promulgated in terms of Section 24(5) of NEMA (as amended on 07 April 2017)	A number of listed activities have been identified that have triggered the need for a Basic Assessment in terms of these regulations	DEFF and DEDECT	04 December 2014
Constitution of the Republic of South Africa (Act No. 108 of 1996)	All activities must be undertaken according to the laws and regulations of RSA.	National and Provincial	18 December 1996
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The NEMBA aims to conserve and provide management of biodiversity in the country. The proposed development site falls within an ecological support area and a portion of the site intersects a critical biodiversity area.	DEFF and DEDECT	07 June 2004
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	Construction and clearing activities will have a direct effect on neighbouring housing areas.	DEFF and DEDECT	11 September 2004
National Water Act, 1998 (Act 36 of 1998)	The proposed activity will need to link to the existing water-based infrastructure to support further housing expansion.	Department of Water Affairs	26 August 1998
The National Heritage Resources Act, 1999 (Act No 25 of 1999) as amended, particularly Chapter II, Section 38	The proposed development requires the clearance of a large area of indigenous vegetation.	South African Heritage Resource Agency	28 April 1999
Occupational Health and Safety Act (Act No. 85 of 1993)	All tasks undertaken on the proposed housing site during construction must adhere to the Act and be included in the EMPr.	National and Provincial	23 June 1993

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Note: The estimated quantity of waste is currently unknown as the project is in the prefeasibility phase.

Will the activity produce solid construction waste during the construction/initiation phase?	**YES**	~~NO~~
If YES, what estimated quantity will be produced per month?	TBC	

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

Contractor/sub-contractor disposes of waste.

The developer will be responsible for the disposal of solid waste for the duration of the construction phase. An appropriate area will be earmarked on or near site for the dumping of solid waste during construction. Waste will be disposed of in skips, easily accessible to collection trucks and will be carted to a registered landfill site on a regular basis.

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

Registered landfill site/municipal waste stream

All construction solid waste will be disposed of at the nearest registered dumping site. No solid waste will be dumped on surrounding open areas or adjacent properties.

Will the activity produce solid waste during its operational phase?	**YES**	~~NO~~
If YES, what estimated quantity will be produced per month?	TBC	

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

Solid waste will be disposed of into the municipal system/at a registered landfill site.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Waste will be disposed of at the Zeerust landfill site.

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

Not Applicable

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the 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 NEM:WA? ~~YES~~ NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility? ~~YES~~ NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

~~Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?~~	~~YES~~	**NO**
~~If YES, what estimated quantity will be produced per month?~~		m^3
~~Will the activity produce any effluent that will be treated and/or disposed of on site?~~	~~YES~~	NO

~~If YES, describe the type of effluent and the disposal mechanism/method~~

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

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	~~YES~~	**NO**
~~If YES, is it controlled by any legislation of any sphere of government?~~	~~YES~~	NO

~~If YES, the applicant must 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:~~

d) Waste Licence/Registration

Will any aspect of the activity produce waste that will require a waste licence/registration in terms of the NEM:WA?	~~YES~~	**NO**

If YES, please submit evidence that an application for a waste licence/registration has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	~~YES~~	**NO**
~~If YES, is it controlled by any legislation of any sphere of government?~~	~~YES~~	~~NO~~

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

If NO, describe the noise in terms of type and level:

Noise associated with the construction phase of the project will be emitted. These noise impacts will result from transport vehicles, machinery and general construction activities during the construction phase. Construction activities will be limited to daylight hours. Noise that emanates from construction activities will be addressed through targeted best practices for noise monitoring and management in the EMPr. During the operational phase of the Ramotshere Housing Development, noise will be traffic related, due to the travelling residents.

13. WATER USE

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

Municipal	~~Water board~~	~~Groundwater~~	~~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:~~		~~litres~~
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water and Sanitation?	~~YES~~	NO

If YES, please provide proof that the application has been submitted to the Department of Water and Sanitation.

14. ENERGY EFFICIENCY

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

No specific design measures have been taken to ensure that the activity is energy efficient due to the nature of the activity. However, during the construction of the houses the following could be considered:

- Houses could be orientated in a northern direction.
- Energy-saving light bulbs used in the houses, as well as outside.
- Time switches may be used for outdoor lighting.
- Solar panels can be used to heat the water and geysers and for outdoor lighting.
- Double glazed windows

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

Energy sources have not been taken into account or been built into the design of the activity due to the nature of the activity.

Has a specialist been consulted to assist with the completion of this section?	~~YES~~	**NO**

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix F.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, as it appears on the Site Plan.

2. Paragraphs 1 - 6 below must be completed for each alternative.

Please note that Alternative site 2 was only evaluated at the desktop level.

Current land-use zoning as per local municipality IDP /records:	currently zoned for agriculture

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

Is a change of land-use or a consent use application required?	**YES**	~~NO~~

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

~~Flat~~	**1:50 – 1:20**	**1:20 – 1:15**	**1:15 – 1:10**	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

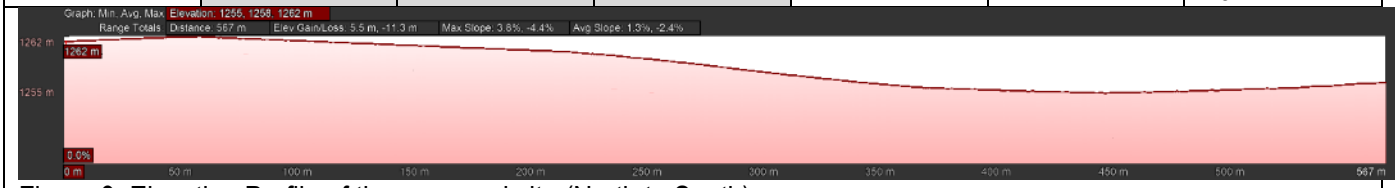


Figure 9: Elevation Profile of the proposed site (North to South)

Figure 10: Elevation Profile of the proposed site (West to East)

The site has an overall fall of ground from the North; North-East to the South; South-West. The gradient on site varies between 1:10 and 1:50.

The site is predominantly surrounded by undisturbed vegetation but borders residential houses and a tarred road to the west. There are existing single-lane gravel roads within the site boundary for access to the eastern sections of the site.

Figure 11: Map indicating the 5m contours surrounding the proposed development site

Alternative S2 (if any):

~~Flat~~	1:50 – 1:20	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

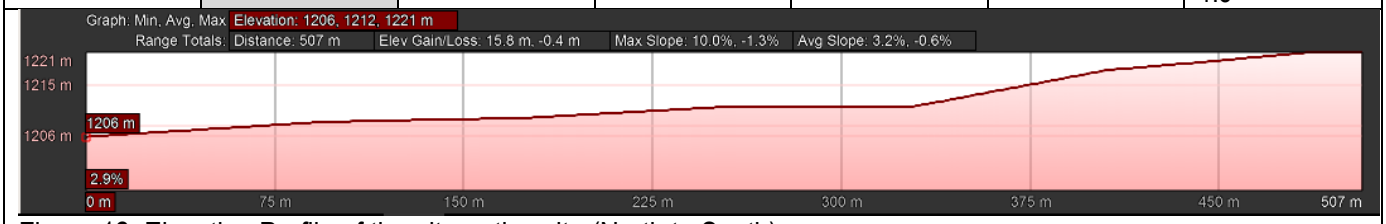


Figure 12: Elevation Profile of the alternative site (North to South)

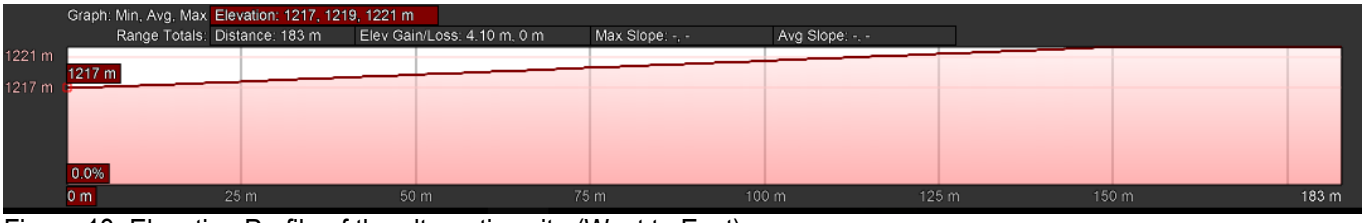


Figure 13: Elevation Profile of the alternative site (West to East)

The site has an overall fall of ground from the North; North-East to the South; South-West. The gradient on site varies between 1:20 and 1:50.

The site is predominantly surrounded by undisturbed vegetation but borders residential houses and a tarred road to the west. There are existing single-lane gravel roads within the site boundary for access to the eastern sections of the site.

~~Alternative S3 (if any):~~

~~Flat~~	~~1:50 – 1:20~~	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

2. LOCATION IN LANDSCAPE

Alternative S1:
Indicate the landform(s) that best describes the site:

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

Alternative S2:
Indicate the landform(s) that best describes the site:

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:	**Alternative S2 (if any): Not evaluated**	**~~Alternative S3 (if any):~~**

Shallow water table (less than 1.5m deep)	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Dolomite, sinkhole or doline areas	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Seasonally wet soils (often close to water bodies)	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Unstable rocky slopes or steep slopes with loose soil	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Dispersive soils (soils that dissolve in water)	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Soils with high clay content (clay fraction more than 40%)	**YES**	~~NO~~	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Any other unstable soil or geological feature	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~
An area sensitive to erosion	~~YES~~	**NO**	~~YES~~	~~NO~~	~~YES~~	~~NO~~

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

Alternative S1

Regional geology:

The published geological map for the area indicates that the site is underlain by the Timeball Hill Formation (Pretoria Group; Transvaal Supergroup) characterised by conglomerates, siltstone/mudstone and fine-grained sandstone. Diabase intrusions are mapped within the vicinity of the site.

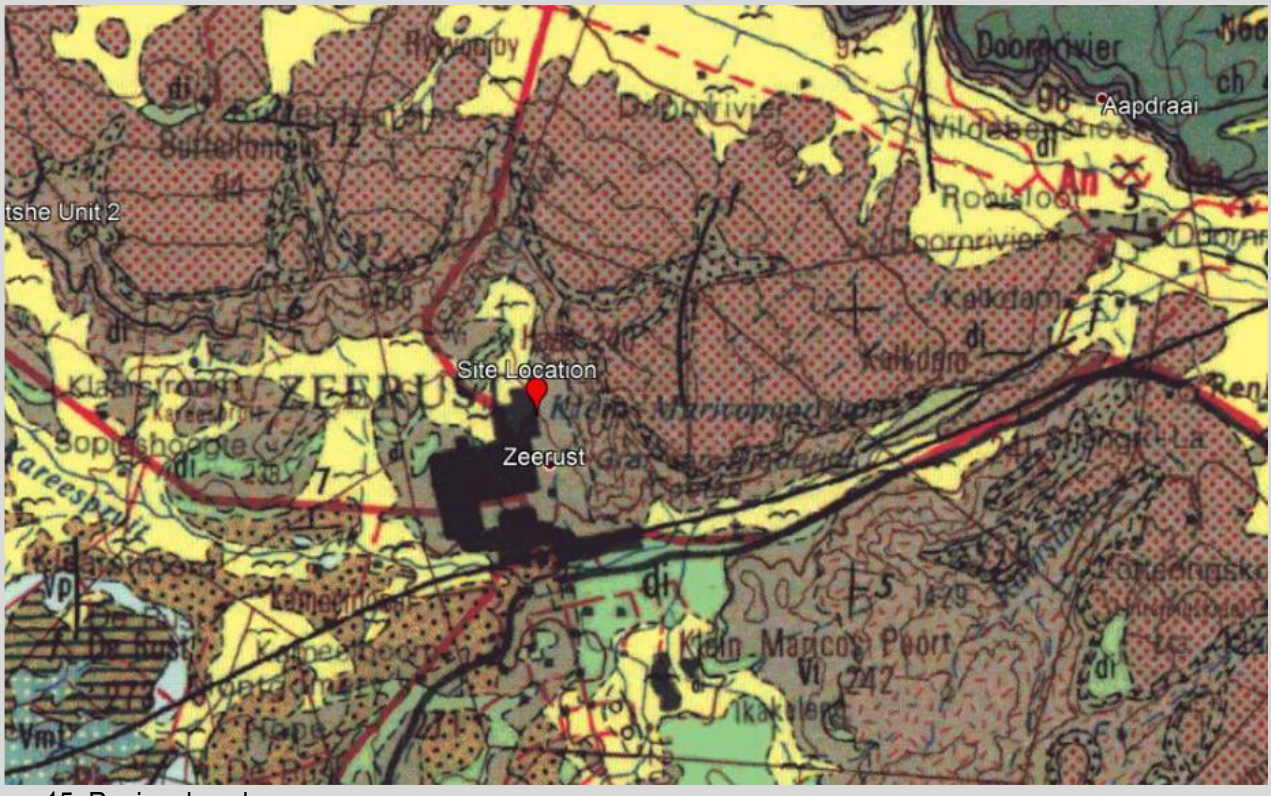


Figure 15: Regional geology map

GEOLOGICAL LEGEND
Quaternary sedimentary
Quaternary marine sedimentary
Quaternary & Plio/Quaternary continental sedimentary
Paleogene-Neogene (-Quaternary) sedimentary
Paleogene-Neogene marine sedimentary
Paleogene-Neogene continental sedimentary
Phanerozoic volcanoplutonic
Quaternary & Plio-Quaternary volcanic and plutonic
Neogene-Paleogene volcanoplutonic
Mesozoic continental sedimentary ("Upper Nubian Sandstone" type)
Late Cretaceous sedimentary
Late Cretaceous marine sedimentary
Late Cretaceous continental sedimentary
Early Cretaceous sedimentary
Early Cretaceous continental sedimentary
Early Cretaceous marine sedimentary
Neoproterozoic 3 to Mesozoic volcanoplutonic & "Dolerites"
Mesozoic volcanoplutonic ("Dolerites") & plutonic (carbonatite, syenite)
Paleozoic/Mesozoic plutonic ("Younger Granites & Ring Complexes") & volcanoplutonic
Jurassic (undifferentiated age) continental sedimentary
Jurassic to Triassic marine or continental sedimentary (undifferentiated
Jurassic (undifferentiated age) marine sedimentary
Triassic sedimentary
"Karoo" type Triassic-Jurassic volcanic; locally Cretaceous
Triassic6Jurassic mafic to intermediate volcanic ("Karoo"; locally Cretaceous)
Triassic6Jurassic felsic volcanic ("Karoo"; locally Cretaceous)
Undifferentiated sedimentary "Karoo": Carboniferous to Jurassic; locally Cretaceous
Undifferentiated sedimentary "Karoo" (coal basin): Carboniferous to Jurassic
Permian-Triassic sedimentary (coal basin)
Paleozoic-Mesozoic (Cambrian to Early Jurassic) sedimentary; locally volcanosedimentary Paleozoic (Morocco)
Cambrian-Ordovician sedimentary
Cambrian-Ordovician & Early Paleozoic plutonic
Neoproterozoic 3 (NP3)to Ordovician sedimentary (basin); NP3 to Devonian in the Mauritanides
Neoproterozoic 3 to Ordovician plutonic and volcanoplutonic
Ordovician-Silurian plutonic and volcanoplutonic
Paleozoic plutonic and metamorphic (Kabylie) with remnants of Precambrian terranes (Western Sahara)
Cambrian sedimentary
Neoproterozoic 3 to Early Cambrian ("Proterozoic/Paleozoic boundary") continental sedimentary and glacial (locally)
Neoproterozoic to Cambrian plutonic ("Older Granites") and volcanoplutonic
Neoproterozoic 2 to Cambrian plutonic (carbonatite & syenite)
Neoproterozoic 2 to Cambrian plutonic (T.T.G.)
Neoproterozoic 2-3 sedimentary to volcanosedimentary (active margin)
Neoproterozoic 2 to Cambrian sedimentary and glacial (NP2/E) and interglacial (NP3) (foreland basin)
Neoproterozoic 2-3 plutonic, volcanoplutonic and metamorphic
Neoproterozoic 1-2 sedimentary to volcanosedimentary with associated plutonic
Neoproterozoic 1-2 sedimentary (foreland basin)
Neoproterozoic 1-2 plutonic & volcanoplutonic & "Dolerites"
Neoproterozoic "Mobile Belt" with Neoproterozoic metamorphic, anatectic & plutonic, including remnants of archean to proterozoic terranes
Undifferentiated Mesoproterozoic volcanoplutonic & metamorphic (gneissic)
Mesoproterozoic anatectic complexes
Mesoproterozoic to Neoproterozoic "Mobile Belts": MP-NP metamorphic & tectonic (including remnants of archean to paleoproterozoic terranes)
Mesoproterozoic volcanosedimentary
Mesoproterozoic (to Neoproterozoic ?) sedimentary
Mesoproterozoic sedimentary
Paleoproterozoic (to Mesoproterozoic?) plutonic, volcanoplutonic & anatectic
Paleoproterozoic (to Mesoproterozoic?) sedimentary (e.g. Madagascar)
Paleoproterozoic 3-4 sedimentary
Paleoproterozoic 3-4 sedimentary to volcanosedimentary & associated volcanoplutonic
Paleoproterozoic 3-4 plutonic, volcanoplutonic & charnockitic (Late Eburnean)
Paleoproterozoic 2 felsic plutonic of the "Bushveld Complex"
Paleoproterozoic 2 mafic plutonic of the "Bushveld Complex"
Paleoproterozoic 1-3 (Early Eburnean) plutonic & anatectic
Paleoproterozoic 1-3 plutonic (T.T.G.)
Paleoproterozoic 1-3 plutonic (leucogranite)
Paleoproterozoic 2-3 sedimentary and volcanosedimentary
Paleoproterozoic 2-3 volcanosedimentary ("Ghanaian" greenstone belts)
Paleoproterozoic 2-3 sedimentary (foreland basin)
Neoarchean - Paleoproterozoic 1 ("Archean-Proterozoic boundary") BIF-bearing sedimentary & associated volcanoplutonic
Neoarchean - Paleoproterozoic 1 plutonic of greenstone belt
Neoarchean - Paleoproterozoic 1 ("Archean-Proterozoic boundary Basin") sedimentary (including minor volcaniclastic interbeds)
Neoarchean - Paleoproterozoic 1 greenstone belt of volcanosedimentary basin, at the Archean-Proterozoic boundary
Neoarchean - Paleoproterozoic 1 ("Archean-Proterozoic boundary") sedimentary and glacial
Neoarchean - Paleoproterozoic 1 ("Archean-Proterozoic boundary") anatectic & plutonic
Neoarchean volcanosedimentary & associated volcanoplutonic (greenstone belt)
Neoarchean plutonic & metamorphic (granite/gneiss)
Neoarchean (to Mesoarchean?) metamorphic & anatectic
Mesoarchean (to Neoarchean?) anatectic & metamorphic ("Migmatite Gneiss complex")
Mesoarchean volcanoplutonic, plutonic & metamorphic (granite/gneiss)
Mesoarchean sedimentary to volcanosedimentary

Geotechnical investigation:

Thirteen test pits were excavated at selected positions within the proposed area of development using a track-loaded backhoe (TLB) excavator. Excavation depths range from 1.4 m to 2.8 m below the surface. The position of the test pits is shown in **Figure 16**.

Figure 16: Test pit layout (North up)

Ground profile

The detailed soil profiles indicate that two ground profile types are present below the site based on whether bedrock was intersected or not. The ground profile types are briefly described below and shown in Figure 16.The ground profile types are described in greater detail in the Geotechnical Investigation in **Appendix G-2.**

Ground Profile A – Hillwash, no bedrock

The Hillwash is overlain by a surface horizon of either loose, fine sand with roots colluvium or pedogenic horizon characterised by loose to very dense, gravelly sand / sandy gravel of ferricrete origin to a depth ranging from 0.3 m to 0.9 m below surface. The *Hillwash* is characterised by predominantly very dense (occasionally dense), gravelly sand or sandy gravel to a lesser extent, to a depth ranging from 1.5 m to 2.8 m below surface.

Ground Profile B – Bedrock

The bedrock is overlain by material of variable type and origin to a depth ranging from surface (bedrock intersected in TP7 from surface) to 1.7 m below surface. The overlying horizons are characterised by loose, silty sand with roots or gravelly sand colluvium, pedogenic loose gravelly clayey sand and dense to very dense, occasionally moderately pinhole voided, gravelly sand *Hillwash*.

The bedrock is characterised by three rock types. The host rock consists of moderately to completely weathered, closely jointed, very soft rock sandstone with either sand-filled joints, or soft clayey patches, or thinly-bedded soft rock slate. The sandstone / slate was intruded by a diabase sill (the contact is near horizontal) which has weathered to very dense, intact or slickensided, residual sand or sandy clay.

Figure 17: Estimated ground profile areas

Problematic soils:

The following problematic soils have been identified within South Africa: expansive clays, soft clays, dispersive soils, pedogenic horizons and collapsible soils. No soft clays were intersected during excavations. Ferruginous (pedogenic) nodules and gravels were intersected during excavations, however they are not considered to problematic for this development as they were easily excavated with the track-loaded backhoe (TLB).

In certain profiles, the Hillwash appears to have avoided soil structure, which under certain circumstances when saturated under an increased load, could result in collapse settlement. While specific collapse potential test on soils have not been undertaken it is recommended that, where such pinholed soil structure is identified within individual foundation trenches, allowance be made for *in situ* compaction at the base of the foundation trenches using a wacker compactor. Dynamic Probe Light (DPL) penetrometer tests should be undertaken to confirm an improvement in the densification of the underlying soil.

The residual diabase sill (sandy clay), intersected at TP7 (2.0 m) and TP8 (1.8 m) has a High heave potential according to the van der Merwe chart. With a steep east-to-west slope, it is possible that the sill could 'daylight' at the surface, somewhere between TP6 and TP7, and TP5 and TP8, illustrated by the green ellipsoid and basic cross-section (Figure 18). It is possible that the sill is only covered by Hillwash at the moment. Note, this is only an illustration to create awareness of the possibility of intersecting high-heave potential clays at shallow depths within the whole or part of some of the stands planned for this area.

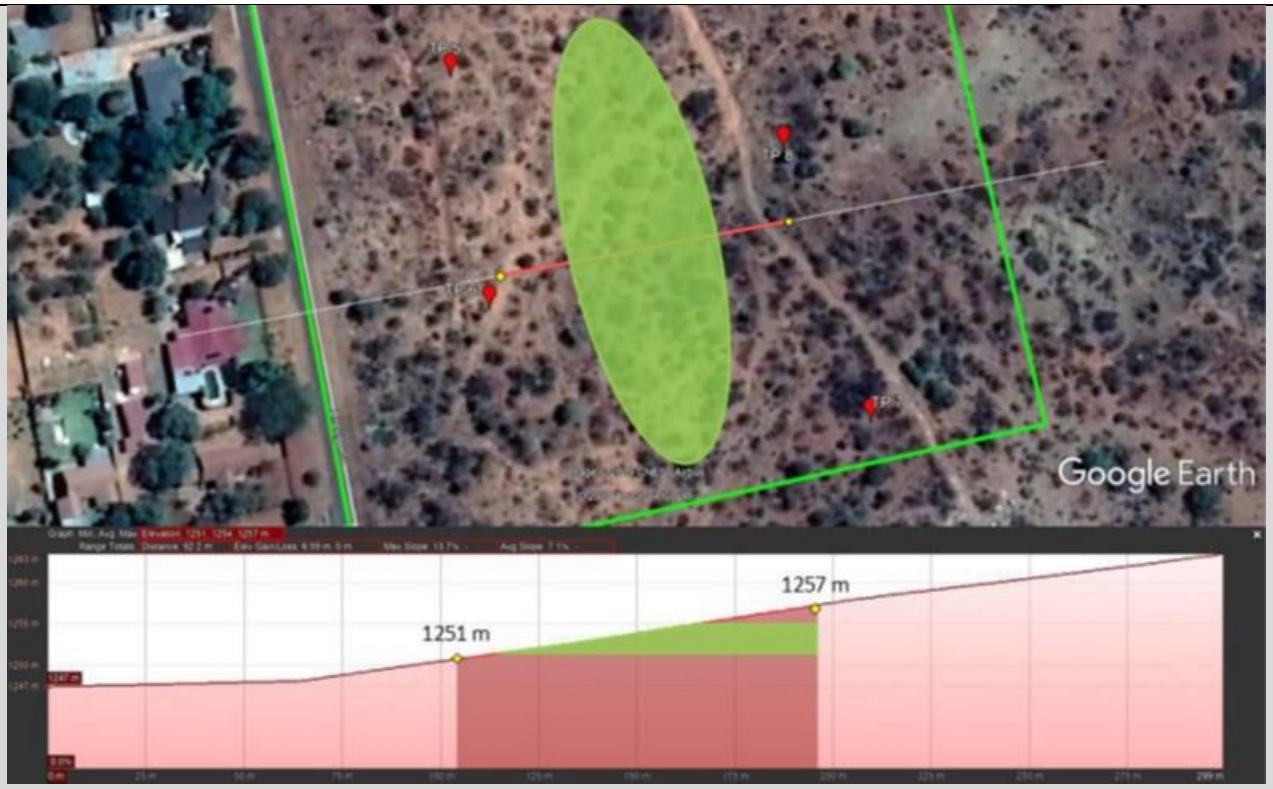


Figure 18: Illustration of potential near surface, high plasticity clay on site.

The presence of highly plastic and expansive residual diabase clay is problematic due to the low strength and expansiveness of clay soils, which may lead to damages to the foundations of the proposed residences and cracks to pavements.

Refer to the Geotechnical Investigation (Appendix G-2) for greater detail on the project area soils.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Alternative S1

~~Natural veld – good condition~~[E]	Natural veld with scattered aliens[E]	~~Natural veld with heavy alien infestation~~[E]	~~Veld dominated by alien species~~[E]	~~Gardens~~
~~Sport field~~	~~Cultivated land~~	~~Paved surface~~	~~Building or other structure~~	~~Bare soil~~

The ecological impacts of all aspects for the construction of the proposed new Berg/Drooge residential development were assessed. The entire area is designated as moderately sensitive due to the vegetation remaining largely intact, despite being somewhat degraded. In light of the general degradation of the site, the absence of species of conservation concern on site and the extent of the vegetation types outside of the development area, the proposed development is considered to be ecologically acceptable, provided that mitigation measures provided in this report are implemented.

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Alternative S1

Perennial River	~~YES~~	**NO**	~~UNSURE~~
Non-Perennial River	**YES**	~~NO~~	~~UNSURE~~
Permanent Wetland	~~YES~~	**NO**	~~UNSURE~~
Seasonal Wetland	~~YES~~	**NO**	~~UNSURE~~
Artificial Wetland	~~YES~~	**NO**	~~UNSURE~~

The topography of the site indicates that stormwater will flow towards the south-western part of the site where there is a potential to encounter the high plasticity clay close to the surface. Stormwater management will be critical to maintain the in-situ moisture content of the residual, highly plastic and expansive residual diabase clay if exposed during excavations, by means of, but not limited to:

- Preventing the ingress of stormwater to the foundations both during, and post construction.
- Prevent the ponding of stormwater against the foundations and structures e.g. apron slabs.

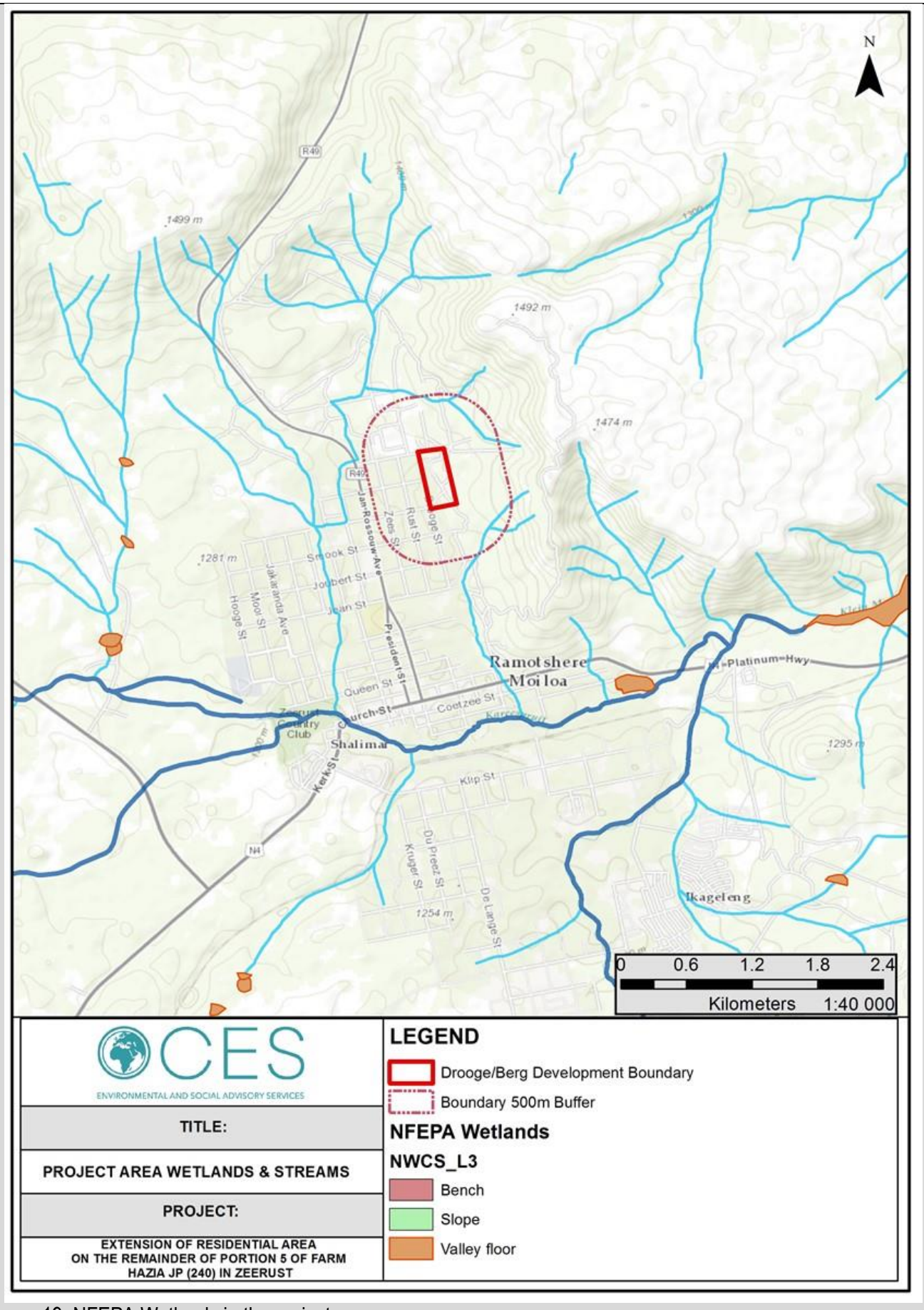


Figure 19: NFEPA Wetlands in the project area

~~If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.~~

There is no surface water on site. However, non-perennial streams flow through the buffered zone outside of the development zone to the NE and SE, approximately 350-450 m away (Figure 20).

6. LAND USE CHARACTER OF SURROUNDING AREA

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

Alternative S1

Natural area	Dam or reservoir	~~Polo fields~~
~~Low density residential~~	~~Hospital/medical centre~~	~~Filling station~~ [H]
~~Medium density residential~~	~~School~~	~~Landfill or waste treatment site~~
High density residential	~~Tertiary education facility~~	~~Plantation~~
~~Informal residential~~[A]	~~Church~~	~~Agriculture~~
Retail commercial & warehousing	~~Old age home~~	River, stream or wetland [N]
~~Light industrial~~	~~Sewage treatment plant~~[A]	~~Nature conservation area~~ [N]
~~Medium industrial~~ [AN]	~~Train station or shunting yard~~ [N]	Mountain, koppie or ridge [N]
~~Heavy industrial~~ [AN]	~~Railway line~~ [N]	~~Museum~~
~~Power station~~	~~Major road (4 lanes or more)~~ [N]	~~Historical building~~ [N]
~~Office/consulting room~~	~~Airport~~ [N]	~~Protected Area~~ [N]
~~Military or police base/station/compound~~	~~Harbour~~	~~Graveyard~~ [N]
~~Spoil heap or slimes dam~~[A]	~~Sport facilities~~	~~Archaeological site~~ [N]
~~Quarry, sand or borrow pit~~	~~Golf course~~	~~Other land uses (describe)~~

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

River, stream and wetland: There is no surface water on site. However, non-perennial streams flow through the buffered zone outside of the development zone to the NE and SE, approximately 350-450 m away (Figure 20). It is unlikely that the proposed development will significantly impact upon the non-perennial streams within the 500 m buffer as these are primarily situated upslope of the proposed development site.
Mountain, koppie or ridge: The proposed development is located on the foot slope of a ridge towards the east. Hills and ridges are Ecological Support Areas (ESAs) and are identified as sensitive habitats in the existing provincial SDF dataset. It is unlikely that the proposed development will have a significant impact upon the ridge as it is located on the low-lying, gradual foot slope on the edge of the ESA.

~~If any of the boxes marked with an "[AN]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:~~

~~If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:~~

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	~~NO~~

Core area of a protected area?	~~YES~~	**NO**
Buffer area of a protected area?	~~YES~~	**NO**
Planned expansion area of an existing protected area?	~~YES~~	**NO**
Existing offset area associated with a previous Environmental Authorisation?	~~YES~~	**NO**

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix B (as part of sensitivity map).

Please refer to Appendix B for the biodiversity map

7. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix B to this report.

Please refer to Appendix B for the biodiversity map

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				**If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan**
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	~~Other Natural Area (ONA)~~	~~No Natural Area Remaining (NNR)~~	The affected CBA in the northern corner of the site and surrounding slopes are so designated because they are important habitats for plants.
				The affected ESA 1 area, covering most of the proposed development site, includes a biodiversity corridor, as well as hills and ridges.

Please refer to Appendix B for the biodiversity map

b) Indicate and describe the habitat condition on site

Habitat Condition	**Percentage of habitat condition class (adding up to 100%)**	**Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).**
Natural	0%	

Near Natural (includes areas with low to moderate level of alien invasive plants)	83%	Most of the site is in a near-natural state, dominated by indigenous trees, shrubs and grasses, with moderate degradation and minor transformation in places.
Degraded (includes areas heavily invaded by alien plants)	15%	The site is moderately degraded in areas due to the presence of a few invasive alien species and due to the edge effects from the road, i.e. people walking through the site, using the site for illegal dumping as well as for grazing livestock.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	2%	Minor (reversible) transformation has occurred on site, which is restricted to the dirt roads intersecting the site and leading up to the reservoir.

Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	~~**Critical**~~	**Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)**		
	~~**Endangered**~~			
	~~**Vulnerable**~~			
	Least Threatened	~~**YES**~~	**NO**	~~**UNSURE**~~

c) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The Zeerust Thornveld

This vegetation type is primarily found in North West Province, running from the Lobatsi River plains through Zeerust to the Pilansberg flats. The vegetation is characterised by deciduous, open to dense short thorny woodlands dominated by Senegalia and Vachellia (previously Acacia) species, with a graminoid-dominated herbaceous layer on deep, basic, clay soils between ridges. Although only 4% is statutory conserved of the targeted 19%, SANBI considers this vegetation type as Least Threatened. It is estimated that 16% has been transformed by agriculture and urban development.

This vegetation type occurs throughout the site and is considered to be moderately degraded, particularly near Drooge Street due to the edge effects from the road, i.e. people walking through the site, using the site for illegal dumping as well as for grazing livestock. This vegetation type ranges from being open thornveld throughout most of the site to a small patch of near-intact closed thornveld towards the south eastern portion of the site. The tree canopy ranges from 3-4m with emergent trees at about 5-6m. The understory is dominated by a grass layer interspersed with some herbs.

Dominant tree and shrub species include *Euclea* spp., *Searsia lancea*, *Senegalia caffra*, *Vachellia* spp., *Vangueria infausta*, *Tarchonanthus camphoratus, Grewia flava, Gardenia volkensii var. volkensii* and *Ziziphus mucronata*. Low growing shrubs include *Asparagus africanus*, *Asparagus* cf. *laricinus* and *Felicia filifolia*, which are interspersed with herbs such as *Lippia javanica, Aneilema aequinoctiale*, *Chascanum hederaceum*, *Cyanotis speciosa*, *Elionurus muticus*, *Hibiscus microcarpus*, *Lasiosiphon kraussianus*, *Oxalis obliquifolia*, *Polygala hottentotta*, *Senecio venosus, Solanum campylacanthum* and *Verbena* spp. The dominant grasses include *Aristida congesta*, *Eragrostis curvula*, *Cymbopogon pospischilii, Heteropogon contortus, Panicum maximum* and *Tragus berteronianus*.

8. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? ~~If YES, explain:~~	~~YES~~	**NO**
	~~Uncertain~~	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

The only known declared Provincial Heritage Site within Zeerust is the Church of St John the Baptist, Zeerust, Marico District (Figure 20, SAHRIS Site ID 26792). This PHS is located approximately 500m from the proposed development area and as such, the context of this significant resource may be impacted by the proposed development.

The area proposed for development has not been surveyed for any heritage assessments, however approximately seven heritage assessments have been completed within 10km of the area proposed for development (Figure 20). In Pelser's (2013) assessment of an area located to the southwest of Zeerust, he identified "a number of Late Iron Age stone walled sites and features were identified during the survey in the area. The sites are located on hills and outcrops and in the area… The sites probably form part of a large LIA settlement complex, representing individual settlement units or homesteads with features such as cattle kraals (livestock enclosures), hut bays and other related features. It possibly date to the same time period as the Hurutshe settlement complexes at Kaditshwene and other sites close to Zeerust, and around the late 18th to early 19th century." (SAHRIS NID 138494). These archaeological resources have high heritage significance. In Huffman's (2003) assessment of another site located to the southwest of Zeerust, in addition to evidence of iron age settlements, he identified a scatter of Early Stone Age artefacts of low heritage significance (SAHRIS NID 7024). Previously, historic graves have been identified on a plot located on Voortrekker Road within Zeerust town.

The two graves were located in the courtyard or garden of a historical Freemason's Lodge, and were exhumed in 2006 (SAHRIS NID 8329). Based on the known heritage of the area, and the location of the proposed development area on a flat plane bordering on the town of Zeerust, it is unlikely that the proposed development will impact on significant archaeological heritage. As per Pelser (2013), the known Iron Age sites from this area are located on hills and outcrops.

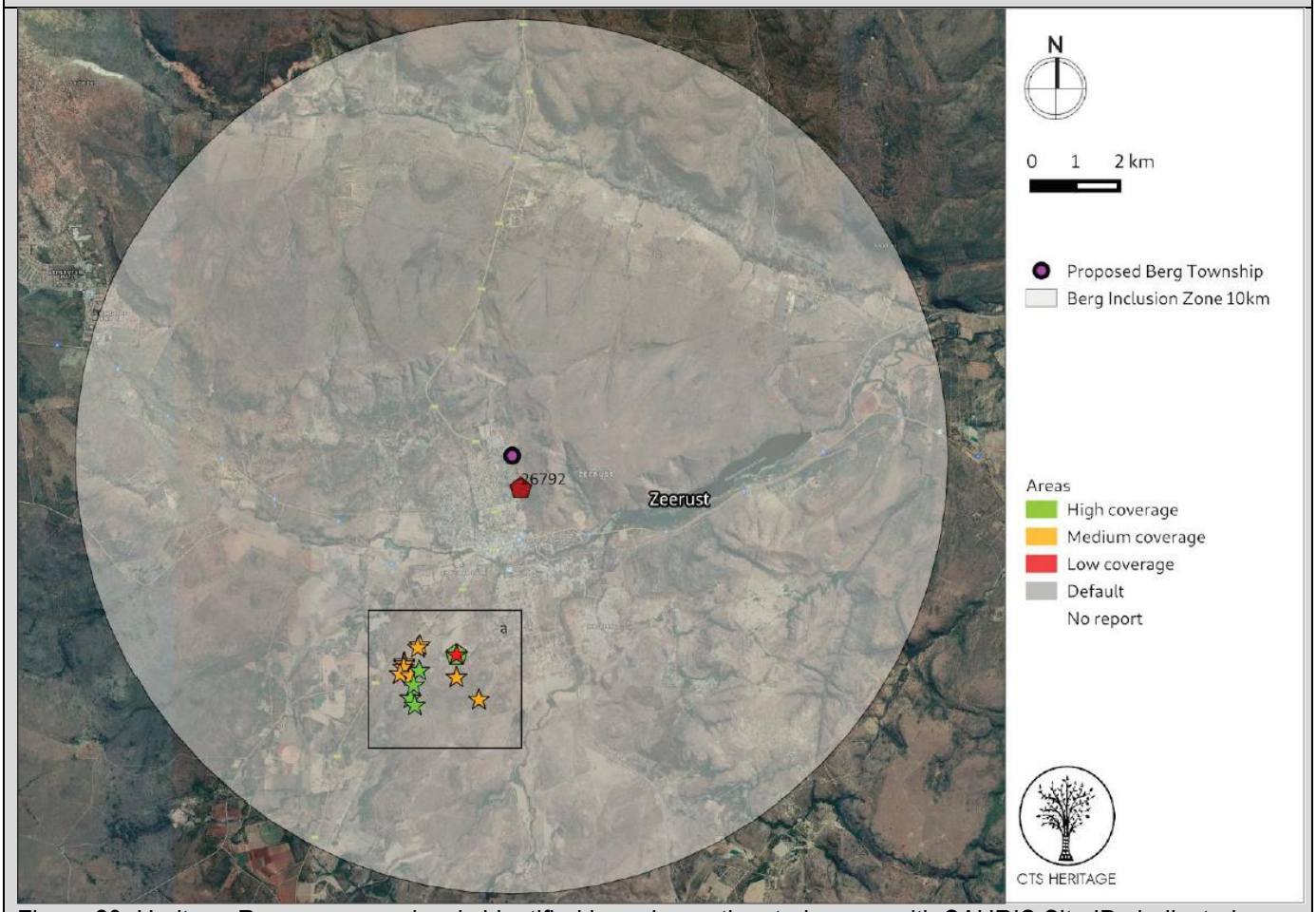


Figure 20: Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated

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

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

9. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Economic Impact on Labour Market

The labour market of Zeerust has established the following:

- The unemployment rate has decreased to 14.8%.
- Not economically active has increase to 39.8%
- Employment rate has increased to 45.4%.
- The large number of unemployment bodes well for development. The economic impact of the development would lead to a decrease in the unemployment rate.

The sectors which would be the most influenced by the CAPEX of Ramotshere Housing Development is the Construction sector (54.45%).

Economic profile of local municipality:

According to Census 2011, RMLM has a total population of 150 713, made of 40 740 households with an average of 3.6 persons per household. Most of the population (70.5%) live in tribal/traditional settlements, while the remainder reside on either farming (11%) or urban settlements (18.5%).

According to Census 2011, approximately a fifth (19%) of the municipality have access to piped water in their homes and almost two-fifths (38.2%) have access to piped water in their yards. Most of the population (65.4%) rely on the regional/local water scheme operated by the municipality as a source of water, 21.3% have access to boreholes and 8.9% rely on water tankers. Refuse disposal is removed by the local authority or a private contractors for 19.7% of households, while most make use of their own refuse dump (71.6%). Most households (81.9%) have access to electricity. The unemployment rate in the municipality is 36.2%, with 22 437 employed, 12 743 unemployed and 9 030 classified as discouraged work-seekers. The rate of youth unemployment in the municipality is higher at 45.8%, with 9 329 of youth aged 15–34 employed and 5 609 unemployed.

Level of education:

According to Census 2011, of the population aged 20 and above residing in RMLM, the majority have received at least some schooling (51.8%), over a fifth (21.1%) have a matric education and few (6.4%) have higher education. Approximately a fifth (20.7%) have received no schooling.

b) Socio-economic value of the activity

Note: The estimated socio-economic value of the proposed development is currently to be determined as the project is still in the pre-feasbility phase.

What is the expected capital value of the activity on completion?	R
What is the expected yearly income that will be generated by or as a result of the activity?	R

Will the activity contribute to service infrastructure?	~~YES~~	**NO**
Is the activity a public amenity?	~~YES~~	**NO**
How many new employment opportunities will be created in the development and construction phase of the activity/ies?		
What is the expected value of the employment opportunities during the development and construction phase?	R	
What percentage of this will accrue to previously disadvantaged individuals?	%	
How many permanent new employment opportunities will be created during the operational phase of the activity?		
What is the expected current value of the employment opportunities during the first 10 years?	R	
What percentage of this will accrue to previously disadvantaged individuals?	%	

10. SPECIALIST(S) CONSULTATION

Has a specialist been consulted to assist with the completion of this section?	**YES**	~~**NO**~~

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix F. All specialist reports must be contained in Appendix G and must meet the requirement in Appendix 6 of EIA Regulations, 2014.

SECTION C: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

1.1 Impacts associated with the planning and design phase of the development, and their mitigation measures

Activity	Impact summary	Significance	Proposed mitigation
PLANNING AND DESIGN PHASE			
Legislation & policy compliance	Failure to adhere to existing policies and legal obligations could lead to the development conflicting with local, provincial and national policies, etc. This could result in a lack of institutional support for the project, overall project failure or delays in construction and undue disturbance to the natural environment.	MODERATE NEGATIVE	During the planning and design phase, the development must adhere to the relevant legislation and/or policy, e.g. Municipal By-laws, SDFs, etc.
Sewage pipelines	During the planning and design phase the inappropriate design or inferior quality infrastructure and installation of the sewage pipelines could lead to the contamination of ground water due to leakages into the underground system.	HIGH NEGATIVE	– During the planning and design phase appropriate technology that meets approved acceptable technical standards such as SABS should be selected. – The sewage pipelines must be tested for defects and leakages before the trenches are closed.
Stormwater management	During the planning and design phase, large areas of impermeable surfaces (e.g. roofs, paving, roads and parking) and inappropriate stormwater design will increase the risk of run-off and may lead to flooding, erosion, sedimentation and the discharge of pollutants, silt and litter.	HIGH NEGATIVE	– Flood attenuation systems and a Stormwater management plan must address channelling, stormwater capture and discharge. – Measures to avoid and minimise impacts associated with the discharge points (e.g. sumps and dispersers) must be included. – The stormwater management plans must be designed by a qualified engineer and approved by DEDECT and DWS. – Impermeable surfaces should be minimised as much as possible through permeable surface technology, such as grassed gardens and verges and permeable paving etc.

Activity	Impact summary	Significance	Proposed mitigation
Water consumption	During the planning and design phase, failure to consider technologies that reduce consumption of water can place further pressure on already stressed water resources.	HIGH NEGATIVE	– Rainwater tanks should be considered in the design and planning phase. – Other water conservation measures should also be adopted into the building design such as low flush volume toilets and showers, etc.
Energy consumption	During the planning and design phase, failure to consider technologies that reduce the consumption of energy will result in an opportunity lost to conserve energy.	MODERATE NEGATIVE	– The design and layout should consider the use of alternative renewable energy sources (e.g. solar power and solar water heaters) and insulation of houses. – If renewable energy technology is not implemented initially, provisions should be made in the design phase to allow for easier post-construction retrofitting.
Waste Management	During the planning and design phase failure to plan for the storage and disposal of waste may lead to litter and pollution of the environment and can lead to unsanitary conditions and health risks.	MODERATE NEGATIVE	– During the planning and design phase, a proper waste management plan for handling onsite waste must be designed. – An appropriate area where waste can be stored before disposal must be identified. – The temporary storage facility/service yard must comply with the Norms and Standards for the Storage of Waste (2013).
Visual Aesthetics	During the planning and design phase inappropriate architectural design may lead to visual and aesthetic impacts.	MODERATE NEGATIVE	– The architectural design should be as unobtrusive as possible in terms of colour and building material used. – Vegetation could be planted to mitigate visual impacts
Increased traffic	During the planning and design phase, inadequate planning for the increased traffic entering the development could result in traffic congestion during the operational phase.	MODERATE NEGATIVE	– Access to the development should utilise multiple entry/exit sites to decrease at the development site.

1.2 Impacts associated with the construction phase of the development, and their mitigation measures

Activity	Impact summary	Significance	Proposed mitigation
CONSTRUCTION PHASE			
Policy compliance	During the construction phase the failure of the contractor to implement mitigation measures can result in non-compliance with the EA and EMPr. This could result in a lack of institutional support for the project, overall project failure or delays in construction and undue disturbance to the natural environment	HIGH NEGATIVE	– The developer must employ an independent Environmental Control Officer (ECO) for the construction phase to ensure that construction is implemented according to specifications in the EA and EMPr.
Stormwater management	During the construction phase, the uncontrolled management of stormwater may lead to flooding and erosion. Contaminants such as silt, sand and litter could be transported offsite via surface runoff and contaminate the surrounding environment.	MODERATE NEGATIVE	– During the construction phase, berms and swathes must be placed in areas that may be prone to erosion. – Temporary cut-off drains and berms may be required to capture storm water and promote infiltration. – The site must be managed in a manner that prevents pollution to downstream watercourses or groundwater, due to suspended solids, silt or chemical pollutants. – The project area must be monitored by an ECO on a regular basis.
Sanitation	During the construction phase the lack of appropriate and sufficient sanitation facilities for construction workers could lead to the contamination of soil and ground water.	MODERATE NEGATIVE	– Adequate sanitary and ablutions facilities must be provided for construction workers – The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.
Hazardous Substances	During the construction phase, inappropriate storage, usage and accidental spillage of hazardous substances (chemicals, paint, diesel, oil, cement, tar and bitumen mixing techniques) could contaminate the soil and groundwater.	MODERATE NEGATIVE	– The storage of potentially hazardous material must be controlled to reduce the risk of environmental contamination. – Any storage tanks containing hazardous materials must be placed in bunded containment areas with sealed surfaces. – All vehicles and machinery must be regularly maintained and in good working order to reduce the risk of contamination of soil and ground water. – During the construction phase, cement and concrete must not be mixed directly on the ground, or during rainfall events when the potential for transport of pollutants to watercourses is the greatest. – Cement and concrete must only be mixed in the area demarcated for this purpose and on an impermeable surface. – Mixed cement/concrete must not be allowed to flow into any watercourses. – Drip trays must be placed under construction machinery to avoid soil contamination from oil and fuel leaks. – All construction water and contaminated runoff must be directed away from drainage lines. – The area must be monitored by an ECO on a regular basis.

Activity	Impact summary	Significance	Proposed mitigation
			– The individual(s) that will be handling hazardous materials must be trained to do so. – All hazardous chemicals must be stored properly in a secure, bunded and contained area. – The area must be monitored by an ECO on a regular basis. – Contaminated soil must either be excavated or treated on-site, depending on the nature and extent of the spill. – The ECO must determine the precise method of treatment of polluted soil. This could involve the application of soil absorbent materials or oil-digestive powders to the contaminated soil. – If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials. – Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in suitable containers until appropriate disposal.
Waste Management	During the construction phase, construction rubble left onsite may attract vermin and encourage the growth of opportunistic alien vegetation.	MODERATE NEGATIVE	– During the construction phase, construction rubble should be disposed of in predetermined, demarcated spoil dumps that have been approved by RMLM.
	During the construction phase, litter on site may attract vermin, detract from the visual appeal of the area, and pollute the surrounding areas.	LOW NEGATIVE	– During the construction phase, litter caused by employees must not be tolerated. The ECO must monitor the sanitation of the work sites as well as the Contractor campsite. – No waste must be burned on site. All waste must be removed from the site and transported to the closest licenced landfill site.
	During the construction phase, hazardous waste, such as used oils and offcuts could pollute surface and groundwater resources if it is not contained properly.	MODERATE NEGATIVE	– During the construction phase, all hazardous waste materials must be stored cautiously as advised by the ECO, and then disposed of offsite at the closest licensed hazardous landfill site. – Contaminants should be stored safely to avoid spillage.
Disruption	During the construction phase, activities onsite can cause noise pollution that could potentially become a nuisance to surrounding residents.	MODERATE NEGATIVE	– During construction, activities which include the movement of construction vehicles and the operation of machinery must be restricted to normal working hours (07:00am – 17:00pm).
	During the construction phase inadequate planning for the transportation of construction equipment and increase in the use of the servitude road by heavy vehicles may lead to traffic congestion and road degradation.	MODERATE NEGATIVE	– A plan for traffic control must be implemented during the construction phase of the development. – The gravel servitude must be upgraded to acceptable Municipal Standards.

Activity	Impact summary	Significance	Proposed mitigation
Onsite fire risk	During the construction phase, inadequate attention to fire safety awareness and fire safety equipment could result in uncontrolled fires, posing a threat to animals, vegetation and the surrounding landowners	MODERATE NEGATIVE	– In order to reduce the risk of fires: o All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances. o Smoking must not be permitted near flammable substances. o All cooking must be done in demarcated areas that are safe in terms of runaway or uncontrolled fires. – No open fires will be allowed on site unless in a demarcated area. – The construction personnel must be educated regarding fire and fire management. – Fire extinguishers must be available onsite.
Socio-economic	During the construction phase, temporary job opportunities will be created.	MODERATE POSITIVE	– No mitigation provided
	During the construction phase there is the potential risk of poaching of indigenous wild animals by staff employed by the contractor.	MODERATE NEGATIVE	– All staff employed during construction must undergo environmental induction training. – No construction workers should reside onsite.
	During the construction phase increased number of labourers could lead to an increase in security risks in the community.	MODERATE NEGATIVE	– Access to the site must be controlled to ensure no unauthorised people enter the premises. – The construction site must be secured in order to reduce the opportunity for criminal activity in the locality of the site.
Sense of place	During the construction phase the vegetated mountainscape view will be replaced by the construction site (bare areas, construction vehicles, building materials, etc.), impacting on the aesthetic appeal of the area.	MODERATE NEGATIVE	– Suitable demarcation and fencing-off of construction activities. – Appropriate onsite storage of building materials. – Appropriate onsite disposal of waste, as well as regularly removal of waste to appropriate offsite location.
Ecological	Loss of natural vegetation	MODERATE NEGATIVE	– Construction activities must be limited to the designated footprint of the development.
	Loss of biodiversity	MODERATE NEGATIVE	– Clearing must be kept to a minimum, particularly upslope of the proposed development. – Slope stabilisation and anti-erosion measures should be employed in steep-sloping areas.
	Loss of floral species of conservation concern	LOW NEGATIVE	– As above.
	Habitat fragmentation	MODERATE NEGATIVE	– As above.
	Invasion of invasive alien plant species	MODERATE NEGATIVE	– An invasive alien plant management plan must be designed and implemented by RMLM and/or the contractor to monitor and remove alien species within and around the proposed site. – Disturbance should be limited to the construction footprint to prevent the establishment of invasive plants.

Activity	Impact summary	Significance	Proposed mitigation
	Soil erosion	MODERATE NEGATIVE	– Clearing must be kept to a minimum, particularly upslope of the proposed development. – Slope stabilisation and anti-erosion measures should be employed in steep-sloping areas.
	Dust	LOW NEGATIVE	– Employ dust suppression measures such as wetting of the project site during dry, windy periods. – Clearing must only occur immediately prior to construction to minimise the amount of time the soil is left bare and vulnerable to erosion.
	Loss of faunal habitat	LOW NEGATIVE	– Clearing of trees should take place in winter months, to prevent birds and bats establishing nesting grounds and starting to breed and rear young in the spring and summer months. – All clearing activities must deploy search and rescue teams in-front of clearing machinery to assist in relocating slower moving faunal species e.g. tortoises. – Where feasible, large established trees and rocky outcrops should be left and incorporated into the garden design of each erf.
Heritage	Archaelogical and/or paleontological artefacts, resources or heritage may be uncovered and destroyed during the construction phase.	MODERATE NEGATIVE	– The Chance Fossil Finds Procedure must be implemented throughout the construction phase.

1.3 Impacts associated with the operational phase of the development, and their mitigation measures

Activity	Impact summary	Significance	Proposed mitigation
Socioeconomic	During the operational phase there may be increased employment opportunities and stimulation of the local economy	HIGH POSITIVE	– No mitigation provided.
	During the operational phase the increase in residents to the area may stimulate the local economy.	HIGH POSITIVE	– No mitigation provided.
Sanitation	During the operational phase failure of sanitation systems (pump station and sewage pipelines) and the lack of infrastructural maintenance coupled with poor operation may lead to contamination of the ground, groundwater and surrounding water systems.	HIGH NEGATIVE	– The sewage pipelines and pump station must be properly managed, maintained and operated throughout the life of the project. – During the operational phase there should be periodic inspections of the sewage systems to identify any system failure which could lead to contamination of the surrounding water bodies. – Any leaks and failures of the sewer system must be fixed immediately and areas rehabilitated as needed.
Waste management	During the operational phase inappropriate waste storage and disposal practices may lead to litter, pollution, attraction of pests (flies, vermin and monkeys) and general nuisances and health risks.	MODERATE NEGATIVE	– A waste management plan must be in place to ensure appropriate collection, processing and disposal of solid waste. For example: An adequate backup plan should be in place in cease of service delivery strikes. – Reuse, recycling and separation-at-source of waste should be promoted as part of the home-owners agreement
Water and Energy consumption	During the operational phase the inappropriate use of energy and water resources could lead to a reduction in these already scarce resources.	HIGH NEGATIVE	– Effective monitoring and maintenance of all water reticulation infrastructure should be implemented to ensure no leakages.. – Consumption of water by households should be monitored. – Water-wise practices should be listed and recommended to residences, such as use of rainwater for non-potable water requirements. – Property owners should be encouraged to plant indigenous, water-wise plants in their gardens. – Retrofitting of alternative renewable energy sources such as solar (PV) power should be considered.
Traffic and Transport	During the operational phase the increase in road usage is likely to impact traffic flow.	MODERATE NEGATIVE	– The effectiveness of traffic control measures must be monitored on an on-going basis and appropriate remediation steps implemented if necessary. This may include notifying the municipal authorities of the need for road reconstruction etc.
Stormwater management	During the operational phase the failure of stormwater management measures may result in soil erosion.	HIGH NEGATIVE	– The effectiveness of the stormwater management measures must be monitored by the home-owners association.

Activity	Impact summary	Significance	Proposed mitigation
			– During the operation phase, the stormwater attenuation structures must be properly maintained. – If the stormwater management measures put in place are deemed insufficient, a qualified engineer must be approached to assist with additional storm water attenuation mechanisms and remediation.
Sense of place	During the operational phase the vegetated mountainscape view will be replaced by houses, impacting on the aesthetic appeal of the area.	MODERATE NEGATIVE	– Suitable demarcation and fencing-off of construction activities. – Appropriate onsite storage of building materials. – Appropriate onsite disposal of waste, as well as regularly removal of waste to appropriate offsite location.
	During the operational phase neighbourhood and community dynamics will change due to the expansion of the residential area. The significance of the impact is unknown at this stage and will depend on the degree of acceptance of the proposed development and cohesion of the current and future community.	DON'T KNOW	Promotion of community development values.
Ecological	Creation of garden habitats	LOW POSITIVE	– Maintenance of residential gardens.
	Effects on surrounding faunal species	LOW NEGATIVE	– Write into the title deed that annual pest control services are recommended. – Supply resident with contact details for local pest control services and snake handlers. – Appropriate, environmentally-friendly pest management should be adopted.

1.4 Impacts associated with the NO-GO phase of the development, and their mitigation measures

Activity	Impact summary	Significance	Proposed mitigation
NO-GO OPTION			
Site Degradation	Degradation and misuse of site	MODERATE NEGATIVE	Continue with the development of the residential area.
Visual and Aesthetics	The visual impact will remain the same.	LOW NEGATIVE	– Clearance of refuse currently on site. – Provide appropriate refuse removal and/or upgrade current refuse removal services.
Socio-Economic	No improvement in job opportunities.	MODERATE NEGATIVE	No mitigation provided.

A complete impact assessment which include process undertaken to identify, assess and rank the impacts, the activity will impose on the site through the life of the activity in terms of EIA Regulation 2014, Appendix 1(i) and (j) of GN R.982 must be included as Appendix H.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

SUMMARY OF THE PROPOSED DEVELOPMENT

The proposed development will include the following constructions:
- 100 residential units
- Internal roads
- Extension of basic service delivery including: electrical, sewage and water.
- Stormwater infrastructure

CONSIDERATION OF ALTERNATIVES

The preferred alternative, site and land use alternatives, and the no-go option were assessed for the proposed development. The area has already been impacted human and vehicular traffic, grazing and illegal dumping. The no-go option may result in further impacted by these disturbance.

SUMMARY OF SIGNIFICANT IMPACTS (all impacts that are High pre-mitigation) (SEE APPENDIX H for unabridged IMPACT STATEMENT)

The proposed development will result in a number of impacts, both positive and negative, during the Planning and Design, Construction and Operation Phases (see table below). The following table provides a summary of the pre-mitigation impacts that were ranked as HIGH. For the detailed environmental impact statement, please refer to the Appendix H-2.

PLANNING & DESIGN PHASE		
Impacts	**Significance pre-mitigation**	**Significance post-mitigation**
SEWAGE PIPELINES		
During the planning and design phase the inappropriate design or inferior quality infrastructure and installation of the sewage pipelines could lead to the contamination of ground water due to leakages into the underground system.	HIGH NEGATIVE	LOW NEGATIVE
STORMWATER MANAGEMENT		
During the planning and design phase, large areas of impermeable surfaces (e.g. roofs, paving, roads and parking) and inappropriate stormwater design will increase the risk of run-off and may lead to flooding, erosion, sedimentation and the discharge of pollutants, silt and litter.	HIGH NEGATIVE	LOW NEGATIVE
WATER CONSUMPTION		
During the planning and design phase, failure to consider technologies that reduce consumption of water can place	HIGH NEGATIVE	LOW NEGATIVE

further pressure on already stressed water resources.		
ENERGY CONSUMPTION		
During the planning and design phase, failure to consider technologies that reduce the consumption of energy will result in an opportunity lost to conserve energy.	HIGH NEGATIVE	LOW NEGATIVE

CONSTRUCTION PHASE		
Impacts	**Significance pre-mitigation**	**Significance post-mitigation**
POLICY COMPLIANCE		
During the construction phase the failure of the contractor to implement mitigation measures can result in non-compliance with the EA and EMPr. This could result in a lack of institutional support for the project, overall project failure or delays in construction and undue disturbance to the natural environment	HIGH NEGATIVE	LOW NEGATIVE
ONSITE FIRE RISK		
During the construction phase, inadequate attention to fire safety awareness and fire safety equipment could result in uncontrolled fires, posing a threat to animals, vegetation and the surrounding landowners	HIGH NEGATIVE	LOW NEGATIVE

OPERATIONAL PHASE		
Impacts	**Significance pre-mitigation**	**Significance post-mitigation**
SOCIO-ECONOMIC		
During the operational phase there may be increased employment opportunities and stimulation of the local economy.	HIGH POSITIVE	HIGH POSITIVE
During the operational phase the increase in residents to the area may stimulate the local economy.	HIGH POSITIVE	HIGH POSITIVE
SANITATION		
During the operational phase failure of sanitation systems (pump station and sewage pipelines) and the lack of infrastructural maintenance coupled with poor operation may lead to contamination of the ground, groundwater and surrounding water systems.	HIGH NEGATIVE	LOW NEGATIVE
WATER AND ENERGY RESOURCE MANAGEMENT		
During the operational phase the inappropriate use of energy and water	HIGH NEGATIVE	LOW NEGATIVE

resources could lead to a reduction in these already scarce resources.		
STORMWATER MANAGEMENT		
During the operational phase the failure of stormwater management measures may result in soil erosion.	HIGH NEGATIVE	LOW NEGATIVE

The phase with the highest number of potential impacts is the planning and design phase, therefore careful planning should be undertaken in the design of the development so as to minimise adverse environmental impacts.

SUMMARY OF IMPACT ASSESSMENT SIGNIFICANCE, PRE- AND POST-MITIGATION

	PRE-MITIGATION				POST-MITIGATION			
	LOW	MODERATE	HIGH	VERY HIGH	LOW	MODERATE	HIGH	VERY HIGH
Planning and Design	0	4	4	0	7	1	0	0
Construction	4	16 (+1)	2	0	17	4 (+1)	0	0
Operation	1 (+1)	3	3 (+2)	0	6 (+1)	1 (+1)	(+2)	0
TOTAL	5 (+1)	23 (+1)	11 (+2)	0	30 (+1)	6 (+2)	(+2)	0

In terms of the environmental assessment, no significant impacts were identified that could not be adequately mitigated.

OPINION OF THE EAP

CES (the EAP) hereby provides the following opinion concerning the proposed Ramotshere Berg Housing Development:

It is the opinion of CES that NO FATAL FLAWS are associated with the proposed Ramotshere Berg Housing Development, and that all impacts can be adequately mitigated to reduce the risk or significance of impacts to an acceptable level.

It is also the opinion of CES that this Basic Assessment Report contains sufficient information to allow DEDECT to make an informed decision. CES therefore recommends that the application for Authorisation should be approved on condition **that the recommended mitigation measures stated herein are effectively implemented**.

MITIGATION MEASURES – See section E below.

~~**Alternative B**~~

~~**Alternative C**~~

No-go alternative (compulsory)

The no-go alternative poses low to moderate negative pre-mitigation impacts as summarised below. With the implementation of mitigation measures, these impacts may reduce in significance and/or become positive impacts.

NO-GO ALTERNATIVE		
Impacts	**Significance pre-mitigation**	**Significance post-mitigation**
SITE DEGRADATION		
Degradation and misuse of site	MODERATE NEGATIVE	LOW NEGATIVE

ECOLOGICAL		
Continued infestation of the area with alien vegetation.	MODERATE NEGATIVE	LOW NEGATIVE
VISUAL AND AESTHETICS		
The visual impact will remain the same.	LOW NEGATIVE	LOW POSITIVE
SOCIO-ECONOMIC		
No improvement in job opportunities	MODERATE NEGATIVE	MODERATE POSITIVE

MITIGATION MEASURES – See section E below.

SECTION D: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	**Rustenburg Herald**
Date published	**12 April 2019**
Site notice position	**Longitude**
	26° 4'46.83"E
	26° 4'51.22"E
Date placed	**12 April 2019**

Include proof of the placement of the relevant advertisements and notices in Appendix I1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN R.982.

Key stakeholders (other than organs of state) identified in terms of Regulation 40(2)(d) of GN R.982:

NO OTHER KEY STAKEHOLDERS WERE IDENTIFIED. FULL I&APs REGISTER PROVIDED IN APPENDIX I5.

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)

Include proof that the key stakeholder received written notification of the proposed activities as Appendix I2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

THE FINAL ISSUES AND RESPONSE TRAIL (IRT) WILL BE INCLUDED IN THE FINAL BAR, ONCE THE DRAFT BAR HAS UNDERGONE A THIRTY (30) DAY PUBLIC REVIEW PERIOD.

Issues and comments raised by the I&APs to date are include in Appendix I3.

Summary of main issues raised by I&APs	Summary of response from EAP

4. COMMENTS AND RESPONSE REPORT

The practitioner must make report (s) available to I&APs record all comments received from I&APs and respond to each comment before is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA Regulations and be attached to the Final BAR as Appendix I3.

All comments received following the availability of the Draft BA will be compiled in a Comments and Responses Report which will be included in the Final BA Report for submission to DEDECT for review and a decision on Environmental Authorisation.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
NW DEDECT	Dr Poncho Mokaila	018 389 5146 / 5104	018 389 5090	pmokaila@nwpg.gov.za	PO Box 8769, Johannesburg, 2001
NW DEDECT	Ms Ouma Skosana	018 389 5156		oskosana@nwpg.gov.za	
NW DEDECT	Ms Ellis Thebe	018 389 5099		gethebe@nwpg.gov.za	
NW Department of Community Safety & Transport Management	Ms Botlhale Mofokeng	018 200 8001 / 8009		bmofokeng@nwpg.gov.za	
NW Department of Community Safety & Transport Management	Mr Ntlhopang Dikobe	018 200 8003 / 8020		ndikobe@nwpg.gov.za	
North West DWS	Dr Tseliso Ntili	018 387 9500		NtiliT@dws.gov.za	Acting Chief Director: North West Private Bag X5 MMABATHO 2735
North West DWS	Ms Wendy Ralekoa		+27 18 392-2998	RalekoaW@dws.gov.za	Private Bag X5, Mmabatho, 2735
North West DWS	Mr. Justice Maluleke	012 392 1409	+27 18 392-2999	malulekej@dws.gov.za	Department of Water and Sanitation, Private Bag X357, Hartebeespoort, 0216
North West DWS	Ms. Cornia Theunissen			theunissenc@dws.go.za	For Attention: Ms Cornia Theunissen – Water Quality Administration 082-889-7930. Department of Water and Sanitation, Private Bag X357, Hartebeespoort, 0216
Ngaka Modiri Molema DM	Ms. Mmapula Dorcas Dambuza	018 381 9400	018 381 0561	municipalmanager@nmmdm.gov.za	
Ngaka Modiri Molema DM	Ms. Selebatso Mavis Nkadimang	018 381 9400		nkadimangs@nmmdm.gov.za	
Ngaka Modiri Molema DM	Ms. Merriam Kgomotso Mahlobo	018 381 9400		mahlobom@nmmdm.gov.za	
Ramotshere Moiloa Local Municipality	Mr Ditshaba Makhate	018 642 1081 (ext 290)		Ditshaba.Makhate@ramotshere.go.za	PO Box 92, Zeerust, 2865 (Att: Municipal manager, Mr Ditshaba Makhate)

Ramotshere Moiloa Local Municipality	Mr Tiro Seleka	018 642 1081		tiro.seleka@ramotshere.gov.za	
Ramotshere Moiloa Local Municipality	Ms Berlinda Seabi	018 642 1081 ext 310		berlinda.seabi@gmail.com	
Ramotshere Moiloa Local Municipality	Mr Olebegeng Gasealahwe	018 642 1081 ext 303	018 642 2618	oigasealahwe@gmail.com	
Ramotshere Moiloa Local Municipality	Mr David Seleka			selekad58@gmail.com	
Ramotshere Moiloa Local Municipality	Mr Israel Tlhobogang Moloantoa	018 642 1081 (ext 207)	018 642 3586		PO Box 92, Zeerust, 2865 (Att: Ward councillor 15, Mr Israel Tlhobogang Moloantoa)
Ramotshere Moiloa Local Municipality	Mr Yousuf Suliman		018 642 3586		PO Box 92, Zeerust, 2865 (Att: Ward councillor 16, Mr Yousuf Suliman)
NW Provincial Heritage Resource Agency (PHRA)	Mr Mosiane Mothlabane			mosianem@nwpg.gov.za	

Include proof that the Authorities and Organs of State received written notification and draft reports of the proposed activities as Appendix I4.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as Appendix I5.

THE ISSUES AND RESPONSE TRAIL (IRT) WILL BE INCLUDED IN THE FINAL BAR, ONCE THE DRAFT BAR HAS UNDERGONE A THIRTY (30) DAY PUBLIC REVIEW PERIOD.

Copies of any correspondence and minutes of any meetings held must be included in Appendix I6.

THE ISSUES AND RESPONSE TRAIL (IRT) WILL BE INCLUDED IN THE FINAL BAR, ONCE THE DRAFT BAR HAS UNDERGONE A THIRTY (30) DAY PUBLIC REVIEW PERIOD.

SECTION E: RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	**YES**	~~NO~~

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

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

It is recommended that all mitigation measures provided in this report should be a condition of any approval from DEDECT. In addition, a **Construction and Operational Environmental Management Programme** needs to be approved.

RECOMMENDATIONS TO BE CONSIDERED IN THE PLANNING AND DESIGN PHASE

Proposed mitigation measures

LEGISLATION & POLICY COMPLIANCE

- During the planning and design phase, the development must adhere to the relevant legislation and/or policy, e.g. Municipal By-laws, SDFs, etc.

SEWAGE PIPELINES

- During the planning and design phase appropriate technology that meets approved acceptable technical standards such as SABS should be selected.
- The sewage pipelines must be tested for defects and leakages before the trenches are closed.

STORMWATER MANAGEMENT

- Flood attenuation systems and a Stormwater Management Plan must address channelling, stormwater capture and discharge.
- Measures to avoid and minimise impacts associated with the discharge points (e.g. sumps and dispersers) must be included.
- The stormwater management plans must be designed by a qualified engineer and approved by DEDECT and DWS.
- Impermeable surfaces should be minimised as much as possible through permeable surface technology, such as grassed gardens and verges and permeable paving etc.

WATER COMSUMPTION

- Rainwater tanks should be considered in the design and planning phase.
- Other water conservation measures should also be adopted into the building design such as low flush volume toilets and showers, etc.

ENERGY CONSUMPTION

- The design and layout should consider the use of alternative renewable energy sources (e.g. solar power and solar water heaters) and insulation of houses.
- If renewable energy technology is not implemented initially, provisions should be made in the design phase to allow for easier post-construction retrofitting.

WASTE MANAGEMENT

- During the planning and design phase, a proper waste management plan for handling onsite waste must be designed.
- An appropriate area where waste can be stored before disposal must be identified.
- The temporary storage facility/service yard must comply with the Norms and Standards for the Storage of Waste (2013).

ECOLOGICAL

- The Environmental Management Programme should include environmental control measures such as boardwalks (to control access and movement), signage etc. in order to protect the surrounding areas from disturbance by recreational activities.
- If any construction takes place inside or within 50m of the drainage lines authorisation from DWS must be obtained.
- Fencing of the property must not be outside the development boundary.

VISUAL IMPACTS
- Vegetation could be planted to mitigate visual impacts

TRAFFIC IMPACTS
- Access to the development should utilise multiple entry/exit sites to decrease traffic around the development site.

RECOMMENDATIONS TO BE CONSIDERED IN THE CONSTRUCTION PHASE

Proposed mitigation measures

POLICY COMPLIANCE
- The developer must employ an independent Environmental Control Officer (ECO) for the construction phase to ensure that construction is implemented according to specifications in the EA and EMPr.

STORMWATER MANAGEMENT
- During the construction phase, berms and swathes must be placed in areas that may be prone to erosion.
- Temporary cut-off drains and berms may be required to capture storm water and promote infiltration.
- The site must be managed in a manner that prevents pollution to downstream watercourses or groundwater, due to suspended solids, silt or chemical pollutants.
- The project area must be monitored by an ECO on a regular basis.

SANITATION
- Adequate sanitary and ablutions facilities must be provided for construction workers
- The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.
- Portable toilets must not be located within 50 metres of any watercourse.

HAZARDOUS SUBSTANCES
- The storage of potentially hazardous material must be controlled to reduce the risk of environmental contamination.
- Any storage tanks containing hazardous materials must be placed in bunded containment areas with sealed surfaces.
- All vehicles and machinery must be regularly maintained and in good working order to reduce the risk of contamination of soil and ground water.
- During the construction phase, cement and concrete must not be mixed directly on the ground, or during rainfall events when the potential for transport of pollutants to watercourses is the greatest.
- Cement and concrete must only be mixed in the area demarcated for this purpose and on an impermeable surface.
- Mixed cement/concrete must not be allowed to flow into any watercourses.
- Drip trays must be placed under construction machinery to avoid soil contamination from oil and fuel leaks.
- All construction water and contaminated runoff must be directed away from drainage lines.
- The area must be monitored by an ECO on a regular basis.
- The individual(s) that will be handling hazardous materials must be trained to do so.
- All hazardous chemicals must be stored properly in a secure, bunded and contained area.
- The area must be monitored by an ECO on a regular basis.
- Contaminated soil must either be excavated or treated on-site, depending on the nature and extent of the spill.
- The ECO must determine the precise method of treatment of polluted soil. This could involve the application of soil absorbent materials or oil-digestive powders to the contaminated soil.

- If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.
- Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in suitable containers until appropriate disposal.

WASTE MANAGEMENT

- During the construction phase, construction rubble should be disposed of in predetermined, demarcated spoil dumps that have been approved by RMLM.
- During the construction phase, construction rubble should be disposed of in predetermined, demarcated spoil dumps that have been approved by RMLM.
- During the construction phase, litter caused by employees must not be tolerated. The ECO must monitor the sanitation of the work sites as well as the Contractor campsite.
- No waste must be burned on site. All waste must be removed from the site and transported to the closest licenced landfill site.
- During the construction phase, all hazardous waste materials must be stored cautiously as advised by the ECO, and then disposed of offsite at the closest licensed hazardous landfill site.
- Contaminants should be stored safely to avoid spillage.

DISRUPTION

- During construction, activities which include the movement of construction vehicles and the operation of machinery must be restricted to normal working hours (07:00am – 17:00pm).
- A plan for traffic control must be implemented during the construction phase of the development.
- The gravel servitude must be upgraded to acceptable Municipal Standards.

ONSITE FIRE RISK

- In order to reduce the risk of fires:
    - All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances.
    - Smoking must not be permitted near flammable substances.
    - All cooking must be done in demarcated areas that are safe in terms of runaway or uncontrolled fires.
- No open fires will be allowed on site unless in a demarcated area.
- The construction personnel must be educated regarding fire and fire management.
- Fire extinguishers must be available onsite

SOCIOECONOMIC

- All staff employed during construction must undergo environmental induction training.
- No construction workers should reside onsite.
- Access to the site must be controlled to ensure no unauthorised people enter the premises.
- The construction site must be secured in order to reduce the opportunity for criminal activity in the locality of the site.

SENSE OF PLACE

- Suitable demarcation and fencing-off of construction activities.
- Appropriate onsite storage of building materials.
- Appropriate onsite disposal of waste, as well as regularly removal of waste to appropriate offsite location.

ECOLOGICAL

- Clearing must be kept to a minimum, particularly upslope of the proposed development.
- Slope stabilisation and anti-erosion measures should be employed in steep-sloping areas.
- A written method statement should be given to each new landowner who purchases each erf to encourage them and their contractors to adhere to the following measures:
    - Topsoil should be stockpiled on site (and separately to the subsoil) and used to landscape the garden.

- All contractors who work on site must be prohibited from making fires, harvesting plants and animals from the site and surrounds.
- Residents should be encouraged to use indigenous species in their gardens.

- In addition to the mitigation measures listed above it is recommended that the following mitigation measures are implemented:
  - Alien invasive species should be removed from the areas where development will not occur. The vacant erven should monitored for re-invasion by RMLM and/or contractor between the clearance and construction phases. An invasive alien plant management plan must be drafted and implemented by RMLM and/or contractor.
  - The construction area must be demarcated and no unauthorised activities must occur outside of the construction footprint.
- Employ dust suppression measures such as wetting of the project site during dry, windy periods.
- Clearing must only occur immediately prior to construction to minimise the amount of time the soil is left bare and vulnerable to erosion.
- All clearing activities must deploy search and rescue teams in-front of clearing machinery to assist in relocating slower moving faunal species e.g. tortoises.
- Where feasible, large established trees and rocky outcrops should be left and incorporated into the garden design of each erf.

HERITAGE

- The Chance Fossil Finds Procedure must be implemented throughout the construction phase.

RECOMMENDATIONS TO BE CONSIDERED FOR THE OPERATIONAL PHASE

Proposed mitigation measures

SANITATION SYSTEM

- The sewage pipelines and pump station must be properly managed, maintained and operated throughout the life of the project.
- During the operational phase there should be periodic inspections of the sewage systems to identify any system failure which could lead to contamination of the surrounding water bodies, e.g. the estuary.
- Any leaks and failures of the sewer system must be fixed immediately, and areas rehabilitated as needed.

WATER AND ENERGY RESOURCE MANAGEMENT

- Effective monitoring and maintenance of all water reticulation infrastructure should be implemented to ensure no leakages.
- Consumption of water by households should be monitored.
- Water-wise practices should be listed and recommended to residences, such as use of rainwater for non-potable water requirements.
- Property owners should be encouraged to plant indigenous, water-wise plants in their gardens.

TRAFFIC AND TRANSPORT

- The effectiveness of traffic control measures must be monitored on an on-going basis and appropriate remediation steps implemented if necessary. This may include notifying the municipal authorities of the need for road reconstruction etc.

STORMWATER MANAGEMENT

- The effectiveness of the stormwater management measures must be monitored by the home-owners association.
- During the operation phase, the stormwater attenuation structures must be properly maintained.
- If the stormwater management measures put in place are deemed insufficient, a qualified engineer must be approached to assist with additional storm water attenuation mechanisms and remediation.

SENSE OF PLACE

- Suitable demarcation and fencing-off of construction activities.
- Appropriate onsite storage of building materials.

- Appropriate onsite disposal of waste, as well as regularly removal of waste to appropriate offsite location.
- Promotion of community development values.

ECOLOGICAL

- Maintenance of residential gardens.
- Write into the title deed that annual pest control services are recommended.
- Supply resident with contact details for local pest control services and snake handlers.
- Appropriate, environmentally-friendly pest management should be adopted.

RECOMMENDATIONS TO BE CONSIDERED FOR THE NO-GO ALTERNATIVE

SITE DEGRADATION

- Rehabilitation and maintenance of the Site
- Placement of no dumping signs
- Issuing of fines if dumping caught.
- Restricted access on roads
- Consolidation of road network
- Decommissioning and rehabilitation of roads not needed.

ECOLOGICAL

- Rehabilitation of the Site

VISUAL AND AESTHETICS

- Clearance of refuse currently on site.
- Provide appropriate refuse removal and/or upgrade current refuse removal services.

SOCIO-ECONOMIC

- Continue with the development of the Ramotshere Berg Housing Development.

The EMPr that meet the requirements of EIA Regulation, 2014, Appendix 4, must be attached as Appendix J.

Is an EMPr attached?	**YES**	~~NO~~

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix K

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix F

Any other information relevant to this application and not previously included must be attached in Appendix L.

SECTION F: AFFIRMATION BY EAP

I -------Aidan Gouws-----(name of person representing EAP) of -------CES---------(name of company) declare that the information provided is correct and relevant to the activity/ project and that, the information was made available to interested and affected parties for their comments. All specialist (s) reports are relevant for the competent authority to make informed decision.

_____ _____11/11/2019_____

SIGNATURE OF EAP **DATE**

SECTION G: APPENDICES

The following appendices must be attached:

APPENDIX		Tick the box if Appendix is attached
Appendix A	A3 Locality Map	✓
Appendix B	Layout Plan and Sensitivity Maps	✓
Appendix C	Photographs	✓
Appendix D	Facility illustration(s)	
Appendix E	Confirmation of services by Municipality (servitude and infrastructure planning)	
Appendix F	Details and expertise of Specialists and Declaration of Interest	✓
Appendix G	Specialist reports (including terms of reference)	✓
Appendix H	Impact Assessment	✓
Appendix I	Public Participation	✓
Appendix J	Environmental Management Programme (EMPr)	✓
Appendix K	Details of EAP and expertise	✓
~~Appendix L~~	~~Any other Information~~	
~~Appendix M~~	~~Financial Provision (if applicable)~~	
~~Appendix N~~	~~Closure Plan (where applicable) as described in Appendix 5 of EIA Regulations, 2014~~	

APPENDIX A - A3 Locality Map

APPENDIX B - Layout Plan and Sensitivity Maps

APPENDIX C - Photographs

APPENDIX D - Facility illustration(s)

There are currently no illustrations.

APPENDIX E - Confirmation of available capacity for basic services

Confirmation of services by Municipality (servitude and infrastructure planning) to be included in Final BAR.

APPENDIX F - Details and expertise of Specialists and Declaration of Interest

1. Appendix F1: Details and expertise of Ecological Specialist and Declaration of Interest
2. Appendix F2: Details and Expertise of Geotechnical specialist
3. Appendix F3: Details and Expertise of Heritage specialist

APPENDIX G - Specialist reports

1. Appendix G1: Ecolgical Impact Assessment
2. Appendix G2: Geotechnical Assessment
3. Appendix G3: Heritage Screener

APPENDIX H - Impact Assessment

1. Appendix H1: Methodology for Assessing Impacts
2. Appendix H2: Environmental Impact Statement

APPENDIX I - Public Participation

1. Appendix I1: Advertisements and Notices
2. Appendix I2: Notification to I&APs
3. Appendix I3: Comments and Response Report
4. Appendix I4: Notification to Authorities
5. Appendix I5: I&AP Register
6. Appendix I6: Meeting Minutes

APPENDIX J - Environmental Management Programme (EMPr)

APPENDIX K - Details of EAP and expertise

APPENDIX L - Any other Information

No additional information at this stage. Any additional information will included here in the final BAR.