

BASIC ASSESSMENT REPORT



destea

department of
economic, small business development,
tourism and environmental affairs
FREE STATE PROVINCE

(For official use only)

File Reference Number:

Application Number:

Date Received:

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

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **07 April 2017**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

DRAFT

SECTION A: ACTIVITY INFORMATION

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

NO

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

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

The proposed project will entail the development of at least 28 residential units as part of a group housing scheme on the Remaining Extent of Portion 1 of the farm Strathearn 2154, situated in the Magisterial District of Bloemfontein, Free State Province.

Associated activities will include amongst other the following:

- Construction of an access road of approximately 13m in width, but less than 1km long; and an entrance gate traversing the 1:100 year flood line (Erf 37005);
- Extension of the existing bulk services, e.g. sewage line and clean water line (Possibly traversing the 1:100 year flood line);
- Construction of a reservoir for storage of water (capacity 330 kilolitres and footprint approximately 144m²) (Erf 37005);
- Construction of a 500kVa (0.5 megawatt) mini-substation (approximately 5.4m x 3.8m totalling 20.52m²) (Erf 37005) extending 11kV to the existing Threatnam substation;
- Phased construction of houses and associated infrastructure during development of the 28 residential units on the property (Erf 37005);
- Establishment of below-ground electricity lines (Erf 37005);
- Establishment of street lighting along the access road (Erf 37005);
- Implementation of storm water control measures, e.g. culverts and flow attenuation measures. This includes a storm water drainage channel within a servitude of 10m in width extending on the northern boundary of the farm on Erf 37004.

Bulk services that will be associated with the development will be incorporated within the existing services of Mangaung Metropolitan Municipality and done in accordance with the service agreement.

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

Listed activity as described in GN 327,325 and 324	Description of project activity
Example: <i>GN 327 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a</i>	<i>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</i>

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<i>watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i>	
<p>GN. R327 Item 19</p> <p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.</p>	<p>Proposed construction of an access road approximately 13m in width over a distance of approximately 5m over the width of a non-perennial stream traversing the site. It is expected that material may be removed and infilled as part of the earthworks. Approximately 25 - 30 cubic metres of material are anticipated for use during the construction of the low-water crossing over the stream.</p>
<p>GN. R327 Item 27</p> <p>The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.</p>	<p>The clearance of vegetation for the construction of infrastructure associated with the proposed residential development on Erf 37005 (approximately 7 ha in size) of the affected farm, including amongst other: the access road and gate; houses and associated infrastructure; development of gardens; Mini-substation; storm water control measures. Proposed construction of a clean water reservoir (330 cubic metre capacity) on Erf 37005 of the affected farm.</p> <p>Construction of a gravel channel on Erf 37004 and mitre drains on Erf 37005 as part of the storm water control on site.</p>
<p>GN. R327 Item 28(i)</p> <p>Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</p> <ul style="list-style-type: none"> i) Will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or ii) Will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; <p>Excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.</p>	<p>Proposed residential development for group housing on Erf 37005 (approximately 7 ha), on the farm Strathearn 2154/1 (Remaining extent) within the urban edge of Bloemfontein. The farm has been included in the Town Planning Scheme of Bloemfontein in September 2012 (refer to the approval letter dated 27 September 2012 attached under Appendix J). An application for the amendment of the general plan will be submitted to the local municipality for approval. Also refer to the new proposed layout under Appendix A.</p>
<p>GN. R327 Item 32</p> <p>The continuation of any development where the environmental authorisation has lapsed and where the continuation of the development, after</p>	<p>A Record of Decision has been issued for the proposed activity on 18 December 2009 (refer to Appendix J); however construction has not been commenced with prior to lapsing of the RoD. The</p>

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the date the environmental authorisation has lapsed, will meet the threshold of any activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014.	applicant intent to continue with the proposed activity.
<p>GN. R324 Item 2</p> <p>The development of reservoirs excluding dams, with a capacity of more than 250 cubic metres.</p> <p>b. Free State</p> <p>iii. Inside urban areas:</p> <p>aa) Areas zoned for use as public open space.</p>	<p>Proposed construction of a reservoir with a capacity of 330 cubic metres for storage of water as part of the fire emergency plan and as back up storage for use in the development for 52 hours. The preferred locality for the reservoir will be on the farm Strathearn 2154/1 (Remaining Extent), Erf 37005 zoned "general residential 5". The alternative site for the reservoir is on the ridge on Erf 37007 which is zoned as "private open space".</p>
<p>GN. R324 Item 4</p> <p>The development of a road wider than 4 metres with a reserve less than 13.5 metres.</p> <p>b. Free State</p> <p>(ii) Inside urban areas.</p> <p>(aa) Areas zoned for use as public open space.</p>	<p>Proposed construction of a central access road approximately 13m in width giving access to each residential unit on Erf 37005, zoned for "General residential 5". An application for amendment of the current approved general plan will be submitted to the local municipality in order to close Erf 37008 (street) of the existing approved layout and extend the boundaries of Erf 37005. Refer to Appendix A for the approved General Plan and new proposed General Plan submitted for approval.</p> <p>The first approximate 100m from the west where the access road will be constructed is currently zoned "Private open space".</p>
<p>GN. R324 Item 12</p> <p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>b. Free State</p> <p>iv. Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland.</p>	<p>Clearance of vegetation for the proposed construction of the access gate (with security facilities) and access road with a width of 13m over approximately 200m dense vegetated area along the non-perennial stream traversing the site to the west.</p>

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 Appendix 1 (3)(h) of GN 326, Regulation 2014 as amended. 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. 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. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

NOTE: For ease of reference and assessment throughout this report, the alternatives have been grouped as indicated in this table.

Alternative group	Description
A1	Proposed residential development
A2	Proposed reservoir
A3	Proposed access road
A4	Proposed mini-substation
A5	Bulk services (i.e. clean water line and sewage line)

a) Site alternatives

Alternative 1: Proposed residential development		
Description	Lat (DDMMSS)	Long (DDMMSS)
Preferred and only site alternative 1.1: Proposed development of residential development: Remaining Extent of Portion 1 of the farm Strathearn 2154.	29° 02' 50.70"	26° 14' 10.89"

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Alternative 2: Proposed reservoir		
Description	Lat (DDMMSS)	Long (DDMMSS)
Preferred site alternative 2.1: Proposed construction of a reservoir with a capacity of 330 m ³ for storage of water as back up for 52 hours and fire emergency on Erf 37005 as part of the proposed residential development: Remaining Extent of Portion 1 of the farm Strathearn 2154.	29° 02' 46.99"	26° 14' 02.85"
Site alternative 2.2: Proposed construction of a reservoir with a capacity of 330 m ³ for storage of water as back up for 52 hours and fire emergency on Erf 37007 as part of the proposed residential development: Remaining Extent of Portion 1 of the farm Strathearn 2154.	29° 02' 56.75"	26° 14' 10.21"
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3.1 & 3.2: Access road (coordinates below).		

In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S3.1 (preferred): Access road on amended General Plan. Refer to the addendums under Appendix A and C for the proposed route.

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

29° 02' 45.37"	26° 13' 58.79"
29° 02' 51.44"	26° 14' 12.02"
29° 02' 52.85"	26° 14' 22.35"

Alternative S3.2 (if any): Access road on initial General Plan (Erf 37008/street) (excluding internal road network)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

29° 02' 46.86"	26° 13' 58.47"
29° 02' 47.54"	26° 14' 01.46"
29° 02' 48.43"	26° 14' 03.98"

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

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

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 A of this form.

b) Lay-out alternatives

Alternative 1.1 (Preferred): Proposed residential development (amended general plan)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Preferred layout alternative 1.1: Proposed development of 28	29° 02' 50.70"	26° 14' 10.89"

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units on Erf 37005 and associated infrastructure on the farm Strathearn 2154/1 (RE). Refer to Appendix A for the amended layout plan and preferred site layout.		
Alternative 1.2: Proposed residential development (approved general plan)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Layout alternative 1.2: Proposed development of approximately 53 units on Erf 37005 and associated infrastructure on the farm Strathearn 2154/1 (RE) as per general plan approved September 2012 (Appendix A).	29° 02' 50.70"	26° 14' 10.89"
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A		

c) Technology alternatives

Alternative 1 (preferred alternative)	
Alternative 4.1: Proposed construction of a 0.5 megawatt (500kVa) mini-substation on Erf 37005, extending 11kV for distribution of electricity to the residential units and access gate. There are currently no other technology alternatives. The installation of small scale PV solar power for individual households may be possible and will be promoted, but this will be the prerogative of each individual house owner and is therefore not considered in this application.	
Alternative 2	
N/A	
Alternative 3	
N/A	

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

Alternative 1 (preferred alternative)	
Alternative 5.1: Bulk services will be incorporated within the existing services of the municipality in accordance with the service agreement. No other alternative in respect of bulk services are considered as part of this application.	
Alternative 2	
N/A	
Alternative 3	
N/A	

e) No-go alternative

The 'no-go alternative' entails that the proposed residential development and associated infrastructure (including access road, access gate, substation, water reservoir, storm water control, houses and bulk services) is not continued with.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1.1¹ (preferred activity alternative) (Residential units on Erf 37005 of amended general plan)

Alternative A1.2 (activity alternative) (Residential units on Erf 37005 of approved general plan)

Alternative A2.1 (preferred site alternative) (Reservoir on Erf 37005)

Alternative A2.2 (site alternative) (Reservoir on Erf 37007)

Alternatives A4.1 (preferred technology alternative) (mini-substation on Erf 37005)

Size of the activity:

68 756 m ²
54 732 m ²
±144 m ²
Reservoir: ±144 m ² (Pipeline: ±100 – 200 m ²)
±20.52 m ²

or, for linear activities:

Alternative:

Alternative A3.1 (preferred activity alternative) (Access road on amended general plan)

Alternative A3.2 (activity alternative) (Access road as per approved general plan: Erf 37008/ street)

Alternative A3 (if any)

Length of the activity:

±700 m (total of central access to units)
±160 m (excluding internal road network to units)
m

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

Alternative:

Alternative A1.1 (preferred alternative) [Residential units on Erf 37005 of the amended general plan on the farm Strathearn 2154/1(RE)]

Alternative A1.2 (alternative) [Residential units on Erf 37005 of approved general plan on the farm Strathearn 2154/1(RE)]

Alternative A2.1 (based on amended general plan) [proposed reservoir]

Size of the site/servitude:

68 756 m ² (Erf 37005) 21.4133 ha (Strathearn 2154/1 (RE))
54 732 m ² (Erf 37005) 21.4133 ha (Strathearn 2154/1 (RE))
68 756 m ² (Erf 37005) 21.4133 ha (Strathearn 2154/1 (RE))

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative 2.2 (based on amended general plan) [proposed reservoir]

71 182 m² (Erf 37007)
21.4133 ha (Strathearn
2154/1 (RE))

Alternative A3.1 (preferred activity) [Access road within Erf 37005 on amended general plan]

68 756 m² (Erf 37005)
21.4133 ha (Strathearn
2154/1 (RE))

Alternative A3.2 (activity alternative) (Access road as per approved general plan: Erf 37008/ street)

±2 100 m²
21.4133 ha (Strathearn
2154/1 (RE))

Alternative A4.1 (based on amended general plan) [Mini-substation]

68 756 m² (Erf 37005)
21.4133 ha (Strathearn
2154/1 (RE))

4. SITE ACCESS

Does ready access to the site exist?

NO

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

±700 m

Describe the type of access road planned:

According to the amended general plan, the access road will be a direct access from the T185, extending along the middle of Erf 37005 providing access to all units from a central road. The access road will be a paved road approximately 13m in width and approximately 700m in length, with a 1.5m paved side walk on each side. A low water crossing with three storm water pipes will be constructed over the non-perennial stream traversing the site on the western side to allow water to follow the natural drainage line. Refer to Appendix C for drawings related to the access road.

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);
- 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 and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

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 A 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; and
- a north arrow.

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 DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

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 B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

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

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		Please explain
The farm Strathearn 2154/1 (RE) has been earmarked for "future residential areas" according to the Mangaung Metropolitan Municipality: Bloemfontein Micro Framework Map (Draft Issue), 2017. This farm has been included in the Township Planning Scheme of Bloemfontein as Bloemfontein Extension 207 in 2012 and restrictions on the title deed has been lifted (refer to the letter under Appendix J).			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
The property has been included in the Township Planning Scheme of Bloemfontein as Bloemfontein Extension 207 in 2012. Approval in terms of section 11(2) of the Township Ordinance, 1969 (Ordinance No. 9 of 1969) for condonation and extension, pertaining to a land development on Strathearn 2154/1 was obtained from Cooperative Governance and Traditional Affairs (COGTA) in October 2017 (refer to the letter from COGTA dated 19 October 2019 attached under Appendix J).			
(b) Urban edge / Edge of Built environment for the area	YES		Please explain
The farm Strathearn 2154/1 (RE) has been earmarked for "future residential area" and although also considered as peri-urban, it is located within the urban edge of Bloemfontein.			
(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		Please explain
The proposed development is in line with the Mangaung Metropolitan Municipality Draft IDP, 2017-2022 and has been included in the Township Planning Scheme of Bloemfontein in 2012. The surrounding properties have also either already been included in the Town Planning Scheme and/or are in the application process.			
(d) Approved Structure Plan of the Municipality	YES		Please explain
Approval from the Municipality has been obtained previously, provided that the service level agreement and conditions stipulated in respect of infrastructure and bulk services are adhered with.			

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(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		Please explain
<p>The farm Strathearn 2154/1 (RE) has been earmarked for “future residential area” and although also considered as peri-urban, it is located within the urban edge of Bloemfontein. An Environmental Authorisation was issued for the development in 2009, but as construction has not commenced within the stipulated time frame, the authorisation has lapsed and therefore a new application is required.</p> <p>Based on the fact that the surrounding properties have also already been included in the Township Planning Scheme and/or is in the application process and that approval had previously been issued for this proposed development, the existing environmental management priorities for the area is not expected to be compromised.</p> <p>The amended general plan makes provision that identified sensitive areas are excluded from the main development and these erven (i.e. Erf 37004 and Erf 37007) will be zoned as “private open space”. The residential units will be developed on Erf 37005 which is zoned as “general residential 5”/group housing. In this way the sensitive areas are expected to be conserved and will act as natural corridors.</p>			
(f) Any other Plans (e.g. Guide Plan)	YES		Please explain
<p>The proposed development complies with the Township Ordinance, 1969 (Ordinance No. 9 of 1969) and is in the process to develop a service level agreement with the municipality. Refer to Appendix J for the draft agreement to be approved.</p>			
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		Please explain
<p>The proposed development is in line with the IDP and SDF of Mangaung and the farm has been included in the Township Planning Scheme of Bloemfontein in 2012. The General Plan was approved by COGTA at the time; however, an amendment to this plan will be submitted for consideration. The amendment will only entail minor changes to the extent of each registered Erf and closure of Erf 37008 (street). Refer to the amended plan under Appendix A.</p>			

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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		Please explain
<p>There is a great need for residential development in Bloemfontein and according to the Mangaung Metropolitan Municipality Draft IDP (2017/2022), one of the medium targets are safe housing and to create a functional and equitable residential property market with new housing units.</p> <p>The surrounding properties have also either already been included in the Town Planning Scheme and/or in the application process. No objections towards the proposed development have been received to date.</p>			
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 I.)	YES		Please explain
<p>The bulk services will be incorporated within the existing services of Mangaung Municipality. There is an existing clean water pipeline and sewage line in the immediate vicinity within the reserve of route T185. The applicant will be responsible for the installation of the internal system reticulation system and connection thereof to incorporate the proposed development to the existing services of Mangaung. A draft Service Level Agreement has been compiled and to be approved by all parties involved (Appendix J).</p> <p>According to the Civil Services Report by Capstone Engineers, dated January 2019 (Appendix J), the upgrading of the existing Northern WWTW to incorporate future planned development within this area has been completed in 2011/2012.</p> <p>Refer to Appendix J for a letter from Mangaung Economic Development and Planning: Planning Division, dated 27 May 2009.</p>			
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		Please explain
<p>The property has been included in the Township Planning Scheme of Bloemfontein and the initial General Plan has been approved in 2012. The bulk services will be incorporated within the existing services of Mangaung Municipality, provided that the conditions of the Municipality are adhered to in the Service Level Agreement. Refer to Appendix J for the draft Service Level Agreement and a letter from Mangaung, dated 27 May 2009.</p>			

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7. Is this project part of a national programme to address an issue of national concern or importance?		NO	Please explain
The project is not of national concern or importance.			
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		Please explain
Surrounding property in this area has already been included in the Township Planning Scheme of Bloemfontein and/or is being developed. Development within this area is considered to be prestige and popular with home owners seeking houses outside the city and within security complexes. Northridge Mall has also recently been upgraded and there is major residential development currently taking place towards the north of Bloemfontein and in this area.			
9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
Considering the fact that the surrounding properties are also being developed, the future development of Strathearn 2154/1 (RE) is considered inevitable. The preferred site layout for this proposed residential development is considered the best practicable environmental option. This layout makes provision for the conservation of more sensitive areas by zoning these sites "private open space" (Erf 37004 and Erf 37007). The residential units will be limited to Erf 37005 zoned for "general residential 5" and Erf 37006 zoned for "general residential 2" (existing residential infrastructure) and the density of the number of residential units will be limited to 28 instead of the initial alternative of 53 - 60 units on this Erf. The layout also considers the 1:100 flood line.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
According to the Mangaung Metropolitan IDP (2013 – 2014), more than half of the metro's population resides in Bloemfontein. The proposed development will assist in addressing the need for infrastructure development in Bloemfontein. The benefits is expected to outweigh the potential environmental impacts provided that the preferred layout and amended general plan is implemented, services are functional and well managed and appropriate environmental management measures are implemented throughout all the phases of the development.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?		NO	Please explain
The surrounding properties have either already been included in the Town Planning Scheme or are in the application process.			

BASIC ASSESSMENT REPORT

12. Will any person's rights be negatively affected by the proposed activity/ies?		NO	Please explain
The surrounding properties have either already been included in the Town Planning Scheme or are in the application process. The landowner is also the applicant for this application.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO	Please explain
The farm Strathearn 2154/1 (RE) is located within the urban edge of Bloemfontein.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?		NO	Please explain
The proposed development is a private initiative and will assist in addressing the need for safe residential development in Bloemfontein.			
15. What will the benefits be to society in general and to the local communities?	Please explain		
<p>The proposed development will assist in addressing the need for infrastructure development in Bloemfontein.</p> <p>An estimated 60 job opportunities will be created during different phases of the development, ranging from contractors during construction to domestic workers and garden services during permanent residency.</p>			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
No			
17. How does the project fit into the National Development Plan for 2030?	Please explain		
<p>The proposed development will assist in addressing the need for infrastructure development in Bloemfontein.</p> <p>An estimated 60 job opportunities will be created during different phases of the development, ranging from contractors during construction to domestic workers and garden services during residency.</p>			
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.			
Through the undertaking of a Basic Assessment (BA) process by the EAP, guided by the available guidelines, the consideration of impacts and alternatives and its various positive and negative influences has been made. The desirability of the proposed development has been weighed. The inputs from the public participation process and specialist assessments have been taken into account to address identified issues and to recommend mitigatory measures. This ensures that all provisions of the Act were considered and as such Integrated Environmental Management has been accommodated.			
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.			
Through the undertaking of a BA process by a competent EAP, guided by the available guidelines, the consideration of impacts and alternatives and their various positive and negative influences has			

been made. All provisions of the Act were considered and as such Integrated environmental Management has been accommodated in terms of:

(2) Environmental Management must place people and their needs at the forefront of its concern, and serve their physical, psychological developmental, cultural heritage and social interests equitably.

The goal of this BA is to identify and mitigate potential socio-economic impacts in order to meet the terms of Section 24 of the Constitution.

(3) Development must be socially, environmentally and economically sustainable.

The overall goal of this BA is to predict, identify and manage potential positive and negative impacts in the socio-economic, cultural and biophysical environments in order to meet the needs of present generations without compromising the needs of future generations which will give effect to sustainable development.

(4)(a) Sustainable development requires the consideration of all relevant factors including the following:

- i) That the disturbance of ecosystems and loss of biological diversity are avoided or where they cannot be altogether avoided, are minimised and remedied,*
- ii) That pollution and degradation of the environment are avoided or where they cannot be altogether avoided, are minimised and remedied,*
- iii) That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided or where they cannot be altogether avoided, are minimised and remedied,*
- iv) That waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible or otherwise disposed of in a responsible manner,*
- v) That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource,*
- vi) That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised,*
- vii) That a risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and*
- viii) That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether avoided, are minimised and remedied.*

Specialist studies were undertaken where necessary as part of the BA process to consider all impacts relating to the above. An Environmental Management Programme (EMPr) was compiled to mitigate and manage all activities during the planning, construction and operational phases.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practical environmental option.

All aspects, including socio-economic, cultural-heritage and biophysical was evaluated and assessed in order to minimise potential negative impacts which will give effect to Integrated Environmental

Management, as set out in chapter 5 of NEMA, 1998 (Act 107 of 1998).

(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

A public participation process in terms of regulations 41 – 44 of the NEMA EIA Regulations, 2014 as amended was undertaken as part of the BA process to involve Interested and/or Affected Parties (I&APs) as well as identified stakeholders in the process and provide them an opportunity to comment on the proposed project.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

The proposed project will contribute to Local Economic Development and falls within the Draft IDP (2017/2022) of Mangaung Metropolitan Municipality. Employment opportunities will be created to meet basic human needs.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process service or activity exists throughout its life cycle.

The EMPr will be applicable throughout the lifecycle of the project.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills, and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.

A public participation process in terms of regulations 41 – 44 of the NEMA EIA Regulations, 2014 as amended was undertaken as part of the BA process to involve I&APs as well as identified stakeholders in the process and provide them an opportunity to comment on the proposed project.

(g) Decisions must take into account the interests, needs, values of all interested and affected parties and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.

DESTEA's decision making process has to be in accordance with the above.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

Environmental awareness will be included in the EMPr for implementation throughout the lifecycle of the project.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration and assessment.

This BAR does give effect to Section 5 of NEMA whereby all social, economic and environmental

impacts of activities were considered, assessed and evaluated.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

Human rights will be taken into account during all phases of this proposed project

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

DESTEA's decision making process has to be in accordance with the above. The decision will take place in an open and fair manner and to give effect to Section 32 of the Constitution, registered I&APs will be notified of the decision in terms of the requirements as set out in regulations 41 – 44 of the NEMA EIA regulations, 2014 and as amended in 2017.

(l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.

All governmental authorities will be considered during the BA process to give their inputs on the project.

(m) Actual or potential conflicts of interest between organs of the state should be resolved through conflict resolution procedures.

The EAP aims to comply with applicable environmental legislation throughout the BA process and the stakeholders have been consulted throughout the process.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

This project will contribute to Local Economy Development and will result in new employment opportunities of an estimated 60 people. The project is not of international importance.

(o) The environment is held in public trust for the people the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

The inputs of specialist recommend various mitigation measures to ensure that the project is undertaken in a sustainable manner and that the potential impacts on the environment is prevented and/or limited to a minimum.

(p) The cost of remedying pollution, environmental degradation and consequent adverse health effects and of preventing controlling or minimising further pollution, environmental damage or adverse health effects must be paid by those responsible for harming the environment.

The EMPr has been compiled in order to prevent and/or minimise any potential negative impacts to the environment. It will be the responsibility of the Applicant and Contractor to adhere to all measures set out in the EMPr in order to give effect to Section 28(1) of NEMA, 1998 (Act 107 of 1998).

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures especially where they are subjected to significant human resource usage and development pressure.

A specialist ecological study has been undertaken (refer to the specialist report under Appendix XX). The preferred site layout of the proposed development has been informed by environmental features such as the 1:100 year flood line, potential ecological sensitive areas and in terms of overall environmental management, e.g. storm water control. An EMPr with minimum environmental management measures has been developed with the focus of preventing and/or limiting potential environmental impacts as a result of the proposed development.

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
NEMA, 1998 (Act 107 of 1998); EIA Regulations, 2014 as amended; GN. R326 07 April 2017	Application for Environmental Authorisation through a Basic Assessment process	DESTEA, Free State Province	2014 (as amended in 2017)
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) as amended in 2014	Protected species may occur on site.	DESTEA, Free State Province	2004
National Forests Act, 1998 (Act 84 of 1998)	Protected tree species may occur on site.	DAFF, Free State Province	1998
Free State Nature Conservation Ordinance, 1969 (Ordinance No. 8 of 1969)	Protected species may occur on site.	DESTEA, Free State Province	1969
National Water Act, 1998 (Act 36 of 1998)	Water Use Authorisation required for a Section 21(c)&(i) water use.	DWS, Regional Office of the Free State	1998
Township Ordinance, 1969 (Ordinance No. 9 of 1969)	Inclusion in the Town Planning Scheme of Bloemfontein was required.	COGTA, Free State Province	1969
Removal of Restrictions Act, 1967 (Act 84 of 1967)	Removal of restrictive title conditions in respect of the property was required.	COGTA, Free State Province	1967

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Heritage Resources Act, 1999 (Act 25 of 1999)	A Phase 1 Heritage Impact Assessment is required to assess any potential impacts to palaeontological- and/or archaeological heritage within the study area in accordance with Section 38 of the NHRA, 1999 (Act 25 of 1999).	SAHRA	1999

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES

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

±100 m³

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

Topsoil and overburden removed from the footprints of areas to be disturbed and/or developed will be used for landscaping purposes during construction as far possible.

Construction rubble (including waste such as broken bricks, off cuts from decorative materials, tiles, etc.) will be collected in skips and removed from site by tipper trucks for disposal by the contractors at the Bloemfontein Northern Landfill site.

Any scrap metal will be collected and recycled by the contractor.

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

Bloemfontein Northern Landfill site

Will the activity produce solid waste during its operational phase?

YES

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

±30 m³
(Estimated 1m³
per household
per month)

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

Domestic solid waste generated during the operational phase will be collected from a central collection point (likely to be at the access gate) by the municipality on a weekly basis as per scheduled waste collection service.

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

Bloemfontein Northern Landfill site

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

N/A

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? ☐ 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? ☐ 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?

☐ NO

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

m³

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

☐ 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.

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

☐ YES

If YES, provide the particulars of the facility:

Facility name:	Northern Waste Water Treatment Works (WWTW)		
Contact person:	Mr. Steve Naude		
Postal address:	P.O. Box 3704 Bloemfontein		
Postal code:	9300		
Telephone:	051 410 6705	Cell:	
E-mail:		Fax:	051 410 6771

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

The effluent and sewage reticulation of the proposed development will be incorporated in the existing municipal system. Measures to recycle waste water, e.g. watering of gardens with grey water, will be promoted and can be implemented by individual home owners in future. This has not been officially provided for in this application as specifics around each house design will be the prerogative of each homeowner.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

	NO
YES	NO

If YES, is it controlled by any legislation of any sphere of government?

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:

Emissions during the construction phase are expected to be localised and limited to exhaust emissions from construction vehicles and dust associated with construction and bare land. During the operational phase, emissions should be limited to exhaust emissions and daily household activities, e.g. the occasional use of fire places.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

	NO
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If YES, please submit evidence that an application for a waste permit 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?

Describe the noise in terms of type and level:

Noise during the construction phase is expected to be localised and limited to construction vehicles and associated activities. During the operational phase, noise should be limited to daily household activities, e.g. motor vehicles.

13. WATER USE

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

Municipal X	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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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:

N/A	
YES	

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

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

NOTE:

An application for a Water Use Authorisation for a Section 21(c)&(i) water use in terms of the National Water Act (NWA), 1998 (Act 36 of 1998) for activities that may affect the beds and banks of a watercourse has been submitted to the Department Water and Sanitation (DWS). Refer to proof of submission under Appendix J.

14. ENERGY EFFICIENCY

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

With the amended general plan, a more practical site layout is considered, while also limiting the total length of street lights and energy required as one central access road providing access to all residential units will be constructed.
Measures to save energy, e.g. energy saving appliances and lights, will be implemented by individual home owners.

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

No alternative energy sources currently form part of this application. Phased implementation of solar PV installations to replace approximately 30% of the electricity grid is considered for future implementation. The installation of electricity saving devices and alternative energy sources e.g. gas, household PV installations, etc. will be promoted and can be implemented by individual home owners during the design and construction of each individual house (or transferred to alternative uses in future).

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, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

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

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

YES

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Free State
District Municipality	Mangaung Metropolitan
Local Municipality	Mangaung Metropolitan Municipality
Ward Number(s)	44
Farm name and number	Strathearn 2154
Portion number	Remaining Extent of Portion 1
SG Code	F00300000000215400001

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.

Current land-use zoning as per local municipality IDP/records:

Strathearn 2154/1(RE) has been included in the Town Planning Scheme as Bloemfontein Ext. 207 and divided in the following erven and zoning:	
<u>Erf</u>	<u>Zoning</u>
Erf 37004	"Private open space"
Erf 37005	"General residential 5"
Erf 37006	"Single residential 2"
Erf 37007	"Private open space:
Erf 37008	"Street" (To be closed with the application of the amended general plan)

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. Refer to Appendix J.

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

NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1: (Erf 37005)

Flat X	1:50 – 1:20 X	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2: (Erf 37007) (in respect of the alternative site of the reservoir)

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5 X	1:7,5 – 1:5 X	Steeper than 1:5
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Alternative S3: (Erf 37004) (in respect of the storm water management channels to the north)

Flat X	1:50 – 1:20 X	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	X	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	X	2.6 Plain		2.9 Seafront	
2.10 At sea					

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1 (Erf 37005):	Alternative S2 (Erf 37007):	Alternative S3 (Erf 37004):
Shallow water table (less than 1.5m deep)	NO	NO	NO
Dolomite, sinkhole or doline areas	NO	NO	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES
Unstable rocky slopes or steep slopes with loose soil	NO	YES	NO
Dispersive soils (soils that dissolve in water)	NO	NO	NO
Soils with high clay content (clay fraction more than 40%)	NO	NO	NO
Any other unstable soil or geological feature	NO	NO	NO
An area sensitive to erosion	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.

4. GROUNDCOVER

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

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

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. Refer to Appendix D for the Ecological and Wetland Assessment, June 2019.

5. SURFACE WATER

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

Perennial River		NO	
Non-Perennial River	YES		
Permanent Wetland		NO	
Seasonal Wetland	YES		
Artificial Wetland		NO	
Estuarine / Lagoonal wetland		NO	

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

Non-perennial stream along the western boundary

- A non-perennial stream transects the property along the western border on Erf 37005. According to the Ecological assessment report (June 2019), this first order watercourse is considered important in terms of the water cycle and the continued functioning is considered important to downstream areas as well.
- The riparian thicket along the stream has some protected tree species forming part of the floodplain and is considered a unique habitat with high conservation value.
- Soil samples along the main channels of this non-perennial stream indicated wetland conditions that can be characterised as a channel wetland system (SANBI 2009) (Ecological assessment

<p>report, June 2019).</p> <ul style="list-style-type: none"> - There are existing upstream impoundments with several road- and low water crossings impacting on the stream by altering the flow and flooding regime of the stream. - This non-perennial stream has an Instream Index of habitat Integrity (IHI) of category C: Moderately Modified; and Riparian IHI of category C: Moderately Modified (Ecological assessment report, June 2019). - The EI&S of the non-perennial stream was rated as being Moderate: Floodplains that are considered to be ecologically important and sensitive on a provincial or local scale (Ecological assessment report, June 2019). The biodiversity of these floodplains generally play a small role in moderating the quantity and quality of water of major rivers and are not usually sensitive to flow and habitat modifications (Ecological assessment report, June 2019).
<p><u>Small drainage line</u></p> <ul style="list-style-type: none"> - There is also a small drainage line to the northern boundary and mostly falls within Erf 37004. - This drainage line is devoid of wetland soil indicators and wetland vegetation, indicating the absence of wetland conditions.

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:

Natural area	X	Dam or reservoir	Polo fields
Low density residential	X	Hospital/medical centre	Filling station ^H
Medium density residential	X	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
Light industrial		Sewage treatment plant ^A	X
Medium industrial ^{AN}		Train station or shunting yard ^N	Nature conservation area
Heavy industrial ^{AN}		Railway line ^N	Mountain, koppie or ridge
Power station		Major road (4 lanes or more) ^N	X
Office/consulting room		Airport ^N	Museum
Military or police base/station/compound		Harbour	Historical building
Spoil heap or slimes dam ^A		Sport facilities	Protected Area
Quarry, sand or borrow pit		Golf course	Graveyard
			Archaeological site
			Other land uses (describe)
			X
			- Lodge
			- Private game farm

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:

N/A

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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:

N/A

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:

N/A

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

Critical Biodiversity Area (as per provincial conservation plan)		NO
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. 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:

NO

N/A

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:

A Phase 1 Archaeological- and Palaeontological Assessment was undertaken by two specialists respectively.

According to the Archaeologist, no evidence of archaeological significant material and/or artefacts was found in the study area. There are remains of a corrugated iron dam and associated structures on the site that could potentially be older than 60 years, but likely constructed after the subdivision of the original Strathearn farm, i.e. 1965. According to the report "Heritage Impact Assessment of the Remainder of Portion 1 of the farm Strathearn No 2154, Bloemfontein, Free State Province, for proposed residential development", dated August 2019 (Appendix D), these remains are not significant due to the common occurrence of similar structures throughout South Africa and do not warrant formal grading or protection.

According to the Palaeontologist, the study area for the proposed development is located in Karoo Dolerite which comprise of igneous rocks which is unfossiliferous. According to the PalaeoMap of South African Heritage Resources Information System the Palaeontological Sensitivity of the Karoo Dolerite is zero. Exemption from further Palaeontological studies is recommended. Refer to the Palaeontological exemption letter attached hereto under Appendix D.

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

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

	NO
	NO

8. 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.

(Information contained in this section of this report was obtained from the 2011 census, Stats SA)

Level of unemployment:

According to the 2011 census, 747 431 people resides in Mangaung with a population growth rate of 1.47% (2001 – 2011). Of the total population, 5.3% is elderly (i.e. persons 65 years and older, 26.9% are children (i.e. persons younger than 15 years) and 67.8% between the ages of 15 and 64 (working age). Of the 292 971 economically active people, 27.7% are unemployed.

Economic profile of local municipality:

Mangaung is the largest contributor to the GDP of the Free State Province with the main industries being: Agriculture; forestry and fishing; mining and quarrying; manufacturing; electricity, gas and water; construction, wholesale and retail trade; transport, storage and communication; finance, real estate and business services; and general government services.

Level of education:

Mangaung Education (aged 20+) as at 2016

No schooling: 5.2%

Matric: 32.8%

Higher education: 13.3%

Reference: Municipalities of South Africa, accessed at

<https://municipalities.co.za/demographic/8/mangaung-metropolitan-municipality>.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	±R12 000 000.00
What is the expected yearly income that will be generated by or as a result of the activity?	±R16 000 000.00
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Minimum of 50 contract workers during construction.
What is the expected value of the employment opportunities during the development and construction phase?	Uncertain, this will be dependent on individual owners, house design, skill level required, construction time required, etc.
What percentage of this will accrue to previously disadvantaged individuals?	Uncertain, this will be dependent on the service providers and contractors appointed by potential home owners.
How many permanent new employment opportunities will be created during the operational phase of the activity?	Estimated 60
What is the expected current value of the employment opportunities during the first 10 years?	Operational phase: Potentially R2 400 000 – R6 000 000.
What percentage of this will accrue to previously disadvantaged individuals?	Uncertain, this will be dependent on the service providers and staff appointed by the body corporate and/or private homeowners.

9. 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 D to this report.

Note:

An ecological assessment on the affected property was undertaken by a specialist, the results of which was included in the report, titled "Report on the ecological and wetland assessment for the proposed residential development on Subdivision 1 of the farm Strathearn 2154, Bloemfontein, Free State Province", dated June 2019 (Appendix D). Information from the ecological assessment was also used to complete this section of this report.

- 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) X	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	The study area (i.e. Strathearn 2154/1 (RE) falls within an area listed as being an Ecological Support Area 1 and 2.
				This area functions in ecological support of the surrounding areas and supports surrounding watercourses and wetlands.
				A large CBA 1 border the site to the east and functions in the protection of portions of Bloemfontein Karroid Shrubland.

- 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	80%	The vegetation of the study area is considered as largely natural with a low level of modification mostly attributed to trampling and overgrazing by introduced game as well as the existing homestead (situated on Erf 37006) to the south western corner that led to the transformation of vegetation of the immediate surroundings.
Near Natural (includes areas with low to moderate level of alien invasive plants)	10%	There is game on the property and trampling and overgrazing resulted in a decrease in vegetation cover in some areas, resulting in an increase in pioneer and unpalatable species. This again resulted in an alteration to some degree of the species composition and a significant increase in exotic species, especially succulents.

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Degraded (includes areas heavily invaded by alien plants)	0%	No areas have been recorded as degraded in the Ecological and Wetland Assessment Report (June 2019).
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	10%	A large existing homestead is situated in the south western corner of the property, forming part of Erf 37006 of the general plan. The vegetation of the immediate surroundings has been transformed to gardens. There is also an existing shed on Erf 37005 with modified vegetation and some bare soil. There are small areas of disturbance mainly caused by a game feeding area and shooting range.

c) 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 unchannelled wetlands, flats, seeps pans, and artificial wetlands)		Estuary		Coastline	
	Endangered						
	Vulnerable						
	Least Threatened X	YES	Channelled wetland		NO		NO

d) 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)

Also refer to the Ecological Assessment Report (June 2019) attached in Appendix D for detailed information regarding the biodiversity of the site and a species list.

- The study area, i.e. Strathearn 2154/1(RE), falls within an Ecological Support Area 1 and 2 and borders a Critical Biodiversity Area 1 (CBA 1) to the east.
- The elevation of the site varies from 1430 masl on the hill to 1382 masl along the non-perennial stream system.
- The property comprises of a prominent hill with plateau and steep slopes to the south; a plain mostly dominating the north eastern portion with indistinct drainage line towards the west; and a smaller portion of dense woodland associated with a non-perennial stream system to the west (Ecological assessment report, June 2019). The vegetation structure is dominated by woodland community.
- The study area consists of Bloemfontein Karroid Shrubland (Gh 8) on the plateau and slopes of the prominent hill and Winburg Grassy Shrubland (Gh 7) in the plain and bottomland (Mucina & Rutherford, 2006). Both these vegetation types are listed as being of Least Concern (LC) under

the National List of Threatened Ecosystems (Notice 1477 of 2009) (National Environmental Management Biodiversity Act, 2004).

- According to the Ecological assessment report (June 2019), Bloemfontein Karroid Shrubland is a sensitive vegetation type with high species diversity of which a high proportion is protected species. Urban development has put this vegetation type under increasing pressure and a large portion has already been transformed. As a result, the hill on the site is considered to have a relatively high conservation value.
- There is an existing homestead with associated buildings and infrastructure (e.g. paved access pathway) resulting in modified vegetation and disturbance.

According to the Ecological assessment report (June 2019), the prominent hill has the following main characteristics:

- The prominent hill contains a dense tree and shrub layer along the slope, becoming sparser on the plateau where grass and succulent vegetation becomes prominent.
- This portion has also been affected by overgrazing, although to a lesser extent than the plain and bottomland area.
- There is a significant infestation of exotic succulents, *Opuntia engelmannii* and *O. ficus-indica*, which also cause degradation of the natural vegetation.
- Protected plant species found include: *Cussonia paniculata*; *Olea europaea* subsp. *africana*; *Pachypodium succulentum*, *Aloe grandidentata*; *Anacampseros rufescens*; *Boophone distichia*; *Bonatea antennifera* (also a relatively rare orchid species considered of high conservation value).
- The prominent hill is in a relatively natural condition though trampling and overgrazing by introduced game still take place.
- The species diversity is considered significant with seven protected species, some considered as rare (Appendix C of the Ecological assessment report, June 2019).
- Due to the relatively high conservation value, development on this portion is expected to have a significant impact on the biodiversity of the study area. It is recommended that this portion be excluded from the development areas as indicated in the amended general plan.

According to the Ecological assessment report (June 2019), the plain has the following main characteristics:

- The north eastern portion of the property is dominated by a plain, bottomland containing a sparse, open tree/shrub layer with a definite browse line and consequently a more prominent grass layer is present.
- A small and indistinct drainage line occurs along the northern border of this vegetation community and the area gently slopes from east to west.
- The impact of trampling and overgrazing by the introduced game is most evident in this portion due to accessibility and the area also being used as feeding area.
- Grass species occurring in this portion are mainly pioneer species and forms extensive patches in overgrazed areas, resulting in a modification of the natural species composition.
- Protected plant species found include: *Ammocharis coranica*; *Olea europaea* subsp. *Africana*.

- Numerous exotic weeds occur in this portion and are indicative of significant levels of disturbance caused by overgrazing. Species such as *Solanum eleagnifolium* is considered a serious invasive and may become highly problematic, although currently still considered eradicable.
- The species diversity is moderate but not exceptional and no elements of high ecological value occur.
- This portion of the property is considered to be most suitable for the proposed residential development with the lowest potential impact expected.

According to the Ecological assessment report (June 2019), the woodland and associated non-perennial stream has the following main characteristics:

- The western portion associated with the non-perennial stream system has a very dense woodland tree layer, with a significant canopy height and sparse understorey. This vegetation community is associated with the stream system.
- The understorey is dominated by a few herbs (*Arctotis arctotheca* and *Oxalis depressa*), ferns (*Cheilanthes hirta*) and grasses (*Setaria verticillata* and *Melica decumbens*). A few specimens of the protected geophytes, *Eucomis autumnalis* was observed on the banks of the stream.
- Riparian trees along the stream include *Vachellia karroo*, *Diopsros lycioides*, *Ziziphus mucronata* and the protected *Celtis Africana*.
- Exotic weeds and invasive species present in this area include *Bambusa glaucescens*, *Sphaeralcea bonariensis*, *Datura stramonium*, *Chenopodium carinatum*, *Solanum pseudocapsicum*, *Schinus molle*, *Echinopsis schikendantzii* and *Cestrum laevigatum*, while the naturalised weed, *Dichondra repens*, is also preset along the stream in the shaded and moist parts.
- Soil samples along the main channel and banks of the non-perennial stream indicate wetland conditions. Although obligate wetland vegetation is absent due to the dense tree canopy.
- This portion is considered to be of high conservation value. It is recommended that this portion be excluded from the development as indicated by the proposed site layout limiting disturbance to the access road and pipelines provided that adequate rehabilitation and management measures are implemented.

Terrestrial fauna

- Due to the proximity of the property to the urban area and surrounding development, the natural occurrence of animals on site has likely decreased. Habitat loss and fragmentation is the main concern. There is however still large natural areas connected creating natural corridors for the movement of mammals between surrounding areas.
- Mammal observations during the ecological assessment include: Soil mounds of the Common Molerat (*Cryptomys hottentotus*); Shallow foraging and discarded quills from porcupine (*Hystrix africaeaustralis*); A colony of Rock Hyrax (*Procavia capensis*). These species are all relatively widespread and common and not considered of high conservation significance. They are also well adapted to per-urban and disturbed areas.
- Protected species observed include: Leopard Tortoise (*Stigmochelus pardalis*). Although not observed during the assessment, the protected Red Rock Rabbit (*Pronolagus rupestris*) may also

occur within the study area.

- It is considered unlikely that any Red Data terrestrial mammals could occur within the study area due to the site proximity of urban developments, with the exception being the hedgehog which is often found in peri-urban areas.

DRAFT

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Notice of an Environmental Impact Assessment	
Date published	Volksblad, 25 April 2019	
Site notice position	Latitude	Longitude
	29° 02' 45.54" S 29° 02' 48.75" S	26° 13' 58.91" E 26° 13' 57.99" E
Date placed	10 April 2019	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

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 326

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 326

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr. Josè Carlos Da Cruz Nunes	<i>Landowner:</i> Strathearn 2154/1	Tel: 051 430 1149 Email: info@sergionunes.co.za
Mr. R.J. Nichol	<i>Landowner:</i> Strathearn 2154/2	Tel: 051 433 3051 Cell: 082 554 5443 Email: nicholr@fshealth.gov.za
Mr. Sergio Adolfo Nunes	<i>Landowner:</i> Strathearn 2154/3	Cell: 072 148 0330 Email: info@sergionunes.co.za
Mr. Roelof Rossouw Oubos Estate (Tredenham farm)	<i>Landowner:</i> Bloemfontein Ext. 172 (previously Tredenham 2153/RE; Tredenham 2153/1)	Cell: 082 797 5751 Email: roelof@roelof.co.za
Mrs. Anne Goodrick	<i>Landowner:</i> Mooihoek 1078/RE	Tel: 051 433 2238 Cell: 083 637 8796 Email: paddygoodrick@gmail.com
Baneoang Pitso	Engen: Retail Assets Department	Tel: 021 403 4182 Email: Baneoang.Pitso@engenoil.com

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Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. 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

Summary of main issues raised by I&APs	Summary of response from EAP
No comments and/or issues by I&APs were received to date.	No response from the EAP required.
Mangaung Municipality, Department of Water and Sanitation and Department of Agriculture and Rural Development requested a copy of the draft BAR for comment.	An electronic copy of the draft BAR was provided for comment.

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR 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 E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Economic, Small Business development, Tourism and Environmental Affairs	Mrs. G. Mkhosana	051 400 4817		Mkhosana@des tea.gov.za moalosil@destea.gov.za masoetsad@destea.gov.za	Private Bag X20801 Bloemfontein 9300
Eskom	Mrs. R. de Bruin	051 534 1751		dbruiner@eskom.co.za	P.O. Box 356 Bloemfontein 9300

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Department of Water and Sanitation	Mr. Eugene Fotoi			FotoiM@dws.gov.za	PO Box 528 Bloemfontein 9300
Mangaung Metropolitan Municipality <i>Municipal Manager</i>	Ms. M. Kolobe	051 405 8577	051 405 8707	Mpolokeng.kolobe@mangaung.co.za	PO Box 3704 Bloemfontein 9300
Mangaung Metropolitan Municipality Ward Councillor: 44	Ms. S. Pretorius	082 824 2047		selpret@gmail.com	PO Box 3704 Bloemfontein 9300
Corporate Governance and Traditional Affairs	Me. Maryke Froneman	051 407 6861	051 407 6852	maryke@fscogta.gov.za	PO Box 211 Bloemfontein 9300
Department of Rural Development and Land Reform: Land Restitution Support	Mr. Lefa Thabane			Lefa.Thabane@drdlr.gov.za	Old Postbank Building c/o East Burger and Selbourne Street Bloemfontein 9300
Free State Department of Agriculture and Rural Development	Mr. J.A.S. Morton	051 861 8369		jack@fs.agric.za	Private Bag X01 Glen Building Bloemfontein 9360
Department of Agriculture, Forestry and Fisheries	Mr. J. Zeelie	051 409 2624		johanz@daff.gov.za	Omni Building First Floor 73 Aliwal Street Bloemfontein 9300
South African Heritage Resources Authority	Me. Loudine Philip			Loudine.philip@nasmus.co.za	SAHRIS online platform

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

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 E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

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

For ease of reference, the alternatives were grouped as follow:

Alternative	Description
Alternative group 1: Proposed residential development	
Alternative 1.1 (Preferred)	Proposed residential development based on the amended general plan.
Alternative 1.2	Proposed residential development based on the previously approved general plan.
Alternative group 2: Proposed reservoir	
Alternative 2.1 (Preferred)	Proposed reservoir with capacity of 330 kilolitres on Erf 37005.
Alternative 2.2	Proposed reservoir with capacity of 330 kilolitres on Erf 37007.
Alternative group 3: Proposed access road	
Alternative 3.1 (Preferred)	Proposed access road on Erf 37005 based on amended general plan.
Alternative 3.2	Proposed access road as Erf 37008 (Street) based on the previously approved general plan.
Alternative group 4: Proposed mini-substation	
Alternative 4 (Preferred and only alternative)	Proposed construction of a mini-substation (500kVa) on Erf 37005, extending 11kV for distribution of electricity to the residential units and access gate.
Alternative group 5: Bulk services (i.e. clean water line and sewage line)	
Alternative 5 (Preferred and only alternative)	Bulk services will be incorporated within the existing services of Mangaung Municipality.

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Activity	Impact summary	Significance	Proposed mitigation
Alternative 1.1 (Preferred): Proposed residential development (amended general plan)			
Change in land use	Direct impacts: <ul style="list-style-type: none"> Loss of agriculture land 	Medium	The necessary approval and removal of restrictive title conditions from COGTA must be obtained prior to commencement of construction.
	Indirect impacts: <ul style="list-style-type: none"> Effect on the overall aesthetics of the area from a natural area to a built up area 	Medium	Implementation of the amended general plan and site layout of a maximum of 28 residential units.
	Cumulative impacts: <ul style="list-style-type: none"> The proposed residential development may contribute to the overall aesthetics of the area and visual impact as similar projects are currently being undertaken or awaiting approval in the area. 	Medium	With implementation of the amended general plan (i.e. preferred alternative), the concentration of housing units will be less and therefore the scale of cumulative impacts as a result is also expected to be less.
Site preparation, landscaping and construction of related infrastructure	Direct impacts: <ul style="list-style-type: none"> Clearance and transformation of natural vegetation Removal of protected species Visual impact Destruction of objects of potential heritage importance 	Low to Medium	Limit removal of vegetation and topsoil to the development footprint. Undertaken a search and rescue plan for the re-establishment of protected plant species. Offset of species should be considered on the hill. Good housekeeping and implementation of Environmental Best Practices should be maintained on site. Inform the site supervisor and site manager of any unearthed remains of heritage importance.
	Indirect impacts: <ul style="list-style-type: none"> Erosion damage and loss of topsoil Dust generation Establishment and distribution of invasive plant species Change in storm water flow Increase in safety risks 	Low to Medium	Clear any proclaimed weed or invasive vegetation. No collection or poaching of plants and animals will be allowed. No open fires must be allowed by construction workers on site. Any excavation and landscaping as part of construction must be done to acceptable slopes and rehabilitated after construction. Topsoil must be removed prior to commencement of construction. Topsoil must be stored in an area not prone to erosion and should be used for rehabilitation after construction. Limit construction activities to development footprint. No construction workers will be residing on site. Construction activities must be limited to day time working hours. No permanent storage of potential hazardous substances on site. Any spillage of petrochemical

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Activity	Impact summary	Significance	Proposed mitigation
			<p>products must be cleaned immediately.</p> <p>Drip trays must be used at stationary construction vehicles.</p> <p>Any gas cylinders should be stored in a designated and well ventilated area.</p> <p>No major repairs will be done on equipment on site but at a workshop as far possible.</p> <p>Drip trays shall be implemented during emergency repairs and refuelling of construction vehicles.</p> <p>Speed limits of 40km/h should be enforced on construction vehicles on the access road.</p> <p>Re-vegetate areas disturbed by construction activities as soon as possible.</p> <p>Construction workers on site must be given an induction on environmental awareness.</p> <p>PPE will be provided to construction workers on site.</p> <p>All employees working with construction equipment and machinery should be properly trained in their specific tasks to limit injuries.</p>
	<p>Cumulative impacts:</p> <ul style="list-style-type: none"> The proposed residential development may contribute to the cumulative effect on storm water flow of the area. The volume of storm water and velocity of sheet flow are expected to increase as a result of reduced infiltration of the built-up areas and paved surfaces. 	Medium	Storm water management measures throughout the site must be designed with the necessary capacity and direct surface water to follow the natural drainage as far possible to reduce risks and impacts downstream.
Waste generation	<p>Direct impacts:</p> <ul style="list-style-type: none"> Waste generation during construction. Waste generation during operation (i.e. occupation of the residential units). 	Low	<p>Appropriate waste management and waste minimisation shall be implemented on site.</p> <p>All sections of the NEM: Waste Act, 2008 (Act 59 of 2008) pertaining to the disposal of waste must be adhered to.</p>
	<p>Indirect impacts:</p> <ul style="list-style-type: none"> Pollution due to disposal of construction rubble during construction and disposal of domestic solid waste during operation. Pollution due to spillage or discharge of sewage from temporary chemical toilet facilities during construction and disposal from houses during operation. 	<p>Low</p> <p>Medium</p>	<p>Unused rubble and inert waste will be removed from site and disposed of at the Northern landfill site.</p> <p>General waste will be collected in appropriate bins on site and disposed of at the Northern landfill site on a regular basis.</p> <p>Hazardous waste (including used oil/grease) should be contained in closed containers for resale or appropriate disposal.</p> <p>Waste spills will be cleaned</p>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>immediately and contaminated soil will be disposed of at a recognised facility.</p> <p>An adequate number of temporary toilet facilities must be situated on site and should be cleaned regularly. No toilet facility must be situated within 100m of the edge of the stream.</p> <p>Any contaminated soil and the contaminant will be removed and placed into suitable receptacles for disposal at a recognised facility.</p>
	<p>Cumulative impacts:</p> <ul style="list-style-type: none"> Waste generation from the proposed development will potentially increase the volume of waste being disposed of at the Northern Landfill site. 	Medium	<p>Homeowners will be encouraged to follow the waste hierarchy, but the increase in waste generation is inevitable.</p> <p>Each home owner will be responsible to take their refuse bags to a central collection point likely to be at the access gate on a weekly basis. From this point, the solid waste will be collected by municipal refuse removal and/or private waste removal service providers contracted by the body corporate.</p>

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1. .2: Proposed residential development (approved general plan)			
Change in land use	<p>Direct impacts:</p> <ul style="list-style-type: none"> Loss of agriculture land 	Medium	The necessary approval and removal of restrictive title conditions from COGTA must be obtained prior to commencement of construction.
	<p>Indirect impacts:</p> <ul style="list-style-type: none"> Effect on the overall aesthetics of the area from a natural area to a built up area 	Medium	Implementation of the amended general plan and site layout of a maximum of 28 residential units.
	<p>Cumulative impacts:</p> <ul style="list-style-type: none"> The proposed residential development may contribute to the overall aesthetics of the area and visual impact as similar projects are currently being undertaken or awaiting approval in the area. 	Medium	Development will be limited to the approved site layout and general plan with some erven zoned as "private open space" excluded from housing development.
Site preparation, landscaping and construction of related infrastructure	<p>Direct impacts:</p> <ul style="list-style-type: none"> Clearance and transformation of natural vegetation Removal of protected species Visual impact Destruction of objects of potential heritage importance 	Low to Medium	<p>Limit removal of vegetation and topsoil to the development footprint. Undertaken a search and rescue plan for the re-establishment of protected plant species. Offset of species should be considered on the hill.</p> <p>Good housekeeping and implementation of Environmental</p>

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Activity	Impact summary	Significance	Proposed mitigation
			Best Practices should be maintained on site. Inform the site supervisor and site manager of any unearthed remains of heritage importance.
	Indirect impacts: <ul style="list-style-type: none"> • Erosion damage and loss of topsoil • Dust generation • Establishment and distribution of invasive plant species • Change in storm water flow • Increase in safety risks 	Low to Medium	<p>Clear any proclaimed weed or invasive vegetation.</p> <p>No collection or poaching of plants and animals will be allowed.</p> <p>No open fires must be allowed by construction workers on site.</p> <p>Any excavation and landscaping as part of construction must be done to acceptable slopes and rehabilitated after construction.</p> <p>Topsoil must be removed prior to commencement of construction.</p> <p>Topsoil must be stored in an area not prone to erosion and should be used for rehabilitation after construction.</p> <p>Limit construction activities to development footprint.</p> <p>No construction workers will be residing on site.</p> <p>Construction activities must be limited to day time working hours.</p> <p>No permanent storage of potential hazardous substances on site.</p> <p>Any spillage of petrochemical products must be cleaned immediately.</p> <p>Drip trays must be used at stationary construction vehicles.</p> <p>Any gas cylinders should be stored in a designated and well ventilated area.</p> <p>No major repairs will be done on equipment on site but at a workshop as far possible.</p> <p>Drip trays shall be implemented during emergency repairs and refuelling of construction vehicles.</p> <p>Speed limits of 40km/h should be enforced on construction vehicles on the access road.</p> <p>Re-vegetate areas disturbed by construction activities as soon as possible.</p> <p>Construction workers on site must be given an induction on environmental awareness.</p> <p>PPE will be provided to construction workers on site.</p> <p>All employees working with construction equipment and machinery should be properly trained</p>

<ul style="list-style-type: none"> • Pollution due to spillage or discharge of sewage from temporary chemical toilet facilities during construction and disposal from houses during operation. 	<p>Medium</p>
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BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
Alternative 2.1 (Preferred): Proposed reservoir on Erf 37005			
Construction of the reservoir in line with the bulk clean water line on Erf 37005	Direct impacts: <ul style="list-style-type: none"> • Clearance and transformation of natural vegetation. • Removal of protected species. 	Medium Low	Construction of the reservoir on Erf 37005 which is already transformed by anthropogenic influence and grazing. Limit clearance of vegetation to the footprint of the reservoir as far possible.
	Indirect impacts: <ul style="list-style-type: none"> • Erosion damage and loss of topsoil. • Establishment and distribution of weeds and invasive plant species. 	Low Low	Monitor the occurrence of erosion and reinstate eroded areas. Implement storm water management measures. Clear weeds and invasive plant species during construction.
	Cumulative impacts: <ul style="list-style-type: none"> • Visual impact 	Low	The visual impact from neighbours and access road will be reduced with the construction of the reservoir in line with the clean water reticulation system on Erf 37005.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 2.2: Proposed reservoir on Erf 37007			
Construction of the reservoir on the prominent hill on Erf 37007	Direct impacts: <ul style="list-style-type: none"> • Clearance and transformation of natural vegetation. • Removal of protected species. 	Medium Medium	Limit clearance of vegetation to the footprint of the reservoir and pipeline. Undertake a search and rescue for removal and re-establishment of protected plant species.
	Indirect impacts: <ul style="list-style-type: none"> • Erosion damage and loss of topsoil. • Establishment and distribution of weeds and invasive plant species. 	Medium Low	Monitor the occurrence of erosion and reinstate eroded areas. Implement storm water management measures. Clear weeds and invasive plant species during construction.
	Cumulative impacts: <ul style="list-style-type: none"> • Visual impact 	Medium	The visual impact from neighbours and access road will be inevitable with construction of the reservoir on the hill.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 3.1 (Preferred): Proposed access road on Erf 37005 (amended general plan)			
Construction of the access road, gate and low lying water crossing over the non-perennial stream and	Direct impacts: <ul style="list-style-type: none"> • Destruction of riparian vegetation on the affected footprint. • Removal of protected species. 	Medium Medium	Removal of vegetation will be limited to the physical footprint.
	Indirect impacts: <ul style="list-style-type: none"> • Change in the flow and flood regime of the stream. 	Medium	No damming of water behind the crossing/bridge will be allowed without required approvals.

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Activity	Impact summary	Significance	Proposed mitigation
within the 1:100 year flood line.			The crossing/bridge should be designed to allow for proper drainage and accommodate floods. Management measures must be implemented to temporary divert the stream during construction of the crossing/bridge if necessary.
	Cumulative impacts: <ul style="list-style-type: none"> The access gate, road and low lying water crossing (bridge) will contribute towards the physical disturbed footprint of the development. Potential impact on the change in storm water drainage on site. 	Low	Appropriate storm water management measures must be implemented. The preferred site layout will allow a central access road from where all residential units can be accessed. The access road will also act as lay down area and route for other services, while in effect reducing the disturbance footprint.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 3.2: Proposed access road on Erf 37008 (approved general plan)			
Construction of the access road, gate and low lying water crossing over the non-perennial stream and within the 1:100 year flood line.	Direct impacts: <ul style="list-style-type: none"> Destruction of riparian vegetation on the affected footprint. Removal of protected species. 	Medium	Removal of vegetation will be limited to the physical footprint.
		Medium	
	Indirect impacts: <ul style="list-style-type: none"> Change in the flow and flood regime of the stream. 	Medium	No damming of water behind the crossing/bridge will be allowed without required approvals. The crossing/bridge should be designed to allow for proper drainage and accommodate floods. Management measures must be implemented to temporary divert the stream during construction of the crossing/bridge if necessary.
	Cumulative impacts: <ul style="list-style-type: none"> The access gate, road and low lying water crossing (bridge) will contribute towards the physical disturbed footprint of the development. Potential impact on the change in storm water drainage on site. 	Low	Appropriate storm water management measures must be implemented.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 4 (Preferred and only): Proposed construction of a mini-substation on Erf 37005			
Construction of a mini-substation	Direct impacts: <ul style="list-style-type: none"> Destruction of vegetation on the affected footprint. 	Low	Removal of vegetation will be limited to the physical footprint.
	Indirect impacts: <ul style="list-style-type: none"> Disturbance of the soil surface 	Low	Removal of vegetation will be limited to the physical footprint.

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Activity	Impact summary	Significance	Proposed mitigation
	and likelihood of sedimentation of the non-perennial stream.		
	Cumulative impacts: <ul style="list-style-type: none"> The mini-substation will contribute towards the physical disturbed footprint of the development. The development is expected to increase the electricity demand for the area. 	Low	Limit disturbance and construction activities to the physical footprint. Centlec has confirmed that the demand can be met and provision therefore has been made.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 5 (Preferred and only): Extension of the existing municipal bulk services			
Extension of the existing municipal bulk clean water and sewage pipeline	Direct impacts: <ul style="list-style-type: none"> Physical disturbance and clearance of vegetation. 	Low	Removal of vegetation will be limited to the physical footprint.
	Indirect impacts: <ul style="list-style-type: none"> Pollution of sewage to the surrounding environment and stream system in the event of leakage. 	Medium	<p>This has a low probability of occurring providing that the necessary management measures and monitoring are implemented at all times.</p> <p>No disposal of untreated effluent will be allowed on the property.</p> <p>Monitoring will be implemented to identify any signs of leakage.</p> <p>Spills must be cleaned and the footprint reinstated immediately.</p>
	Cumulative impacts: <ul style="list-style-type: none"> The development is expected to increase the demand for bulk services in the area. 	Low to medium	<p>A service level agreement is currently being finalised.</p> <p>The Northern Waste Water Treatment Works have been upgraded.</p>

Activity	Impact summary	Significance	Proposed mitigation
No-go option <p>The 'no-go alternative' entails that the proposed residential development and associated infrastructure (including access road, access gate, substation, water reservoir, storm water control, houses and bulk services) is not continued with. Although this will mean that no physical disturbance will occur on the development footprint, it is considered that future development may only be a matter of time as similar projects are being undertaken on neighbouring properties in the area as well. With the implementation of the amended general plan, the sensitive areas on the property will still be conserved while the housing units will be less concentrated with a maximum of 28 units, reducing potential environmental impacts and the demand on municipal services.</p>			
	Indirect impacts:		
	Cumulative impacts:		

A complete impact assessment in terms of Regulation 19(3) of GN 326 must be included as Appendix F. Also refer to the Environmental Management Programme attached under Appendix G of this BAR.

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 1.1 (Preferred): Proposed residential development (amended general plan)

The main impacts/risks expected to be associated with the proposed development may include the following:

- Clearance and transformation of natural vegetation on the physical footprint to be disturbed during construction.
- Localised habitat loss with some effect on the general biodiversity. As the more sensitive areas on the property will be excluded from the physical development, these areas will be conserved and create natural corridors for animals reducing the potential impact.
- Loss of protected species during construction. While most protected species found on the property is within the areas that will be zoned “private open space”, it is expected that these specimens will mostly remain intact. Where necessary, a search and rescue must be undertaken to transplant such species.
- Localised affect on the riparian zone and vegetation within the non-perennial stream during construction. Due to the proposed scale and nature of the activities and infrastructure that will be undertaken within the stream system, the impact is considered to be low provided that the minimum management and mitigation measures are implemented during construction.
- The low water crossing/bridge is expected to influence the flow and flooding regime of the stream system. The stream has already been transformed due to crossings upstream and the design of the crossing/bridge will allow water to follow the natural drainage line. This is considered a low impact.
- Likely cumulative change in storm water flow due to the construction activities and overall development and built-up areas.
- Establishment and spread of alien vegetation in disturbed areas. This will be a low impact with implementation of measures to clear affected areas.
- Erosion and loss of topsoil. With implementation of storm water management measures, the impact is expected to be low and affected areas could be reinstated with relative success.
- Although the loss of agriculture land will occur, the property has already been included in the Township Planning Scheme of Bloemfontein as Bloemfontein Extension 207 in 2012 and restrictions on the title deed has been lifted. Apart from a few small game species kept on the property, no real agriculture activities were undertaken, therefore no loss of food security from the change in land use will occur.
- Potential pollution risk to surface water quality (e.g. spillage) from the bulk sewage pipeline. This is considered a low risk if the municipal pipeline is maintained during the operational phase.
- Potential pollution to the surrounding environment due to waste generation. This impact is likely to occur, but with proper waste management procedures in place during construction and occupation of the dwellings, the probability of the impact is low.
- Localised dust generation and elevated noise levels from construction vehicles for the duration of construction.

- The potential impact on objects of potential heritage importance is considered low as no above ground signs of any such remains have been observed on site during the assessment.
- Health and safety risk to employees on site during construction. This will be low with implementation of safety procedures by the contractors.
- The proposed development is expected to have a cumulative effect on the general aesthetics of the area as a result of similar development being undertaken in the area. With the implementation of the amended general plan with less residential units while large areas will be conserved, the impact is considered to be low to medium.
- Risk of veld fires during construction and operation. The proposed reservoir will also have the capacity to store water for emergency situations as it is likely to occur.
- It is expected that a large number of job opportunities will be created during construction and operation.
- Positive impact of addressing housing need in Mangaung.

Alternative 1.2: Proposed residential development (approved general plan)

This alternative is based on the original approved general plan with development of at least 53 residential units. The main impacts/risks expected to be associated with this alternative will be similar than for Alternative 1.1 (i.e. amended general plan), but expected to possibly be a higher impact due to the higher concentration of dwellings and people. The potential environmental impacts and demand on municipal services are expected to be higher if this alternative is considered for implementation.

The sensitive areas would still be excluded from the developed areas, conserving these areas with most of the protected plant species.

Alternative 2.1 (Preferred): Proposed reservoir (capacity 330 kl) on Erf 37005 (zoned general residential 5)

The main impacts/risks expected to be associated with the proposed reservoir on Erf 37005 may include the following:

- Clearance of vegetation on the physical footprint to be disturbed during construction.
- Likely cumulative change in storm water flow due to the construction activities and overall development and built-up areas.
- Establishment and spread of alien vegetation in disturbed areas. This will be a low impact with implementation of measures to clear affected areas.
- Erosion and loss of topsoil. With implementation of storm water management measures, the impact is expected to be low and affected areas could be reinstated with relative success.
- Potential pollution to the surrounding environment due to waste generation. This impact is likely to occur, but with proper waste management procedures in place during construction, the probability of the impact is low.
- Localised dust generation and elevated noise levels from construction vehicles for the duration of construction.
- Health and safety risk to employees on site during construction. This will be low with implementation of safety procedures by the contractors.

- The proposed development is expected to have a cumulative effect on the general aesthetics of the area as a result of similar development being undertaken in the area. With the implementation of the preferred site locality that will be low lying and in line with the bulk clean water reticulation system, the visual impact is expected to be low with low impact on the general ecology of the property.
- Risk of veld fires during construction and operation. The proposed reservoir will also have the capacity to store water for emergency situations as it is likely to occur.
- It is expected that a large number of job opportunities will be created during construction and operation.

Alternative 2.2: Proposed reservoir (capacity 330 kl) on Erf 37007 (zone private open space)

The main impacts/risks expected to be associated with this alternative will be similar than for Alternative 2.1, but the potential impact on the natural vegetation and protected plant species are expected to be medium due to the higher sensitivity of this locality on the prominent hill. Construction of the reservoir at this locality will also have a higher visual impact with low possibility of reversing the impact.

With this alternative, the route for clean water pipelines will be longer, thus increasing development costs. It will also traverse potential sensitive portions of the property increasing the ecological impact. The overall potential environmental impacts are expected to be higher if this alternative is considered for implementation.

Alternative 3.1 (preferred): Proposed access road on Erf 37005 based on amended general plan

The main impacts/risks expected to be associated with the proposed access road, access gate and low water crossing/bridge may include the following:

- Clearance and transformation of natural vegetation on the physical footprint to be disturbed during construction.
- Loss of protected species during construction. With implementation of a search and rescue plan prior to construction, the potential impact can be reduced. However, re-establishment of large trees may not be possible and an offset within the erven zoned "private open space" is recommended to counter the disturbance of affected areas.
- Localised affect on the riparian zone and vegetation within the non-perennial stream during construction. Due to the proposed scale and nature of the activities and infrastructure that will be undertaken within the stream system, the impact is considered to be low provided that the minimum management and mitigation measures are implemented during construction.
- The low water crossing/bridge is expected to influence the flow and flood regime of the stream system. The stream has already been transformed due to crossings upstream and the design of the crossing/bridge will allow water to follow the natural drainage line. This is considered a low impact.
- Establishment and spread of alien vegetation in disturbed areas. This will be a low impact with implementation of measures to clear affected areas.
- Erosion and loss of topsoil. With implementation of storm water management measures, the impact is expected to be low and affected areas could be reinstated with relative success.
- Potential pollution to the surrounding environment due to waste generation. This impact is likely

to occur, but with proper waste management procedures in place during construction and occupation of the dwellings, the probability of the impact is low.

- Localised dust generation and elevated noise levels from construction vehicles for the duration of construction.
- Health and safety risk to employees on site during construction. This will be low with implementation of safety procedures by the contractors.
- It is expected that a large number of job opportunities will be created during construction and operation.

This alternative has the advantage of a central road system providing access to all residential units from the same road. This will result in a smaller physical footprint with a much more practical route layout. With this layout, other services, e.g. below ground electricity lines, street lights as well as the bulk service pipelines, will be constructed within the informal "road servitude".

This alternative is therefore considered the more feasible option and Erf 37008 will be closed with the application for consideration of the amended general plan.

Alternative 3.2: Proposed access road on Erf 37008 based on the previously approved general plan

The main impacts/risks expected to be associated with this alternative will be similar than for Alternative 3.1. This alternative only considers the road on Erf 37008 (zoned as "street"). The overall cumulative impact of this alternative is expected to be slightly higher as the overall extent of the footprint of the road system is expected to be larger and less practical.

Alternative 4 (Preferred and only alternative): Proposed construction of a mini substation on Erf 37005

The main impacts/risks expected to be associated with the proposed mini-substation for electricity distribution may include the following:

- Clearance and transformation of natural vegetation within the flood line on the physical footprint to be disturbed during construction.
- Potential increase in sedimentation load in the stream system during construction. However, this impact is expected to be low. With implementation of appropriate storm water management measures and good housekeeping during construction, the potential impact will be low.
- The flow and flood regime of the stream is not anticipated to be affected by the mini-substation as construction will take place on the banks of the stream.
- Establishment and spread of alien vegetation in disturbed areas. This will be a low impact with implementation of measures to clear affected areas.
- Erosion and loss of topsoil. With implementation of storm water management measures, the impact is expected to be low and affected areas could be reinstated with relative success.
- Potential pollution to the surrounding environment due to construction waste generation. This impact is likely to occur, but with proper waste management procedures in place during construction, the probability of the impact is low.
- Localised dust generation and elevated noise levels from construction vehicles for the duration of construction.

- Health and safety risk to employees on site during construction. This will be low with implementation of safety procedures by the contractors.
- The mini-substation is expected to have a localised visual impact as it is very likely to be visible from the access roads.
- It is expected that a large number of job opportunities will be created during construction and operation.

No other alternative in terms of electricity supply for the proposed development has been considered as part of this application.

Alternative 5 (Preferred and only alternative): Bulk services incorporated within the existing Mangaung Metropolitan municipal services

The main impacts/risks expected to be associated with the bulk services may include the following:

- Clearance of vegetation on the physical footprint to be disturbed during construction.
- Localised affect on the riparian zone and vegetation within the non-perennial stream during the extension of the existing municipal pipelines.
- The potential impact of the clean water pipeline is considered low, while the extension of the sewage pipeline over the non-perennial stream system may have a medium impact due to the potential pollution risks. A Water Use Authorisation in terms of the NWA, 1998 (Act 36 of 1998) is required. Appropriate management measures must be in place with mitigation measures in the event of a spill or leakage from the pipeline.

No other alternative in terms of bulk clean water and sewage management for the proposed development has been considered as part of this application.

No-go alternative (compulsory)

The 'no-go alternative' entails that the proposed residential development and associated infrastructure (including access road, access gate, substation, water reservoir, storm water control, houses and bulk services) is not continued with.

Should the proposed operation not be implemented, the following may be expected:

- No additional impacts on the aesthetics of the area.
- No additional demand on the current municipal services.
- No direct impact on vegetation and the riparian zone of the non-perennial stream, although encroachment of weeds and invasive vegetation is highly likely considering the current presence of weeds at certain areas on the property.
- No potential generation of dust and noise.
- No potential impact on potential remains of heritage importance.
- Loss of the opportunity for residential development and income.
- Loss of job opportunities and associated skill upliftment.

SECTION E. RECOMMENDATION OF PRACTITIONER

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

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

N/A

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

Recommendations include the following:

Alternatives

- The potential impacts for both alternatives 1.1 and 1.2 will be similar, but site alternative 1.1 with the site layout proposed on the amended general plan will have a lower residential concentration with a maximum of 28 units proposed. This will reduce the potential impacts on the ecological functions and also demand on services from the municipality.
- The traffic impact assessment indicated that the expected traffic load can be accommodated with the current traffic allowance.
- Alternative 2.1 The construction of the reservoir on Erf 37005 is a more practical and cost effective option. From an ecological perspective this is the better alternative as the position on Erf 37005 is already transformed with limited (if any) occurrence of protected plant species on the identified footprint. The position on Erf 37007 is on the prominent hill which will result in a higher cumulative visual and ecological impact, together with destruction of protected plant species.
- Potential impacts expected to be associated with the constriction of the access road, gate and low water crossing over the non-perennial stream will be similar. The preferred site layout 3.1 will allow a central access road from where all residential units can be accessed. The access road will also act as lay down area and route for other services, while in effect reducing the disturbance footprint.
- There are not alternatives in respect of the mini-substation and bulk services.

General

- A Designated Environmental Officer (DEO) must be appointed to oversee that the aspects stipulated in the Environmental Authorisation (if considered for approval) and Environmental Management Programme are carried out properly.
- Preconstruction environmental induction for all construction staff on site to ensure that basic environmental principles are adhered to.
- The areas to be cleared as well as the construction area should be clearly demarcated.

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- All construction vehicles should adhere to clearly defined and demarcated roads.
- Dust suppression and erosion management should be an integrated component of the construction approach.
- No dumping of inert waste (including construction rubble) from the development during construction should take place on the property.
- All hazardous materials (if any) should be kept appropriately to prevent contamination of the project site. Any accidental chemical, fuel and oil spills that occur at the project site should be cleaned up appropriately as related to the nature of the spill.
- The access gate, access road with low water crossing/bridge and mini-substation will be situated in the 1:100 year flood line or within 100 m of the non-perennial stream. A Water Use Authorisation in terms of the NWA, 1998 (Act 36 of 1998) is required for the proposed project.
- Weed control measures must be applied to eradicate the noxious weeds (category 1a & 1b species) on disturbed areas.
- All construction vehicles should adhere to a low speed limit.
- If trenches need to be dug for electrical cabling or other purpose, these should not be left open for extended periods of time to limit safety risks and entrapment of animals.
- Clearance of vegetation and construction activities should be limited to the physical footprint of the development.

Is an EMPr attached?

YES

The EMPr must be attached as Appendix G.

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 H.

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

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

Hanri van Jaarsveld

NAME OF EAP



SIGNATURE OF EAP

03-12-2019

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information