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DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED GREENGATE X 140 HIGH-DENSITY RESIDENTIAL TOWNSHIP ON A PART OF PORTION 268 OF THE FARM RIETFONTEIN 189 IQ, MULDERSDRIFT, MOGALE CITY

APPLICANT:
UMNOTHO LERUO INVESTMENT PRIMARY CO-OPERATIVE

GAUT REF NUMBER: TO BE RECEIVED

AUGUST 2025

GAUTENG PROVINCE
ENVIRONMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (2025 VERSION 1)

Kindly note that:

1. This Basic Assessment Report is the standard report required by the Gauteng Department of Environment in terms of the EIA Regulations, 2014.

2. This application form is current as of April 2025. It is the applicant's responsibility to check for any updated versions published by the competent authority.

3. A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.

4. A draft Basic Assessment Report must be submitted, for purposes of comments within thirty (30) days, to a Competent Authority (uploaded to the EIA online system) empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application. The EIA online system can be accessed at https://eia.gauteng.gov.za.

5. A copy (PDF) of the final report and attachments must be uploaded to the EIA online system. The EIA online system can be accessed at https://eia.gauteng.gov.za.

6. Draft and final reports submitted in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) must be emailed to environmentsue@gauteng.gov.za.

7. 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.

8. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.

9. An incomplete report may lead to an application for environmental authorisation, or a Waste Management License being refused.

10. Any report that does not contain a titled and dated full-colour large-scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation or a Waste Management License being refused.

11. The use of "not applicable" in the report must be done with circumspection because if it is used for material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation or Waste Management License being refused.

12. The applicant must fill in all relevant sections of this form. Incomplete applications will not be processed. The applicant will be notified of the missing information in the acknowledgement letter that will be sent within 10 days of receipt of the application.

13. Unless protected by law, and indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.

14. Although pre-application meetings with the Competent Authority is optional, applicants are advised to have these meetings before submission of the application to seek guidance from the Competent Authority.

15. Please note that your submission will be acknowledged within 10 days of receipt. If you do not receive an acknowledgement from the Department within this period, kindly follow up using our central email address: environmentenquiries@gauteng.gov.za

DEPARTMENTAL DETAILS

Gauteng Department of Environment
Attention: Environmental Support Services of the Environmental Branch
P.O. Box 8769
Johannesburg
2000
Ground floor, Umnotho House, 56 Eloff Street, Johannesburg
Administrative Unit telephone number: (011) 240 3052
Department central telephone number: (011) 240 2500

(For official use only)

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

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

N/A

Is a closure plan applicable for this application and has it been included in this report? If not, state reasons for not including the closure plan.

N/A

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

YES

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

YES

If no, state reasons for not attaching the list.

Have State Departments including the competent authority commented?

If no, why?

This draft report is presently submitted to the public and authorities for comment. Comments are to be received by 19 September 2025. Comments received on the Draft BAR will be included in the draft BAR submitted to the GDEnv.

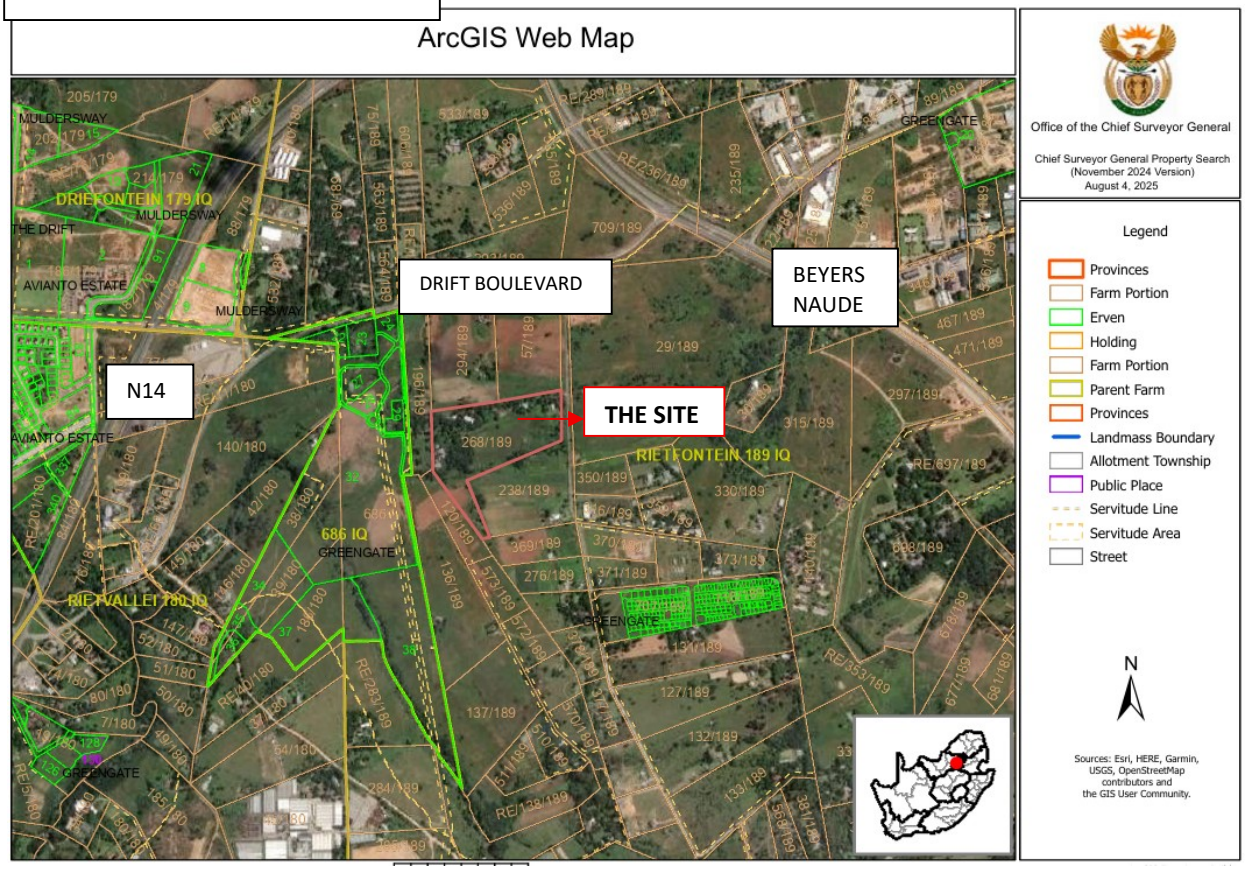
SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

BASIC ASSESSMENT APPLICATION FOR THE PROPOSED GREENGATE X 140 HIGH-DENSITY RESIDENTIAL TOWNSHIP ON A PART OF PORTION 268 OF THE FARM RIETFONTEIN 189 IQ, MULDERSDRIFT, MOGALE CITY

Figure 1: Project Locality



Select the appropriate box

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

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

YES	NO

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

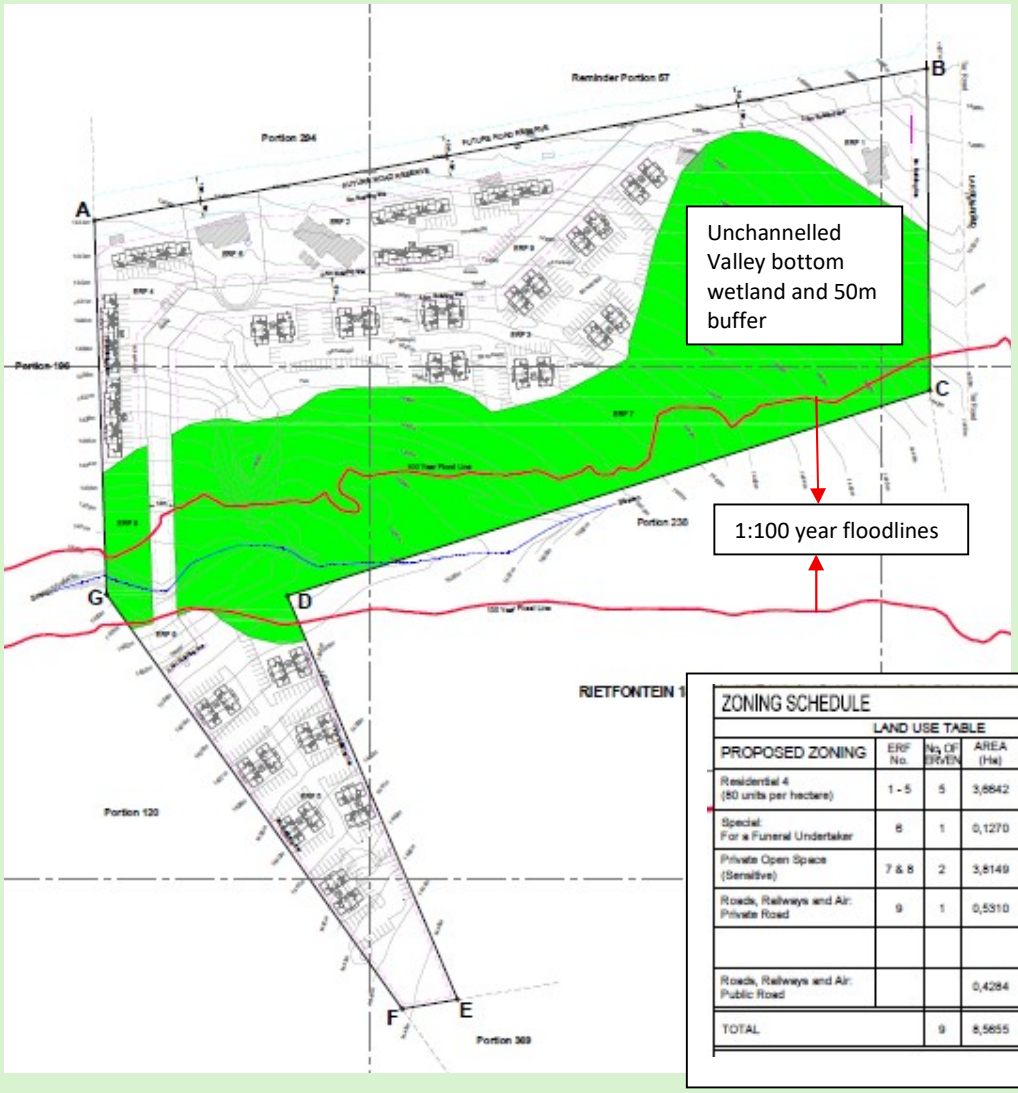
A Water Use License (WUL) in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of

1998), will be submitted to the Department of Water and Sanitation (DWS) for the Greengate X 140 township water uses.		
If yes, have you applied for the authorisation(s)?	YES	**NO**
If yes, have you received approval(s)?	YES	**NO**

Project proposal and associated infrastructure

Umnotho Leruo Investment Primary Cooperative (the applicant) proposes the establishment of a high density residential development on a part of Portion 268 of the farm Rietfontein 189 IQ. The property measures 8,5653 hectares. The site adjoins Larsen Road in Muldersdrift and is located approximately one kilometre (km) east of the town of Muldersdrift and approximately 0.3 km south of the R114 regional roadway. It falls within the Mogale City Local Municipality.

The proposed township will comprise four land use categories and nine erven for **high-density residential, private open space, a funeral undertaker** (existing residential home on site) **and access**.



ZONING SCHEDULE

LAND USE TABLE

PROPOSED ZONING	ERF No.	No. OF ERVEN	AREA (Ha)	% OF AREA	MIN. ERF SIZE (Ha)	RURAL SIZE (Ha)
Residential 4 (80 units per hectare)	1 - 5	5	3,8842	42,78	-	-
Special For a Funeral Undertaker	6	1	0,1270	1,48		
Private Open Space (Sensitive)	7 & 8	2	3,8149	44,54		
Roads, Railways and Air: Private Road	9	1	0,5310	6,20		
Roads, Railways and Air: Public Road			0,4284	5,00		
TOTAL		9	8,5655	100		

The development proposes five separate erven zoned "Residential 4" with a density of 80 units per hectare, resulting in a maximum of 293 units that could be accommodated within the development. The housing will comprise three-storey walk-up apartments. The proposed development will include communal facilities such as a laundry, a clubhouse for meetings, a place of refreshment, and a children's play area. The township layout includes the existing structures on the property as residential units. One of these units will be converted for use as the funeral undertaker. The funeral undertaker will be utilised for the *administration* of funerals only, and ***will not include a crematorium or a mortuary.***

Scientific Aquatic Services (SAS) conducted a freshwater ecosystem field assessment in November 2023, to verify the presence of freshwater ecosystems. An unchanneled valley bottom (UCVB) wetland, which intersects a southern portion of the study area, was identified as the main drainage feature on the site. Two hillslope seep (HSS) wetlands were also identified within the study area, both of which drain directly into the UCVB wetland.

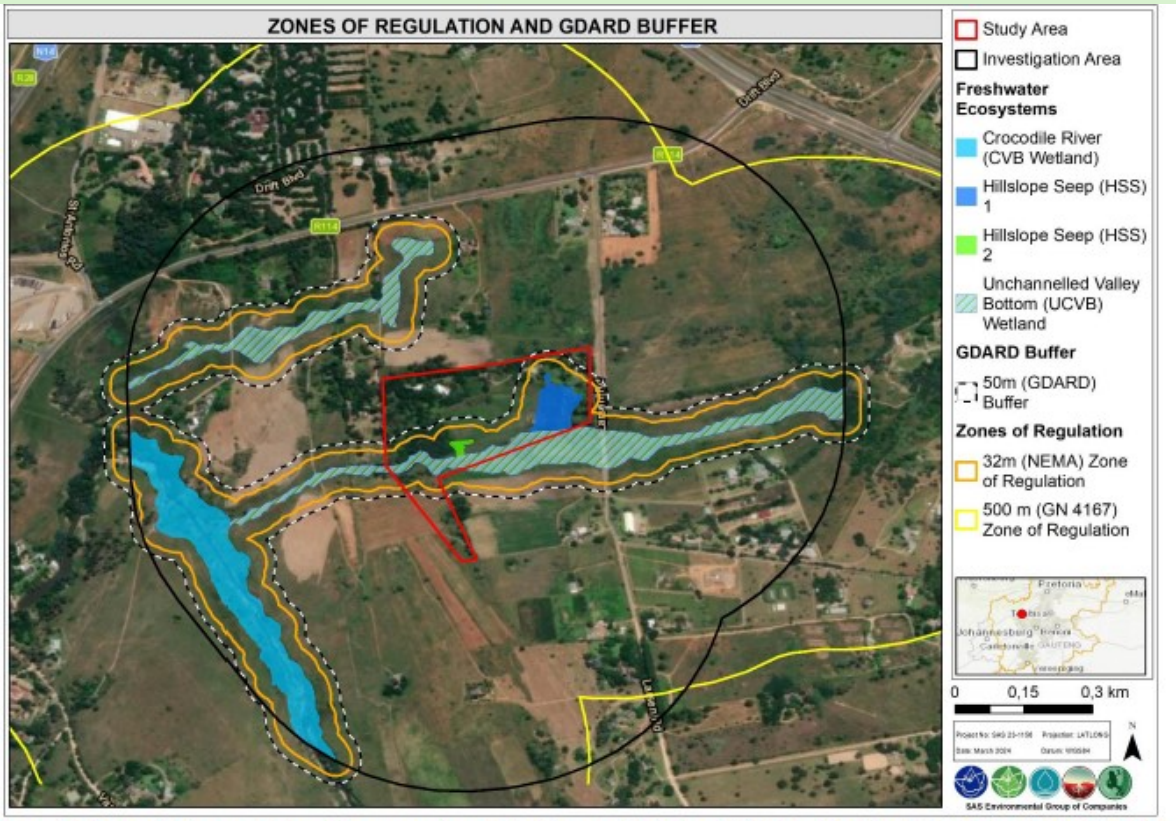


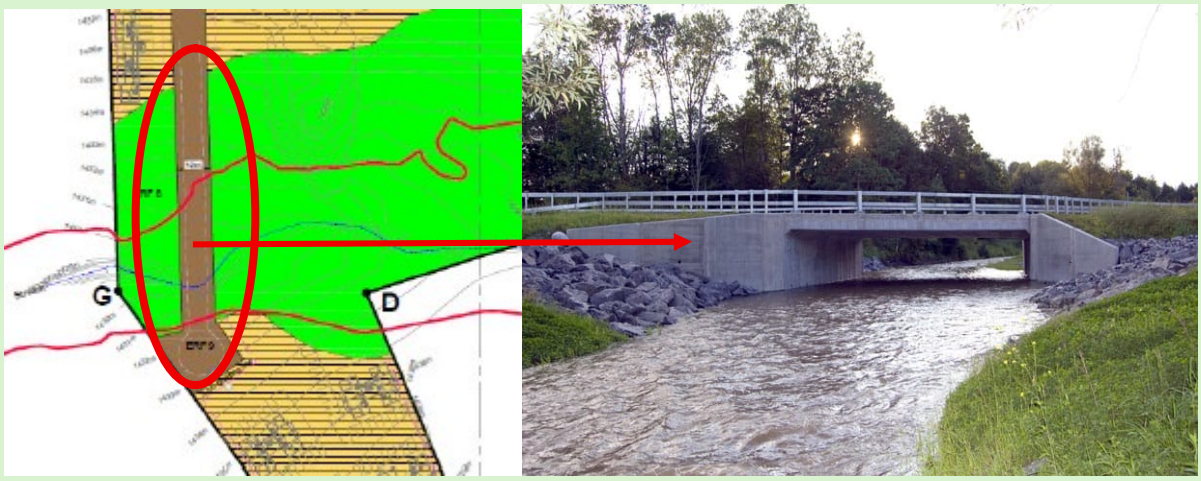
Figure 13: Conceptual representation of the zones of regulation in terms of NEMA and GN 4167 as it relates to the National Water Act, 1998 (Act No. 36 of 1998) as amended, and GDARD buffer associated with the proposed development.

SAS confirm that if the development footprint remains outside the delineated freshwater ecosystems and their associated 50m GDEnv non-development buffer areas, development activities within the study area are *not* anticipated to result in loss of, or alteration to, the functionality of the identified wetlands, and the impacts are considered to be '*Low*' (given that the mitigation measures as provided in the report are implemented). The full extent of the environmentally sensitive area (wetland and buffer) will not be developed and will form part of the township as private open

space, allowing for the protection of this area within the development boundary.

Inventas Projects (Pty Ltd) was appointed for the design of services for the proposed township. See Appendix G. The property is located along Larsens Road, about 400 metres south of its intersection with the R114, east of Beyers Naudé Drive. Therefore, the site enjoys easy access to the N14 highway, which provides access to Krugersdorp, Lanseria Airport, and the City of Tshwane. Beyers Naudé Drive, in turn, allows for easy access to the City of Johannesburg as well as the Cradle of Humankind. The property currently gains **access** via R114 (Drift Boulevard) turning south into Larsens Road and then west into the proposed Greengate Ext 140. Access to Greengate Ext. 140 will be provided from the N14 Highway turning south into the M5 Beyers Naude Drive and then turning west into Drift Boulevard. The property then gains access turning south into Larsons Road and west into the proposed Greengate Ext 140. **Access to Erf 5 will be from Greengate Ext 140 crossing the wetland, requiring the construction of a new bridge.** Access to each individual stand will be provided by a new 12m road reserve.

The engineering design of the proposed wetland crossing bridge structure is still being finalised. A box culvert bridge is proposed as illustrated below:



The Scientific Aquatic Services (SAS) freshwater ecosystem assessment is *presently being updated* to include the impact of the box culvert bridge crossing the unchanneled valley bottom wetland. This report will be included in the DBAR to be submitted to the Gauteng Department of Environment for comments.

There is no existing **stormwater infrastructure** in the area, with stormwater flowing overland to low lying areas and finally into the Wilgespruit river system. It is proposed to integrate the road network with the stormwater management for the development. Stormwater attenuation will be implemented to regulate the post development stormwater discharged into the water course crossing the property. The roads, which in turn will discharge, via grid inlets, will collect the surface run-off or open drains which will be channelled to the respective stormwater retention ponds for each erf. The retention ponds will discharging the attenuated stormwater into the watercourse/stream. The details for each retention pond design, will be presented with each Site Development Plan for each individual erf. Details will be provided for the internal stormwater

drainage layout as well as for the detail of each outlet structure. Erosion protection measures will be implemented, at each stormwater outlet structure, draining into the water course.

A new 110mm Ø **bulk water** line will be constructed to service Greengate Ext. 140. The new water line will be connected to the existing 160mm Ø bulk water line, situated within the Larsens Road-reserve. New water connections for each stand, will be applied for, from new 110mm Ø bulk water line. This will serve as a potable water and fire mains to each erf in the township. At this stage, the municipal water supply in the area is under severe strain, and the MCLM W&S Department will not finalise applications for township establishment until this issue is resolved. The appointed engineers are presently addressing this issue, and details will be provided in the FBAR.

No data of any **bulk sewer** mains could be obtained from Mogale City engineers department. The properties in this area would connect with the Driefontein WWW (belonging to CoJ). This connection will depend on the fall of the land, but there is a connection near the intersection Drift Boulevard Refer and Abraham Van Wyk Road. A new 160mm Ø bulk sewer line will be constructed to service Greengate Ext. 140. Each stand will have a new connection manhole on the southwest corner of each erf. stand will have a new connection manhole or sewer connection. Approximately 910m of new sewer line will have to be constructed to connect to the existing infrastructure. The exact route for the new connection sewer line will be established during the preliminary design phase of the project.

Hamatino Consulting Engineers was appointed for the **traffic impact study**, see Appendix G. The development is supported from a traffic engineering point of view, provided the following traffic measures are implemented:

That the Beyers Naude / Drift Boulevard intersection be upgraded by Gautrans / Municipality as follows: (i) convert the existing intersection control to a signalised intersection as soon as possible by the municipality / Gautrans (ii) the signal shall be a vehicle actuated system (iii) the traffic signals shall be designed by a traffic engineer in accordance with the South African Road Traffic Signs Manual 3rd Edition, Volume 3 Traffic Signal Design (iv) the movement along Beyers Naude shall rest in the green phase until a vehicle from Drift Boulevard is detected, (v) the signal shall be synchronised with the proposed signal at Beyers Naude / R114 East.

Furthermore, a 10m wide servitude must be made available in the township along the northern boundary for the purpose of the future Roads Master Plan Class 4 road. Once the owners of Portions 294 and Remainder of Portion 57 submit a township application, they should also provide a 10m wide reserve along their southern boundary with a resultant 20m wide road reserve available in future for the Road Master Plan road.

Activity (s) Applied For:

An application may be made for more than one listed or specified activity that, together, make up one development proposal. All the listed activities that make up this application must be listed below:

Indicate the number of the relevant Government Notice	Activity No. (s) (relevant notice):	Describe each listed activity as per the wording in the listing notices:	Activity description
GNR 983: Listing Notice 1:	**12**	The development of (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—; a) within a watercourse; b) in front of a development setback; or c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such development occurs within an urban area.	The box culvert bridge crossing the wetland, to gain access to Erf 5 of the township, will be located across and within 32 meters of a watercourse, measured from the edge of a watercourse.
	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation	The establishment of the high density residential township will permanently transform approximately 1.7ha on site.
	19	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 (i) a watercourse.	The construction of the box culvert bridge crossing the wetland, to gain access to Erf 5 of the township, will require the excavation, removal and moving of soil of more than 10 cubic metres from a watercourse..
GNR 985: Listing Notice 3:	**Activity 4**	The development of a road wider than 4 metres with a reserve less than 13,5 metres, in Gauteng, where Sites are identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan	According to the DFFE screening tool, portions of the study area; and greater investigation area; are associated with the Crocodile River and wetlands, which are indicated as Critical

Indicate the number of the relevant Government Notice	Activity No. (s) (relevant notice):	Describe each listed activity as per the wording in the listing notices:	Activity description
		or in bioregional plans;	Biodiversity Areas: Portions of the investigation are CBA areas. A large portion of the UCVB wetland on the site is indicated by the DFFE database as ESAs. The establishment of the high density residential township will permanently transform approximately 1.7ha on site.
	Activity 12 c (ii):	The clearance of an area of 300 square metres or more of indigenous vegetation in Gauteng Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans;	
	Activity 14 c (ii) (iv)	The development of (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, c. Gauteng iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans	

These activities may not commence until Environmental Authorisation has been received from the approving authority - GDEnv. **The application will follow a Basic Assessment approach in terms of Section 19 of Government Notice R982 (as amended in March 2017) of NEMA.**

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996): Chapter 2 Section 24	Department of Forestry, Fisheries and the Environment (DFFE)	8 May 1996
National Environmental Management Act No. 107 of 1998 as amended	Department of Environment (GDE)	27 November 1998
NEMA Environmental Impact Assessment Regulations as amended, GNR 326	Department of Forestry, Fisheries and the Environment (DFFE)	7 April 2017
Assessment for Reporting on Identified Environmental Themes	Department of Forestry, Fisheries and the Environment (DFFE)	20 March 2020
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) • GN number 1002: National List of Ecosystems that are Threatened and Need Protection dated 9 December 2011, as it relates to the NEMBA; • GN number R.1020: Alien and Invasive Species Regulations, 2020, in Government Gazette 43735 dated September 2020 as it relates to the NEMBA; • GN number 1003: Alien and Invasive Species Lists, 2020, in Government Gazette 43726 dated 18 September 2020, as it relates to the NEMBA; and • GN number 30568: Threatened or Protected Species (TOPS) list dated 14 December 2007, as it relates to the NEMBA.	Department of Forestry, Fisheries and the Environment (DFFE) Gauteng Department of Environment (GDE)	2004
Government Gazette 45421 dated 10 May 2019 as it relates to the	Department of Environment, Forestry and Fisheries (DFFE) and Gauteng Department	2019

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Department of Forestry, Fisheries, and the Environment (DFFE's) national environmental screening report required with an application for EA as identified in regulation 16(1)(v) of EIA Regulations: o For the Terrestrial Biodiversity Theme: GN 320 Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity as published in Government Gazette 43110 dated 20 March 2020; and • For Animal and Plant Species Themes: GN 1150 Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental • Impacts on Terrestrial Plant and Animal Species as published in Government Gazette 43855 dated 30 October 2020	of Environment (GDE)	
Government Notice 598 Alien and Invasive Species Regulations (2014), including the Government Notice 864 Alien Invasive Species List as published in the Government Gazette 40166 of 2016, as it relates to the National Environmental Management Biodiversity Act, 2004 (Act No 10 of 2004)	Department of Environmental Affairs	2004 2017
National Environmental Management Waste Act GNR 921	Department of Environment, Forestry and Fisheries (DFFE) and Gauteng Department of Agriculture and Rural Development (GDARD)	29 November 2013
National Water Act, 1998, Act 36 of 1998	National Department of Water and Sanitation (DWS)	1998
Water Services Act, 1997, Act 108 of		1997

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
1997		
Government Notice 509 as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998)		2016
National Environmental Management: Air Quality Act, Act 39 of 2004 and the Atmospheric Pollution Prevention Act, Act 45 of 1965	Department of Environment, Forestry and Fisheries (DFFE)	2004
National Heritage Resources, Act, 1999, Act 25 of 1999	South Africa Heritage Resources Agency (SAHRA)	1999
Gauteng Conservation-Plan 3.3 (2011)	Provincial, Gauteng Department of Agriculture and Rural Development (GDARD)	2011
Conservation of Agricultural Resources (Act 43 of 1983) National Department of Agriculture 21 April 1983	National Department of Agriculture	21 April 1983
The Gauteng Agriculture Potential Atlas Version 4.4 Gauteng Department of Agriculture and Rural Development (GDE)	The Gauteng Agriculture Potential Atlas Version 4.4 Gauteng Department of Environment	
Sustainable Development Criteria for Built Environment Projects requiring Environmental Impact Assessments in Gauteng, 2009	Gauteng Province	2009
Gauteng Environmental Management Framework Gauteng Province 2015	Gauteng Province	2015
Gauteng Spatial Development Framework, 2030	Gauteng Province	2016
Gauteng Urban Edge 2008 / 2009	Gauteng Province	2009
Mogale City Spatial Development Framework	Mogale City Local Municipality	2022
Muldersdrift Precinct Plan		2024

DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:	
Legislation, policy of guideline	**Description of compliance**
National Environmental Management Act (Act 107 of 1998), as amended (NEMA)	The National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorisation from the relevant authorities based on the findings of an environmental assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in Gauteng, to the Department of Environment (GDE).
National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations 2014 (as amended)	In terms of Section 24(2) of NEMA, the Minister and or any MEC in concurrence with the Minister may identify activities which require authorisation as these activities may negatively affect the environment. The Act requires that in such cases the impacts must be considered, investigated and assessed prior to their implementation and reported to the organ of state charged by law with authorising, permitting, or otherwise allowing the implementation of an activity. The NEMA EIA Regulations guide the processes required for the assessment of impacts of Listed Activities. Three Listing Notices have been published under Government Gazette No 40772 on 07 April 2017; and are an amendment of the 2014 Regulations that were published under Government Gazette No. 38282 on 04 December 2014. The levels of environmental assessment required under each of these Listing Notices are as follows: ▪ Listing Notice 1 (GNR 983 in Government Gazette No 40772 of 07 April 2017): This Notice identifies listed activities that require a Basic Assessment. ▪ Listing Notice 2 (GNR 984 in Government Gazette No 40772 of 07 April 2017): This Notice identifies listed activities that require Scoping and Environmental Impact Assessment. ▪ Listing Notice 3 (GNR 985 in Government Gazette No 40772 of 07 April 2017): This Notice identifies listed activities that require Basic Assessment in specifically identified geographical areas An Environmental Authorisation must be obtained for any activity that is listed in any of the above notices. Such an authorisation may only be granted once the required assessment has been compiled by an independent environmental assessment practitioner, and submitted to the competent authority. See the activities applied for, for the Greengate X 140 township, in Section 1A of this report.
Assessment for Reporting on Identified Environmental Themes	The Department of Forestry, Fisheries and the Environment (DFFE) has published requirements in terms of site sensitivity verification, GN 320 of 20 March 2020, Procedures for the Assessment and Minimum Criteria for

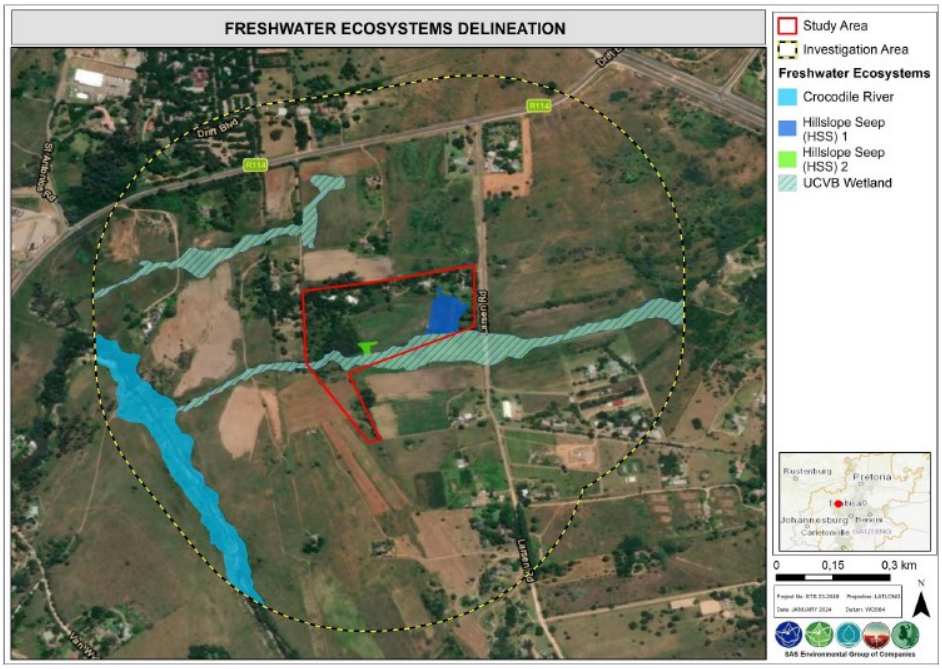
DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:	
	Reporting on Identified Environmental Themes in terms of Section 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation. In terms of this notice, prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the national web based environmental screening tool (screening tool), where determined, must be confirmed by undertaking a site sensitivity verification. In terms of this notice, the following is applicable: • The site sensitivity verification must be undertaken by an environmental practitioner or a specialist. • The site sensitivity verification must be undertaken using: A desktop analysis, using satellite imagery, A preliminary on-site inspection, and any other available and relevant information. The outcome of the site sensitivity verification must be recorded in the form of a report that confirms or disputes the current land and the environmental sensitivity as identified by the screening tool, such as new development or infrastructure, the change in vegetation cover or status etc., contains motivation and evidence (e.g., photographs) of either the verified or different use of the land and environmental sensitivities, and is submitted together with the relevant assessment report prepared in accordance with the requirements of the EIA Regulations. To address the environmental themes identified for the site, please see Appendix G for the site verification compliance statement conducted by Scientific Terrestrial Services (Pty) Ltd, and the freshwater ecosystem assessment conducted by Scientific Aquatic Services (SAS).
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The objectives of this act are (within the framework of NEMA) to provide for: • The management and conservation of biological diversity within the Republic of South Africa and of the components of such diversity; • The use of indigenous biological resources in a sustainable manner; • The fair and equitable sharing among stakeholders of the benefits arising from bio prospecting involving indigenous biological resources; • To give effect to ratify international agreements relating to biodiversity which are binding to the Republic; • To provide for cooperative governance in biodiversity management and conservation; and • To provide for a South African National Biodiversity Institute to assist in achieving the objectives of this Act.

DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:	
	This act alludes to the fact that management of biodiversity must take place to ensure that the biodiversity of the surrounding areas is not negatively impacted upon, by any activity being undertaken, to ensure the fair and equitable sharing among stakeholders of the benefits arising from indigenous biological resources. Furthermore, a person may not carry out a restricted activity involving either: a) A specimen of a listed threatened or protected species; b) Specimens of an alien species; or c) A specimen of a listed invasive species without a permit. Chapter 7 of the NEMBA regulations govern the 'permit system for listed threatened or protected species. To remove or relocate any Threatened or Protected Species (TOPS) should they be identified on the site and relevant permits must be applied for. According to the 2022 Red List Ecosystems (RLE) database, the study area is located within the remaining extent of the Critically Endangered (CR) Egoli Granite Grassland. From a provincial biodiversity management perspective, the Gauteng Conservation Plan (C-Plan) V 3.3 indicates that an Irreplaceable CBA is located within a small section of the study area (Figure A2). This CBA is mostly associated with the Unchanneled Valley Bottom Wetland that is located within the study area. The triggering features for the CBA Irreplaceable include the following: Red Listed plant species habitat, Orange Listed plant species habitat, red listed bird species habitat, primary vegetation, and a bioclimatic zone. CBA Important Areas are areas considered important for the survival of threatened species and includes valuable ecosystems such as wetlands, untransformed vegetation, and ridges. The western portion of the study area is in an Ecological Support Area (ESA). Scientific Terrestrial Services (Pty) Ltd (hereafter "STS") has conducted a site verification in support of a compliance statement for the proposed urban development on Ptn 268/189 Rietfontein IQ. Given the general land use within the study area (i.e., residential and agricultural), the study area has been exposed to significant anthropogenic activities, which has resulted in a lowered habitat and ecological integrity. Specifically, anthropogenic activities such as mowing, alteration of vegetation communities through cultivation, Alien and Invasive Plant (AIP) introduction and proliferation, etc., have resulted in the subsequent modification of the biodiversity with the study area and have lowered the sensitivity of the habitat for both floral and faunal communities. Across the study area, the floral assemblages associated are degraded and modified in nature. The study area has little ecological value for fauna or flora.

DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:	
	The very high sensitivity assigned to the Terrestrial Biodiversity Theme is confirmed *only for the Freshwater Habitat (specifically the UCVBW).* The high sensitivity is supported because of the presence of ESA habitat within the Freshwater Habitat.
Government Notice 598 Alien and Invasive Species Regulations (2014), including the Government Notice 864 Alien Invasive Species List as published in the Government Gazette 40166 of 2016, as it relates to the National Environmental Management Biodiversity Act, 2004 (Act No 10 of 2004)	NEMBA is administered by the Department of Environment, Forestry and Fisheries (DFFE) and aims to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA. In terms of alien and invasive species. This act in terms of alien and invasive species aims to: - Prevent the unauthorized introduction and spread of alien and invasive species to ecosystems and habitats where they do not naturally occur, - Manage and control alien and invasive species, to prevent or minimize harm to the environment and biodiversity; and - Eradicate alien species and invasive species from ecosystems and habitats where they may harm such ecosystems or habitats. Alien species are defined, in terms of the National Environmental Management: Biodiversity Act, 2004 (Act no 10 of 2004) as: (a) A species that is not an indigenous species; or (b) An indigenous species translocated or intended to be translocated to a place outside its natural distribution range in nature, but not an indigenous species that has extended its natural distribution range by natural means of migration or dispersal without human intervention. Categories according to NEMBA (Alien and Invasive Species Regulations, 2017): - Category 1a: Invasive species that require compulsory control; - Category 1b: Invasive species that require control by means of an invasive species management programme; - Category 2: Commercially used plants that may be grown in demarcated areas, provided that there is a permit and that steps are taken to prevent their spread; and - Category 3: Ornamentally used plants that may no longer be planted. Alien plants present on site must be controlled as a high priority, since they pose a huge risk to ecosystems further away. All Category 1 Declared Weeds and other alien invaders must be removed from the site.
The National Water Act, 1998, Act 36	The National Water Act (Act 36 of 1998) "NWA" provides a framework to protect, develop, conserve, and manage the nation's water resources. Water use is defined broadly in terms of the NWA, and includes taking and storing water, activities which reduce stream flow, waste discharges and disposals, controlled activities (activities which impact detrimentally on a water resource), altering a watercourse, removing water found underground for certain purposes, and recreation.

DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:

Scientific Aquatic Services (SAS) was appointed to conduct a freshwater ecosystem assessment for the site. An unchanneled valley bottom (UCVB) wetland, which intersects a southern portion of the study area, was identified as the main drainage feature of concern. Two hillslope seep (HSS) wetlands were also identified within the study area, both of which drain directly into the UCVB wetland.

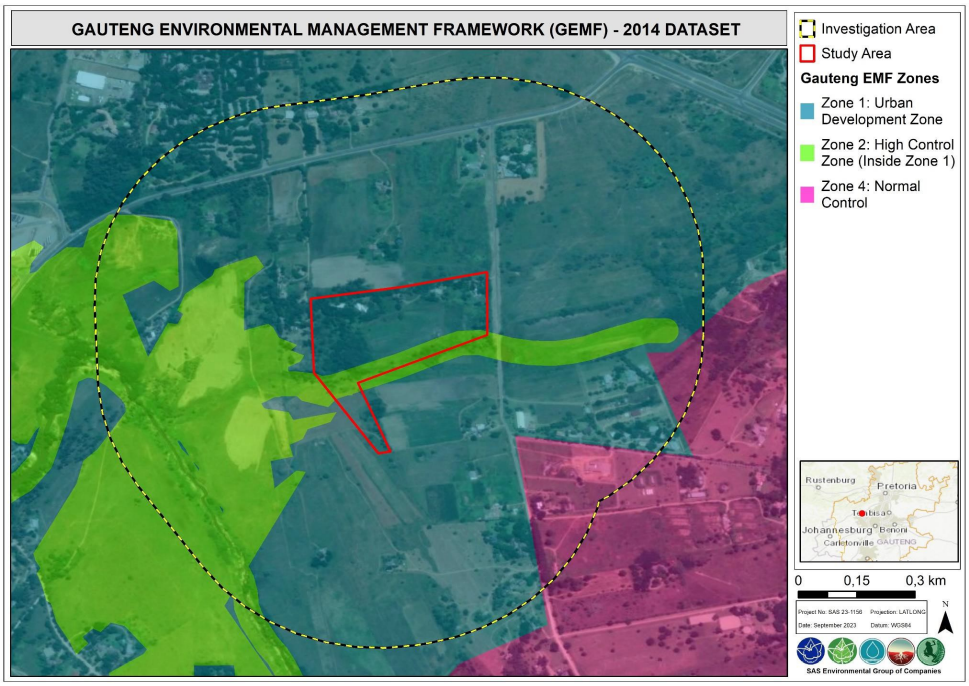


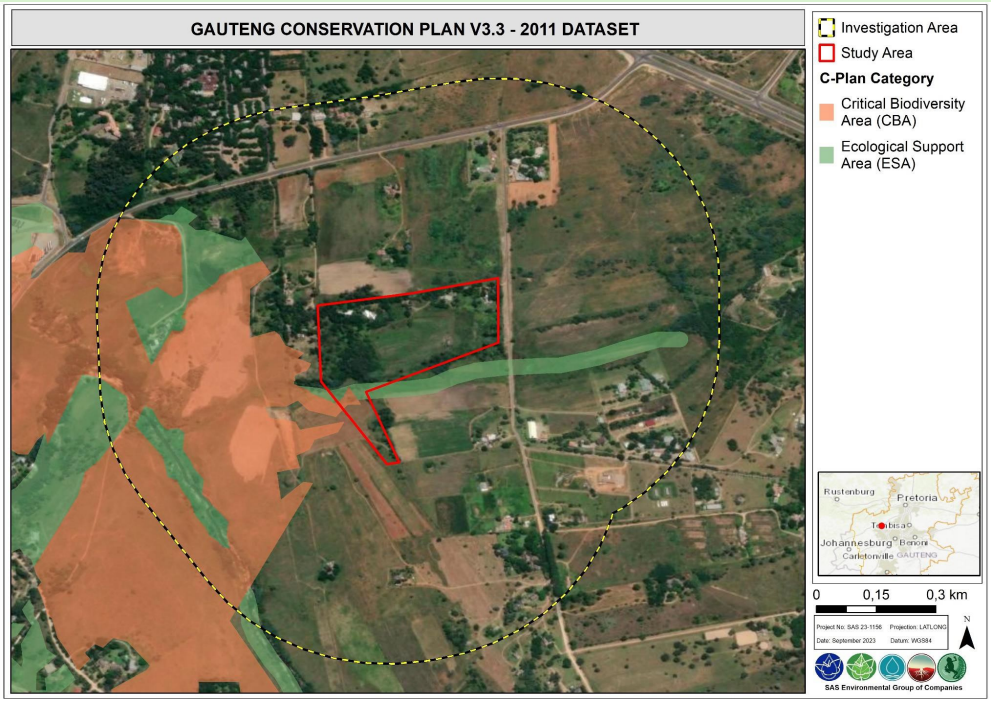
The NWA provides for pollution prevention measures, with particular emphasis on water resource pollution. In accordance, the licensee shall ensure that activities impacting upon water resources and effluent releases are monitored for compliance with the applicable Regulations. Emergency incidents involving water resources are included in the Act, requiring the polluter to remediate and mitigate the impacts of such an emergency incident. In terms of Section 19 of the NWA, “an owner of land, a person in control of land or a person who occupies or uses the land on which any activity or process is or was performed or undertaken; or any other situation exists, which causes, has caused or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring”. A water use must be licensed (in terms of Section 21) unless it is listed in Schedule 1 as an existing lawful water use; is permissible under a general authorisation; or if a responsible authority waives the need for a licence. A specialist water use license consultant will be appointed to conduct the Water Use Authorisation Application (WUA) process for the proposed development, and the impact it may have on freshwater resources within a 500m radius of the site.

DESCRIPTION OF COMPLIANCE WITH THE RELEVANT LEGISLATION, POLICY OR GUIDELINE:	
Government Notice 509 as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998)	In accordance with GN509 of 2016 as it relates to the National Water Act, 1998 (Act 36 of 1998), a regulated area of a watercourse in terms of water uses as listed in Section 21c and 21i is defined as: • the outer edge of the 1 in 100 year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam; • in the absence of a determined 1 in 100 year flood line or riparian area, the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or • a 500m radius from the delineated boundary (extent) of any wetland or pan in terms of this regulation. Any development on the study site has the potential to impact the aquatic ecosystems and must be authorised in terms of Section 21 of the National Water Act (1998). A water use license consultant will be appointed to obtain the WUL for the township water use activities.

National Environment Management Waste Act, 2008 (Act No. 59 of 2008)	The NEM: Waste Act (NEMWA) was accented to on 10 March 2009 and came into effect on 01 July 2009. This Act repeals the sections in the Environment Conservation Act, Act 73 of 1989 that previously dealt with the licensing of general and hazardous waste storage facilities. The Act was established to regulate waste management for the protection of human health and the environment. Section 19 of the NEMWA authorises the Minister to publish a list of waste management activities which would require an environmental assessment and waste management licence. On 3 July 2009 the Minister published a schedule of waste management activities in respect of which a waste management licence is required in accordance with section 20(b) of NEMWA (GN R718, GG 32368). Activities listed under Category A of GN R 718 for which a waste management licence is required, are equivalent to those that require a Basic Assessment process as stipulated in GN R 544 of June 2010. Category B activities are equivalent to those that require a full EIA process as stipulated GN R 545 of June 2010. None of the activities relating to the construction and operation of the proposed high density residential township development, will require a waste management license.
National Heritage Resource Act 25 of 1999	The National Heritage Resource Act 25 of 1999 introduce an integrated and interactive system for the management of the national heritage resources; promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations and Chapter 2 section 35 subsection 3 states that any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources and subsection 4 says that no person may, without a permit issued by the responsible heritage resources authority— a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite; b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite; and section 36 subsection 3 states that no person may, without a permit issued by SAHRA or a provincial heritage resources authority— c) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves; d) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

	e) bring onto or to use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by *Seedcracker Environmental Consulting* to conduct a cultural heritage assessment to determine if the development activities would have an impact on any sites, features or objects of cultural heritage significance. During the site visit, it was determined that all the structures that occurred on the site have been demolished, some even down to ground level. All re-usable fittings and material were removed and at present people are even busy salvaging the bricks. Due to their relatively recent age and the current state of preservation, the ruins of the buildings are viewed to have no significance and is judged not to have any conservation value. No sites, features or objects of cultural significance were identified, therefore, the impact of the proposed develop is determined to be very low and no mitigation measures are proposed. The Palaeontological Sensitivity Map indicate that sections of the project area have an insignificant to zero sensitivity of fossil remains to be found and therefore a palaeontological assessment is not required. See Section F and Appendix G of this report, for the detail of this study.
The Gauteng Provincial Environmental Management Framework, 2015	The Gauteng Provincial Environmental Management Framework is a legal instrument in terms of the Environmental Management Framework Regulations. The regulations are designed to assist environmental impact management including EIA processes, spatial planning and sustainable development. The objectives of the policy are: • To ensure efficient urban development (including associated service infrastructure) in defined selected areas with lower environmental concerns and high development demand in order to help facilitate the implementation of Gauteng Growth and Management Perspective, 2014. • To facilitate the optimal use of current industrial, mining land and other suitable derelict land for the development of non-polluting industrial and large commercial developments. • To protect Critical Biodiversity Areas (CBAs) within urban and rural environments. To ensure the proper integration Ecological Support Areas (ESAs) into rural land use change and development. • To use ESAs as defined in municipal bioregional plans in spatial planning of urban open space corridors and links within urban areas. • To focus on the sustainability of development through the implementation of initiatives such as Energy efficiency programmes, plans and designs, Waste minimisation, reuse and recycling, Green infrastructure in urban areas, and Sustainable Urban Drainage Systems (SUDS)

	The study and investigation area are mostly indicated as an Urban Development Zone (Zone 1) except for portions shown as High Control Zone (Zone 2) where the wetlands and the Crocodile River are indicated. A small section in the south of the investigation area is indicated to be within the Normal Control Zone (Zone 4). Zone 1 (Urban Development Zone): The intention with this zone is to streamline urban development activities in it and to promote development infill, densification, and concentration of urban development in order to establish a more effective and efficient city region that will minimise urban sprawl into rural areas. Zone 2 High Control Zone (Within Zone 1: the Urban Development Zone): This zone is sensitive to development activities. Only conservation should be allowed in this zone. Related tourism and recreational activities must be accommodated in areas surrounding this zone. Zone 4 Normal Control Zone: This zone is dominated by agricultural uses outside the urban development zone. Agricultural and rural development that support agriculture should be promoted. The figure below shows the location of the site within the GPEMF 2021 mapping. 
Gauteng C-Plan V3.3	The Gauteng Conservation Plan (Version 3.3) classified areas within the province based on its contribution to reach the conservation targets within the province. These areas are grouped as Critical Biodiversity Areas (CBAs) or Ecological Support Corridors (ESAs). The CBAs comprise 'Irreplaceable' areas that must be conserved

	and areas classified as 'Important' to reach the conservation targets of the Province. ESAs are areas that are not essential for meeting biodiversity representation targets/thresholds but which nevertheless play an important role in supporting the ecological functioning of CBAs and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration to ensure sustainability in the long term. From a provincial biodiversity management perspective, according to GDARD's C-Plan 4, portions of the study area and investigation area are associated with the Crocodile River and wetlands are indicated as Critical Biodiversity Areas. 
Mogale City Spatial Development Framework, 2022	The SDF identifies the R114 as a Class 2 main arterial and places the property within the mixed-use development zone, which typically aims to 'create a vibrant and sustainable community' with a variety of land uses. Regarding residential settlements, the SDF indicates that housing plays a crucial role in 'integrated sustainable development, wealth creation, and poverty eradication', which is central to social and economic development. Accordingly, sustainable development should provide the following: economic opportunities, a mix of housing and tenure types, reliable basic services and community amenities, and opportunities for transport and mobility. The proposed development of the subject property aligns with the principles and guidelines outlined in the SDF.

Muldersdrift Precinct Plan, 2024	The Muldersdrift Precinct Plan encompasses the property in Sub-Precinct 3, which encourages the following types of development: mixed-use, high-density residential, medium-density residential, and mining and quarries. The property is located within the high-density residential development area.

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

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

One of the objectives of an EIA is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. To ensure that the proposed development enables sustainable development, *feasible* alternatives must be explored. The identification, description, evaluation, and comparison of alternatives are important for ensuring a sound environmental process. Alternatives should be considered as a *norm* within the Environmental Process.
Since the site is earmarked as an Industrial zone, and the site has been specifically designed to provide secure access into the Lanseria Cargo Park, no alternative land uses have been considered. The Lanseria node adjacent to the Lanseria International Airport and the Lanseria Corporate Estate, is primarily light industrial and warehousing land use. This application proposal aligns with the surrounding land uses. The application site does not have any environmental sensitivities on it, and therefore no alternative layout has been investigated. Only alternative technologies to be used in the activity have been considered

Provide a description of the alternatives considered.

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

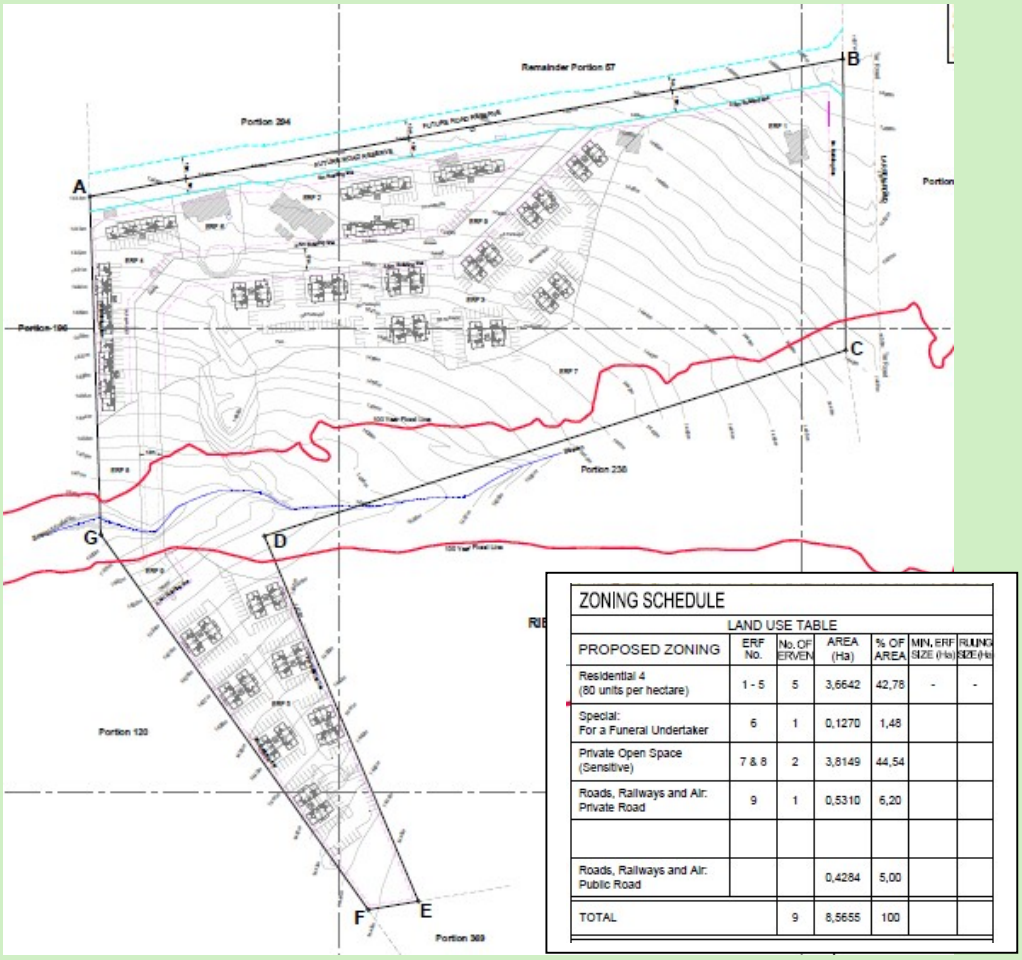
<table>
<tr><td></td><td>operational or other(provide details of “other”)</td><td></td></tr>
<tr><td>1</td><td>PREFERRED LAND USE: High density Resi Township</td><td>
At project inception, the applicant adopted a proactive, environmentally responsive planning approach by first undertaking environmental opportunities and constraints analysis of the site. This early-stage assessment informed the layout of the proposed township development, ensuring that sensitive ecological features, hydrological systems, and topographical limitations were identified and appropriately accommodated. As a result, the Site Development Plan (SDP) was developed in alignment with the site’s environmental characteristics, thereby ensuring regulatory compliance, and long-term aquatic eco-system conservation.

The preferred township proposal will comprise four land use categories and nine erven. The proposed high-density residential use will cover approximately 42% of the development, while the private open space (including sensitive areas) will account for nearly 45%.

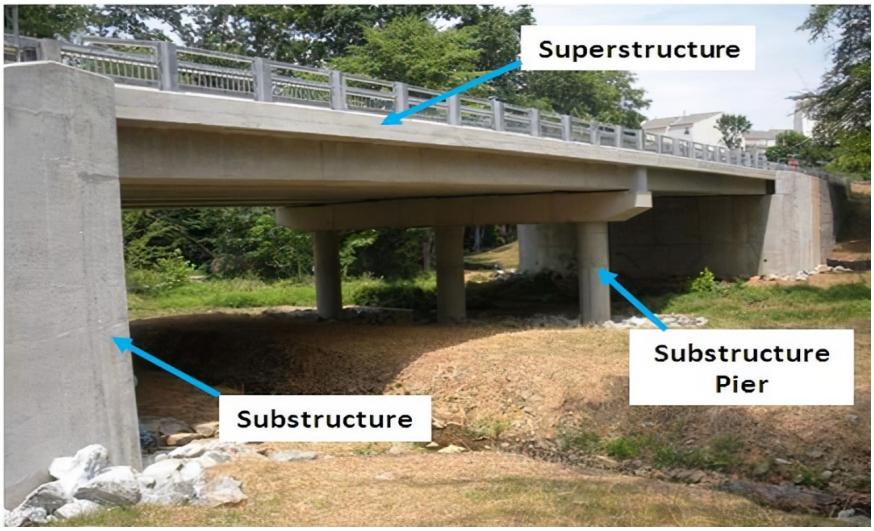
The layout utilises the existing structures on the property as residential units, but one of these units will be used as a funeral undertaker. The wetland area will not be developed - except for the bridge crossing to access Erf 5 - and will form part of the township as private open space, allowing for the protection of this area within the development boundary.

The preferred layout is proposed to comprise the following components:

<table>
<tr><th>PROPOSED ZONING</th><th>No of Erven</th><th>Erf No's</th><th>Area (ha)</th><th>Percentage</th></tr>
<tr><td>Residential 4</td><td>5</td><td>1 - 5</td><td>3,6642</td><td>42,78 %</td></tr>
<tr><td>Special (for a funeral undertaker)</td><td>1</td><td>6</td><td>0,1270</td><td>1,48 %</td></tr>
<tr><td>Private Open Space (sensitive area)</td><td>2</td><td>7 & 8</td><td>3,8149</td><td>44,54 %</td></tr>
<tr><td>Private Road</td><td>1</td><td>9</td><td>0,5310</td><td>6,20 %</td></tr>
<tr><td>Public Road</td><td></td><td></td><td>0,4284</td><td>5,00 %</td></tr>
<tr><td>TOTAL</td><td>9</td><td></td><td>8,5655</td><td>100 %</td></tr>
</table>
</td></tr>
</table>

		Preferred township layout:  ZONING SCHEDULE LAND USE TABLE PROPOSED ZONING / ERF No. / No. OF ERVEN / AREA (Ha) / % OF AREA / MIN. ERF SIZE (Ha) / RULING SIZE (Ha) Residential 4 (80 units per hectare) — 1 - 5 — 5 — 3,6642 — 42,78 — - — - Special: For a Funeral Undertaker — 6 — 1 — 0,1270 — 1,48 Private Open Space (Sensitive) — 7 & 8 — 2 — 3,8149 — 44,54 Roads, Railways and Air: Private Road — 9 — 1 — 0,5310 — 6,20 Roads, Railways and Air: Public Road — 0,4284 — 5,00 TOTAL — 9 — 8,5655 — 100
2	**Alternative Layouts**	Once the environmental constraints of the site were defined, the proposed high-density layout was developed and refined to reflect the applicant's intent to provide meaningful housing opportunities on a large scale, while also leveraging the full economic potential of the smallholding. Previous site layouts have *always* considered the full extent of the wetland and the 50m buffer, the flood lines, existing buildings on site, access, and more recently - internal road configurations, and residential erf spatial considerations. No alternative layout is provided due to space limitations on site due to the size of the wetland, and various road and access considerations which have been addressed over many months, providing the present preferred township layout plan as the only feasible alternative in terms of cost effective layout.
3	**Alternative land uses**	Umnotho Leruo Investment Primary Cooperative has secured Portion 268 of the farm Rietfontein 189 IQ, Muldersdrift. The Cooperative is affiliated with "Umnotho for Empowerment NPO", a community project that purchases land for development, enabling its members to build a community-oriented village. This village features residential units, business stands, a community centre with health facilities, parks, and schools. The

		individual land parcels owned by the NPO are not large enough to accommodate a single development, and so it includes several properties within the Muldersdrift area. The proposed development of Portion 268 focuses on *residential* use and includes a funeral undertaker on site. While the proposed Greengate Extension 140 township does not provide for community facilities or retail opportunities itself, ***the township will have access to these facilities*** that will be established on the proposed Greengate Extension 135, located within walking distance (approximately 700 metres south of the subject property) of X 140. The Umnotho for Empowerment NPO is creating a **community-oriented village model**, with shared values and cooperative governance, for land that has been purchased collectively. The integrated neighbourhood/village development model can accommodate shared open spaces, places of worship, early childhood centres, and recreational areas for a more holistic living environment. An alternative residential model for Greengate X 140 is the creation of large *single residential erven*. Based on spatial planning trends for the study area, location context, infrastructure efficiency, and market demand; high-density walk-up apartments are preferred. The Gauteng Spatial Development Framework and Mogale City SDF promote densification in urban expansion nodes like Muldersdrift, especially along main corridors such as the N14 and Hendrik Potgieter Road. Furthermore, Muldersdrift is earmarked as a growth node with mixed-use, higher-density development to limit urban sprawl and protect agricultural and environmentally sensitive land in surrounding areas. High-density walk-up apartments make better use of available land within designated urban edges. Bulk services (water, sewer, electricity, stormwater) are expensive to extend and maintain in peri-urban areas. Higher densities mean lower cost per dwelling for service provision. Large single erven increase land consumption, lead to more hard surfaces (driveways, roads), habitat fragmentation, and stormwater runoff. High-density apartments consolidate the development footprint, leaving more land available for open space networks, wetland buffers, and green infrastructure. Muldersdrift is close to major employment nodes like Lanseria Airport, Cradlestone Mall, Honeydew, and the N14/R28 corridor. The demand is growing for affordable to middle-income rental and ownership units for young professionals, airport staff, and small households. Walk-up apartments offer more affordable entry points for buyers and tenants. For these reasons, single residential erven are not the preferred land use model and has not been evaluated as part of this impact assessment.

4	**Alternative bridge crossing structures**	The applicant has always wanted to access and build on Erf 5, located south of the natural wetlands occurring on site. In recognition of the ecological sensitivity of the natural wetland on site, the applicant has had to consider suitable alternative bridge structures to traverse *over*—rather than *through*—the wetland system. This approach is intended to minimise direct disturbance to the wetland environment, while enabling functional access to an otherwise isolated portion of land that forms a desired component of the broader township development. The following bridge structures have been considered: **1. <u>Elevated Bridge on Pile Foundations</u>**  The elevated long-span concrete or steel bridge deck is environmentally suitable because it minimises wetland disturbance by avoiding extensive earthworks or embankments within the wetland, thereby reducing the compaction of wetland soils. This structure preserves hydrology and natural surface water flows underneath the bridge and allows for ecological connectivity by enabling fauna and flora movement beneath.

2. Box Culvert Bridge with Extended Span

The Box Culvert Bridge with an Extended Span is environmentally suitable because it is quick to install and causes less construction-phase disturbance. This bridge can be designed with foundations and abutments set well back from the wetland boundary, and it maintains free passage of water, sediments, and species underneath.

The box culvert bridge uses precast concrete arches or boxes that are placed on footings or abutments. This bridge is preferred for shorter wetland spans (applicable to this application), when the wetland is narrower or already partially disturbed. This bridge structure can be rapidly constructed and is cost effective without compromising environmental performance.

The following table compares the features of the 2 alternative bridge designs selected for the township:

Feature	1. Elevated Bridge on Pile Foundations	2. Precast Modular Arch or Box Culvert Bridge
Environmental Impact	Very Low – minimal disturbance to wetland soils and hydrology	Low – limited disturbance if abutments are set back from wetland edge
Hydrological Connectivity	Fully maintained – water, sediment, and fauna movement uninterrupted	Maintained – arch allows for flow, but more limited than pile bridge
Ecological Connectivity	High – elevated clearance supports habitat continuity below	Moderate to High – depends on span height and placement
Construction Footprint in	Minimal – piers placed outside or at edge of wetland	Small – prefabricated units, but abutment placement is critical

		Wetland		
		Construction Method	In-situ construction with deep piling (bored/driven piles)	Prefabricated elements craned into place over prepared footings
		Installation Time	Longer – due to piling and structural works	Shorter – rapid installation possible with off-site fabrication
		Structural Span	Medium to long spans (>15 m possible)	Best suited to short to medium spans (<15 m)
		Cost	Higher upfront cost	Moderate to lower cost
		Maintenance Requirements	Moderate – regular inspection of deck and piers	Low to Moderate – inspect joints, abutments, water flow path
		Best Suited For	Large or sensitive wetlands; long crossings	Smaller wetlands; need for fast construction
		The applicant has selected the **box culvert bridge** due to the construction speed and affordable cost, without compromising environmental compliance. The length of the wetland crossing on site is 12-15 meters which is suited to the box culvert design.		
5	**Alternative building technologies**	When planning a high-density residential development, there are several alternative technologies that can be adopted to improve environmental performance, reduce costs, optimise land use, and accelerate delivery timelines. These technologies span building systems, construction methods, sustainable utilities, and smart infrastructure. **1. Alternative Building Materials and Systems** Innovative Building Technologies (IBTs) include systems that replace conventional brick-and-mortar with more efficient, modular solutions. Examples include light steel frame construction, which is lightweight, durable, and quick to assemble, and precast concrete systems, where structural elements such as walls and slabs are manufactured off-site and installed rapidly on-site. These systems reduce construction waste and improve quality control. **2. Sustainable and Green Technologies** To reduce the environmental footprint of high-density housing, sustainable utility technologies can be integrated. *Rainwater harvesting systems* allow for the capture and storage of roof runoff, which can be used for irrigation or non-potable uses, reducing pressure on municipal supply. *Greywater recycling systems* treat lightly used water (from baths, basins, and showers) for reuse in flushing or landscaping, promoting water conservation. *Solar photovoltaic (PV) panels* can be used to generate renewable electricity, while solar geysers or heat pumps offer energy-efficient water heating options. In some cases, green roofs or *rooftop gardens* may be incorporated to improve insulation, reduce the urban heat island effect, and manage stormwater runoff. **3. Smart Infrastructure and Utility Technologies** Smart infrastructure can enhance the efficiency and functionality of high-density		

		residential areas. Installing smart water and electricity meters enables real-time monitoring and more accurate billing, while promoting responsible consumption. Provision for fibre-to-the-home (FTTH) ensures high-speed internet access, which is essential for modern urban lifestyles, supports work-from-home setups, and adds value to the housing units. Many of these technologies are supported by the Department of Human Settlements for use in the RDP, GAP, and subsidised markets. The CSIR's Green Building Handbook and the NHBRC's guidelines encourage adoption of alternative building technologies that meet minimum structural, environmental, and thermal performance standards. Municipalities may require performance certification or product approval, particularly where untested systems are introduced. By applying these alternative technologies, the applicant and developer can achieve a balance between maximising residential yield, minimising environmental impact, and enhancing affordability and liveability. The appropriate combination of materials, methods, and systems should be tailored to the site-specific conditions, development objectives, and regulatory requirements.

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

NOTE: The numbering in the above table must be consistently applied throughout the application report and process

4. PHYSICAL SIZE OF THE ACTIVITY

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

	Size of the activity:
Proposed activity	8.5 hectares
Alternatives:	
Alternative 1 (if any)	8.5 hectares
Alternative 2 (if any)	

Ha/ m^2

or, for linear activities:

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

k/km

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

	Size of the site/servitude:
Proposed activity	
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	

5. SITE ACCESS

Proposal

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

Describe the type of access road planned:

Access to the applicable development will be provided from Larsens Road and in accordance with the latest Roads Master Plan of the Muldersdrift area. Larsens road abuts the development along the eastern boundary. Larsens Road is currently subject to low traffic volumes with an insignificant movement and total intersection delay. The access intersection will have sufficient capacity to accommodate the development.

FIGURE 5 : DEVELOPMENT ACCESS INTERSECTIONS

Please see Appendix G for the Traffic Impact Study compiled by Hamatino Consulting Engineers for this application.

Access will be provided at the locality of the future Class 4 Road locality for the interim period until such time as and when the Future Class 4 road has been constructed. A 10m wide area are made available in the township along the northern boundary for the purpose of the above mentioned future Class 4 road.

Once the owners of Portions 294 and Remainder of Portion 57 submit a township application, they should also provide a 10m wide reserve along their southern boundary with a resultant 20m wide road reserve available in future for the Road Master Plan road.

The development access gate is located approximately 750m from Beyers Naude Drive. It is advised that provision be made for a taxi drop and turn facility at the development access gate.

Include the position of the access road on the site plan.

Alternative 1

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

If NO, what is the distance over which a new access road will be built	
Describe the type of access road planned:	
Include the position of the access road on the site plan.	

Alternative 2

Does ready access to the site exist, or is access directly from an existing road?	N/A
If NO, what is the distance over which a new access road will be built	
Describe the type of access road planned:	
Include the position of the access road on the site plan.	

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

Section A 6-8 has been duplicated **0** Number of times (only complete when applicable)

6. LAYOUT OR ROUTE PLAN

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

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

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

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

See Appendix A

7. SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

See Appendix D

8. FACILITY ILLUSTRATION

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

See Appendix C

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)
Further:
Instructions for completion of Section B for linear activities

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

Section B has been duplicated for sections of the route | **0** | times

Instructions for completion of Section B for location/route alternatives

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

Section B has been duplicated for location/route alternatives | **0** | times (complete only when appropriate)

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

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

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

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

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

1. PROPERTY DESCRIPTION

Property description:	**P**ortion 268 of the farm Rietfontein 189 IQ

(Farm name, portion etc.)

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Proposed, preferred Alternative:	**Latitude (S):**	**Longitude (E):**
	26 01 58.11	27 51 35.58

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity		
• Middle point of the activity		
• End point of the activity		

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

Addendum of route alternatives attached | |

The 21 digit Surveyor General code of each cadastral land parcel

T0IQ00000000018900268

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

The site slopes nort0h towards the Jukskei River.

4. LOCATION IN LANDSCAPE

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

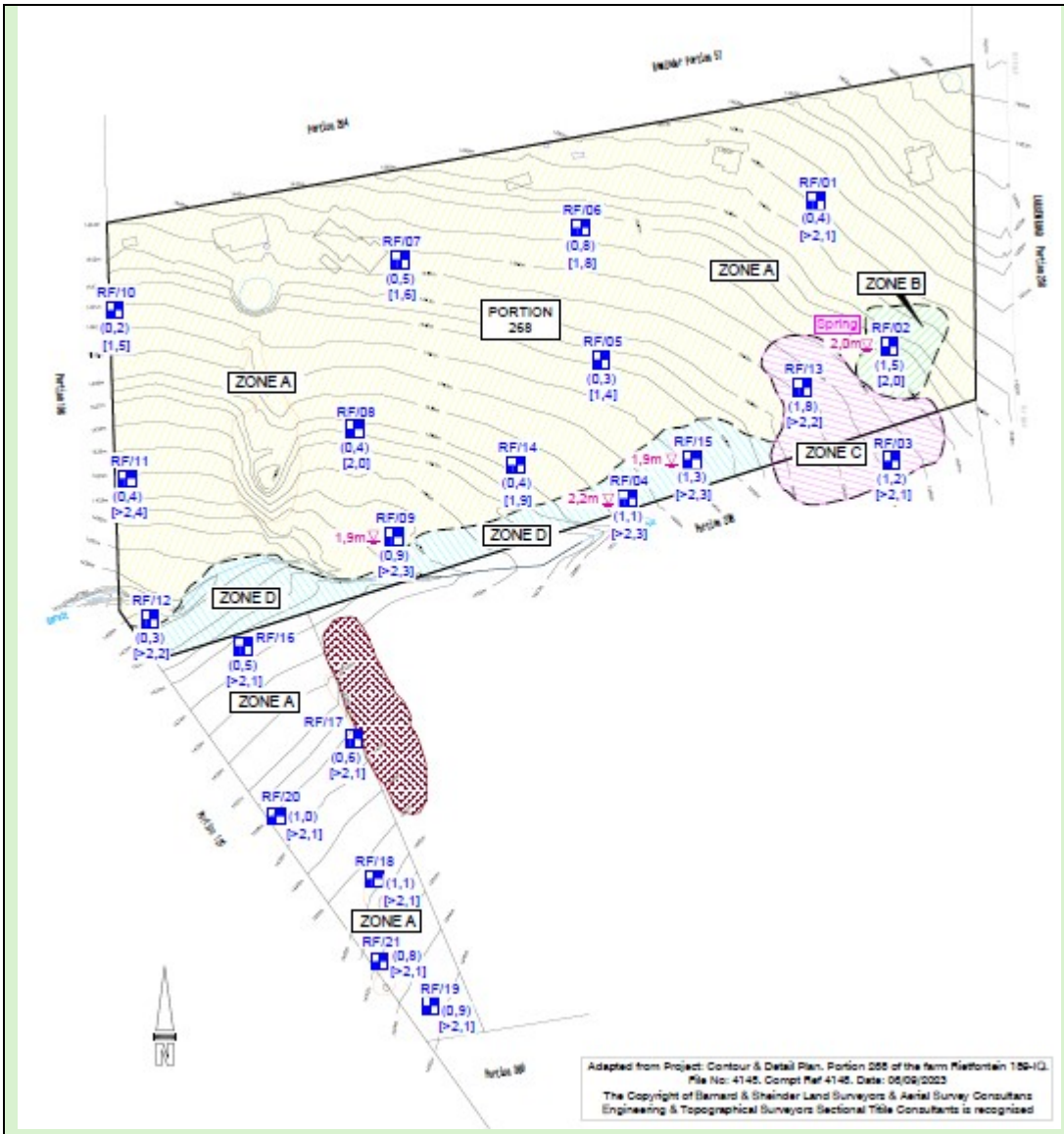
Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	**Undulating plain/low hills**	River front

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Andon Van Der Merwe has conducted a **geotechnical investigation** for the site. The study area is underlain by transported sandy and clayey transported soils overlying sandy and clayey residual soils and presumably weathered granite bedrock belonging to the Halfway House Granite Dome. The geological map further shows that the eastern part of the site may be intruded by syenite, striking in a north to south direction.

The site has been divided into four prominent material zones, Soil ***Zone "A"*** to ***"D":***

SOIL ZONE	BRIEF MATERIAL DESCRIPTION	NHBRC* SITE CLASS
A	Thin to moderate horizon (0,2m to 0,5m thick) of *medium densse to dense*, colluvial silty SAND over generally *dense* becoming *very dense* SANDY residual granite or in scattered areas *stiff* sandy CLAY residual granite or *firm to stiff* silty residual diabase (RF/19) overlying completely weathered very *soft rock* GRANITE with depth in some areas. *Firm to stiff* becoming *stiff* R	CSH H
B	Outcrop, sub-outcrop and boulder outcrops of *hard rock* GRANITE with the presence od a lava intrusion and sandy transported and residual soils in between the granite outcrops.	CSHR
C	Marshy areas containing standing surface water, presence of ground water and a spring. Moderate horizon (0,5m thick) of black *very soft* clayey alluvium over a moderate horizon (1,0m thick) of *medium dense*, clayey sand residual granite over *dense*, SANDY residual granite over completely weathered *very soft rock* GRANITE from below 1,9 ..... ➢	P M A P S
D	M CLA *stiff* *soft* *firm to stiff* CLA SAND *dense*, O ➢	CSHP P S



Is the site located on any of the following?

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

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

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

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

Latitude (S):	**Longitude (E):**
°	°

c) are any **caves** located within a 300m radius of the site(s)	YES	NO

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

Latitude (S):	**Longitude (E):**
°	°

d) are any **sinkholes** located within a 300m radius of the site(s)	NO

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

Latitude (S):	**Longitude (E):**
°	°

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

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?	YES	**NO**

GAPA class: *Moderate to Low agricultural potential.*
The seep wetlands on site and the area catchment, have been extensively modified by historical and ongoing crop agriculture (mainly soybean and maize). From historical aerial photography circa 1938, it is apparent that the seep wetlands considered in the 2024 Freshwater study, are remnants of much more extensive wetland systems which are now mostly transformed by smallholding crop agriculture activities. Alien Invasion proliferation was prominent throughout the seep wetlands.

7. GROUNDCOVER

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

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

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation / % =	**Veld dominated by alien species % = 30**	Landscaped (vegetation) % =

Sport field % =	**Cultivated land % = 65**	Paved surface (hard landscaping) % =	**Building or other structure % = 5**	Bare soil % =

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

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

If YES, specify and explain:

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	Undetermined

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site?	**YES**	NO

If YES, specify and explain:

Was a specialist consulted to assist with completing this section	**YES**	NO

Scientific Terrestrial Services (Pty) Ltd ("STS") was appointed to compile a site floral and faunal verification assessment in support of the proposed Greengate X 140 township development.

The study area has been associated with anthropogenic activities for an extended period (> 20 years). Land use within the study area is dominated by residential smallholdings, which includes areas of active cultivation. Given the general land use within the study area (i.e., residential and agricultural), the study area has been exposed to significant anthropogenic activities, which has resulted in a lowered habitat and ecological integrity. Specifically, anthropogenic activities such as mowing, alteration of vegetation communities through cultivation, Alien and Invasive Plant (AIP) introduction and proliferation, etc., have resulted in the subsequent modification of the biodiversity with the study area and have lowered the sensitivity of the habitat for both floral and faunal communities. Important ecological functions are considered mostly absent within the study area (and immediate surrounding areas). Across the study area, the floral assemblages associated are degraded and modified in nature. Specifically, historic, and current agricultural practices as well as general disturbances associated with the various residences have resulted in a lowered habitat condition. Across the study area, broad floral communities consisted of (1) Freshwater Habitat, (2) Cultivated Areas, (3) Wooded Habitat Areas, and (4) Transformed Habitat. Overall, the floral species composition across the study area is considered to have significantly deviated from the reference Egoli Granite Grassland vegetation type (i.e., the reference vegetation type).

Observed faunal species diversity within the study area was moderately low; the poorly represented faunal communities are attributed mainly to the levels of habitat disturbance and modification associated with the study area. The study area is situated within a medium-density urban environment and therefore fragmented from other open space areas by surrounding roads, cultivation, and other residential and/or business areas, which limits species movement. Food availability primarily composed of seed-bearing grasses and fruiting tree species. Although habitat modification and transformation has occurred due to AIP proliferation, cultivation activities, amongst others, the study area is still capable of providing habitat to some faunal species, albeit common, widespread species. It should be noted that the presence of dogs within the study area also likely limit the presence of some faunal species, including small mammal species.

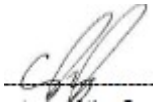
Specialist details:

Name of the specialist:	Scientific Terrestrial Services (Pty) Ltd
Qualification(s) of the specialist:	Samantha-Leigh Daniels Senior Floral Ecologist (PhD) PhD (Plant Science) (University of Pretoria) Mathew Ross Senior Aquatic Ecologist and Discipline Lead (SACNASP REG.NO: 005072) PhD Aquatic Health (University of Johannesburg) Chris Hooton Senior Faunal Ecologist and Discipline Lead BTech Nature Conservation (Tshwane University of Technology)
Postal address:	29 Arterial Road West, Oriel, Bedfordview
Postal code:	2007
Telephone:	011 616 7893 / 082 464 1021
E-mail:	samantha@sasenvgroup.co.za

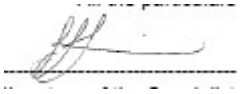
Are any further specialist studies recommended by the specialist? YES / NO

Signature of specialist: Matthew Ross

Chris Hooton



Samantha Daniels



Date: Aug 2025

Name of the specialist:

Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:			
E-mail:			
Are any further specialist studies recommended by the specialist?		YES	NO
Signature of specialist:	Date:		
If YES, specify:			
If YES, is such a report(s) attached?		YES	NO

Name of the specialist:			
Qualification(s) of the specialist:			
Postal address:	N/A		
Postal code:			
Telephone:			
E-mail:			
Are any further specialist studies recommended by the specialist?		YES	NO
If YES, specify:			
If YES, is such a report(s) attached?		YES	NO

If YES list the specialist reports attached below:

Signature of specialist:		Date:	

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

8. LAND USE CHARACTER OF SURROUNDING AREA

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

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	35. Road
Other land uses (describe):				

NOTE: Each block represents an area of 250m X250m

NORTH

34. Small Holdings	34. Small Holdings	34. Small Holdings	35. Road	34. Small Holdings
34. Small Holdings	34. Small Holdings	34. Small Holdings	35. Road	34. Small Holdings
2. River, stream, wetland	2. River, stream, wetland		35. Road	34. Small Holdings
34. Small Holdings	34. Small Holdings	34. Small Holdings	35. Road	34. Small Holdings
34. Small Holdings	34. Small Holdings	34. Small Holdings	35. Road	34. Small Holdings

W E S T

E A S T

SOUTH

Site

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

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

Have specialist reports been attached	YES	NO

If yes indicate the type of reports below

- Terrestrial Compliance statement
- Wetland Assessment and aquatic Ecosystem Delineation
- Water, Sewer, Roads and Stormwater; Electrical Engineering Reports
- Traffic Impact Assessment
- Geotechnical Investigations
- Environmental Management Programme

9. SOCIO-ECONOMIC CONTEXT

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

Understanding demographics of a study area is important as these characteristics are essential for shaping land use and development proposals aligned with local needs. While specific demographic data for the Rietfontein Farm area is limited, data for the broader Muldersdrift area is more readily available as follows:

Muldersdrift has a population of around 1,744 (2011 Census), predominantly Black African (≈89.9%) with a minority White population (≈9.1%). Education levels reveal a mix: approximately 32.6% with some secondary education, 28.5% matriculated, and 22.9% having completed tertiary degrees. School attendance rates for youth aged 5-24 is about 50.95%. The employment rate is relatively strong at approx. 66.8%, and an unemployment rate of approx. 11.9%. About 41% of the population are skilled workers, with roughly 29% low-skilled. 38.7% of the population are low-income, and about 13.9% report no income.

The Muldersdrift precinct economy comprises finance, insurance, real estate and business services, all which contribute the largest share, followed by manufacturing, wholesale/retail/accommodation, and community/social services.

Sectors in decline include agriculture, mining/quarrying, manufacturing, and electricity, gas & water supply. The area's arts, tourism, hospitality and creative enterprises (e.g., nurseries, pottery, breweries, wedding venues) form a dynamic part of the local economy supported by its proximity to the Cradle of Humankind and the scenic Crocodile Ramble route.

The Rietfontein subdivision in Muldersdrift has been identified as one of the most crime-affected areas in the district. The existing social and economic characteristics of the area and the community present as under-resourced communities, crime vulnerabilities, and limited access to comprehensive social infrastructure.

This social and economic information about the broader Muldersdrift area tells us that the community Is underserved and needs basic infrastructure. The relatively low income levels, limited access to education and health services, and pockets of high unemployment indicate a strong need for development that provides more than just housing. Development must go beyond a residential-only model and include: Local health facilities, Early childhood development centres and primary schools, public parks and safe gathering spaces, and community centres that enable training, recreation, and support services. This would help meet basic quality-of-life needs, improve social cohesion, and reduce dependency on distant services.

The presence of large wetlands and the area's proximity to the Cradle of Humankind World Heritage Site necessitates careful environmental planning. Development must avoid wetland encroachment, integrate green infrastructure, and provide public open spaces or eco-parks within wetland buffer zones, supporting conservation and community recreation.

With high levels of localised crime and vulnerability in Muldersdrift (especially in informal and isolated settlements like parts of Rietfontein), development should integrate community policing facilities or satellite safety points, and foster community interaction through shared amenities and gathering spaces. This helps build social resilience and safety, especially for youth and women.

The fact that an NPO like Umnotho for Empowerment is driving development on behalf of a local community shows that participatory, bottom-up approaches are in place. Authorities and professionals should recognise the NPO's role as a social land developer, ensure that planning is not only regulatory compliant, but values-driven, and support capacity-building and institutional partnerships that uplift residents through access to land, services, and economic opportunity.

Therefore, based on the available demographic information, a well-aligned development proposal in Muldersdrift should be mixed-us, combining housing with business, social services, and green space, provide affordable, high-density housing without compromising open space, include health, education, and social facilities to reduce travel and stimulate local enterprise and skills development. Development proposals must be environmentally responsive, especially near wetlands and heritage areas, incorporate community-driven safety and design principles, and be based on a collaborative approach that includes community voices and values.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure 38. *(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; (b) the construction of a bridge or similar structure exceeding 50m in length; (c) any development or other activity which will change the character of a site- (i) exceeding 5 000 m2 in extent; or (ii) involving three or more existing erven or subdivisions thereof; or (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority; (d) the re-zoning of a site exceeding 10 000 m2 in extent; or (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify*

the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

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

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

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

In accordance with Section 38 of the NHRA, Dr Johnny Van Schalkwyk was appointed to conduct a cultural heritage assessment, to determine if the development activities would have an impact on any sites, features or objects of cultural heritage significance. See Appendix G for this specialist report.

From the specialists study of old maps and aerial photographs of the site, it can be seen that different house structures occur on the northern part of the project area, whereas the southern section has always been open. A review of the house structures revealed that most of them are of recent origin, less than 40 years old, whereas others have been upgraded and altered beyond their original structure. Only one of them showed some originality. A single grave is located outside of the boundary fence of the farm. The grave is located behind a razor wire fence and no information could be determined.

The assessment has determined that no sites, features or objects of heritage significance occur *in* the project area. Therefore, no permits would be required from SAHRA or the relevant PHRA. If heritage features are identified during construction, as stated in the management recommendation, these finds would have to be assessed by a specialist, after which a decision will be made regarding the application for relevant permits.

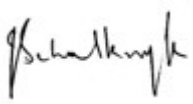
The Palaeontological Sensitivity Map indicates that sections of the project area have an insignificant to zero sensitivity of fossil remains to be found and therefore a palaeontological assessment is not required.

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

Name of the specialist:	Dr Johnny Van Schalkwyk

Qualification(s) of the specialist:	DLitt et Phil (Anthropology), University of South Africa MA (Anthropology), University of Pretoria BA (Hons), Anthropology, University of Pretoria Post Graduate Diploma in Museology, University of Pretoria BA (Hons), Archaeology, University of Pretoria BA, University of Pretoria
Postal address:	62 Coetzer Avenue, Monument Park, 0181; Tel: E-mail:
Postal code:	0181
Telephone:	076 790 6777
E-mail:	jvschalkwyk@mweb.co.za

Are any further specialist studies recommended by the specialist?	YES	NO
If yes, please attached the comments from SAHRA in the appropriate Appendix		

Signature of specialist:		Date:	July 2025

SECTION C: PUBLIC PARTICIPATION

1. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

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

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

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

This Draft BAR has been submitted to the relevant local authorities. The comment period is 19 August till the 19 September 2025. Comments received after the review period closes, will be included in the draft BAR submitted to the GDEnv.

2. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?	YES	**NO**

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

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

This Draft BAR has been advertised and made publicly available. The comment period is 19 August till the 19 September 2025. Comments received from interested and affected parties, after the review period closes, will be included in the draft BAR submitted to the GDEnv.

3. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed. The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice
Appendix 2 – Written notices issued as required in terms of the regulations
Appendix 3 – Proof of newspaper advertisements
Appendix 4 –Communications to and from interested and affected parties
Appendix 5 – Minutes of any public and/or stakeholder meetings
Appendix 6 - Comments and Responses Report
Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report
Appendix 8 –Comments from I&APs on amendments to the BA Report
Appendix 9 – Copy of the register of I&Aps

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alternative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives (complete only when appropriate) **0** times

Section D Alternative No.	Preferred Alternative	(complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

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

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

During the construction phase, waste will comprise mainly of excess spoil material from ground excavations and trenching activities, vegetation removal, construction material, general waste from site personnel, paints and solvents and waste water and sewage to be disposed of at registered sites. A recycling programme should be implemented to ensure that the generation of waste that is being disposed of, is minimised from source. It is suggested that two areas on the site, be demarcated for waste disposal. One area will include all waste that *cannot* be recycled, while the other area will include all *recyclable* waste. The building rubble and solid waste (such as sand, gravel, concrete and over burden material) that cannot be used for filling and rehabilitation during the construction phase, must be removed from site and be disposed of safely and responsibly at a licensed landfill site. It is also suggested that the recyclable waste be sorted into different categories such as paper, plastic, glass & tin/ metal and that the appropriate independently appointed parties pick up the recyclable items. The solid waste produced during the construction phase, will be taken and collected from site by means of skip waste containers. This will be the responsibility of the applicant.

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

The construction solid waste will be disposed of at a registered Municipal landfill site.

Will the activity produce solid waste during its operational phase?	**YES**	NO
If yes, what estimated quantity will be produced per month?	This cannot be determined at this stage	

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

The waste collections under contract by the Mogale Municipality will collect the domestic waste on a weekly basis. Recycling will be encouraged, and separate bins for recycling should be provided to the residents. Domestic waste will be disposed of at a registered landfill site.

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

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

To be disposed of at licensed landfill site.

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as **hazardous** in terms of the relevant legislation?	YES	**NO**

If yes, inform the competent authority and request a change to an application for scoping and EIA

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

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

Describe the measures, if there are any, that will be taken to ensure the optimal reuse or recycling of materials:
In accordance with international trends, the management of all waste streams that will be generated at the development should demonstrate support for the Hierarchy of Waste Management (HWM), which aims to promote the re-use and recycling of wastes, giving effect to the concept of 'cradle-to-cradle' waste management. The aim of the Waste Management Plan is to minimize the amount of waste disposed of, and as such, a waste hierarchy is followed: Prevent → Minimise → Reuse → Recycle → Recover, and only then, → Dispose. All materials that can be recycled must be separated from the general waste and disposed of at a recycling facility. Spoil material which could be used for landscaping purposes will be extracted and kept neatly intact in a controlled manner, to prevent wind and water erosion. Recycling solid waste not only facilitates disposal, but conserves energy, cuts pollution, and preserves natural resources. Presently, the applicant has not considered the re-use or recycling of materials as part of the development proposal. During the construction phase, waste should be managed according to the following:

- Segregate different types of waste as they are generated using different skips where possible (General wastes, non-hazardous wastes and hazardous wastes). At a minimum there should be skips for wood, metals, inert and mixed materials,
- Collect maintenance and domestic refuse (scrap metal, packaging materials etc.) in appropriate bins for recycling or send to landfill for disposal in an approved manner.
- Recycle suitable spoil, demolition materials, all pruning, and surplus construction material arising from the works on site to avoid the need to transport materials.
- Metal waste has commercial value and is to be sold on to a scrap metal contractor for recycling purposes.
- Wood waste includes oversized cable reels, wooden packaging boxes, palettes and other wood materials. Palettes in good condition may be reused and are to be returned to materials suppliers on a return system – this will need to be negotiated with the relevant suppliers. Damaged wood waste is to be donated to local communities.

The following procedures should be adhered to, to control and manage *builder's* waste generated on the premises:

- Rubble material will be removed from the construction site frequently and disposed of at an approved dumping site.
- Sufficient containers will be on the construction site to handle the amount of litter, wastes, rubbish debris and builders wastes generated on the site.
- These containers will be emptied frequently to avoid rodents, insects or any other organisms accumulating on the site and becoming a health hazard to adjacent properties.
- No wastes will remain on the construction site for more than two (2) weeks.

Material to be used as backfill during a later building phase will be covered with a layer of soil to prevent litter from flying away and unhygienic conditions developing on the rubbish dumps. During the operational phase of the established township, waste will be collected by the Municipal Services.

Liquid effluent (<u>other than domestic sewage</u>)

Will the activity produce effluent, *other than normal sewage*, that will be disposed of in a <u>municipal</u> sewage system?	YES	**NO**
If yes, what estimated quantity will be produced per month?	**N/A**	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?	YES	NO
Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes	NO

If yes, what estimated quantity will be produced per month?	
If yes describe the nature of the effluent and how it will be disposed.	

Note that if effluent is to be treated or disposed **on site** the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

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

Water use and wastewater recycling are essential for Environmental Sustainability. The applicant must commit to reducing its water dependency and usage through efficient operations to minimise the developments impact on the region's scarce water resources, and to reduce operating costs. Water usage should be monitored at a company /facility/development level, to ensure consumption targets are achieved. A water conservation program should be developed to identify and manage water saving initiatives. All new facilities and buildings are required to implement water savings initiatives, as dictated by environmental sustainability initiatives, to ensure good practice water efficiency standards are met and exceeded where possible. All staff, contractors, suppliers and leased facilities are made aware of the need to conserve water and minimise consumption. Water conservation measures should include metering water use, installing water-efficient fixtures and technologies, growing drought-resistant landscaping, and making sure that leaks are quickly repaired. To achieve an even more significant impact, onsite alternative water sources and water re-use as cleaned or grey water should be considered.

Liquid effluent (<u>domestic sewage</u>) Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	**YES**	NO
If yes, what estimated quantity will be produced per month? Average daily sewer demand: Res 3 = 400 ℓ / day /Unit Average daily sewer demand: Funeral = 550 ℓ / day Average daily sewer demand: Special = 550 ℓ / day		
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	**YES**	NO
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	**NO**
If yes describe how it will be treated and disposed of.		

The property will connect to the Driefontein WWW (belonging to CoJ).

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES Dust	NO

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

YES	**NO**

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

If no, describe the emissions in terms of type and concentration:

Limited dust will be generated during the construction phase of the project, due to the movement of construction vehicles and construction activities on site. The dust emissions will have a short term impact duration, and therefore a limited impact in terms of severity and extent. Appropriate dust suppression measures will be implemented to reduce the impacts as required and will be monitored by the appointed Environmental Control Officer.

2. WATER USE

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

Municipal	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water

A new 110mm Ø bulk water line will be constructed to service Greengate Ext. 140. The new water line will be connected to the existing 160mm Ø bulk water line, situated within the Larsens Road-reserve. New water connections for each stand, will be applied for, from new 110mm Ø bulk water line. This will serve as a potable water and fire mains to each erf in the township.

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

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

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

YES	NO

If yes, list the permits required

A Water Use Authorisation in terms of the National Water Act, 1998 (Act No. 36 of 1998) as amended, will be required for the township, in compliance with Government Notice 4167 as published in the Government Gazette 49833 of 08 January 2024 as it relates to the National Water Act, 1998 (Act No.36 of 1998) as amended.

If yes, have you applied for the water use permit(s)?

YES	**NO**

3. POWER SUPPLY

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

ESKOM

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

The available ESKOM network electrical capacity for developments in the area is limited but sufficient for this project. There is an existing 11 000-volt Eskom overhead power line which is in Larsens Road in close proximity to the northern boundary of Extension 140. Power will be catered for the new township from this line.

4. ENERGY EFFICIENCY

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

Designing energy-efficient residential units is essential to reduce operational costs and improve sustainability. Effective energy-efficient design measures for large warehouse buildings include the following strategies:

Building Envelope and Insulation:
Thermal Insulation: Proper insulation of walls, roofs, and floors can minimize heat gain/loss and improve HVAC efficiency.
Reflective Roofing: Use light-colored or reflective roofing materials to reduce heat absorption, decreasing cooling costs. Install roofing systems that reflect more sunlight and absorb less heat. This helps reduce the cooling load of the building, especially in hot climates.

Natural Lighting
Skylights and Roof Windows: Incorporate skylights or daylighting systems to maximize natural light and reduce the need for artificial lighting during the day.
Daylight Harvesting: Install sensors that adjust artificial lighting based on the amount of natural light entering the building.

Energy-Efficient HVAC System
Zoning and Variable Air Volume (VAV) Systems: Use a zoning approach with VAV systems that allow heating and cooling only in the areas that need it.
Smart Thermostats and Sensors: Implement smart thermostats and motion sensors to adjust heating and cooling based on occupancy.
Seal Gaps and Leaks: Use high-quality seals around doors, windows, and other penetrations to prevent air leakage and maintain thermal comfort.

LED Lighting
Energy-Efficient Lighting: Install LED fixtures with motion sensors to ensure lighting is only on when needed.

Lighting Controls: Use occupancy sensors and programmable lighting controls to minimize energy consumption during non-working hours or in less frequently used areas.

Renewable Energy Integration

Solar Panels: Install photovoltaic panels on the roof to generate electricity and offset the building's energy needs.

Battery Storage: Pair renewable energy systems with battery storage to store excess energy generated during peak sunlight hours for use during off-peak times.

Landscaping

Plant trees or shrubs around the building to reduce heat absorption and lower cooling needs.

Smart Logistics and Storage

Optimized Layouts: Design the warehouse layout for efficient space utilization, reducing the need for excessive heating, cooling, and lighting in unused areas.

Different energy saving strategies will be considered in the detailed design phase of the project. The measures will include combinations of a variety of appropriate energy saving and alternative energy generation initiatives, including renewable energy, as relevant to a particular facility/development structure. Specific focus will be placed on the management of new buildings, to ensure that their design is energy efficient. Conformance with the Green Buildings Policy is important in this respect. Energy efficiency in new buildings will take account not only of the building's design, but also of life-cycle impacts associated with the upstream activities (e.g. the carbon footprint of the materials used for building construction) and the downstream activities (e.g. waste and excess soil produced by construction).

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

Where possible, the use of alternative energy supply will be promoted and used. This will include:

- Solar lighting.
- Solar water heating.
- Rainwater harvesting
- LED Lighting
- Smart Landscaping

5. STORMWATER MANAGEMENT

Inventas Projects (Pty Ltd) was appointed to address the design services for the Greengate X 140 township. The site is affected by a watercourse. The site has a moderate topography and slopes from the northeast to the southwest at a gradient of approximately 1:11 to 1:18 towards the watercourse/stream. Erf 5 has a moderate topography and slopes from the southeast to

the northwest at a gradient of approximately 1:18 towards the watercourse/stream. There is no existing stormwater infrastructure in the area, with stormwater flowing overland to low lying areas and finally into the Wilgespruit river system. It is proposed to integrate the road network with the stormwater management for the development.

The stormwater management will be such that the principles of progressive stormwater management will be implemented. The roads, which in turn will discharge, via grid inlets, will collect the surface run-off or open drains which will be channelled to the respective stormwater retention ponds for each erf. The retention ponds will discharging the attenuated stormwater into the watercourse/stream.

Stormwater attenuation will be implemented to regulate the post development stormwater discharged into the water course crossing the property. The details for each retention pond design, will be presented with each Site Development Plan for each individual erf. Details will be provided for the internal stormwater drainage layout as well as for the detail of each outlet structure. Erosion protection measures will be implemented, at each stormwater outlet structure, draining into the water course.

6. TRAFFIC AND ROADS UPGRADE AND MANAGEMENT

Hamatino Consulting Engineers was appointed by the applicant to undertake a Traffic Impact Assessment (TIA) as part of the township establishment application for the proposed Greengate X 140 Township.

Access to the development will be provided from Larsens Road via R114 and in accordance with the latest Mogale Roads Master Plan of this area. Larsens Road abuts the development along the eastern boundary. Larsens Road is currently subject to low traffic volumes with an insignificant movement and total intersection delay. The access intersection will have sufficient capacity to accommodate the development.

Based on the conclusions that have been derived from the Traffic Impact Assessment, the following is recommended for the township:

- That the development be supported from a traffic engineering point of view;
- The Beyers Naude / R114 (Drift Blv) is currently (2025) operating at an unacceptable level of service. This intersection needs to be upgraded by Gautrans in order to accommodate the existing 2025 background traffic demand. The Beyers Naude / Drift Boulevard intersection must be upgraded by Gautrans / Municipality as follows:
- Convert the existing intersection control to a signalised intersection as soon as possible by the municipality / Gautrans.
- The signal shall be a vehicle actuated system.
- The traffic signals shall be designed by a traffic engineer in accordance with the South African Road Traffic Signs Manual 3rd Edition, Volume 3 Traffic Signal Design
- The movement along Beyers Naude shall rest in the green phase until a vehicle

from Drift Boulevard is detected.
- The signal shall be synchronised with the proposed signal at Beyers Naude / R114 East.
- That access to the proposed town be provided in accordance with the submitted township application.
- A 10m wide servitude be made available in the township along the northern boundary for the purpose of the future Roads Master Plan Class 4 road. Once the owners of Portions 294 and Remainder of Portion 57 submit a township application, they should also provide a 10m wide reserve along their southern boundary with a resultant 20m wide road reserve available in future for the Road Master Plan road.

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

This Draft BAR is presently out for public review. Comments received after the review period (19 August till the 19 September 2025), will be included and addressed in the final BAR.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included). (A full response must be provided in the Comments and Response Report (CRR) that must be attached to this report):

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

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

The potential impacts of the proposed activity were identified through a site visit, specialist and technical studies. Issues raised by IAP's and authority comments (to be received following the review of this draft report), will be used to further refine any identified impacts.

In this Basic Assessment Report, the potential impacts are appropriately identified and outlined. An assessment of the potential impacts is provided, identifying the impacts that are potentially significant and recommending management and mitigation measures to reduce the impacts. In general, it is recognised that every development has the potential to pose various risks to the environment as well as to the residents or businesses in the surrounding area. Therefore, it is important that these possible risks are taken into account during the planning phase of the development. Risks and key issues were identified and addressed through an internal process based on similar developments, environmental and

technical evaluations.

Previous experience has shown the rating and ranking of impacts is often a controversial aspect because of the subjectivity involved in attaching values to impacts. Please refer to tables below, for a detailed description on the assessment methodology used. Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

The potential impacts of the proposed development have been identified through a desktop study, a site visit, specialist and technical studies.

SIGNIFICANCE DESCRIPTION METHODOLOGY

The identification and assessment of environmental impacts is a multi-faceted process, which combines quantitative and qualitative descriptions and evaluations. It involves the application of scientific measurements and professional judgment to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of *inter alia*: the purpose and need for the project; views and concerns of interested and affected parties, general public interest; and environmental legislation and guidelines.

The potential environmental impacts associated with the project have been evaluated according to the nature, extent, duration, intensity, probability, and significance rating of the impacts as explained below.

Significance of Impact

The significance of the impact has been determined through the following criteria:

(a) **Nature of Impact***:* This includes a brief description of how the proposed activity will impact on the environment. The nature of the impact is *described* as follows:

Positive: Impacts affect the environment in a positive manner, such that natural, cultural and/or social functions and processes are not affected or enhanced

Negative: Impacts affect the environment in a negative manner, such that natural, cultural and/or social functions and processes are altered, destroyed, lost, etc.

(b) **Extent***: The* physical and spatial size of the impact, which is classified as:

- Local: The impacted area extends only as far as the activity, e.g. a footprint of proposed activity.
- Site: The impact could affect the whole, or a measurable portion of the above mentioned property.
- Regional: The impact could affect the area including the neighbouring properties, the

transport routes and the adjoining towns.

(c) **Duration***:* The lifetime of the impact; this is measured in the context of the life-time of the proposed project.

- Short term (0-5 years):
  The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than any proposed phases.
- Medium term (5-15 years):
  The impact will last up to the end of the phases, where after it will be entirely negated.
- Long term (duration of operation):
  The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter.
- Permanent:
  The only class of impact, which is considered non transitory. Mitigation, either by man or natural process, will not occur in such a way or in such a time span that the impact can be considered transient.

(d) **Probability**

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

- Improbable: The possibility of the impact occurring is very low, due to the circumstances, design or experience. Probable: There is a possibility that the impact will occur to the extent that provisions must be made to mitigate the impacts.
- Highly probable: It is most likely that the impacts will occur at some or other stage of the development. Plans must be drawn up before the undertaking of the activity.
- Definite: The impact will take place regardless of any prevention plans, and thus mitigatory actions or contingency plans must be relied on to contain the effect.

(e) **Intensity**

This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project. Does it destroy the impacted environment, alter its functioning, or render it slightly altered? These are rated as:

- None: No known impacts

- Low: The impact alters the affected environment in such a way that the natural processes or functions are not affected.
- Medium: The affected environment is altered, but function and process continue, albeit in a modified way.
- High: Function or process of the affected environment is disturbed to the extent that it temporarily or permanently ceases.

Determination of significance

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale and therefore indicates the level of mitigation required. The classes are rated as follows:

- No significance: The impact is not substantial and does not require any mitigatory action.
- Low : The impact is of minimal importance, but may require limited mitigation.
- Medium: The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
- High: The impact is of great importance. Failure to mitigate, with the objective reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Status

Taking all the criteria into account, the status of the impact will either be classified as a positive or negative impact.

- **Reversibility Rating**
- **Irreversible** (the activity will lead to an impact that is permanent)
- **Partially reversible** (The impact is reversible to a degree e.g.
- acceptable revegetation measures can be implemented but the pre-impact species composition and/or diversity may never be attained. Impacts may be partially reversible within a short (during construction), medium (during operation) or long term (following decommissioning) timeframe
- **Fully reversible** (The impact is fully reversible, within a short, medium or long-term timeframe).

Management Actions:

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative
- impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these.
- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set.
- This will include a programme for monitoring and reviewing the

recommendations to ensure their ongoing effectiveness.

Mitigation:

- The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative impacts are suggested.

- All impacts are assessed without mitigation and with the mitigation measures as suggested.

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
PRE-CONSTRUCTION PHASE				
General mitigation to be incorporated into the design and planning phase of the development, include the following: • Align sewer, stormwater, and water pipelines along existing disturbed corridors or road reserves to avoid creating new impacts on the wetland. • Avoid trenching through the wetland. If unavoidable, ensure seasonal timing (dry months), specialist supervision, full reinstatement and monitoring post-construction. • Ensure that all permanent structures (e.g., housing, roads, services) are kept outside the delineated wetland and its ecological buffer zone. • The bridge crossing must allow for natural water flow, faunal movement, and unobstructed hydrological processes. • The box culvert bridge over the wetland flow path must be designed to minimize infilling and excavation within the seep zone. • Bridge abutments must be placed outside of the wetland edge, on stable, non-wetland soils to avoid further wetland degradation. • The design of linear infrastructure (e.g. roads, powerlines, cables or pipelines) must avoid the freshwater ecosystem habitat as far as possible. • Appropriate design of the stormwater management structures are essential to mitigate the operational impacts of the release of stormwater into the surrounding landscape and the adjacent wetlands. The Stormwater Management Plan (SWMP) must consider the increased runoff potential and increased sedimentation potential of the areas permanently kept clear of vegetation. As part of the SWMP, it must be ensured that all stormwater discharge is done in an attenuated manner. The stormwater infrastructure and outlets must therefore be appropriately designed to achieve this. • The construction area must be clearly demarcated before any construction activity take place and signage must be displayed during construction phase to inform and prevent the contractors and construction workers from entering the wetland area;			

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
• Removed vegetation must be stockpiled outside of the delineated wetland. • Plan for post-construction rehabilitation and ecological improvement of the wetland buffer zone to restore some ecological functionality. Measures must include removal of alien invasive vegetation, reintroduction of indigenous wetland plant species, regrading of compacted or eroded areas to stabilise hydrology, and fencing or soft landscaping to prevent uncontrolled access into the wetland. • Ensure all licenses and authorizations (e.g., environmental authorisation, water use licence if applicable) are granted and conditions integrated into the final Environmental Management Program (EMPr).				
CONSTRUCTION PHASE				
Impacts associated with Geotechnical Suitability **Nature of Impact: Soil erosion, modification or original soil conditions, compaction of soil caused by construction vehicles and workers.**	Negative	• The study area is underlain by transported sandy and clayey transported soils overlying sandy and clayey residual soils and presumably weathered granite bedrock belonging to the Halfway House Granite Dome. • The site has been apportioned into four prominent material zones, Soil Zone "A" to "D". See section 5 of this report. • Foundation recommendations and potential excavation problems are provided for each zone. • Stripping and stockpiling of topsoil should be done carefully; topsoil must be stored separately and protected with erosion control measures.	Medium	Low if the excavations for foundations are inspected by a competent person during construction to verify that the materials thus

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		• Install temporary erosion and sediment control structures (e.g., silt fences, hay bales, sediment basins) downslope of disturbed areas. • Minimize exposed surfaces and implement phased construction to limit the area disturbed at any given time. • Avoid placement of structures on uncompacted fill or highly plastic clays unless ground improvement techniques are used. • Incorporate temporary drainage channels or cut-off trenches to divert surface water away from active construction zones. • Prevent ponding or waterlogging on clayey soils through proper site grading and interim stormwater management. • Design foundations based on site-specific soil profiles; raft or pile foundations may be required in areas of low bearing capacity or mixed soil conditions. • If excavation reaches weathered granite, avoid blasting where possible; opt for mechanical ripping or controlled breaking. • Where seepage is encountered, implement dewatering strategies (e.g., sump pumps or well points) with controlled discharge to prevent erosion or wetland impacts.		exposed are not at variance with those described in the geotech report.

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		• All pumped water must be discharged via energy dissipaters or sediment traps to reduce erosion. • Temporary cut or fill slopes must not exceed geotechnically recommended angles • For long-term stability, ensure vegetation cover is re-established as soon as possible on disturbed areas.		
Impacts on the Wetlands on site	Negative	• Based on the findings of the freshwater ecosystem assessment, several recommendations are made to minimise the impact on the freshwater ecology of the area: • Management on site must take cognizance of possible pollution arising from the site, with emphasis on hydrocarbon and sediment pollution. • Signage must also be included to increase awareness of the aquatic ecosystems found on site. • The use of trench breakers in the trenches- especially in sloped areas is required • Concrete and cement-related mortars can be toxic to aquatic life and other biota. Proper handling and disposal should minimize or eliminate discharges into the seep wetland. High alkalinity associated with cement can dramatically	Low	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		affect and contaminate both soil and ground water. The following recommendations must be adhered to: • Fresh concrete and cement mortar should not be mixed near the wetland. • Mixing of cement should only be undertaken within the construction camp and may not be mixed on bare soils; • Mixing of concrete should be strictly undertaken within a lined, bound or bunded portable mixer. Consideration must be taken to use ready mix concrete; • A batter board or other suitable platform/mixing tray is to be provided onto which any mixed concrete can be deposited whilst it awaits placing; • A washout area should be designated outside of the wetland and buffer area, and wash water should be treated on-site or discharged to a suitable sanitation system; • Cement bags must be disposed of in the demarcated hazardous waste receptacles; • Concrete spillage outside of the demarcated area must be promptly removed and taken to a suitably licensed waste disposal site. • Install silt fences, sediment traps, and temporary retention ponds to prevent		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		sediment entering the artificial wetland • Stabilize exposed soils immediately after earthworks with mulch, grassing, or geo-fabric. • Use bunded, lined areas for machinery maintenance and hazardous materials. • Construct temporary swales or oil traps to filter runoff before it exits the site • Design energy dissipators at outlets to reduce flow velocity. • Maintain pre-development flow volumes and durations as part of Sustainable Drainage System (SuDS) designs. • Train contractors on EMPr compliance and penalties for transgressions.		
Impacts on the Wetland during box culvert construction	Negative	• Contractor must submit a wetland-specific method statement (construction footprint, equipment, sequencing, and protection measures) to the Environmental Control Officer (ECO) for approval before works begin. • Peg and demarcate the construction footprint with danger tape or barrier netting to prevent encroachment into surrounding wetland areas and buffer zones. • Mark all wetland areas outside the culvert footprint as “No-Go” with visible signage.	Low	Low

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• Prefer dry-season construction to reduce soil saturation, sediment mobilisation, and ecological disturbance. • Environmental awareness training for all site staff on the sensitivity of the wetland and rules for working near it. • Use existing disturbed tracks where possible; prohibit ad-hoc crossing through the wetland. • Remove vegetation only where essential; stockpile separately for later rehabilitation. • Keep all machinery, materials, and laydown areas outside the wetland buffer zone unless absolutely required for the bridge works. • Stockpile construction material and excavated soil outside the 1:100-year flood line and buffer. • Install upstream and downstream of works to capture mobilised sediment. • If in-stream work is needed, use a lined temporary diversion channel or coffer dam to isolate the construction area. • Use geotextiles, sandbags, or biodegradable mats on exposed soils. • Direct clean water away from disturbed areas and filter dirty water before release.		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• Bed the culvert to match existing wetland bed elevation and gradient to avoid creating a barrier to flow. • Place wetland soil/gravel mix inside culvert to mimic natural seep conditions and encourage vegetation regrowth. • Ensure culvert opening accommodates high-flow events without altering wetland hydrology upstream or downstream. • Refuelling and Maintenance may only take place 50m away from the wetland, over drip trays or on impermeable surfaces. • Keep hydrocarbon spill kits on site and train workers in their use. • Provide clearly marked bins; remove waste to licensed disposal facilities daily. • Replant disturbed wetland and buffer areas with indigenous sedges, rushes, and grasses typical of the seep. • Replace stored wetland topsoil in the correct order (topsoil over subsoil). • Maintain erosion control measures until vegetation is well established.		
Bulk Earthworks: Removal of vegetation causing soil erosion	Negative	• The increased risk of erosion associated with the clearing or trampling of vegetation and the potential contamination of freshwater ecosystems with sediment laden runoff is a significant concern, especially for development	Medium	Low

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
With the removal of vegetation during construction, soils will be exposed to wind and rain and topsoil may be lost. This may result in erosion and sedimentation, following rainfall and subsequent sheet wash. In addition, the soils will be traversed by a number of vehicles during the construction phase which is likely to result in soil compaction. This may result in the degradation of the soil over time.		activities within close proximity to freshwater ecosystems. The following measures are recommended to mitigate against the onset of erosion: • The entire construction area (development site) must be fenced prior to the commencement of construction and vegetation clearing to ensure that no vehicle or other construction personnel access occurs off the site and within the 32m GDEnv buffers of the freshwater ecosystems. • Vegetation clearing must be restricted to the approved development footprint, done in a phased manner as the development progresses and, as much indigenous vegetation as possible is to be retained. • Drift fences/silt curtains (as part of construction-phase stormwater control system) must be placed along the footprint perimeter as an erosion prevention and control measure. • Construction footprint areas must remain within the authorised footprint and vegetation clearing must be limited to the development footprint area. • Excavation for foundations and support structures may result in loose sediments within the landscape, specifically if works are undertaken during a period of rainfall (if applicable). As such, sediment traps must also be installed downstream/downgradient of the construction area. Sediment traps can be		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		created by pegging an appropriate geotextile across the entire width of the work area at the specified support structure, held down by cobbles/boulders or by geotextile wrapped hay bales spanning the width of the work area and staked into position. • Stockpiles must be placed on the upgradient side of trenches to prevent soil from washing down into the freshwater ecosystems during rainfall events. • Any additional impacted areas must be rehabilitated with indigenous vegetation should construction affect areas outside of the approved footprint • All soils compacted because of construction activities falling outside of development footprint areas should be ripped and profiled. Special attention should be paid to alien and invasive control within these areas. • Once earthworks are complete, disturbed areas are to be stabilised with mulch, straw or other methods approved by the ECO this purpose.		
Bulk Earthworks: Site Clearance and Removal of vegetation	Negative	The study area is of low sensitivity for the Animal and Plant Species Themes. The probability of floral and faunal trigger species establishing viable populations within the study area is deemed low. This can be attributed to the long-term association with historic and current disturbances, fragmentation of the study area from larger	Medium	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
▪ **Vegetation clearance/habitat destruction** ▪ **Spread and establishment of alien invasive plant species** ▪ **Negative effect of human activities on fauna and road mortalities** ▪ **Loss of biodiversity**		ecologically functional natural areas, as well as degradation of habitat by AIP proliferation. • All footprint areas should remain as small as possible, and the boundaries of footprint areas must be clearly defined, and it should be ensured that all activities remain within defined footprint areas; • No development is to take place within the Freshwater Habitat and associated buffer (as stipulated in the Freshwater Verification Report. All mitigation measures proposed by the freshwater ecologist (SAS 23-1156, 2024) must be implemented and strictly adhered to with specific mention of the UCVBW and associated buffer area. • Clearing of vegetation should take place in a phased manner. This will allow for faunal species within the study area to flee and avoid harm; • Smaller species that are not as readily able to move out of an area ahead of ground clearing activities such as scorpions and reptiles will be less mobile during rainfall events and cold days (winter). As such should any be observed in the construction site during clearing and construction activities, they are to be carefully and safely moved to an		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		area of similar habitat outside of the disturbance footprint. Construction personnel are to be educated about these species and instructed not to kill them. Smaller scorpion species and harmless reptiles (that may be present within the study area) should be carefully relocated by a suitably nominated construction person. For larger venomous snakes, a suitably trained specialist, or on-site personnel, should be contacted to carry out the relocation of the species, should they be encountered and not move off on their own; • Control invasive species throughout the life of the project. Specific mention in this regard is made of listed invasive species as per the NEMBA Alien species lists, 2020, in line with the NEMBA Alien and Invasive Species Regulations (2020). All cleared plant material must be refuse site; • Edge effects arising from proposed activities, such as soil compaction, erosion and/or stormwater should be adequately managed; • No dumping of litter, rubble or cleared vegetation on site should be allowed. If construction material is to be discarded, it should be disposed of at an appropriate registered dump site away from the		

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		development footprint. No temporary dump sites should be allowed in areas with natural vegetation; • Revegetating temporary-use and lay down areas as soon as reasonably practicable after construction activities are complete. Make use of indigenous and non-invasive species in this regard; • From a floral perspective, no trigger species or SCC7 are associated with the study area and a walkdown to mark such species for relocation purposes is not required; • No collection of indigenous plants allowed outside of the footprint areas and, where possible, poaching of animals by construction and operational staff in the surrounding natural areas must be prohibited; • If envisioned, formal landscaped gardens should make use of indigenous species or ornamental alien species that are not listed within the NEMBA Alien Species List (2020); and		
<u>Invasion of alien vegetation:</u> Clearing for the construction	Negative	• On-going removal and disposal of alien vegetation species. • Alien plant regrowth must be monitored, and any such species must be removed at regular intervals throughout the construction phase;	Medium	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
phase of the project, as well as for maintenance during the operation phase, will result in soil disturbance and reduced cover of indigenous vegetation, greatly increasing the chance of the establishment of alien invasive plants. However, if mitigation measures are implemented, there will be less alien vegetation, and less change of spread of alien vegetation		• Only local topsoil maybe used and if any is imported, this should be certified alien plant free; and • Where soils are slow to revegetate, these areas should be grubbed and planted with species suited to the region.		
<u>Top Structure construction (brick work, steel work,</u>	Negative	• All construction materials, including fuels and oil, must be stored in demarcated areas that are contained within berms / bunds to avoid spread of	Med	Low

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
cement mixing, plastering, thatching, paving etc.) – Hydrocarbon spills and leaks from machinery **Impacted environment: Soil, ie. Soil pollution** ▪ **Pollution Incidents** ▪ **Storage of hydrocarbons**		any contamination into storm water systems. Washing and cleaning of equipment should also be done in berms or bunds, to trap any cement and prevent excessive soil erosion. These sites must be re-vegetated after construction has been completed. • The Contractor must ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly always shut and under lock and key. The capacity of the tank must be clearly displayed and the product contained within the tank clearly identified using the emergency information system detailed in SABS 0232 part 1. Fuel storage tanks must have a capacity not exceeding 80 000 liters and must be kept on site only for as long as fuel is needed for construction activities, on completion of which they shall be removed. • In the event of a hydrocarbon spill, the source of the spillage must be isolated and the spillage contained. The area must be cordoned off and secured. The Contractor must ensure that there is always a supply of absorbent material readily available to absorb/ breakdown or where possible, be designed to encapsulate minor hydrocarbon spillages. The quantities of such materials must be able to handle a minimum of 200 ℓ of hydrocarbon liquid spill.		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
Hydrological Impacts: • **Pollution of surface water resources –Spills and leaks from any plant during the construction phase of the development could potentially impact the downstream water quality via chemical pollution.** • **Altered runoff patterns, leading to increased erosion and sedimentation of the seep wetland.**	Negative	• Chemicals used for construction must be stored safely on site and surrounded by bunds. Chemical storage containers must be regularly inspected so that any leaks are detected early; • No re-fuelling of construction vehicles or maintenance activities to occur outside of the site boundaries. • All fuel storage areas, wash bays and vehicle servicing areas must be located within bunded areas with a separate dirty water handling system and oil/grease trap. General sediment traps should also be included where suitable; • The ablution facilities meant for construction workers must be as far as possible from the delineated wetland systems; • Toilets must be emptied regularly and before any extended site shutdown or builder's break; • Domestic waste bins/skips to be made weather proof; • Littering and contamination of water sources during construction must be prevented by effective on-site management; • Stockpiles to be located on the western side of the property; • All stockpiles must be protected from erosion, stored on flat areas where run-	Med	Low

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		off will be minimised, and be surrounded by bunds; and • Once construction has been completed the disturbed areas must be grubbed and levelled, i.e., no raised areas should occur that would divert or impound any surface water flows • Spill kits to be made available at areas of possible spillages of hazardous substances; • Remediation of spillages must be conducted on a continual basis; • Drip trays will be placed underneath vehicles and machinery waiting for maintenance, repair or standing for long periods of time; • No waste water or hazardous substances will be disposed of into the surrounding environment or stormwater system; • Sediment depositions should be regularly removed from the swale, to prevent pollution of the runoff from contaminants contained therein. • Cover any wastes that are likely to wash away or contaminate storm water.		
<u>Hydrological Impacts: Ground Water Quality</u>	Negative	▪ Spill kits to be made available at areas of possible spillages of hazardous substances; ▪ Remediation of spillages must be conducted on a continual basis and within	Med	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
Accidental spillages of diesel, oil or other hazardous substances could contaminate soil, leach into the groundwater or reach downstream water bodies through run-off.		24h of spillage; ▪ Maintenance of vehicles may not be conducted on site; ▪ Drip trays will be placed underneath vehicles and machinery waiting for maintenance, repair or standing for long periods of time; ▪ No waste (hazardous or general) will be disposed of in excavated trenches; ▪ No waste water or hazardous substances will be disposed of into the surrounding environment; ▪ Hazardous substances will be stored in bunded areas with a capacity of 110 % of the contents volume ▪ The stormwater management plan compiled for the development must be correctly implemented		
<u>Solid Waste Pollution</u> **The construction phase of the activity will produce construction waste in the form of discarded**	Negative	• Construction material must be reused or recycled where possible (e.g. mulching of cleared vegetation); • Vegetation that is cleared from the site (and is not replanted or relocated as per the recommendations of the specialist) must be removed to a registered garden refuse site; • Staff must be trained to implement waste control and to identify hazardous	Med	Low

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
construction material (e.g., packaging material etc.), excess soil/spoil (from levelling) and a large volume of cleared bush vegetation (alien vegetation). The incorrect management of these wastes may result in pollution of the surrounding natural areas.		waste; • Other waste to be removed to a licenced landfill site; • General good house-keeping must be implemented. No litter to remain on site; • Spills must be avoided during transportation of material; • Disposal certificates must be obtained for all waste disposals; and • Sufficient and appropriate weather- and scavenger-proof bins must be made available on-site during construction and removed/emptied on a daily basis • Provision of adequate numbers of litter bins throughout the development; and • Promoting the recycling of waste, with specialist service providers appointed to remove the waste from site. • Records of all waste taken off site and disposed of must be kept as evidence. • Burning of waste material will not be permitted.		
<u>Impact Resulting from Material Stockpiling</u>	Negative	• Stockpiling of construction materials on a property could result in erosion and mobilisation of the materials towards the downstream freshwater resource, resulting in sedimentation and other impacts. • Furthermore, the incorrect stockpiling of material outside of the approved	Low	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		development area will result in further loss of indigenous vegetation and negatively impact on the open space areas adjacent to the site • The Contractor must implement a suitable plan for stockpile management as storage outside of the property boundaries will not be permitted; • Where possible, any excavated material must be reused in construction and/or an investigation into a third party who could use the material beneficially must be undertaken to minimise waste to landfill. All unused/excess fill material must be removed from the site to a registered waste disposal site.		
<u>Increased Noise and Disturbance</u> **It can be expected that there will be an increase in noise levels during the site preparation and construction phase of the development.**	Negative	• Construction vehicles to be in sound working order and fitted with mufflers if necessary; • The Contractor must adhere to the relevant noise regulations and limit noise to within standard working hours; • As construction workers operate in a noisy environment, it must be ensured that their working conditions comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993). Where necessary, ear protection gear must be worn;	Med	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
The increase in noise will be associated with the operation of construction equipment, labourers and vehicles, especially the bulldozer used to clear vegetation, build platforms, dig trenches, etc.		• Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery; • Limit construction to daylight hours; and • Restrict unnecessary noise (e.g., portable radios, vehicle radios, whistles etc.).		
<u>Visual Impacts</u> **Construction activities will result in the commissioning of bulk earthwork machinery and vehicles. Unkept site due to littering and illegal dumping on site and surrounding areas. Unsightly construction waste pile may be visually intrusive.**	Negative Subjectively perceived	• Good house-keeping to be implemented on site at all times; • No visually intrusive practices are allowed on site or in the surrounding areas; • Any reflective construction material must be stored and placed in such a manner that it does not reflect sunlight towards the surrounding properties; • Construction materials to be stored neatly and waste to be collected on a regular basis; • Erosion, waste vegetation and dust to be mitigated as per the abovementioned mitigation measures; and • All disturbed areas surrounding the proposed development must be rehabilitated and all alien vegetation and weeds removed from these areas. ▪ Light pollution should be minimised. Lighting is to be sufficient for safety and	Medium	Low

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		security purposes, but shall not be intrusive to neighbouring residents.		
<u>Employee Safety and Security</u>*:* **A construction site can be a dangerous place and thus could result in harm to people and property and by their nature act as a magnet to the unemployed, resulting in people gathering at the site.**	Negative	• A fence must be constructed around the site prior to commencement of construction • Signs should be erected on all entrance gates indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime. • The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations • All structures that are vulnerable to high winds must be secured (including toilets). • Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times. • The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose when works are undertaken on or near public roads. • Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard	Medium	Low

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		hats, safety boots, masks etc.). • All vehicles and equipment used on site must be operated by appropriately trained and / or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA). • An environmental awareness training programme for all staff members shall be put in place by the Contractor. Before commencing with any work, all staff members shall be appropriately briefed about the EMPr and relevant occupational health and safety issues. • All construction workers must be issued with ID badges and clearly identifiable uniforms. • Access to fuel and other equipment stores is to be strictly controlled. • Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided. • Adequate emergency facilities must be provided for the treatment of any emergency on the site.		

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POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site and the construction crew camps at all times. • The Contractor must have a basic spill control kit available at each construction crew camp and around the construction site. The spill control kits must include absorptive material that can handle all forms of hydrocarbon as well as floating blankets / pillows that can be placed on water courses. • The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • Washing and toilet facilities shall be provided on site and in the Contractors camp. • Adequate numbers of chemical toilets must be maintained in the Contractors camp to service the staff using this area. At least 1 toilet must be available per 10 workers using the camp. Toilet paper must be provided. • The chemical toilets servicing the camp must be maintained in a good state,		

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		and any spills or overflows must be attended to immediately. • The chemical toilets must be emptied on a regular basis. • No loitering around the site for people seeking temporary employment is to be allowed.		
<u>Impact on Archaeological and/or Paleontological Resources</u>	Negative	• A Heritage Assessment has been completed by Dr J Van Schalkwyk Heritage Consultant. No sites or artefacts of heritage importance occur on site. • Although highly unlikely, it is possible that the discovery or exposure of archaeological artefacts may occur during the construction phase. Should this be the case, it is also possible that these heritage resources will be damaged or lost during the construction phase.	Low	
<u>Impacts on Air Quality: Dust Creation</u> **The construction activities will increase the potential for dust especially from the**	Negative	• Ensure that exposed areas are dampened with non-potable water following vegetation clearance; • Construction work to be halted during periods of strong wind; • The loading of materials must be done with the lowest drop height and those vehicles carrying dusty materials must be securely and properly covered before they leave the site;	Medium	Low

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clearing of vegetation. During the construction phase of the activity, materials will be moved to and from the project site and this could result in dust pollution not only from the materials, but also from the construction vehicles which will be operating on site. The effects of dust will be exacerbated during high wind conditions.		• Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor; and • Maintain vegetation as a windbreak in the area facing the prevailing wind direction until the completion of construction.		
<u>Impacts on Health, Safety and Fire Risk</u> **The use of construction machinery during the construction phase poses a**	Negative	• All relevant Health and Safety legislation as required in South Africa should be strictly adhered to, including but not limited to the Occupational Health and Safety Act, 1993 (No. 85 of 1993); • Smoking should be restricted to a designated smoking area; • Ensure availability of fire extinguishers; and • All employees must be aware of emergency/ contingency plans to ensure an	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
potential risk to the health and safety of people working at the construction site. The movement of construction vehicles also increases the risk of accidents along provincial roads. The risk of accidents, fires and potential injuries must be mitigated effectively.		understanding of the hazards and procedures required during an emergency situation		
<u>Construction Traffic and Road Impacts</u> **During construction, there will be an increase in the number of vehicles using the nearby roads, including**	Negative	• All drivers must have the necessary driving permits to operate the plant/vehicles; • All traffic laws must be obeyed at all times; • Avoid transportation of construction material during peak hours; • Any abnormal loads must be approved with the traffic authorities and must comply with any conditions imposed by the authorities; • Avoid transportation of construction material during peak hours;	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
heavy construction vehicles. This may result in damage to the roads. The construction vehicles could also impede other road users at certain sections of the roads to the site if not adequately managed and controlled.		• The Contractor must employ flag staff in order to prevent on-site accidents; • Speed must be limited to 30 km/h on site; • Suitable temporary signage be erected, warning motorists of the presence of heavy construction vehicles; • Overloading of vehicles must not occur; • Any damage to existing access roads as a result of the construction activities must be immediately repaired • The movement of construction vehicles during the construction period is to be carried out in such a manner so as not to interfere unnecessarily or improperly with the public convenience. Traffic signage acknowledging the presence of a construction site must be provided. • Proper and adequate lanes to allow for ingress/egress to be provided. • Access to the construction area must be predetermined and used during constructions. • The working area and all exposed trenches must be fenced off with barrier netting, danger tape & droppers. • Excavated earth material should not be dumped/ stockpiled in the road in any way that will obstruct traffic flow.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
<u>Infrastructure and Services</u> **Additional pressure placed on existing municipal infrastructure to accommodate the new Industrial 3 township**	Negative	• Integrity of existing services to be ensured. • Adherence to Traffic Impact Study requirements. • It must be ensured that existing services infrastructure within the road reserve are not damaged. • Any damages to existing services infrastructure must be repaired immediately.	Low	Low
<u>Employment Creation and Local Business Development</u> **The construction phase of the proposed development will create temporary jobs for locals within the area. Where possible, materials must be sourced from local businesses and this will result in a boost of the local economy of the**	Positive	• The project will create a number of job opportunities for the local population. Any available jobs will provide an immediate positive impact on the employment and income situation within the study area. This phase of the development will provide the most benefits in terms of sustained employment for the duration of the project and increase in income. Initially, the site preparation phase will employ large construction vehicles and equipment for landscaping, grading and levelling, the cutting of access roads for these vehicles and laborers to access the site. This means that many skilled workers will be necessary to operate front-end loaders, excavators, bulldozers and backhoes and other vehicles. In addition to this, unskilled labourers will still be necessary for other tasks. This phase of the development		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
immediate vicinity and surrounding areas.		will therefore have a short-term major positive impact on the employment and income at the local level. • Employ local people wherever possible; • Purchase materials from local businesses wherever possible; and • Equal opportunities must be given to women where possible.		
		OPERATIONAL PHASE		
<u>Impact on the seep wetland system on site</u>	Negative	• Demarcate and fence wetland buffer with low-impact, permeable barriers. • Place signage prohibiting entry, dumping, and off-leash pets. • Use landscaping with indigenous, wetland-compatible species near the buffer. • Conduct annual inspections before the rainy season to ensure the bridge culvert is free of debris, sediment, and vegetation blockages that could impede water flow. • Remove blockages manually; avoid heavy machinery in the wetland during maintenance. • Armour inlet and outlet areas with rock riprap or gabions to prevent erosion from concentrated flows.	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• Vegetate banks around the culvert with indigenous wetland and riparian species for long-term stability. • Monitor scour around the culvert and reinforce as needed. • Install oil and grease traps or vegetated swales upstream of the bridge to treat road runoff before it enters the wetland. • Maintain stormwater channels regularly to prevent sediment transport into the wetland. • Install litter traps or grid screens at culvert inlets to prevent trash from entering the wetland. • Retain vegetated buffer zones to slow overland flow • Schedule monthly cleaning, with more frequent clearing in rainy months. • Retain or enhance vegetation cover in the wetland buffer to provide habitat connectivity. • Avoid artificial lighting directly over the wetland to minimise disturbance to nocturnal fauna. • Conduct quarterly alien vegetation inspections. • Remove invasive plants manually or chemically (as per NEMBA guidelines). Install barriers or bollards to prevent illegal off-road vehicle access into the		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		wetland. • Provide clear signage indicating the wetland is an ecologically sensitive zone and access is restricted. • Include culvert inspections in the Body Corporate or HOA's operational budget for the apartments.		
Impact on Surface Water flow Patterns	Negative	• No run-off should be allowed to leave the site directly; • Use Sustainable Drainage Systems (SuDS) such as swales, permeable paving, rain gardens, and detention ponds. • Ensure stormwater channels do not cause erosion or other damage to open space areas; • Development footprints should be minimised, where possible, to reduce hardened surfaces which contribute to stormwater generation; • Ensure stormwater attenuation ponds are inspected bi-annually and desilted as needed. • Maintain outlet structures to prevent scouring. • Stormwater management structures must be monitored and maintained throughout the operational phase	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		• Protect stormwater discharge points with reno mattresses, rip-rap, or gabions. • Maintain vegetative cover in open spaces. • Conduct annual erosion inspections post-rainy season.		
<u>Potential Pollution of down stream freshwater resources</u> **Poor maintenance of the municipal sewage infrastructure, poor waste disposal practices and/or any significant vehicle/machinery breakdown in or around the development could result in pollution of the downstream water course.**	Negative	• Appropriate waste management, as described herein and the EMPr, must be implemented for the operation of the development; • Any pollution from leaks or spills from the township must be immediately cleaned and removed from the warehouse development. • Install and maintain litter and silt traps at stormwater inlets. • Educate residents on safe disposal of oils, chemicals, and detergents. • Prohibit car washing in common paved areas. • Participate in catchment-wide monitoring initiatives. • Share monitoring data with neighbouring developments and municipal authorities. • Support wetland rehabilitation projects.	Low	Low
<u>Utilisation of Water Resources</u>	Negative	• Excessive use of water to be avoided wherever possible; • Ensure that all water reticulation infrastructure is maintained regularly to	Medium	Medium

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
The proposed development will rely entirely on water from the municipal supply to meet the daily consumption demands as estimated by the applicant. This will place additional pressure on the water resources for the area.		avoid leaks; • Rainwater harvesting must be implemented to collect rainwater from the warehouse drains and gutters; • Make use of water saving products such as water saving toilets with a dual-flush valve, water saving taps with spray cartridges, water-saver shower heads and timed turn-off taps; and • Monitor water consumption to ensure water is utilised within the volumes made available by any relevant municipal drought regulations.		
<u>Electricity Usage</u> **The proposed development will result in increased electricity usage.**	Negative	• Energy saving strategies must be practiced such as using renewable energy (solar energy) wherever possible; and • LED lighting must be implemented to reduce electricity consumption; and	Medium	Medium
<u>Impact on Service Availability</u> **The proposed development will add to the pressure on**	Negative	• Install water-efficient fixtures (low-flow taps, dual-flush toilets, drip irrigation). • Encourage rainwater harvesting for garden irrigation and non-potable uses. • Monitor consumption via individual water meters to encourage responsible	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
the municipal service availability for the Tshwane Municipality by increasing the amount of water use, effluent discharge and solid waste generation. This will put additional pressure on existing municipal infrastructure such as water supply pipelines, sewage infrastructure (piping and treatment works) and contribute to filling of landfill sites.		use. • Ensure municipal waste removal agreements are in place before occupation. • Provide covered, animal-proof communal refuse storage areas. • Establish recycling drop-off points within the township. • Regular litter patrols along wetland boundaries. • Use energy-efficient lighting and appliances in all units. • Encourage rooftop solar and battery storage to reduce municipal grid reliance.		
<u>Traffic Impacts</u> **The traffic associated with the operational development**	Negative	• Implement the required upgrades of the roads and traffic signals as per the Traffic Engineers report of the identified intersections to minimise inconvenience and improve traffic flows • It is imperative that appropriate and sufficient pedestrian sidewalks be	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
will impact on road users of the surrounding roads.		provided. Functional pedestrian linkages should also be created to and from the development and the existing sidewalks must provide continuous and safe pedestrian movement. • The surrounding area has a lack of lay-by facilities for public transport modes. A formalised road network should encourage the local authority to implement public transport services to the new township. Side walks will assist pedestrian commute. Formal roads will be safer for all road users, and cause less environmental degradation in the form of proper storm water management and soil erosion abatement. In order to control speeding, speed humps should be constructed at regular intervals. • Promote non-motorised transport links within the township. • Work with the municipality to maintain safe pedestrian crossings. • Use traffic calming near wetland crossings.		
<u>Solid Waste Pollution</u> **During the operational phase, the proposed development**	Negative	• Waste recycling must be integral to the implementation and occupation of the residential units. • Install covered waste bins in communal areas. • Maintain weekly waste removal schedule.	Low	Low

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POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
will produce solid waste. The incorrect management of waste will have a negative impact on the surrounding environment as it can cause unnecessary pollution.		• Conduct monthly litter clean-ups, prioritising wetland edges. • All waste must be disposed of at licensed landfill site. • General good house-keeping should be practiced on site; • Recycling and reusing of plastic and cardboard must be promoted to reduce the amount of waste being disposed of at the municipal transfer station. • Use bunded storage for containers, • Storing waste in uncovered areas or without containment can result in leachate runoff, odour issues, and vermin attraction (which is a serious aviation safety risk). • Use covered, ventilated, and labelled containers, • Conduct regular wetland edge inspections. • Enforce pet management rules (e.g., leashes, limits on cats). • Provide pet waste disposal stations and signage.		
<u>Surface Water Pollution</u>	Negative	• The stormwater management plan to be compiled by the Engineers must ensure that the pre-development runoff does not exceed post-development runoff with specific mention of peak discharge and runoff volumes.	Medium	Low

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• Stormwater structures must be equipped with dissipating structures which will remove silt and litter before stormwater entry into the downstream freshwater resource. • The attenuation pond outlets must include erosion and energy dissipation structures in accordance with the NTC Road drainage Manual. • The use of Sustainable Drainage Systems (SuDS) to manage stormwater must be considered important for the proposed development as there will be an increase in hardened surfaces within close proximity to a sensitive freshwater system. SuDS will assist in preventing significant impacts on the hydrological functioning of the seep wetland freshwater system, reduce the risk of flooding during high flow periods and reduce the risk of increased erosion. • Vehicle leaks and spills entering into stormwater channels leading to artificial wetlands or downstream water resources may cause water pollution, and disruption of natural biodegradation processes. Hydrocarbon interceptors in stormwater drains must be installed. • Use bunded and roofed areas for all fuel and oil storage needed for the township. • Implement spill response protocols and ensure staff training.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
		• Enforce covered bins and regular waste removal. • Conduct weekly site clean-ups around drains and perimeters. • Integrate Sustainable Urban Drainage Systems (SuDS) like Swales, attenuation ponds, permeable paving, and buffer vegetation zones to maintain natural flow paths where possible.		
Visual Impacts	Negative	• Maintain a green buffer along public roads using indigenous tree planting. • Avoid reflective building finishes facing rural landscapes.	Low	Low
Employment Creation and Local Business Development	Positive	*Alternative 1: The preferred township layout and land use model:* • Encourage township management to source goods and services locally where feasible. • Prioritise recruitment from surrounding communities and develop skills training programmes for residents. • Facilitate opportunities for local small, medium, and micro-enterprises (SMMEs) to tender for ongoing service contracts. • Work with training institutions to provide ongoing vocational training in maintenance, security, hospitality, and administration.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		Alternative 3: Alternative building technologies often require new or specialized skills, such as training in sustainable materials, energy-efficient design, or green building practices. This demand for skilled labor can: i. Create job training programs to teach local workers how to build using alternative methods like straw bale construction, earth bag building, or prefabricated modular homes. ii. Provide construction jobs for laborers, carpenters, masons, and electricians who need to adapt their skills to new materials and methods. iii. Foster apprenticeships and certification programs that allow local workers to gain credentials in sustainable construction practices, helping them enter the green construction sector. Material Sourcing and Production: **A**lternative building often involves locally sourced materials such as bamboo, recycled materials, or reclaimed wood. This can: i. Create local supply chains for materials, stimulating the economy by sourcing raw materials, processing them, and manufacturing building components locally.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		ii. Provide jobs in material extraction, processing, and distribution, reducing the reliance on imported building supplies and boosting local industries. iii. Encourage innovation in local material development, leading to new local businesses focused on producing sustainable building materials. Alternative building methods emphasize energy efficiency, requiring local workers for tasks such as: i. Installing renewable energy systems (solar panels, wind turbines, geothermal systems) or energy-efficient appliances and insulation techniques, which will create jobs for installers and technicians. ii. Energy auditors who assess energy use and make recommendations for efficiency upgrades. iii. Sustainable landscaping and site preparation to support green construction projects, providing additional employment in gardening, irrigation, and landscape design.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	**Significance rating of impacts (positive or negative):**	**PROPOSED MITIGATION:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
No Go Alternative **The "no development" / construction alternative must be considered in keeping with the legal requirements (Section 24 (4) of NEMA). This implies that the site be left *as is* and that no development or alteration be done to the site. If this alternative is pursued, the existing conditions on the site will be retained.**				
Existing conditions and habitat status will be retained	Positive and negative	<u>Positive</u> The No-Development Alternative offers the following benefits: • Avoids disturbance to the seep wetland from bridge construction, increased runoff, and human activity. • Reduces pressure on an area with multiple development proposals. • Prevents further fragmentation of wetland-associated habitats, benefitting biodiversity. • No additional stormwater, litter, or wastewater inputs from the township into the wetland. • Avoids increased demand on municipal water, sanitation, waste removal, and electricity supply. • Prevents additional traffic load on local road network and associated emissions.		

POTENTIAL IMPACTS, THEIR SIGNIFICANCE RATING, PROPOSED MITIGATION, AND SIGNIFICANCE RATING AFTER MITIGATION THAT ARE LIKELY TO OCCUR BECAUSE OF THE CONSTRUCTION PHASE OF THE GREENGATE X 140 HIGH DENSITY RESIDENTIAL TOWNSHIP.

POTENTIAL IMPACTS:	Significance rating of impacts (positive or negative):	PROPOSED MITIGATION:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		• Retains the area's semi-rural setting and prevents urban sprawl in a sensitive zone. <u>Negative</u> • Does not contribute to meeting local and regional demand for high-density housing near urban nodes. • Forfeits potential for local business growth and service sector expansion during operational phase. • Misses out on both construction-phase and operational-phase job creation for surrounding communities. • site is already disturbed; keeping it vacant may be a missed opportunity for efficient land use. • Unused land may be vulnerable to informal dumping, illegal settlement, or other unregulated activities. • Municipality forgoes ongoing revenue from property taxes, water, electricity, and waste service charges.		

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

1. Terrestrial Compliance statement
2. Wetland Assessment and aquatic Ecosystem Delineation
3. Water, Sewer, Roads and Stormwater; Electrical Engineering Reports
4. Traffic Impact Assessment
5. Geotechnical Investigations
6. Environmental Management Programme

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

This report has been compiled on the strength of the information available to Seedcracker Environmental Consulting (SEC) at the time of report preparation. The overall aim of ecologically sound urban development is to minimize the negative impact of development on the environment. The environmental issues listed in this report have been determined through relevant legislation; the professional understanding of the environmental assessment practitioner, Ecological and engineering specialist consultants. The Basic Assessment report serves to predict and determine the impact of the proposed development on the environment, and the likelihood (probability) of the impacts manifesting themselves. In undertaking this investigation and compiling the Basic Assessment Report, the following has been *assumed*:

- The information provided by the applicant and professional team is an unbiased and accurate reflection of the characteristics of the site and the development proposal;
- The scope of this investigation is limited to assessing the environmental impacts associated with the study area;
- Wetland delineation is commonly time-bound snapshots, and do not consider long-term hydrological shifts. Precautionary buffers and avoiding edge development; is required to mitigate impacts to the wetland.
- The environmental team assumes that wetland buffer maintenance or rehabilitation will be implemented as an on-going body corporate action item.
- While habitat integrity on site may be low, fragmented and disturbed, the freshwater corridor supports migratory movement corridors, ecological functionality and residual ecosystem services.
- The applicant will incorporate green infrastructure, permeable surfaces, and low-carbon construction methods in design.
- It is also assumed that the applicant will comply with all legislation pertaining to the activities of this proposed project and that all permits and licenses that may be required will be identified and applied for *prior to commencement of construction activities (ie, WULA);*
- SEC assumes that the applicant will implement the measures contained in the EMPr, and will adhere to any monitoring procedures. The appointed ECO must adopt a process of continual improvement when managing and mitigating negative environmental impacts arising from the project. The EMPr will be used as the basis of environmental management and will regularly be improved and refined where applicable.

- Should the project be authorised, the applicant will effect any recommendations and mitigation measures outlined in the authorization, into the detailed design and construction contract specifications of the project.

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

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

Proposal: Alternative 1

Potential impacts:	**Significance rating of impacts(positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
No closure is envisioned.				

Alternative 2

Potential impacts:	**Significance rating of impacts(positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
No closure is envisioned.				

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

Not applicable.

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

Not applicable. Decommissioning of the project is not envisaged, therefore, no provision for rehabilitation, closure or post decommissioning management has been made.

4. CUMULATIVE IMPACTS

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

The development of P/268 Rietfontein 189 IQ, combined with the several other properties in the surrounding area that are subject to township establishment applications, will have a marked impact on the area, in terms of land reclamation (creating new usable land or restoring land that has been degraded, damaged, or lost due to natural processes or human activities. It is often undertaken for purposes such as agriculture, development, conservation, or infrastructure expansion) on previously underdeveloped smallholdings, site preparation for new infrastructure

such as roads, water and sewer supply, electrical network, and the construction of new high density residential buildings.

The new development will alter drainage systems and create impervious surfaces that will affect water flow patterns. High density residential blocks will transform the visual appearance of the area. Multiple structures streetlights, boundary walls, and associated infrastructure will result in greater visual density, especially when built on previously undeveloped land. When replicated across neighbouring small holdings, the cumulative effect can be a suburbanisation of the rural landscape. As high-density developments accumulate in traditionally low-density areas, the sense of place and heritage character of rural communities may be diminished or lost. This can dramatically change the identity of the neighborhood.

With the development of new buildings and infrastructure, property values in the area typically rise. A major change when developing an underdeveloped site is the improvement or creation of transportation networks for the area. New roads or public transit facilities will be introduced, improving connectivity and making the site more accessible to people from other areas. These aspects are considered positive in view of the significant economic investment and the social benefits to the communities in the area.

The anticipated impacts resulting from the construction and implementation of the proposed development could potentially result in cumulative negative effects, when taking the following into consideration:

(i) Increased stormwater runoff and pollution loading by replacing permeable surfaces with roads and roofs which increase impervious cover, and raise peak flow volumes, contributing to stream erosion and sedimentation. Pollutants (e.g., hydrocarbons, nutrients) could be transported into downstream wetlands and rivers, and - combined with runoff from other nearby developments – cumulative runoff may exceed the capacity of natural drainage systems and treatment wetlands.

(ii) Decreased biodiversity across the greater study area, where low ecological habitat integrity removal adds to regional habitat loss, and further limits species migration, genetic flow, and recolonisation opportunities, especially for adaptable or edge-dwelling species.

(iii) Cumulative visual and landscape transformation through continued development in the area, erodes the semi-rural character of the Muldersdrift area, replacing open land with dense urban forms, which affect regional sense of place and land-use expectations.

(iv) If residential densification proceeds in isolation (i.e., without proportionate investment in schools, clinics, parks, and social spaces), cumulative demand may overwhelm existing infrastructure in neighbouring areas, reduce access to quality education, healthcare, and recreational facilities, and cause social friction between existing and new residents.

(v) The proposed development will add to existing road users in the area and will have an impact on traffic leading to longer travel times, higher accident risk and deterioration of road surfaces.

(vi) The proposed development will add additional pressure to services in the area and, should the Local municipality be unable to maintain infrastructure or other services such as waste removal, then it could have a negative impact on surrounding land users. Where connections are made to limited municipal bulk water and sanitation systems networks, cumulative discharges can exceed capacity of local treatment works and pollute surface and groundwater resources if poorly maintained. Electrical grid demand pressure from growing residential loads may lead to overloaded substations or transformers, increased frequency of power outages, and costly infrastructure upgrades not planned for.

These impacts can be mitigated to acceptable levels by (i) the upgrading of roads and intersections around the site as per the approved Traffic Impact assessment for the development, (ii) infrastructure investment through upgrading roads, water and sewer supply and electricity infrastructure, to accommodate the increased demand, and the construction of Self-Sufficient onsite infrastructure (e.g., rain water harvesting systems, solar energy systems) to reduce the strain on municipal systems, (iii) the implementation of a dedicated stormwater management plan developed by the project Engineers.

5. ENVIRONMENTAL IMPACT STATEMENT

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

Proposal / Preferred Alternative / Alternative 1: High density residential township, Greengate X 140

This Basic Assessment Report for the proposed Greengate X 140 high density residential township, has been undertaken in accordance with the EIA Regulations published in GNR 982 of 4 December 2014 of the NEMA, and amended in 2017. This process includes the required Stakeholder Engagement Process as stipulated in GNR 982, which is presently underway. This study provides an assessment of the possible positive and negative impacts that may arise from the identified activities associated with the construction and operation of the different alternatives for development. The information contained in this report and the documentation attached hereto is supportive of the approving authority to decide in respect of the activities applied for. Where potential biophysical or social impacts have been identified, mitigation and management measures have been proposed to control and monitor the magnitude of impacts associated with the various aspects of the activity.

CONTRUCTION PHASE																		
Significance *after* mitigation: High, Medium, Low																		
Impact	**Geotechnical suitability**	**Impacts on the UCVB wetland on site**	**Soil erosion**	**Loss of vegetation**	**Invasion of alien vegetation**	**Soil pollution**	**Surface water quality**	**Ground water quality**	**Waste Management**	**Material Stockpiling**	**Noise and disturbance**	**Visual impact**	**Employment, safety and security**	**Impact on Archaeological and/or Paleontological Resource**	**Air quality**	**Impacts on Health, Safety and Fire Risk**	**Traffic Impact**	**Infrastructure and services**	**Employment Creation and Local Business Development**
Preferred township layout and land use model	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	High Positive	Low	Low	Low	Low	Low	High Positive
Box culvert bridge	Low	Very Low	Very Low	Low	Low	Low	Low	Low	Low	Low	Low	Low		Low	Low	Low	Low	High Positive	High Positive
Elevated bridge on pile foundation	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low		Low	Low	Low	Low	High Positive	High Positive
Technology alternatives	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	High Positive	N/A	N/A	N/A	N/A	High Positive	High Positive

OPERATIONAL PHASE											
Impact	**Impact on the seep wetland**	**Impact on Surface Water flow Patterns**	**Potential Pollution of downstream freshwater resources**	**Utilisation of Water Resources**	**Electricity Usage**	**Impact on Service Availability**	**Traffic Impacts**	**Solid Waste Pollution**	**Surface Water Pollution**	**Visual impact**	**Employment Creation and Local Business Development**
Preferred township layout and land use model	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	High Positive
Box culvert bridge	Low	Low	Low							Low	
Elevated bridge on pile foundation	Low	Low	Low							Low	
Technology alternatives				High Positive	High Positive	High Positive					

High-density apartments consolidate the development footprint, leaving more land available for open space networks, wetland buffers, and green infrastructure. The identified impacts for the preferred land use alternative can be satisfactorily mitigated and managed.

Following the assessment of the proposed high-density residential development and the feasible alternatives, the impact rating of the identified environmental aspects - using the present specialist and technical report outcomes and recommendations, and the experience of the EAP on similar land use applications - predicts that the significance of negative impacts will reduce to *low with the correct implementation and enforcement of the provided mitigation measures.*

The types of potential impacts considered include direct impacts (physical disturbance to the wetland, wetland buffer and loss of open space), indirect impacts (changes in hydrology, increased stormwater runoff, potential for pollution), and cumulative impacts.

The anticipated duration of impacts ranges from short-term (construction-related disturbances) to long-term/permanent (land-use change and built infrastructure). In most cases, the magnitude and extent of impacts are significantly reduced by mitigation measures such as:

- Use of the box culvert crossing to maintain hydrological and ecological connectivity;
- Maintenance of a functional wetland buffer with indigenous landscaping and on-going AIP removal and litter patrol;
- Best-practice stormwater management systems to control quality and quantity of discharge;
- Implementation of an approved Environmental Management Programme (EMPr) during both construction and operational phases.

The likelihood of residual impacts occurring, after mitigation, is generally unlikely to possible, with most impacts expected to occur only in minor form if at all. No highly significant or irreversible environmental harm is anticipated under the recommended management regime.

In terms of significance, post-mitigation impacts for all assessed environmental aspects — including wetland function, biodiversity, soil stability, water quality, and local amenity — are rated as low. Socio-economic impacts are generally positive, particularly with respect to housing provision, municipal revenue generation, and employment opportunities, though the large single-erven alternative would provide lower yield and less affordable housing than the proposed high-density layout. The elevated bridge option is preferred over the box culvert option from an environmental performance perspective.

It is concluded that the proposed development, if implemented with the recommended mitigation measures and monitoring commitments, is environmentally acceptable, with no residual impacts of moderate or high significance anticipated. The development is therefore considered to be compatible with the environmental and planning context of the site. Development can therefore be authorised on site, provided the mitigation measures as presented in the specialist reports, this BAR and the EMPr are implemented.

Alternative 2: Alternative township layout

No alternative layout is provided due to space limitations on site (due to the entire seep wetland and full 50m buffer retained on site), and various road and access considerations which have been addressed over many months, providing the present preferred township layout plan as the only feasible alternative in terms of access and cost effective layout.

Alternative township layouts have not been evaluated as part of this impact assessment.

Alternative 3: Alternative land use

Large single erven increase land consumption, leading to more hard surfaces (driveways, roads), habitat fragmentation, and stormwater runoff. High-density apartments consolidate the development footprint, leaving more land available for open space networks, wetland buffers, and green infrastructure.

Muldersdrift is close to major employment nodes like Lanseria Airport, Cradlestone Mall, Honeydew, and the N14/R28 corridor. The demand is growing for affordable to middle-income rental and ownership units for young professionals, airport staff, and small households. Walk-up apartments offer more affordable entry points for buyers and tenants.

For these reasons, single residential erven are not the preferred land use model and has not been evaluated as part of this impact assessment.

Alternative 4: Bridge design alternative

The table of comparison provided in Section 3 of this report for the bridge design alternatives, compares the technical, environmental and engineering features of the elevated bridge on pile foundations, versus the box culvert bridge design alternative.

The applicant has selected the **box culvert bridge** due to the construction speed and affordable cost, without compromising environmental compliance. The length of the wetland crossing on site is 12-15 meters which is suited to the box culvert design.

Alternative 5: Alternative building technologies

Alternative construction methods generally have lower environmental impacts compared to traditional methods. However, the actual impact depends on material sourcing, energy use, and waste management. Sustainable practices, such as using renewable materials (engineered laminated wood, bamboo, Straw Bales, Adobe Bricks, Recycled Plastic Bricks, reclaimed Wood and Recycled Metal, green roofs (Living Roofs, covered with vegetation to improve insulation and biodiversity), energy-efficient designs (Optimal Site Orientation, Green Roofs, Energy-Efficient Lighting, Natural Ventilation, Solar Panels, Battery Storage Systems, Permeable Pavements) and closed-loop recycling, can mitigate negative effects.

By applying these alternative technologies, the applicant and developer can achieve a balance

between maximising residential yield, minimising environmental impact, and enhancing affordability and liveability.

No-go (compulsory)

The assessment of the No-Go Alternative indicates that the environmental impacts will predominantly relate to the continuation of the existing site conditions. The property has been subject to anthropogenic influences (freshwater areas that are currently utilised for cultivation practices, and areas associated with the houses and associated gardens) and has little ecological value for fauna or flora. The property will remain in its current state without active rehabilitation measures.

Under the No-Go scenario, positive development-driven impacts such as formal wetland protection, improved stormwater management, and provision of municipal services to the site will not materialise. Existing environmental pressures, including cultivation practices, unregulated runoff, and potential further degradation of the seep wetland through unmanaged human activity, may persist. No new construction-related disturbances or operational-phase pressures (traffic, waste generation, service demand) will occur.

Impacts will be of a long-term to permanent nature, as the absence of development may result in the continued neglect of ecological resources and prevent formal conservation interventions from being implemented.

The likelihood of continued degradation of the wetland and surrounding buffer zone under the No-Go Alternative is considered probable in the absence of active conservation, management or rehabilitation efforts. The potential for unregulated informal uses and encroachment remains high, given surrounding land-use pressures.

Following mitigation inherent in the No-Go alternative (no construction-related impacts), the residual impacts are considered to be of low to moderate significance from a construction avoidance perspective but potentially moderate in terms of long-term ecological management failure. While avoidance of development prevents new disturbances, the opportunity to secure ecological enhancements and formal protection of the wetland is lost.

The No-Go Alternative avoids immediate construction and operational impacts, yet it does not address existing environmental degradation or secure the potential ecological and socio-economic benefits that the development, with proper mitigation, could deliver. The overall environmental significance of the No-Go Alternative is therefore considered neutral to slightly negative over the long term.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The proposed development entails the establishment of a high-density residential township comprising 3 storey walk-up apartment blocks, with associated internal roads, parking areas, and

service infrastructure. The layout has been designed to fully conserve the extent of the natural seep wetland and its 50 m buffer, in compliance with applicable environmental guidelines. A single box-culvert bridge crossing is proposed to provide road access over the wetland, minimising disturbance to hydrological flows and aquatic habitat. The development will be fully connected to municipal water, sanitation, and electrical networks.

Positive Impacts of the development includes the complete avoidance of direct infill of the seep wetland, and the protection of the 50 m buffer ensures the long-term preservation of ecological functionality. The formal management of the wetland area will enable active alien plant control, litter removal, and potential enhancement of habitat quality.

The high-density walk-up apartment model supports efficient land use, reduces urban sprawl, and promotes a pedestrian-oriented environment. Integration into existing bulk infrastructure reduces reliance on on-site waste water systems, lowering the risk of uncontrolled effluent discharge or groundwater contamination. Construction and operational phases will create employment opportunities and stimulate local business activity in the Muldersdrift area.

Negative Impacts (post-mitigation) of the development includes temporary impacts on air quality, noise levels, and local traffic during bulk earthworks, service installation, and building activities. Localised disturbance to wetland habitat and soils at the box-culvert crossing site is anticipated, with potential short-term sedimentation and flow disruption risks during construction. Increased impervious surfaces will elevate runoff volumes; however, mitigation through sustainable drainage design and attenuation will limit erosion and water quality deterioration. The transition from open land to urban form will alter the local landscape character.

Construction phase impacts have been evaluated as short-term, with low-to-moderate significance after implementation of best-practice environmental controls. The operational phase impacts will be long-term positive socio-economic and service delivery impacts. Residual negative environmental impacts are assessed as low significance due to wetland avoidance and robust stormwater management measures.

The preferred alternative balances high-density residential development needs with wetland conservation objectives. By fully protecting the seep wetland and its buffer, integrating a single low-impact wetland crossing, and connecting to municipal services, the project is expected to deliver significant long-term socio-economic benefits while maintaining ecological integrity. With adherence to approved mitigation measures and environmental management plans, the residual environmental impact is considered low negative to high positive, with the net outcome being environmentally acceptable and socio-economically beneficial.

Well planned and enforced mitigation can reduce impacts significantly. If mitigation measures are properly planned, implemented, and enforced, most construction-related impacts can be minimized or eliminated. With the implementation of the mitigation measures provided in this report and the EMPr, Seedcracker Environmental Consulting (SEC) is confident that the sum of the construction impacts to the environment will be of a Low negative significance in the short-term.

The impacts will be limited in extent to the *study area* which has a low environmentally sensitive status. The net effect on the environment from the operational phase will be positive, as the proposed development results in bulk service and road upgrades, and socio-economic growth and investment in the area. SEC is confident that the sum of the operational impacts phase, will be of positive significance within the *regional area* due to the various employment opportunities the development will bring.

For alternatives:

Alternative 4: Preferred Bridge design: Box culvert

Both bridge types can be designed and implemented with low residual environmental impact after mitigation. The box culvert bridge is the preferred option for this project due to:

- Lower capital cost
- Faster installation time, reducing construction-phase disturbance
- Adequate capacity to maintain wetland hydrology when correctly engineered
- Ability to integrate seamlessly with the high-density residential township's road network

While the elevated bridge may offer marginally better ecological connectivity and hydrological resilience, its longer construction period, higher cost, and greater visual intrusion make it less favourable for this specific site context.

Alternative 5: Alternative building technologies

Alternative construction methods generally have lower environmental impacts compared to traditional methods. However, the actual impact depends on material sourcing, energy use, and waste management. Sustainable practices, such as using renewable materials (engineered laminated wood, bamboo, Straw Bales, Adobe Bricks, Recycled Plastic Bricks, reclaimed Wood and Recycled Metal, green roofs (Living Roofs, covered with vegetation to improve insulation and biodiversity), energy-efficient designs (Optimal Site Orientation, Green Roofs, Energy-Efficient Lighting, Natural Ventilation, Solar Panels, Battery Storage Systems, Permeable Pavements) and closed-loop recycling, can mitigate negative effects.

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

The assessment of the proposed high-density residential township, including its alternatives, has shown that; following the implementation of the prescribed mitigation and management measures in this BAR and the EMPr; the anticipated environmental impacts will be of low significance, both during construction and operational phases.

The township layout, which accommodates walk-up apartment buildings, incorporates the full conservation of the natural seep wetland and its 50 m buffer, thereby safeguarding key ecological features and maintaining local biodiversity. Between the two crossing options assessed, the 12 m box culvert bridge has been identified as the preferred alternative over an elevated bridge on pile

foundations due to its lower construction cost, shorter construction timeframe, and reduced complexity, which in turn minimises the duration and extent of potential construction-related disturbance. The box culvert design also maintains hydrological connectivity within the wetland, allows for faunal passage, and integrates effectively with the overall township layout.

The high-density residential model was selected over large single-erven development because it optimises land use efficiency, supports municipal spatial planning goals for compact settlement, and reduces urban sprawl pressures on surrounding rural landscapes. The design also facilitates cost-effective municipal service provision and maximises the potential for public transport integration.

Overall, the preferred alternative offers a balanced solution that addresses housing demand, aligns with municipal service capacity, and minimises environmental risks through proactive avoidance, design integration, and mitigation measures. The residual impacts are expected to be localised, short- to medium-term in duration during construction, low in significance, and unlikely to result in any irreversible environmental harm. The operational phase is anticipated to have mostly positive socio-economic benefits in terms of housing provision, employment, and local economic stimulation, with minimal long-term environmental costs.

7. SPATIAL DEVELOPMENT TOOLS

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

The following spatial planning tools were consulted:

- National Screening tool
- GDARD C-Plan V3.3
- Gauteng Provincial Environmental Management Framework

Spatial data was used to determine the agricultural potential, presence of rivers, wetlands and Ecological status of the study site. Together with the Gauteng Conservation Plan (V3.3) data, the presence of a wetland was identified and further investigated.

Gauteng Environmental Management Zones, GPEMF 2015
The study and investigation area are mostly indicated as an Urban Development Zone (Zone 1) except for portions shown as High Control Zone (Zone 2) where the wetlands and the Crocodile River are indicated. A small section in the south of the investigation area is indicated to be within the Normal Control Zone (Zone 4).

The development proposal is supported by the municipal planning policies as discussed in Section 2 of this report.

8. RECOMMENDATION OF THE PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).	YES	■

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

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:

Based on the outcome of the impact study, it is recommended that the preferred Industrial 3 township alternative is implemented, subject to the implementation of all mitigation measures as set out in this Basic Assessment Report. All mitigation measures, which have been outlined in this report as well as in the EMPr and specialist reports, must be fully adhered to. The Environmental Management Programme (EMPr) will be binding on all managers and contractors operating/utilizing the site. All requirements from the COJ Municipality must be adhered to. All requirements of the Water Use License obtained for the township must be adhered to. Long term monitoring and maintenance of the sewer package plant must be drawn up once the preferred contractor/ supplier for the package plant is appointed, to ensure the high quality of the treated effluent.

The permanent loss of the existing degraded unchanneled valley-bottom wetland (PES: E; EIS: Low) must be offset by the construction and long-term maintenance of an engineered artificial wetland system located within the development site. The artificial wetland must be designed to mimic key hydrological and ecological functions of a natural system, provide water quality improvement, peak flow attenuation, habitat support, and biodiversity enhancement. The engineered artificial wetland must demonstrate functional equivalence or improvement over the existing system. A Wetland Maintenance Plan should be developed prior to construction and must include clear timeframes for the implementation and establishment monitoring (minimum 2 years post-construction), performance indicators (e.g., water retention, vegetation cover, biodiversity usage), Alien invasive species within and around the wetland must be monitored and removed regularly, and provisions for adaptive management and remedial measures if performance targets are not met. Topsoil from the degraded wetland (if suitable) should be stockpiled and reused in wetland planting zones to support microbial and seedbank recovery.

An Aquatic Environmental Control Officer (AECO) must monitor the construction of the artificial wetland and submit quarterly reports to the competent authority.

All development stormwater must be routed through the artificial wetland system before release into the downstream environment. Stormwater management must follow SUDS principles and align with Gauteng Department of Environment and the City of Johannesburg stormwater guidelines. The post-

development runoff quantity and quality must match or improve upon pre-development conditions.

It is the opinion of the EAP that no fatal flaws are associated with the proposed development and that all impacts can be adequately mitigated to reduce the risk or significance of the impacts to an acceptable level. Due to the type of project proposed, the negative aspects will be low, following the correct implementation of mitigation measures, and do not warrant any significant restrictions regarding the development proposal. It is the opinion of the EAP that this Basic Assessment Report contains sufficient information to allow the approving authorities to make an informed decision. It is therefore recommended that the application for Environmental Authorisation should be approved on condition that the recommendations stated herein are effectively implemented.

9. THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT (as per notice 792 of 2012, or the updated version of this guideline)

The proposed high density residential township on Portion 268 of the farm Rietfontein 189 IQ aims to establish rights for a residential township as well as a funeral undertaker. Approximately 45% of the property is excluded from development due to its designation as sensitive private open space. The applicant and developer, Leruo Investments, is a company that is owned by Umnotho for Empowerment NPO. The Umnotho for Empowerment NPO is developing a community project that purchases land for development, enabling its members to build a community-oriented village. This village features residential units, business stands, a community centre with health facilities, parks, and schools. The individual land parcels owned by the NPO are not large enough to accommodate a single development, and so it includes several properties within the Muldersdrift area. The proposed development of Portion 268 focuses on *residential* use and includes the existing funeral undertaker on site.

The proposed Greengate Extension 140 township is owned by the members of the Umnotho for Empowerment NPO and will be developed to form part of an integrated neighbourhood. While the proposed Greengate Extension 140 township does not provide for community facilities or retail opportunities beyond the proposed funeral undertaker, *it has access to these facilities* that will be established on the proposed Greengate Extension 135, located within walking distance (approximately 700 metres south of the subject property). The Umnotho for Empowerment NPO is creating a community-oriented village model, with shared values and cooperative governance, for land that has been purchased collectively. The integrated neighbourhood/village development model can accommodate shared open spaces, places of worship, early childhood centres, and recreational areas for a more holistic living environment.

The inclusion of large parts of Muldersdrift within the urban development boundary has led to a marked increase in varied development applications in this part of Mogale City's jurisdiction. Application proposals include subdividing larger portions of land into 2-hectare units, establishments for residential, business, and light-industrial purposes; mostly taking advantage of the area's favourable location, which is proximal to the N14 highway, the R114 Route between Krugersdorp and Pretoria, and the Beyers Naudé Drive linkage between the City of Johannesburg and Mogale City.

The proposed development envisions a density of 80 units per hectare, resulting in 293 housing opportunities, which would comprise approximately 43% of the township's land area. Unit sizes will range between 75m² and 90m². The apartment block has become the norm for social housing development, accommodating higher densities while limiting the property's coverage to 40%. Population growth in the West Rand and Mogale City areas is placing pressure on land for formal housing. There is a significant shortage of affordable housing opportunities, especially for low- to middle-income families and beneficiaries of community-based land projects. The proposed high-density development can help alleviate informal settlement pressures and overcrowding in adjacent townships or rural settlements.

The proposed development promotes the efficient use of land through densification and compact development, in line with national and provincial spatial planning principles (e.g., SPLUMA, GPEMF). The site lies within or adjacent to urban expansion zones of the Mogale City SDF and Gauteng Provincial EMF (2015), where densified residential development is encouraged in support of smart growth principles.

The development provides employment opportunities during construction and post-occupation (services, maintenance, retail) and will support local construction SMMEs and suppliers aligned with black economic empowerment and community upliftment. New development in the study area generates rates income for the municipality, improving the viability of extending infrastructure and services to the area.

The property contains a large seep wetland system and associated buffer area, which have historically been subjected to informal and agricultural disturbances such as grazing, ploughing, uncontrolled stormwater runoff, and informal crossings. These historic land uses have significantly degraded the ecological integrity and habitat function of the wetland. Despite this degradation, the wetland still retains functional hydrological and ecological roles, especially in terms of water regulation, infiltration, and biodiversity support, and is therefore being *formally conserved in its entirety* within the development layout. The need to formally protect the wetland system and its buffer zone aligns with the National Water Act (1998) provisions for the protection of aquatic ecosystems; the NEMA principles of sustainable development and avoidance of further degradation; and the Gauteng Provincial Environmental Management Framework (GPEMF), which prioritises the protection of remaining wetland ecosystems and ecological corridors, even in altered areas.

Erf 5 of the township is intended for residential development, but is separated by the wetland, making it inaccessible without traversing the sensitive area. The construction of a single box culvert bridge structure is therefore necessary to provide essential access to an otherwise landlocked part of the property, avoid the need for multiple informal crossings or uncontrolled paths through the wetland, support the development of high-density housing, which responds to the broader community need for formalised residential opportunities, and enable better management and long-term stewardship of the entire property, including the wetland.

This controlled infrastructure approach is preferable to alternative, unregulated disturbance of the wetland. The proposed box culvert will be designed to span over the wetland, with minimal impact

on the surface and hydrology of the seepage zone.

The development proposal offers a balanced land use outcome that integrates conservation with responsible socio-economic upliftment. The wetland and buffer will be set aside as no-go areas, forming part of the site's environmental open space system. Stormwater management principles will be embedded into the site layout and design. The proposed bridge will be constructed with mitigation measures, including sediment and erosion control, use of prefabricated elements, and limited construction footprint, to minimise ecological disruption. This approach promotes ecological sustainability, resilient urban form, and equitable land development, consistent with the Gauteng Conservation Plan (C-Plan), the Mogale City Spatial Development Framework, and relevant environmental authorisation conditions.

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED *(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)*

The authorisation should cater for the commencement of construction within 10 years from the date of authorization and concluded within 10 years. Construction activities on site, must be accompanied by an Environmental Control Officer.

Compliance Monitoring: The Applicant and Contractor(s) will be responsible for monitoring all construction activities on a day-to-day basis to ensure compliance with the EA (if granted) and EMPr throughout the all phase of the proposed activities. ECO Monitoring (i.e., site inspections) should be undertaken once every two weeks, until such time that all construction activities are completed on site. When deemed necessary and at the ECO's discretion, the frequency of the monitoring can be revised, in agreement with the competent authority if necessary.

Environmental Audits: In terms of Regulations 34 of the EIA Regulations, 2014 (as amended) the holder of the EA (if granted) must for the period during which the EA (if granted) and EMPr remain valid, conduct Environmental Audits. The Audit Report must be prepared by an independent person and must contain all the information required in Appendix 7 of the EIA Regulations, 2014 (as amended). It is recommended that an Environmental Audit be undertaken within one months after the completion of all construction on site.

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) (must include post construction monitoring requirements and when these will be concluded.)

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

EMPr attached	YES

SECTION F: APPENDICES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive). It is required that if more than one item is enclosed that a table of contents is included in the appendix.

Appendix A1: Locality plan(s)
Appendix A2: Preferred Township Layout Plan
Appendix A3: Sensitivity maps of the site
Appendix B: Photographs
Appendix C: Facility illustration(s)
Appendix D: Route position information
Appendix E: Public participation information
Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: **Specialist reports**

1. Terrestrial Compliance statement
2. Wetland Assessment and aquatic Ecosystem Delineation
3. Water, Sewer, Roads and Stormwater; Electrical Engineering Reports
4. Traffic Impact Assessment
5. Geotechnical Investigations

Appendix H: EMPr: ***Draft Environmental Management Programme***

Appendix I: Other information

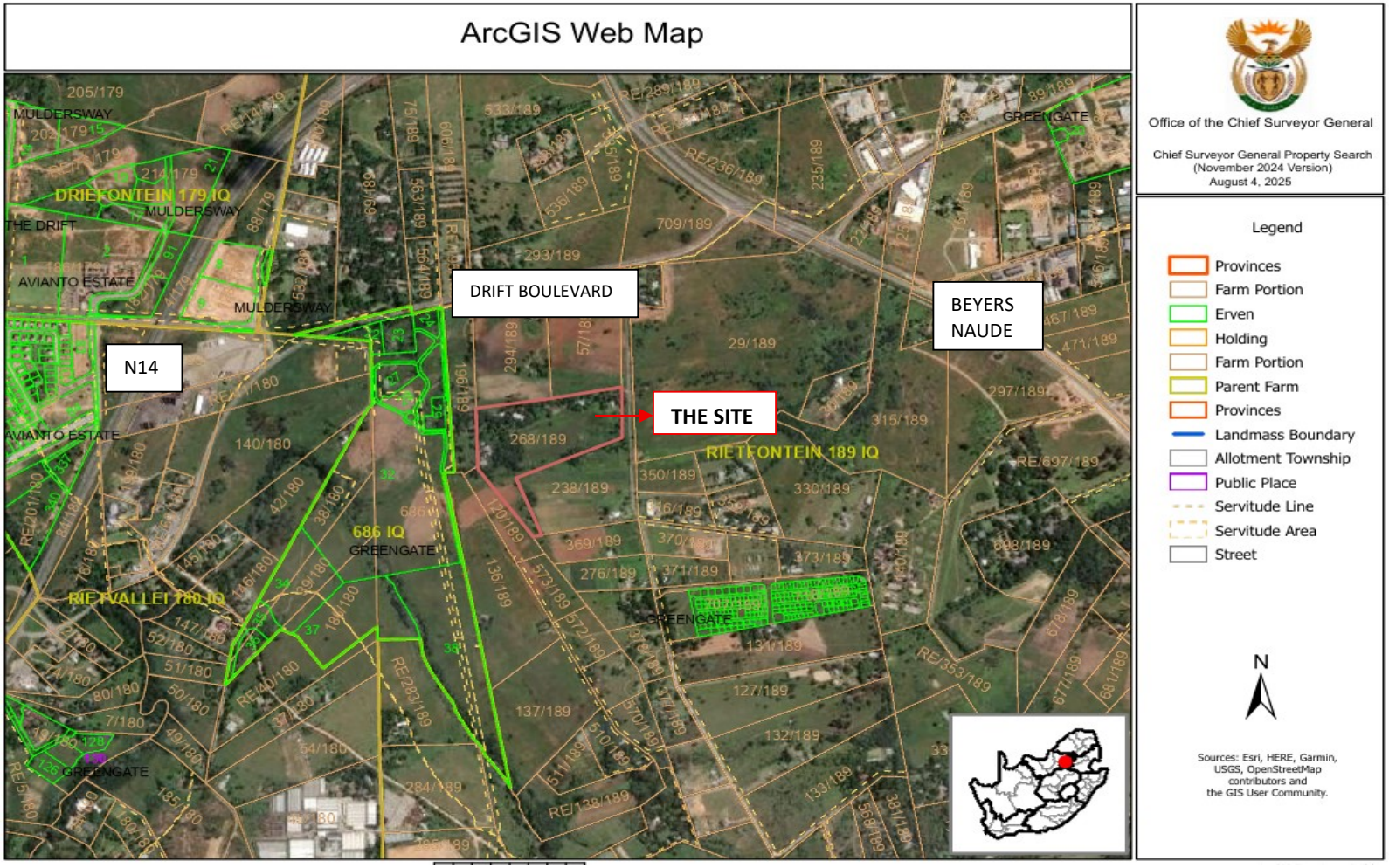
- List of Departments informed of application
- CV of the EAP
- Screening Report

CHECKLIST

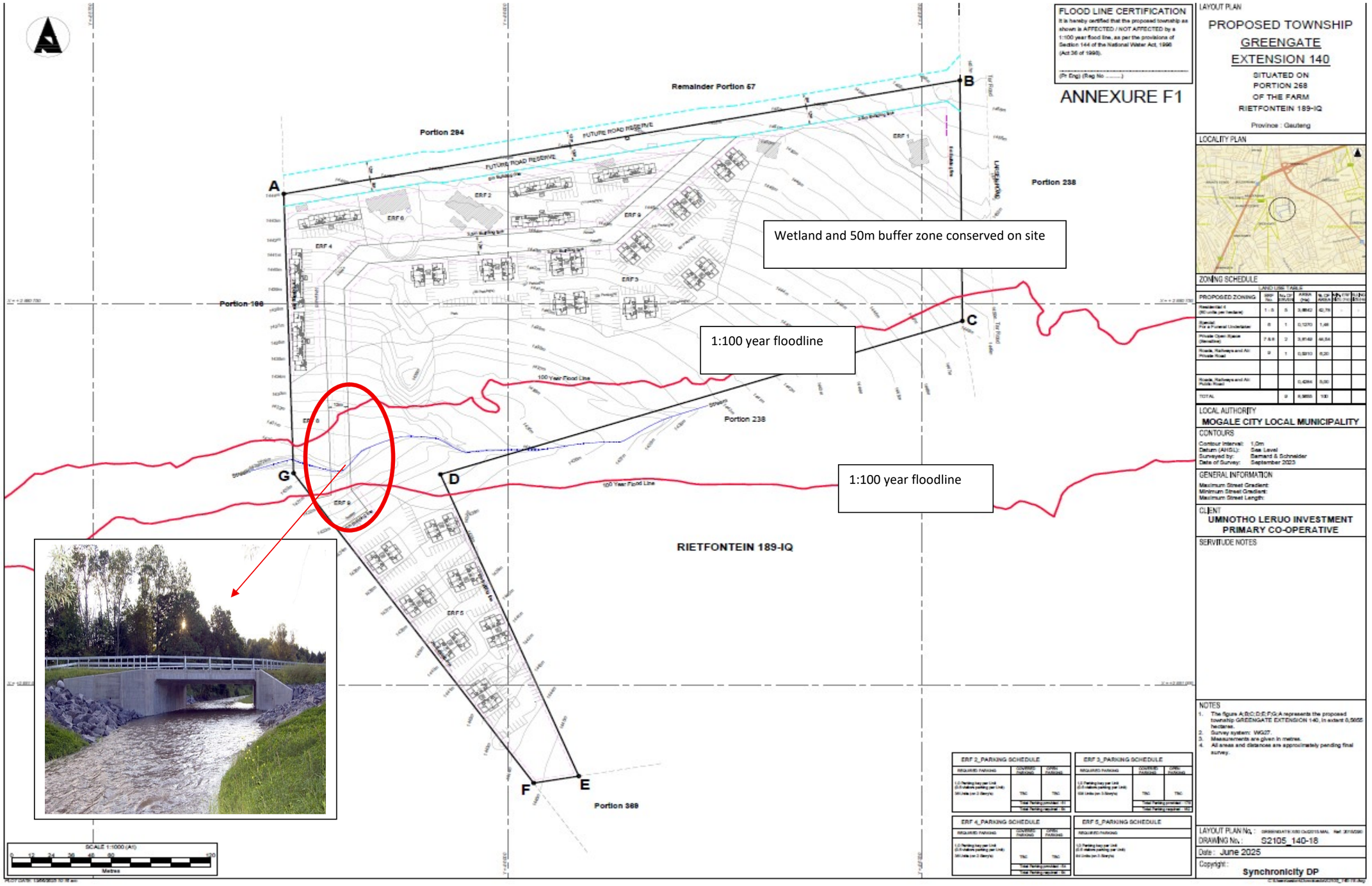
To ensure that all information that the Department needs to be able to process this application, please check that:

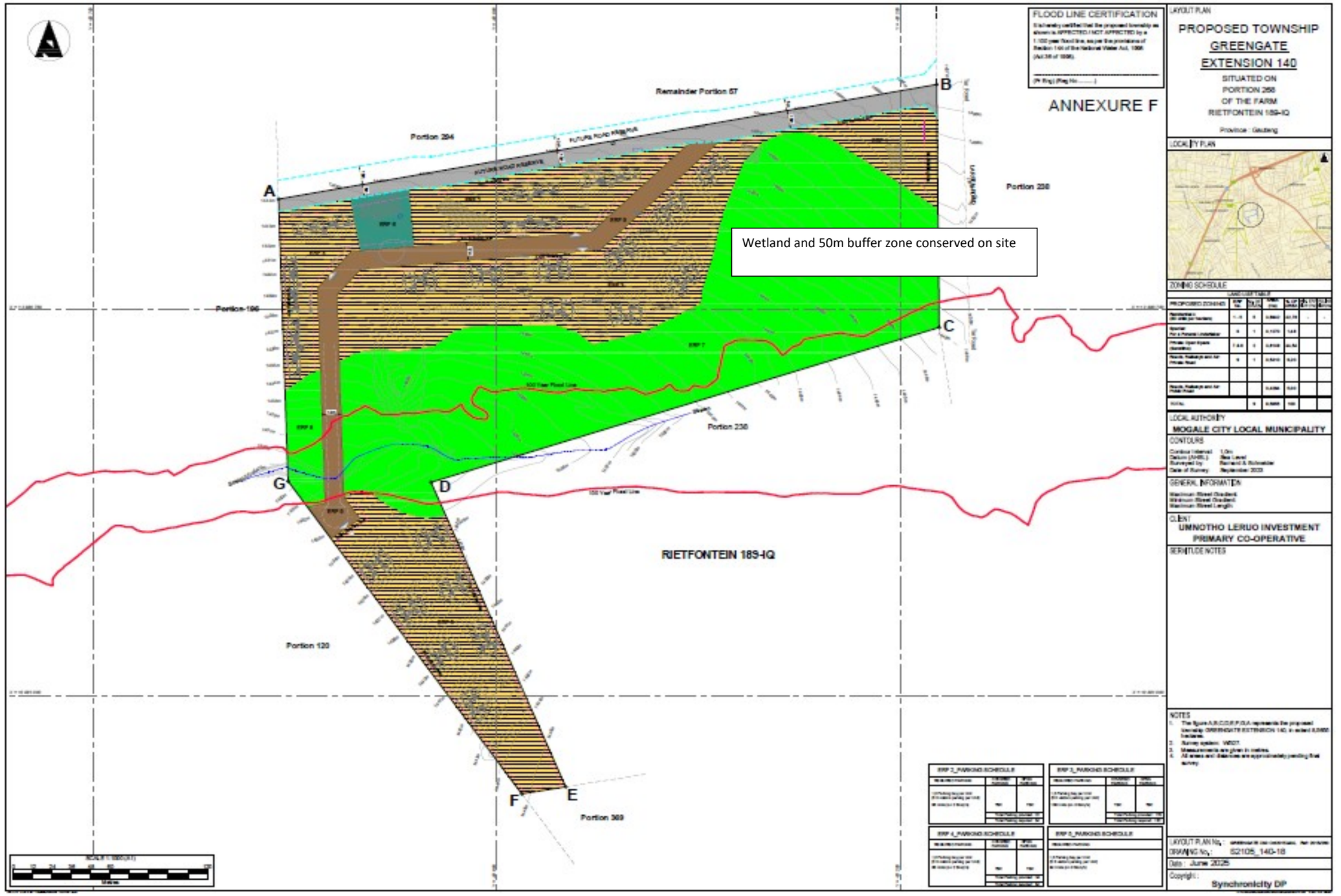
- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.

APPENDIX A1: LOCALITY MAP OF THE SITE



APPENDIX A2: PREFERRED SITE PLAN OF PROPOSED DEVELOPMENT




FLOOD LINE CERTIFICATION
ANNEXURE F
LAYOUT PLAN
PROPOSED TOWNSHIP
GREENGATE
EXTENSION 140
SITUATED ON
PORTION 258
OF THE FARM
RIETFONTEIN 189-IQ
Province : Gauteng
LOCALITY PLAN
ZONING SCHEDULE
LOCAL AUTHORITY
MOGALE CITY LOCAL MUNICIPALITY
CONTOURS
GENERAL INFORMATION
CLIENT
UMNOTHO LERUO INVESTMENT
PRIMARY CO-OPERATIVE
SERVITUDE NOTES
NOTES
LAYOUT PLAN No.:
DRAWING No.: S2105_140-18
Date : June 2025
Copyright :
Synchronicity DP
Wetland and 50m buffer zone conserved on site
Remainder Portion 67
Portion 294
Portion 238
Portion 196
Portion 238
RIETFONTEIN 189-IQ
Portion 120
Portion 369
A
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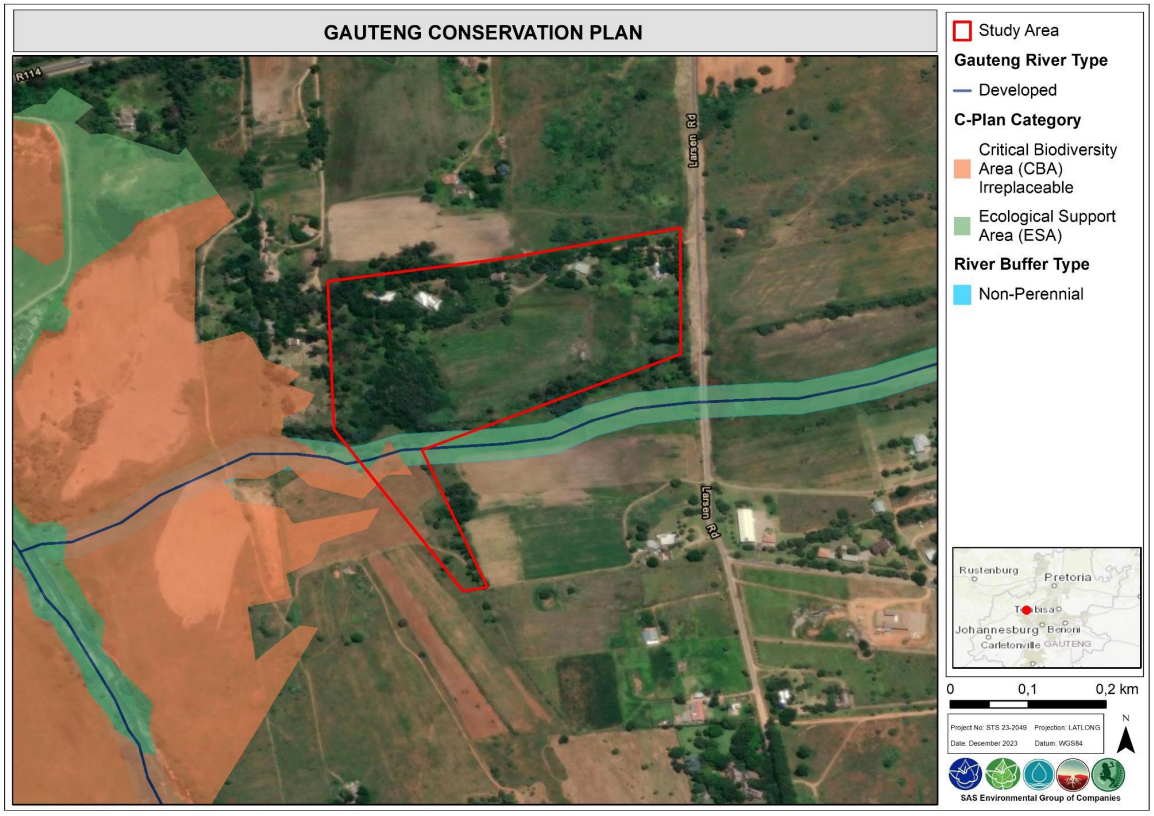
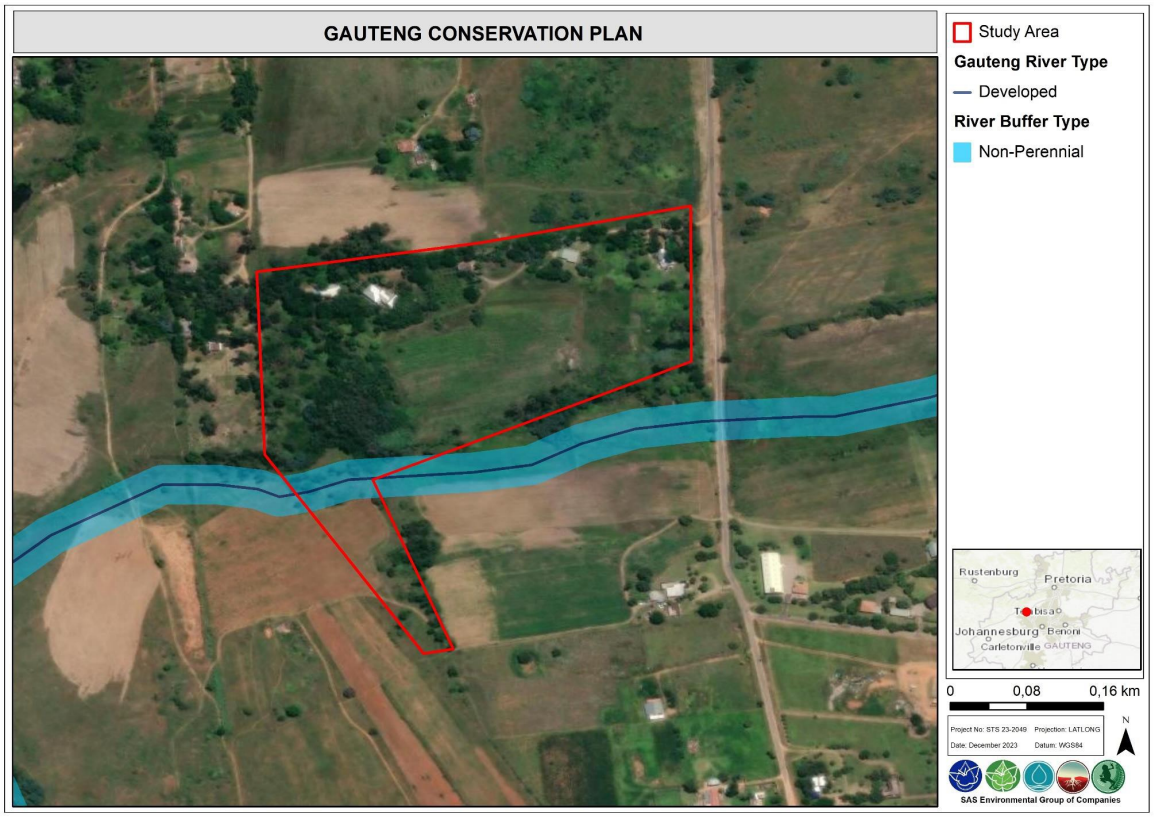
APPENDIX A3: SENSITIVITY MAPS OF THE SITE





APPENDIX B: SITE PHOTOGRAPHS

	**N**
	**NE**

E

SE

	**S**
	**SW**

	**W**
	**NW**

APPENDIX C: FACILITY ILLUSTRATIONS

APPENDIX D: ROUTE POSITION INFORMATION

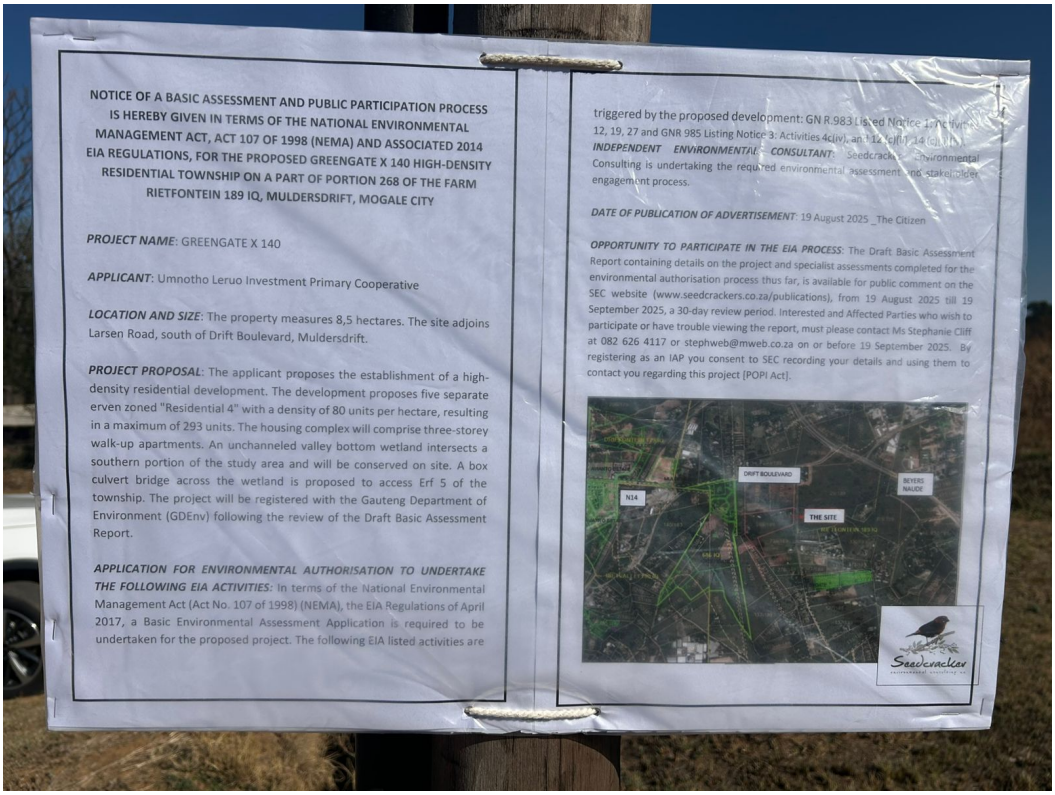
NOT APPLICABLE

APPENDIX E: PUBLIC PARTICIPATION INFORMATION

E1: Proof of Site Notices
E2: Written Notices Issued
E3: Proof of Newspaper Advert
E4: Communication with I&APs
E5: Minutes of Meetings – N/A
E6: Comments and Issues Report – None required
E7: Comments from I&APs on BAR
E8: Comments from I&APs on amended BAR
E9: Copy of Register of I&APs

Appendix E1 - Proof of site notice

Entrance to the site, Larsen Road



NOTICE OF A BASIC ASSESSMENT AND PUBLIC PARTICIPATION PROCESS IS HEREBY GIVEN IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT 107 OF 1998 (NEMA) AND ASSOCIATED 2014 EIA REGULATIONS, FOR THE PROPOSED GREENGATE X 140 HIGH-DENSITY RESIDENTIAL TOWNSHIP ON A PART OF PORTION 268 OF THE FARM RIETFONTEIN 189 IQ, MULDERSDRIFT, MOGALE CITY

PROJECT NAME: GREENGATE X 140

APPLICANT: Umnotho Leruo Investment Primary Cooperative

LOCATION AND SIZE: The property measures 8,5 hectares. The site adjoins Larsen Road, south of Drift Boulevard, Muldersdrift.

PROJECT PROPOSAL: The applicant proposes the establishment of a high-density residential development. The development proposes five separate erven zoned "Residential 4" with a density of 80 units per hectare, resulting in a maximum of 293 units. The housing complex will comprise three-storey walk-up apartments. An unchanneled valley bottom wetland intersects a southern portion of the study area and will be conserved on site. A box culvert bridge across the wetland is proposed to access Erf 5 of the township. The project will be registered with the Gauteng Department of Environment (GDEnv) following the review of the Draft Basic Assessment Report.

APPLICATION FOR ENVIRONMENTAL AUTHORISATION TO UNDERTAKE THE FOLLOWING EIA ACTIVITIES: In terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA), the EIA Regulations of April 2017, a Basic Environmental Assessment Application is required to be undertaken for the proposed project. The following EIA listed activities are

triggered by the proposed development: GN R.983 Listed Notice 1 activity 12, 19, 27 and GNR 985 Listing Notice 3: Activities 4(iv), and 12 (iii) , 14 (ii) (a) (iii).

INDEPENDENT ENVIRONMENTAL CONSULTANT: Seedcrackers Environmental Consulting is undertaking the required environmental assessment and stakeholder engagement process.

DATE OF PUBLICATION OF ADVERTISEMENT: 19 August 2025 _The Citizen

OPPORTUNITY TO PARTICIPATE IN THE EIA PROCESS: The Draft Basic Assessment Report containing details on the project and specialist assessments completed for the environmental authorisation process thus far, is available for public comment on the SEC website (www.seedcrackers.co.za/publications), from 19 August 2025 till 19 September 2025, a 30-day review period. Interested and Affected Parties who wish to participate or have trouble viewing the report, must please contact Ms Stephanie Cliff at 082 626 4117 or stephweb@mweb.co.za on or before 19 September 2025. By registering as an IAP you consent to SEC recording your details and using them to contact you regarding this project (POPI Act).


Larsen Road

Appendix E2 – Written notices issued to IAP'S, BID

Appendix E3 – Proof of newspaper advertisement of this DBAR

Will be included in the Draft BAR to be submitted to GDEnv

Appendix E4 –Communications to and from IAPS

Appendix E5 – Minutes of meetings

Not applicable

Appendix E6 - Comments and Responses Report

GREENGATE X 140: COMMENTS AND RESPONSE REPORT			
Comments / Issues raised during review of draft Basic Assessment Report			
Issue Raised	**Date and How Issue Was Raised**	**Commentator**	**Response**
Comments to be received following the review of this DBAR			

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

N/A YET

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

N/A

Appendix E9 – Copy of the register of I&APs

Table 1: Commenting Authorities

No:	Surname	Name	Company/ Farm/ Community	Position	Contact No:
1	Thenga	Madikana	Mogale City Local Municipality – Environmental Management & Planning Department		Municipal Call Centre: 0861 664 253 011 951 2110: Itumetsi
2			West Rand District Municipality – Environmental Health Department		+27 11 411 5000 011 411 5150:Moleboheng 011 411 5272: Susan
3	Siwelane	Lilian	Dept Water and Sanitation	Control Environmental Officer	SiwelaneL@dws.gov.za 012 392 1367 078 421 9386
4	Botha Cembi Ramela	Grant Noluthando Lesego	Gauteng Provincial Heritage Resources		Tel: 012 320 8490 E-mail:info@sahra.org.za Email: grant.botha@gauteng.gov.za 011 355 2574 Built Environment Applications noluthando.cembi@gauteng.gov.za lesego.ramela@gauteng.gov.za 011 355 2609
5	Cochrane	Shenan	Ward 23 Mogale City	Councillor	083 510 4745 westrandfirstaid@webmail.co.za
6	Mr.	Banele	Gauteng Roads and	Directorate: Transport	Banele.Manana@gauteng.gov.za;

No:	Surname	Name	Company/ Farm/ Community	Position	Contact No:
	Manana		Transport	Infrastructure Planning	011-3557255 066 472 6403

Table 2: Land Owners notified via Email and Community Forum Whatsapp Group

No:	Name	Land Owner Portion	Contact No:
1	[redacted]	P 294/189	[redacted]
2	[redacted]	P 57/189	[redacted]
3	[redacted]	P 238/189	[redacted]
4	[redacted]	P 29/189	[redacted]
5	[redacted]	P 369/189	[redacted]
6	[redacted]	P 573/189	[redacted]
7	[redacted]	P 120/189	[redacted]
8	[redacted]	P 196/189	[redacted]
9	[redacted]	P 136/189	[redacted]
10	[redacted]	P 32/686IQ	[redacted]

APPENDIX G: SPECIALIST STUDIES

TERRESTRIAL COMPLIANCE STATEMENT

WETLAND ASSESSMENT AND AQUATIC ECOSYSTEM DELINEATION

WATER, SEWER, ROADS AND STORMWATER; ELECTRICAL ENGINEERING REPORTS

TRAFFIC IMPACT ASSESSMENT

GEOTECHNICAL INVESTIGATION

APPENDIX H: DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

APPENDIX I:

DRAFT REPORT SUBMITTED TO THE FOLLOWING AUTHORITIES FOR COMMENT:

SECTION C: MUNICIPALITY INFORMATION	
Municipality/ municipalities	Mogale City Local Municipality
Contact Person (from Environment Management or Town Planning)	Itumetsi Integrated Environmental Management
Email	
Telephone Number	011 951 2110

EAP CV

DFFE SCREENING REPORT