BASIC ASSESSMENT REPORT

STATUS:

DRAFT FOR PUBLIC REVIEW

Portion 71 of the Farm Knopjeslaagte 385 J.R.
within the City of Tshwane, Gauteng Province.
[Peach Tree Extension 26]

Applicant:

Generator Finance (Pty) Ltd
Mr Tinus Steenkamp

April 2018

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GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

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

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.**
4. **A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.**
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
10. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the of the Environmental Affairs Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the of the Environmental Affairs Branch
Ground floor Diamond Building
11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377
Department central telephone number: (011) 240 2500

(For official use only)

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

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

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Is a closure plan applicable for this application and has it been included in this report? No

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

No closure plan is included in this Basic Impact Assessment Report, as the proposed activity is a permanent residential development, with permanent internal and external water, sewage and storm water services and a private open space.

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

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

If no, state reasons for not attaching the list.

N/A

Have State Departments including the competent authority commented? YES

If no, why?

N/A

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DOCUMENT PROGRESS

1. DISTRIBUTION LIST

Date	Report Reference Number	Document Distribution	Number of Copies
April 2018	21709_BAR_1	Public and Government Departments Review	1 Copy

2. AMENDMENTS ON DOCUMENT

Date	Report Reference Numbers		Description of amendment

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

Portion 71 of the Farm Knopjeslaagte 385 J.R. - Residential Township

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

Legislation	Competent Authority
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) – Section 38	South African Heritage Resources Agency (SAHRA)

If yes, have you applied for the authorisation(s)?	YES	~~NO~~
If yes, have you received approval(s)? (attach in appropriate appendix)	~~YES~~	NO

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1998) [as amended] (CSA)	National Government of the Republic of South Africa	18 December 1996
National Environmental Management Act, 1998 (Act No. 107 of 1998), [as amended] (NEMA)	Department of Environmental Affairs (DEA) & Gauteng Department of Agriculture and Rural Development (GDARD)	27 November 1998
Environmental Impact Assessment Regulations, 2014 [as amended] (EIA Regulations)	DEA GDARD	2 September 2014
National Water Act, 1998 (Act No. 36 of 1998) [as amended] (NWA)	Department of Water and Sanitation (DWS)	26 August 1998
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA)	South African Heritage Resources Agency (SAHRA) & Provincial Heritage Resources Authority Gauteng (PHRA-G)	14 April 1999
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) [as amended] (NEMBA)	DEA	1 September 2004
Alien and Invasive Species Regulations, 2014	DEA	1 August 2014
Alien and Invasive Species Lists, 2016	DEA	29 July 2016
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA)	DEA	24 February 2005
National Dust Control Regulations, 2013	DEA	1 November 2013
Gauteng Noise Control Regulations, 1999, issued in terms of the Environment Conservation Act (Act 73 of 1989).	GDARD	20 August 1999

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Veld and Forest Fire Act, 101 (Act No. 101 of 1998)	Department of Agriculture, Forestry and Fisheries (DAFF)	27 November 1998
City of Tshwane Integrated Development Plan, 2011-2016	City of Tshwane	2016
City of Tshwane Metropolitan Spatial Development Framework (MSDF), 2012	City of Tshwane	2012
City of Tshwane Regional Spatial Development Framework: Region 4, 2013	City of Tshwane	2013
Monavoni and Western Farms Development Framework, 2020	City of Tshwane	2010
Integrated Environmental Management Series: Guidelines series	DEA&DP	2014
Integrated Environmental Management Guideline: Guideline on Need and Desirability	DEA	2017
Integrated Environmental Management Guideline Series (Guideline 7) Public Participation in the Environmental Impact Assessment Process	DEA	2012
Guidelines on Alternatives	DEA	2010
Gauteng Spatial Development Framework (SDF) The Gauteng Spatial Development Framework 2030	GDARD	2011
Gauteng Provincial Environmental Management Framework (EMF)	DEA GDARD	2014
GDARD C-PLAN v3	GDARD	-

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy of guideline	Description of Compliance
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1998) [as amended] (CSA) Section 24 of the Constitution states that – *"Everyone has the right to -* *a) an environment that is not harmful to their health or well-being; and* *b) have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –* *(i) Prevent pollution and ecological degradation;* *(ii) Promote conservation; and* *(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*	The proposed development has the potential to have significant negative impacts on the environment and cause pollution. However, these impacts as shown by the findings of the impact assessment and description of mitigation measures in this report and the Environmental Management Programme (Appendix H), can be mitigated to acceptable levels. The proposed development, therefore, will comply with the Constitution of the Republic of South Africa.
National Environmental Management Act, 1998 (Act No. 107 of 1998), [as amended] (NEMA) Section 24 Environmental Authorisation NEMA is the umbrella framework for all environmental legislation primarily to assist with implementing the environmental rights of the Constitution. NEMA provides fundamental principles required for environmental decision making and to achieve sustainable development. It also makes provision for duty of care to prevent, control and rehabilitate the effects of significant pollution and environmental degradation, and prosecute environmental crimes. These principles must be adhered to, and taken into consideration during the impact assessment phase. NEMA defines "environment" as – *"the surroundings within which humans exist and that are made up of –*	The following activities are triggered in terms of Section 24(2) of NEMA and the associated EIA Regulations, 2014 (GN R 982 of 4 December 2014) for: **Listing Notice 1 (GN R 983 of 4 December 2014) [as amended]:** Activity 27: The proposed development will require the removal of indigenous vegetation of an area of more than 5 hectares. Activity 28: The study area is currently used for agricultural purposes and will be developed for residential land uses. **Listing Notice 3 (GN R 985 of 4 December 2014) [as amended]:** Activity 4: The study area is located within Critical Biodiversity Areas (Irreplaceable and Important) as identified by the Gauteng Conservation Plan V 3 and will require the development of roads wider than 4 metres. Activity 12: The study area is located within Critical Biodiversity Areas (Irreplaceable and Important) as identified by the Gauteng Conservation

Legislation, policy of guideline	Description of Compliance
(i) the land, water and atmosphere of the earth; *(ii) micro-organisms, plants and animal life;* *(iii) any part or combination of (i) or (ii) and the interrelationship among and between them; and* *(iv) the physical, chemical, aesthetic and cultural, properties and conditions of the foregoing that influence human health and well-being."* Section 24D and 24(2) of NEMA makes provision for the publication of lists and associated regulations, containing activities identified that may not commence without obtaining prior environmental authorisation from the competent authority. These regulations are referred to as the EIA Regulations and are interpreted hand in hand with the various listed activities discussed further below. Section 28 Section 28 imposes a duty to avoid pollution and environmental degradation on every person.	Plan V 3 and will require the removal of indigenous vegetation of greater than 300 square m. The triggered activities form part of this application and basic assessment process. The proposed development cannot commence without prior authorisation from the Competent Authority. The applicant, contractors, residents and occupiers of the land, all have a duty to avoid pollution and environmental degradation.
Environmental Impact Assessment Regulations, 2014 [as amended] (EIA Regulations) The EIA regulations were promulgated in terms of Section 24 of the NEMA, for the purpose of providing methodologies and specific requirements for the undertaking of an EIA. The Regulations stipulate that any proposed activity listed in the associated notices must undertake either a Basic Assessment (BA) or Scoping & Environmental Impact Report (S&EIR) in order to obtain an environmental authorisation (if granted by the competent authority) before the commencement of the specified listed activity. The EIA Regulations provide the minimum requirements for appointing an EAP and for undertaking the relevant Public Participation Process (PPP) as required. They also detail the contents of the impact assessment reports and all other aspects associated with BA and/or EIAs.	The following activities are triggered in terms of Section 24(2) of NEMA and the associated EIA Regulations, 2014 (GN R 982 of 4 December 2014) for: **Listing Notice 1 (GN R 983 of 4 December 2014) [as amended]:** Activity 27: The proposed development is located outside an urban area and will require the removal of indigenous vegetation of an area of more than 1 hectare. Activity 28: The study area is currently used for agricultural purposes and will be developed for residential land uses. **Listing Notice 3 (GN R 985 of 4 December 2014) [as amended]:** Activity 4: The study area is located within Critical Biodiversity Areas (Irreplaceable and Important) as identified by the Gauteng Conservation Plan V 3 and will require the development of roads wider than 4 metres. Activity 12: The study area is located within Critical Biodiversity Areas (Irreplaceable and Important) as identified by the Gauteng Conservation Plan V 3 and will require the removal of indigenous vegetation of greater than 300 square m. The triggered activities form part of this application and basic assessment process. The proposed development cannot commence without prior authorisation from the Competent Authority. The Basic Assessment Report complies with the requirements of the content of impact assessment reports as detailed in Appendix 1 of the regulations, the EMPR complies with the requirements of Appendix 4 and the specialist reports with Appendix 6.
National Water Act, 1998 (Act No. 36 of 1998) [as amended] (NWA) The NWA is the primary regulatory legislation; controlling and managing the use of water resources as well as the pollution thereof and is	No water use activities are triggered by the proposed development. The proposed development, should, however, conform to the standards and guidelines of the NWA and associated regulations, in order to fulfil the Duty of Care for the environment in terms of nearby water resources, including groundwater and surface water resources.

Legislation, policy of guideline	Description of Compliance
implemented and enforced by the Department of Water and Sanitation (DWS). Section 21 of the NWA lists water uses that must be licensed unless it is listed in the schedule (existing lawful use) and/or is permissible under a general authorisation, or if a responsible authority waives the need for a Water Use Licence. Section 21 water uses.	
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) The NHRA provides for the protection and management of South Africa's heritage resources. The South African National Heritage Resources Agency (SAHRA) is the administering authority regarding all matters relating to heritage resources. A heritage resource refers to any historically important feature such as graves, trees, archaeology, culturally significant symbols, spaces, landscapes and fossil beds as protected heritage resources. In terms of Section 38 of the NHRA, SAHRA can call for a Heritage Impact Assessment (HIA) (also known as an Archaeological Impact Assessment or AIA) for certain categories of development. The NHRA also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is deemed adequate, a separate HIA is not required. Section 38 (1) of the NHRA notes that the relevant heritage authority should be notified provided with details such as location, nature and extent of the following developments: (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 50 m in length; (c) any development or other activity which will change the character of a site— (i) exceeding 5 000 m^2 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 m^2 in extent; or (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.	The proposed development triggers Section 38 (1) of the Act. Statutory comment must be obtained from the South Africa Heritage Resources Authority (SAHRA) and the Provincial Heritage Resources Authority Gauteng Province (PHRAG). A Heritage Impact Assessment (HIA) was conducted by a suitably qualified specialist (Refer to Appendix G). The specialist report was submitted to the heritage authority and comments requested. The final comment of the heritage authority will be submitted with the final basic impact assessment report to the Competent Authority (GDARD). The specialist made the following findings and recommendations (summary): No archaeological sites or material was recorded during the survey and based on the SAHRIS Paleontological Sensitivity Map the area is of insignificant paleontological significance. Therefore, no further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed. In terms of the built environment, a farmhouse and structures occur in the study area. According to archival maps the structures were built between 1939 and 1966 and therefore could be older than 60 years and would then be protected by the NHRA. The age of the structures should be confirmed and if older than 60 years a destruction permit will be required from the PHRAG. In terms of Section 36 of the Act no burial sites were recorded. However, if any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. No public monuments are located within or close to the study area. The study area is surrounded by industrial and residential developments and road infrastructure developments and the proposed residential development will not impact negatively on significant cultural landscapes or viewscapes. During the public participation process conducted for the project no heritage concerns was raised. Due to the lack of significant heritage resources in the study area the impact of the proposed project on heritage resources is considered low and it is recommended that the proposed project can commence on the condition that the following recommendations are implemented as part of the EMPr and based on approval from SAHRA: • Implementation of a chance find procedure. • The age of the structures should be confirmed and if greater than 60 years of age, a destruction permit will be required from the PHRAG.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) [as amended] (NEMBA) NEMBA aims to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA. The purpose of NEMBA is to protect ecosystems and the species within as well as the promoting of sustainable use	Measures to control alien and invasive species are included in the Environmental Management Programme for the construction and operation of the proposed development. An Ecological Habitat Assessment was conducted and is attached as Appendix G1. The study complies with the GDARD Requirements for Biodiversity Assessments, Version 3 (dated March 2014) as indicated within the report. The C-Plan was considered in compiling the report.

Legislation, policy of guideline	Description of Compliance
of indigenous biodiversity. During any environmental authorisation process the following regulations are considered and researched if at any stage the following regulations are applicable: • Alien and Invasive Species Regulations, 2014; • Alien and Invasive Species List, 2016; The following guidelines and plans are applicable: • The GDARD Conservation Plan; • The GDARD Requirements for Biodiversity Assessments, Version 3 (dated March 2014).	
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA) and the National Dust Control Regulations, 2013 The aim of NEMAQA is to regulate air quality to protect the environment from pollution and ecological degradation.	The proposed development does not trigger any activities that require an Air Emissions License. Dust produced during the construction phase will be managed through the implementation of mitigation measures that has been included in the Environmental Management Programme (EMPr).
Gauteng Noise Control Regulations issued in terms of the Environment Conservation Act (Act 73 of 1989).	The regulation should be adhered to during all phases of the development. Measures to mitigate and manage noise levels are included in the Environmental Management Programme.
National Veld and Forest Fire Act, 101 (Act No. 101 of 1998) The purpose of this Act is to prevent and combat veld, forest and mountain fires throughout the Republic. The Act provides for a variety of institutions, methods and practices for achieving the purpose. Chapter 4 places a duty on owners to prepare and maintain firebreaks. Chapter 5 places a duty on all owners to acquire equipment and have available personnel to fight fires.	During the construction phase the Applicant will be required to adhere to the requirements of the Act. Measures to prevent and manage fires and emergency response procedures are included in the Environmental Management Programme.
City of Tshwane Integrated Development Plan, 2011-2016	The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.
City of Tshwane Metropolitan Spatial Development Framework (MSDF), 2012	Urban densification is seen as an important part of the spatial restructuring of the Tshwane Metropolitan area. This concept relates to: (1) An increase in the levels of access to goods, employment opportunities and public transport systems; (2) Viability of public transport systems; and (3) Optimal usage of land as a scarce resource. The context of the application site is such that it is located adjacent to the build-up area of Copperleaf Golf Estate as well as the Diepsloot area. Recent applications for township establishment was also approved by Council (Peach Tree Extension 15 and Extension 16), towards the east of the application site. Vacant land is a scarce resource; thus, the developer seized the opportunity to develop the vacant property. As a result, the proposed development is in line with the principles dealing with containment of growth and compaction of urban development. The proposed development stimulates economic growth by providing taxable residential property, thereby creating additional revenue for the CTMM and adding buying power to the local economy. The proposed development will enhance the image of the area by developing vacant land which has been neglected.

Legislation, policy of guideline	Description of Compliance
City of Tshwane Regional Spatial Development Framework: Region 4, 2013	The RSDF for Region 4 earmarks the subject property for purposes of future urban development. The properties are situated outside the demarcated urban edge of 2013. In terms of the RSDF's Density Map, the property falls in a low density residential area. The RSDF concedes that the future urban development area "represents a natural direction for growth of the metropolitan area and region", subject to the provision of essential services and the LSDF for the area (i.e. Monavoni and Western Farms Development Framework, 2008). The following development guidelines are proposed in the future urban area: • Development that is in line with the Monavoni and Western Farms Development Framework; • Contribution towards the goals of the City Strategy and MSDF; • Availability of bulk engineering services; • Protection of environmental sensitivity of the area; • Proximity to other existing supporting social facilities, economic opportunities, retail and recreation; • Physical features that may define the development (e.g. railway lines, watersheds, provincial roads, environmental areas); • Provision of community facilities (e.g. schools, medical facilities, police stations). The spatial development framework for the region is based on an integrated urban lattice on which densification and intensification of systems can take place in an integrated manner. A set of linear systems form the framework of the urban development lattice and relays urban energy from the traversing highways to lower order roads where it can be converted into physical development and economic growth. Existing and future mass transport routes are and should be integrated into the urban system. The application site is located in close proximity to the R511, N14 - Highway and the M26, which has been identified by the RSDF as part of the east-west development mobility spines in the area which is defined as ab arterial along which traffic flows with minimum interruption. The proposed township establishment is thus in line with the proposals of the RSDF.
Monavoni and Western Farms Development Framework, 2020	In terms of the Monavoni and Western Farms Development framework 2020, (2010), the subject property is situated within Zone 9: Agricultural Zone, while adjacent approved townships Peach Tree Extensions 15 and 16, situated to the south of the subject property, is situated in Zone 2: Low Density Residential Zone (maximum nett density: 25 dwelling units per hectare). The Proposed Development Edge also runs between the subject property and adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the subject property. The Framework "does not aim to be prescriptive on a site-specific level, but provides a framework for interpreting the vision, planning principles and structuring elements of the CTMM. The maps and graphic representations included are more strategic/ conceptual in nature an do not imply a site-specific interpretation" (MWFDF, 2020:15). The Framework focusses on addressing economic developmental issues "as a means to provide job opportunities". Ensuring economic development will attract development to areas to the benefit of the larger area (Monavoni and Western Farms Development Framework 2020: 20). The strategic objectives identified for the region include:

Legislation, policy of guideline	Description of Compliance
	• Enable an accessible, efficient and sustainable urban environment; • Enable the development of a quality urban environment; • Accommodate the neds of the poor while maintaining and maximizing the value of commercial and retail land; • Guide the provision of adequate services and social facilities; • Provide a variety of residential opportunities for a range of income earners; • Create an environment that promotes the use of an effective public transport system; and • Preserve and enhance protected environmental areas. Potential development in the area is further hindered by the geotechnical conditions within the area. The Framework confirms that geotechnical conditions on the subject property is "intermediate", which also applies to the adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the subject property. The MWFDF 2020: 61 records the most notable residential estate development within the Monavoni Region to be the Peach Tree development, located towards the west. The Framework also indicates that both the subject property and adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the property, have low agricultural potential and medium development suitability. "Most of the southern and eastern parts of the Monavoni Region are of a low agricultural potential, implying that these areas are suitable for urban development from an agricultural point of view (MWWFDF 2020: 58).
DEA, 2014 – IEMS Guideline series	Compliance with the Integrated Environmental Management Series in terms of the NEMA, 1999 (EIA Regulations, 2014) for the proposed development. The guideline series informs the EAP of how the EIAs, public participation process, the listed activities in terms of the EIA Regulations, 2014 compare in a user-friendly manner.
Integrated Environmental Management Guideline: Guideline on Need and Desirability	The need and desirability consider the different stages of an EIA. It considers individual questions of the needs, the impacts and effects on the environment. The Need and Desirability provides information and guidance for applicants when considering the need and desirability in terms of NEMA and the EIA Regulations.
Integrated Environmental Management Guideline Series (Guideline 7) Public Participation in the Environmental Impact Assessment Process	Public participation processes have been followed with the consideration of the guideline as it provides the public or stakeholders with the scale of anticipated impacts, the public sensitivity to the project, indicates the types of potentially affected parties, the public participation mechanisms, whether it be public meetings, open days or press releases, etc. This guideline indicates how the EAP, Applicant and affected landowners can participate in a basis assessment and/or EIA.
Guidelines on Alternatives	This guideline is applicable to this proposed development in terms of a description of feasible and reasonable alternatives. Different alternatives are considered, and this guideline describes what each alternative involves and how these alternatives should be considered. The No-Go alternative is compulsory and must always be included.
Gauteng Spatial Development Framework, 2011	The Gauteng Spatial Development Framework, 2011 was among others, compiled to specify a clear set of spatial objectives for municipalities to achieve to ensure realisation of the future provincial spatial infrastructure; and to enable and direct growth. The SDF aims to articulate the spatial objectives of the Gauteng region to assist the alignment of neighbouring municipalities' spatial plans. It is proposed that key principles in local municipality SDFs should include (applicable to this application): • Promotion of densification in specific area to utilise resources more efficiently;

Legislation, policy of guideline	Description of Compliance
	• Establishment of a hierarchy of nodes and supporting existing development nodes. The SDF confirms on page 128 that "it remains the intension to limit urban sprawl as a fundamental tenet or urban growth policy and to promote the intensions of intensification and densification, together with a transformed urban structure that de-emphasises the need for outward expansion of the urban system". The SDF furthermore identified four critical factors for development in the province, relevant to this development: • **Contained urban growth:** To contain urban growth, an Urban Edge was identified to curb urban sprawl and protect the natural environment. Only certain types of developments are allowed on the outside of the urban edge. The urban edge is however not set in stone and can be amended if development pressure in an area requires the alteration of the edge. Normally, areas identified for future development or as future development nodes are not included within the urban edge of a municipality. Amendments to the relevant spatial legislation and frameworks of the municipality usually later include these areas. Approval of net land-use rights and applications in an area indicates that the characteristics of the area have changed over the years. • **Resourced based economic development:** Resourced based economic development should result in identification of the economic core. Development should be encouraged in close proximity to existing resources, which includes infrastructure such as roads, water and electricity. The proposed development is situated near existing and adjacent to approved proposed developments and infrastructure networks. Recent similar approved township establishment applications indicate that these is a growing economic base in the area. • **Re-direction of urban growth:** Developments in economically non-viable areas should be limited and thereby achieving growth within the economic growth sphere. The western Tshwane area is a fast-growing development area and growth should be encouraged in the precinct. Several new township applications have been approved in close proximity and adjacent to the application site, indicating the growth trend towards this region. Further development pressure is also mounting. • **Increased access and mobility:** New land development areas should be planned/designed to increase access and mobility of these developments. The proposed land development area could be regarded as accessible due to its strategic locality near the M26 municipal route, R511 provincial road and N14 Highway.
Gauteng Provincial Environmental Management Framework (EMF) The objective of the GPEMF is to guide sustainable land use management within the Gauteng Province. The GPEMF, *inter alia*, serve the following purposes: • To provide a strategic and overall framework for environmental management in Gauteng; • Align sustainable development initiatives with the environmental	The development mostly falls within Zone 4 and partly in Zone 3 of the GPEMF. Zone 3: High control zone (outside the urban development zone) Intention: Special control zones are sensitive areas outside the urban development zone. These areas are sensitive to development activities and in several cases also have specific values that need to be protected. Composition: The following areas have been identified in this zone:

Legislation, policy of guideline	Description of Compliance
resources, developmental pressures, as well as the growth imperatives of Gauteng; • Determine geographical areas where certain activities can be excluded from an EIA process; and • Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones in a manner that promotes proactive decision-making.	- CBAs (Irreplaceable and Important areas) and Ecological Support Areas (ECAs) outside the urban development zone as defined in C-Plan 3.3; - Rivers (including 32m buffer on each side) and currently undeveloped ridges that must be conserved; - Areas that are sensitive (as determined in the sensitivity assessment); and - Protected areas. Conditions: No listed activities may be excluded from the environmental assessment requirements in this zone and further activities may be added where necessary to protect the environment in this zone. Additional requirements (guidelines, precinct plans, etc.) to ensure the property development of identified areas in this zone, in a manner that will enhance their potential for conservation, tourism and recreation may be introduced. Zone 4: Normal control zone Intention: This zone is dominated by agricultural uses outside the urban development zone as defined in the Gauteng Spatial Development Framework. Conditions: No listed activities may be excluded from environmental assessment requirements in this zone. This basic assessment complies with the environmental assessment requirements of the EIA Regulations, 2014 [as amended].

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

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

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

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

The town planners that were appointed to apply for the rezoning of the property for the proposed development evaluated the various land uses and layouts that will be in line with the planning policies and documents for the area. A preliminary layout based on the evaluation was designed and completed i.e. phase 1 (the Alternative Layout Appendix A2). The environmental site assessments informed the layout further, and the layout was amended to incorporate the recommendations from the Environmental Assessment Practitioner, i.e. phase 2 (the Proposed Layout Appendix A1). Different land use options were also evaluated at various levels in terms of need and desirability as well as other environmental considerations, e.g. “Sense of Place” and potential visual impacts.

Provide a description of the alternatives considered:

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	**Description**
1	Proposal	The residential development is proposed on Portion 71 (a portion of Portion 15) of the Farm Knopjeslaagte 385 JR. The site is situated adjacent to and east of the M26 municipal road (K46 / P39-1), west of the Copperleaf Golf and Country Estate, approximately 1,5 km north of R511 provincial road intersection, within Region 4 of the City of Tshwane. The entire development footprint measures 14, 1607 Ha. The proposed configuration of the proposed development encompasses the following: • Erven zoned Residential 1 (one dwelling per erf) = approximately 5,5 Ha; • Erven zoned Residential 3 (FSR 0.5; Height 2 Storeys) = Approximately 3,5 Ha; • Erven zoned Private Open Space, including a Clubhouse and Recreational Uses = Approximately 0,8 Ha; • Erven zoned Private Road = Approximately 3 Ha; • Erf zoned for Private Road for Access and Access Control = approximately 1 Ha; • Proposed Streets and Widening = Approximately 1,2 Ha.
2	Activity alternative (land use)	The residential development is proposed on Portion 71 (a portion of Portion 15) of the Farm Knopjeslaagte 385 JR. The site is situated adjacent to and east of the M26 municipal road (K46 / P39-1), west of the Copperleaf Golf and Country Estate, approximately 1,5 km north of R511 provincial road intersection, within Region 4 of the City of Tshwane. The entire development footprint measures 14, 1607 Ha. The proposed configuration of the proposed development encompasses the following: • Erven zoned Residential 1 (one dwelling per erf) = Approximately 3 Ha; • Erven zoned Residential 3 (FSR 0.5; Height 2 Storeys) = Approximately 6,5 Ha; • Erven zoned Private Open Space, including a Clubhouse and Recreational Uses = Approximately 0,8 Ha; • Erven zoned Private Road = Approximately 3 Ha; • Erf zoned Private Road for Access and Access Control = Approximately 0,8 Ha; • Proposed Streets and Widening = Approximately 1,2 Ha.

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

N/A

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	14, 1607 Ha
Alternatives:	
Alternative 1 (if any)	14, 1607 Ha

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

	Size of the site/servitude:
Proposed activity	14, 1607 Ha
Alternatives:	
Alternative 1 (if any)	14, 1607 Ha

5. SITE ACCESS

Proposal

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

Describe the type of access road planned:

Please refer to Appendix I3 for the Traffic Impact Study, Section 7.
Access to the proposed development will be from a new road (20m wide reserve) linking to the 25 m wide road that links to the M26. The access road will be a 25m wide servitude and will have two lanes in and two lanes out.

The following should be provided for access to the development:
Incoming lanes = 1 x 3,5 m (4,5 m clearance) and 1 x 3,5 m for Visitors and Trucks;
Stacking length provided = 40 m; and
Outgoing lanes = 2 x 3,5 m (4,5 m clearance).

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

Alternative 1

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

Describe the type of access road planned:

Please refer to Appendix I3 for the Traffic Impact Study, Section 7.
Access to the proposed development will be from a new road (20m wide reserve) linking to the 25 m wide road that links to the M26. The access road will be a 25m wide servitude and will have two lanes in and two lanes out.

The following should be provided for access to the development:
Incoming lanes = 1 x 3,5 m (4,5 m clearance) and 1 x 3,5 m for Visitors and Trucks;
Stacking length provided = 40 m; and
Outgoing lands = 2 x 3,5 m (4,5 m clearance).

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

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

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

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

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

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)

Shapefiles of the activity must be included in the electronic submission on the CD's;

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

Refer to Appendix A1 (Proposed Layout) and A2 (Alternative Layout)

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.

Refer to Appendix A3

7. SITE PHOTOGRAPHS

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

Refer to Appendix B

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.

Refer to Appendix A1 (Proposal) A2 (Alternative)

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

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

Instructions for completion of Section B for linear activities

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

Section B has been duplicated for sections of the route **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.

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	The proposal and Alternative 1 is located on Portion 71 (a portion of Portion 15) of the Farm Knopjeslaagte 385 JR.

2. ACTIVITY POSITION

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

Proposal and Alternative 1:	**Latitude (S):**	**Longitude (E):**
	-26.063114°	27.848250°

The 21-digit Surveyor General code of each cadastral land parcel

PROPOSAL – SECTION A																				
T	**0**	**J**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**5**	**0**	**0**	**0**	**7**	**1**

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~~

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

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

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 4)?	~~YES~~	NO

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

7. GROUNDCOVER

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

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

~~Natural veld - good condition~~ ~~% =~~	**Natural veld with scattered aliens % = 34**	**Natural veld with heavy alien infestation % = 54**	~~Veld dominated by alien species~~ ~~% =~~	**Landscaped (vegetation) % = 2**
~~Sport field~~ ~~% =~~	**Cultivated land % = 4**	~~Paved surface (hard landscaping)~~ ~~% =~~	**Building or other structure % = 6**	~~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.

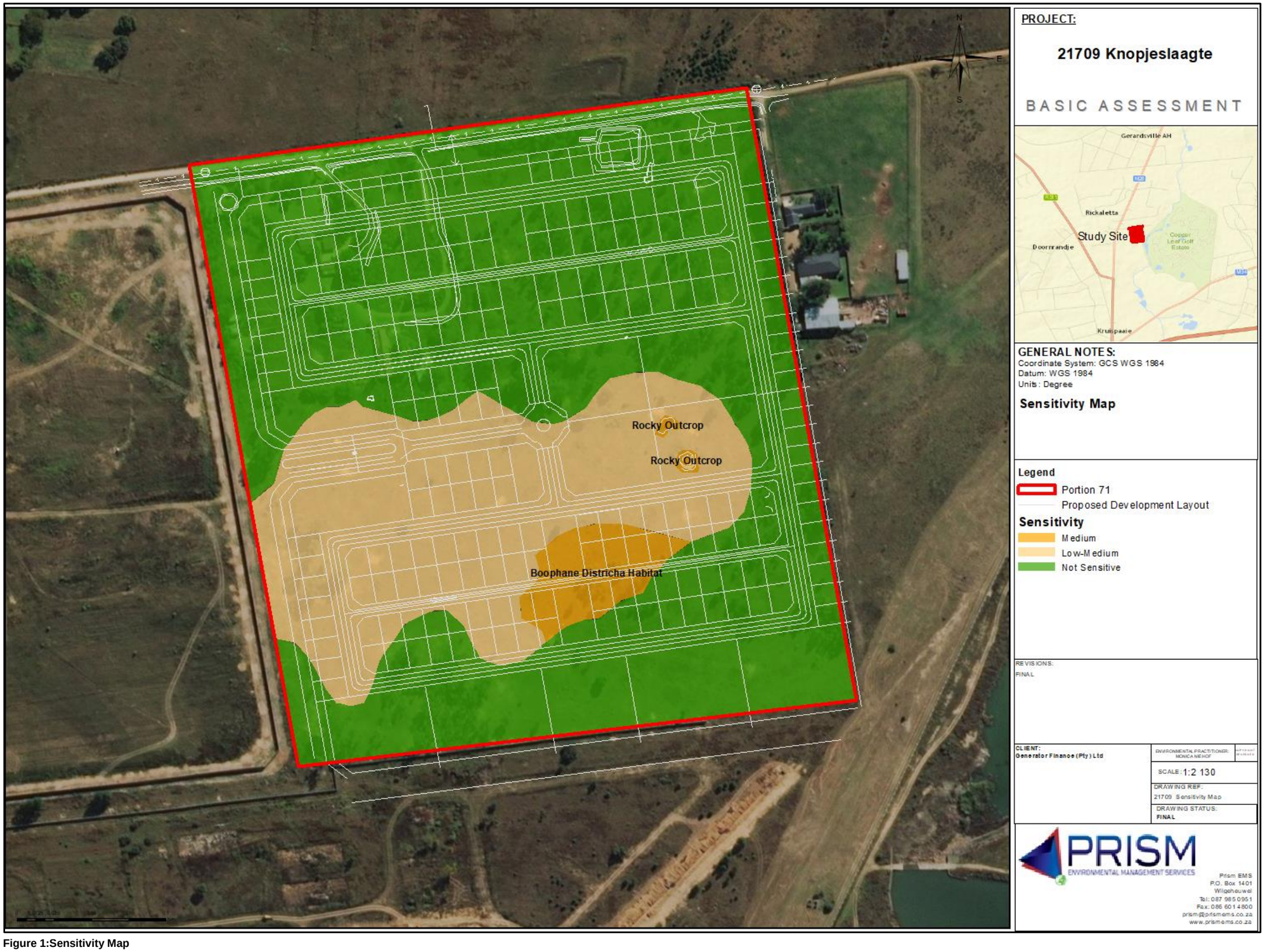
Are there any rare or endangered flora or fauna species (including red list species) present on the site	**~~YES~~**	**NO**
Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	~~YES~~	**NO X**
Are there any special or sensitive habitats or other natural features present on the site?	**YES X**	~~NO~~

If YES, specify and explain:

The grassland area occurring in the centre of the study area has an overall floral status of 'good', occurs within an endangered veld type (Egoli Granite Grassland) and according to the Gauteng C-plan the grassland vegetation is classified as 'important areas' and could therefore, be a possible important migratory corridor. However, only nine of the several grass species associated with Egoli Granite Grassland were observed in the study area and therefore this grassland is not seen to be representative of Egoli Granite Grassland. Consequently, the area of natural grassland observed on the proposed development site is considered to have a low-medium sensitivity.

The less disturbed southern section has two small rocky outcrops that are covered by the same species that are found in the surrounding grasslands. These rocky outcrops, together with a small area containing *Boophone disticha* were considered to be of medium sensitivity.

Refer to the Ecological Habitat Assessment appended in Appendix G1 and **Figure 1**.



PROJECT:

21709 Knopjeslaagte

BASIC ASSESSMENT

GENERAL NOTES:
Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

Sensitivity Map

Legend
- Portion 71
- Proposed Development Layout

Sensitivity
- Medium
- Low-Medium
- Not Sensitive

REVISIONS:
FINAL

CLIENT:
Generator Finance (Pty) Ltd

ENVIRONMENTAL PRACTITIONER: MONICA NIEHOF

SCALE: 1:2 130

DRAWING REF:
21709 Sensitivity Map

DRAWING STATUS:
FINAL

PRISM ENVIRONMENTAL MANAGEMENT SERVICES
Prism EMS
P.O. Box 1401
Wilgehouwel
Tel: 087 9650951
Fax: 086 601 4800
prism@prismems.co.za
www.prismems.co.za

Figure 1:Sensitivity Map

Was a specialist consulted to assist with completing this section			YES	~~NO~~
If yes complete specialist details				
Name of the specialist:	Mr Nico-Ronaldo Retief			
Qualification(s) of the specialist:	MSc. Zoology; Pr.Sci.Nat			
Postal address:	P.O. Box 1401, Wilgeheuwel, Johannesburg			
Postal code:	1736			
Telephone:	087 985 0951	Cell:		
E-mail:	prism@prismems.co.za	Fax:	086 601 4800	
Are any further specialist studies recommended by the specialist?			YES	~~NO~~
If YES, specify:	Ecological Habitat Assessment			
If YES, is such a report(s) attached?			YES	~~NO~~
If YES list the specialist reports attached below				
The abovementioned specialist study is attached in Appendix G1.				

Signature of specialist:

Date: March 2018

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

The surrounding land uses include infrastructure i.e. roads, agricultural smallholdings and residential dwellings.

North: Agricultural small holdings;
East: Agricultural small holdings and the Copper Leaf Golf Estate;
South: Residential; and
West: Agricultural small holdings.

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. Archaeological site~~
~~31. Open cast mine~~	~~32. Underground mine~~	~~33.Spoil heap or slimes dam[A]~~	34. Agricultural Small Holdings	
Other land uses (describe):	35. Municipal Road Main Arterial	36. Gravel Road		

NOTE: Each block represents an area of 250m X 250m

NORTH

7, 8, 34, 35, 36	7, 8, 34, 35, 36	7, 8, 34, 36	7, 34, 36	7, 34, 36
7, 8, 34, 35, 36	7, 8, 34, 35, 36	7, 8, 34, 36	7, 8, 34, 36	7, 34, 36
7, 8, 34, 35, 36	7, 8, 34, 36	7, 8, 34, 36	2, 7, 8, 34, 36	2, 7, 8, 34, 36
7, 8, 36	7, 8, 36	2, 7, 8, 36	2, 7, 8, 36	7, 8, 36
7, 8, 36	7, 8, 36	7, 8, 36	2, 7, 8, 36	2, 7, 8, 36

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

	The following specialist reports are attached in Appendix G. • Archaeological Impact Assessment; and • Ecological Habitat Assessment.

9. SOCIO-ECONOMIC CONTEXT

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

I***nformation in this section was obtained from the Integrated Development Plan of Tshwane (2017 – 2021) as well as the Regional Spatial Development Framework Document for Region 4***

The City of Tshwane was established on 5 December 2000, through the integration of various municipalities and councils throughout the greater Pretoria and surrounding areas. The municipality was again expanded in 2008 through the inclusion of the former Metsweding District Municipality, including the Dinokeng tsa Taemane (Cullinan) and Kungwini (Bronkhorstspruit) local municipalities. The new City of Tshwane was established after the May 2011 elections. The total extent of the City covers an area of 6 345 km^2. The City is the third largest city in the world in terms of land area and covers more than 30% of the Gauteng Province's land area of 19 055 km^2.

Demographics

The total estimated population for the Gauteng Province for 2016 was 13.5 million (StatsSA, 2016). This makes-up approximately 24% of the total population of South Africa, which is estimated at 55.91 million. Gauteng province is, therefore, the most populous province in the country. The City of Johannesburg and Ekurhuleni accommodates the largest portion of Gauteng's population. The CoT accommodates approximately 24% of the province's population, amounting to more than 3 million people. For the period of 2011 – 2015, Tshwane's population grew by 332 302 persons. However, it has grown with a declining rate. In 2011 the growth rate was estimated at 3.5% and in 2015 at 2.4%.

Population groups in the CoT include the African population comprising 78.3% of the total population from 2011 to 2015, up from 76.5% in 2011, the white population group comprising 17.8% of the total population, down from 19.7% in 2011. The Coloured and Asian population group remained unchanged over the period from 2011 to 2015, from 2011 and comprise 3.8% of the total population.

The youth population (younger than 35 years) in the CoT accounts for 61% of the City's total population and senior residents (65+ year age group), accounts for only approximately 6% of the total population. The large percentage of approximately 61% of youth in the CoT can likely be contributed to the high concentration of institutions of higher learning in the City.

The CoT has the highest percentage of persons (20 years and older) with post-matric qualifications in the country, amounting to approximately 23% in 2015, in comparison with the national average of approximately 12%. The percentage for the Gauteng Province is approximately 19%, with the other two major cities in the province, the City of Johannesburg (CoJ) and Ekurhuleni 19% and 15% respectively. The percentage of persons (20 years or older) with no schooling or with some primary schooling was estimated at 10 percent in 2015, amounting to 215 677 persons.

The economy

Tshwane's annual growth figure has been more than Ekurhuleni and the CoJ over the period from 2011 to 2014. However, Johannesburg's growth surpassed Tshwane's growth in 2015 by 1.9 percentage points. Tshwane has a large government sector (community services), the sector's estimated contribution to the Gross Value Added (GVA) value in 2015 is 33.4%, up from 32.8 percent in 2011. This is consistent with Tshwane being the government's administrative capital. Other major contributors to Tshwane's GVA in 2015 are the following:

- Finance sector (contributed approximately 24% in 2015, slightly down from 25.6 % in 2011;
- Trade sector (contributed approximately 12.1% in 2015, slightly up from 12.0% in 2011);
- Transport sector (contributed approximately 12.1% in 2015, slightly up from 11.7% in 2011; and
- Manufacturing sector (contributed approximately 9.4% in 2015, slightly down from 9.4%.

Labour market

The CoT is facing high levels of unemployment, exacerbating economic inequality and poverty in the City. The total number of unemployed persons in Tshwane shows a marginal decrease over the period i.e. from 443 000 persons in quarter 1 of 2015 to 439 000 persons in quarter 4 of 2016, an overall decrease of 4 000 unemployed people. It is clear from Tshwane's employment figures for Quarter 1 2015 to Quarter 4 in 2016 that the unemployment rate fluctuated over the last two years. It

reached the lowest level in the final quarter of 2015, but has since increased, although the overall trend for the period shows a marginal decrease. The above information is notable when viewed in relation to the total number of employed persons, the number of discouraged workers and the size of the labour force in the City over the period.

A significant increase in the number of those employed, from 1 161 000 persons in Q1 of 2015 to 1 269 000 persons in Q4 of 2016, represents an increase of 108 000 new jobs; yet the total number of unemployed only decreased by 4 000 over this period. This is partly due to the decrease in discouraged work seekers over the period amounting to 51 000 persons, a portion of which may represent the increase in the absolute number of employed persons. This decrease could also be explained by the roughly proportional increase in the number of the labour force categorised as 'other' over this period. Another important factor to consider is the growth in the labour force over this period.

In Q1 of 2015, Tshwane had a labour force of 1 605 000 persons, which increased by 103 000 over the period to 1 708 000 in Q 4 of 2016. The above data shows that not enough employment opportunities are created in relation to the growing population, as approximately the same number of persons were unemployed at the start of 2015 as were at the end of 2016. Total employment figures across both sectors has been increasing steadily over the 2011 to 2015 period. In 2011, the total number of employed persons in Tshwane were approximately 1 008 387 and increased to 1 152 657 in 2015. The formal sector employment contributes the largest percentage of total employment. Formal sector employment in Tshwane grew from 871 086 in 2011 to 1 002 505 in 2015, and the informal sector from 137 300 in 2011 to 150 153 in 2015.

The community services sector, the finance sector and the trade sector were the largest contributors to employment in the City over the 2011 to 2015 period, contributing approximately 24 percent, 22 percent and 20 percent in 2015, respectively.

The socio-demographic and economic indicators of the CoT can be summarised as follows:

- The population growth rate for the CoT is declining;
- The large portion of the youth population (younger than 35 years of age) is the largest population group;
- The CoT has a relatively high percentage of persons with post-matric qualifications (23%), the highest in the country;
- Education levels in administrative Region 3 are high, with less than 7% of the population (20 years and older), with no schooling or only primary schooling;
- Tshwane has a large government sector (community services), the sector's estimated contribution to the Gross Value Added (GVA) value in 2015 is 33.4%. Other major contributors to Tshwane's GVA in 2015 were the Finance, Trade sector and Transport sectors;
- Manufacturing sector (contributed approximately 9.4% in 2015, slightly down from 9.4%; and
- The unemployment rate in the CoT is high with 25.7% at the end of Q4 of 2016;

The community services sector is the largest employment sector in the City with the finance and trade sectors are nearly the same percentages. Together these three sectors contribute approximately 66%to employment in the City. The mining sector contributed only 4% but and the manufacturing sector 10% in 2015.

Region 4

The CoT embarked on processes to compile seven Regional Spatial Development Frameworks (RSDF's) for the administrative planning regions of the metropolitan area in 2011. The study area falls within Planning Region 4. Region 4is situated in the south-western portion of the Metropolitan area. The Region borders on the area of jurisdiction of the City of Johannesburg Metropolitan Municipality and Ekurhuleni Metropolitan to the south and Mogale City to the west. Region 4 is accessible via:

- The N1 highway, which runs partly through the region and links the CoT with the Limpopo Province in the north and Johannesburg, Bloemfontein and Cape Town towards the south.
- The R21 Highway which runs along the eastern boundary of the region and connects the CoT with the Ekurhuleni Municipality and the Oliver Tambo International Airport.
- The R28 (N14) Highway which connects the region with Mogale City (Krugersdorp) and the North-West Province.

The area of the region is 489 km^2 in extent and has 11 wards.

Region 4 had a population of approximately 379 335 people in 2011 (Stats SA: Census 2011). In terms of income groups 25% of the population can be regarded as within the low-income group (monthly household income of less than R2000 a month). The unemployment figure for Region 4 was approximately 10%, which is below the national average of 25% in 2011.

The main characteristics of Region 4 include:

- The Region consists of an urban area to the east and a rural area to the west of which both areas are currently under pressure for development;
- The core area of Region 4 is located between two major highways, the Ben Schoeman Highway (N14) and the N1 Highway (M1);

- The N1 corridor represents one of the most sought-after development strips in South Africa. This corridor manifests primary within the Midrand and Centurion areas and it is known as one of the high technology belts within the South African economy.
- The regional falls within the Economic Core identified for Gauteng Province with the legs of the triangular core the N1 Highway on the western side and the R21 Highway with its linkage to the Oliver Tambo International airport on the eastern side. This economic core is the primary growth focus for Gauteng Province.
- Region 4 is located at the southern gateway of the CoT and is easily accessible form the Johannesburg financial and corporate district and the Oliver Tambo International Airport.
- The region includes and shares with other regions many conservancies within reach of Johannesburg and the greater Tshwane area;
- The Hennops River basin is situated within this region. The Crocodile River basin in Region 3 also contributes water to this region. These are important natural resources which provide opportunities for tourism and recreational activities.
- The underlying dolomite in the region, the sensitive environmental areas and ridges tend to direct and inform urban development.

Economic Base

The Region's local economy is based on the following dominant economic sectors:

- Finance and Business Service Sector (26.7%);
- General Government Services (22.7%);
- Manufacturing Sector (18.1%); and
- Trade Sector (14%).

Two of the economic pillar sectors have experienced a decline between 1998 and 2004 i.e. manufacturing and government services), whereas the other two i.e. trade and business services have increased its overall contribution to economic activity in the Region.

Region 4 forms part of an economic expansion area to the north of Johannesburg. This sub-node is dominated by Smart Industries and Business tourism. There is a prospect for future expansion of a Smart Industry/Knowledge Regional sub-node that could be used in strengthening the Gauteng Province's comparative advantage as a "Smart Province".

The main structuring elements of the Region include:

- Significant sensitive open space resources and ridge systems including Klapperkop, Skurweberg, Langeberg, Kwaggasrand and Groenkloof Ridge;
- Significant watercourse systems i.e. Hennops River, Apies River, Riet Spruit, Swartbooi Spruit, Sesmyl Spruit, Crocodile River and Jukskei River;
- Several dams, quarries and wetlands;
- Significant Protected Areas, three Conservancies, a World Heritage Site and four Nature Reserves;
- Potential Place making opportunities around the N1, R21, provincial roads and Centrurion Metropolitan Core;
- Several culture historical sites at Cornwall Hill, Irene, Rooihuiskraal, Koppie Alleen, Hospital Cave etc.
- Strategic land uses include Zwartkop and Waterkloof Military Airports, Thaba Tshwane/ Voortrekker Hoogte Military Base; Centurion Metropolitan Core and Gautrain Station; Super Sport Park; Highveld Techno Park, Highway Business Parks; Route 21 Corporate Park; Sunderland Ridge Industrial Area; N1 Corridor – mixed use development; Samrand Commercial Area; Gateway development; Olievenhoutbos Absa Housing development; and Centurion Aviation Village (CAV).
- Nodes: The region accommodates the higher income community of the City of Tshwane with the result that many offices and retail functions have relocated to the region during the past few years. The Centurion CBD, is the strongest node. A new Emerging Node was approved during 2012, situated at the intersection of the N14 Highway and the K55 routes, known as Forest Hills; Route 21 Corporate Park; Sunderland Ridge – Industrial Node and other business and commercial, retail and industrial nodes;
- The trend for new development is integrated development nodes and Region 4 has several established and planned integrated nodes.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if Section 38 of the National Heritage Resources Act, 1999 (Act No. 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 m^2 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 m^2 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?	~~YES~~	NO

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

The structures on the site will be affected. The age of the structures should be confirmed and if greater than 60 years of age, a destruction permit will be required from the PHRAG.

SECTION C: PUBLIC PARTICIPATION (REGULATION 41)

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

1. LOCAL AUTHORITY PARTICIPATION

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

Was the draft report submitted to the local authority for comment?	YES	~~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):

Category	Comment
No comments have been received to date.	

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):

No comments received to date.

3. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

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

4. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of Site Notice
Appendix 2 – Written Notices issued as required in terms of the Regulations
Appendix 3 – Proof of Newspaper Advertisements
Appendix 4 – Communications to and from Interested and Affected Parties
Appendix 5 – Minutes of any Public and/or Stakeholder Meetings
Appendix 6 - Comments and Responses Report
Appendix 7 – Comments from I&APs on Basic Assessment (BA) Report
Appendix 8 – Comments from I&APs on Amendments to the BA Report
Appendix 9 – Copy of the Register of I&APs

Please refer to the Appendix E contained with the Basic Assessment Report.

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

Instructions for completion of Section D for alternatives

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

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

Section D Alternative No. **0** (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?	Approximately 25 m^3	

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

The contractor will be responsible for the removal of all solid construction waste and disposing of it at an approved dumping site or landfill on a regular basis. No waste may be stored onsite for an extended period, as this will attract rodents, pests and flies. Refuse bins or waste skips must be provided and placed in convenient locations for the workers to dispose of domestic and construction waste produced. These bins should be emptied on a regular basis.

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

In order to comply with legal requirements, should there be any excess solid construction waste after recycling options have been exhausted, the waste will be transported to the nearest-licensed waste disposal facility for appropriate disposal.

Will the activity produce solid waste during its operational phase?	YES	~~NO~~
If yes, what estimated quantity will be produced per month?	Approximately 404 m^3	

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

City of Tshwane Metropolitan Municipality waste collectors under contract by the municipality will collect the domestic waste on a weekly basis. Paper recycling will be encouraged whereby paper will be collected on a weekly basis by a recycling company. Recycling will be encouraged, and separate containers provided.

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)?

All solid waste will be disposed of at an approved landfill or dumping site as determined by the Developer in liaison with the local authorities. It is anticipated that waste will be taken to the City of Tshwane Landfill Site.

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

All materials that can be recycled will be separated from the general waste and disposed of at recycling facilities. Spoil material which could be used for landscaping purposes will be extracted at kept neatly intact and in a controlled manner as to prevent erosion by the wind and water.

Liquid Effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	~~YES~~	NO
Will the activity produce any effluent that will be treated and/or disposed of onsite?	~~YES~~	NO
Will the activity produce effluent that will be treated and/or disposed of at another facility?	~~YES~~	NO

Liquid Effluent (Domestic Sewage)

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?	11 214 m^3	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	~~YES~~	NO

The Outline Scheme Report confirms that capacity exist for treating and disposing of the domestic effluent to be generated by this activity and an application has been submitted to Mogale City Local Municipality to service the development. The application is part of the town planning approval process.

Will the activity produce any effluent that will be treated and/or disposed of onsite?	~~YES~~	NO

Emissions into the Atmosphere

Will the activity release emissions into the atmosphere?	~~YES~~	**NO**
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

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

Dust will be generated during the construction phase. Dust is regulated under the National Dust Control Regulations, 2013 (GN R 827).

It is expected that dust will be generated during the construction phase of the proposed development, as well as emissions from vehicles and machinery. Appropriate dust suppression measures will be implemented to reduce the impacts as required and will be regulated under the National Dust Control Regulation, 2013 (GN R 827). It is recommended that construction vehicles are maintained in good mechanical condition to minimise emissions.

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~~

Does the activity require a water use permit from the Department of Water Affairs?	~~YES~~	NO

3. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source:

Electricity will be obtained from the City of Tshwane as confirmed by the Electrical Engineer. The two, medium voltage (11kV) cables to be installed for the approved Peach Tree Extensions 15 and 16 and soon to be approved Peach Tree Extension 20, will also be utilised for the proposed development. These future cables will form part of an/the existing ring system in the existing Copper Leaf Golf Estate and link directly on the northern and western borders of the proposed development.

4. ENERGY EFFICIENCY

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

The buildings shall comply to the following regulations:

- Orientation and shading: SANS 204;
- External walls: SANS 10400 XA;
- Fenestration: SANS 10400 XA;
- Roof assemblies: SANS 10400 XA;
- Floors with in slab heating: SANS 10400 XA;
- Energy demanding services or control: SANS 204;
- Hot water systems: SANS 10400 or, Certification of fenestration by approved competent person, Rational design (SANS 10400-XA) by approved competent person in terms of annual demand and consumption, Certification of annual energy demand and consumption equalling or less than reference building complying to SANS 10400-XA.

The NHBRC energy efficiency guidelines will be followed.

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

Not Applicable.

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)).

2. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

No comments have been received to date.

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

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

No comments have been received to date.

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

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

The standard methodology used in the environmental impact assessment to determine the significance rating of the potential impacts are outlined in this section.

Significance

The **significance** of an impact is defined as the combination of the **consequence** of the impact occurring and the **probability** that the impact will occur. The nature and type of impact may be direct or indirect and may also be positive or negative, refer to Table 1 below for the specific definitions.

Table 1: Nature and Type of Impact

	Nature and Type of Impact:	
IMPACT	**Direct**	Impacts that are caused directly by the activity and generally occur at the same time and place as the activity
	Indirect	Indirect or induced changes that may occur as a result of the activity. These include all impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity.
	Cumulative	Those impacts associated with the activity which add to or interact synergistically with existing impacts of past or existing activities and include direct or indirect impacts which accumulate over time and space.
	Positive	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will benefit significantly and includes neutral impacts (those that are not considered to be negative.
	Negative	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes will be comprised.

Table 2 presents the defined criteria used to determine the **consequence** of the impact occurring which incorporates the extent, duration and intensity (severity) of the impact.

Table 2: Consequence of the impact occurring

CONSEQUENCE	**Extent of Impact:**	
	Site	Impact is limited to the site and immediate surroundings, within the study site boundary or property (immobile impacts).
	Neighbouring	Impact extends across the site boundary to adjacent properties (mobile impacts).
	Local	Impact occurs within a 5km radius of the site.
	Regional	Impact occurs within a provincial boundary.
	National	Impact occurs across one or more provincial boundaries.
	Duration of Impact:	
	Incidental	The impact will cease almost immediately (within weeks) if the activity is stopped or may occur during isolated or sporadic incidences.
	Short-term	The impact is limited to the construction phase, or the impact will cease within 1 - 2 years if the activity is stopped.
	Medium-term	The impact will cease within 5 years if the activity is stopped.
	Long-term	The impact will cease after the operational life of the activity, either by natural processes or by human intervention.
	Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.
	Intensity or Severity of Impact:	
	Low	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are not affected
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are modified insignificantly
	Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are altered
	Medium-High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are severely altered
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will permanently cease

The probability of the impact occurring is the likelihood of the impacts actually occurring and is determined based on the classification provided in **Table 3**.

Table 3: Probability and confidence of impact prediction

PROBABILITY	**Probability of Potential Impact Occurrence:**	
	Improbable	The possibility of the impact materialising is very low either because of design or historic experience.
	Possible	The possibility of the impact materialising is low either because of design or historic experience.
	Likely	There is a possibility that the impact will occur.
	Highly Likely	There is a distinct possibility that the impact will occur.
	Definite	The impact will occur regardless of any prevention measures.

The **significance** of the impact is determined by considering the consequence and probability without taking into account any mitigation or management measures and is then ranked according to the ratings listed in Table 4.

Table 4: Significance rating of the impact

SIGNIFICANCE	**Significance Ratings:**	
	Low	Neither environmental nor social and cultural receptors will be adversely affected by the impact. Management measures are usually not provided for low impacts.
	Low-Medium	Management measures are usually encouraged to ensure that the impacts remain of Low-Medium significance. Management measures may be proposed to ensure that the significance ranking remains low-medium.
	Medium	Natural, cultural and/or social functions and processes are altered by the activities, and management measures must be provided to reduce the significance rating.
	Medium-High	Natural, cultural and/or social functions and processes are altered significantly by the activities, although management measures may still be feasible.
	High	Natural, cultural, and/or social functions and processes are adversely affected by the activities. The precautionary approach will be adopted for all high significant impacts and all possible measures must be taken to reduce the impact.

Once significance rating has been determined for each impact, management and mitigation measures must be determined for all impacts that have a significance ranking of Medium and higher in order to attempt to reduce the level of significance that the impact may reflect.

The EIA Regulations, 2014 specifically require a description is provided of the degree to which these impacts:

- can be reversed;
- may cause irreplaceable loss of resources; and
- can be avoided, managed or mitigated.

Based on the proposed mitigation measures the EAP will determined a mitigation efficiency (Table 5) whereby the initial significance is re-evaluated and ranked again to affect a significance that incorporates the mitigation based on its effectiveness. The overall significance is then re-ranked, and a final significance rating is determined.

Table 5: Mitigation efficiency

	Mitigation Efficiency	
MITIGATION EFFICIENCY	**None**	Not applicable.
	Very Low	Where the significance rating stays the same, but where mitigation will reduce the intensity of the impact. Positive impacts will remain the same.
	Low	Where the significance rating reduces by one level, after mitigation.
	Medium	Where the significance rating reduces by two levels, after mitigation.
	High	Where the significance rating reduces by three levels, after mitigation.
	Very High	Where the significance rating reduces by more than three levels, after mitigation.

The reversibility is directly proportional to the "Loss of Resource" where no loss of resource is experienced, the impact is completely reversible; where a minimal "Loss of resource" is experienced there is a high degree of reversibility; where a partial "Loss of resource" is experienced, there is a medium degree of reversibility; and an irreversible impact relates to a complete loss of resources, i.e. irreplaceable (Table 6).

Table 6: Degree of reversibility and loss of resources

	Loss of Resources:	
DEGREE REVERSABILITY & LOSS OF RESOURCES	**No Loss**	No loss of social, cultural and/or ecological resource(s) are experienced. Positive impacts will not experience resource loss.
	Minimal	The activity results in an insignificant o loss of social, cultural and/or ecological resource(s).
	Partial	The activity results in a significant loss of social, cultural and/or ecological resource(s).
	Irreplaceable	The activity results in the complete and irreplaceable social, cultural and/or ecological loss of resource(s).
	Reversibility:	
	Irreversible	Impacts on natural, cultural and/or social functions and processes are irreversible to the pre-impacted state in such a way that the application of resources will not cause any degree of reversibility.
	Medium Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if less than 50% resources are applied.
	High Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if more than 50% resources are applied.
	Reversible	Impacts on natural, cultural and/or social functions and processes are fully reversible to the pre-impacted state if adequate resources are applied.

Cumulative Impacts

It is important to assess the natural environment using a systems approach that will consider the cumulative impact of various actions. Cumulative impact refers to the impact on the environment, which results from the incremental impact of the actions when added to other past, present and reasonably foreseeable future actions regardless of what agencies or persons undertake such actions. Cumulative impacts can result from individually minor, but collectively significant actions or activities taking place over a period. Cumulative effects can take place frequently and over a period of time that the effects cannot be assimilated by the environment.

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 construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

For Proposal:

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
CONSTRUCTION PHASE										
Atmospheric Emissions	Direct	Dust emissions altering air quality and visibility.	No	Negative	Low-Medium	Dust suppression measures will be implemented during the construction phase to minimise dust generated by construction activities.	Very High	Low	No Loss	Reversible
	Direct	Emissions from vehicles and machinery (CO2, NOx, SOx, VOC's etc.) altering air quality.	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised.	Medium	Low	Minimal	High Degree
	Indirect	Noise nuisance to surrounding land owners.	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised. Operations shall not occur before or after normal working hours. Noise monitoring should be undertaken as spot checks. When required noise mufflers should be utilized to reduced noise. It is important to keep an open channel of communication between all stakeholders and keep record of any concerns raised.	Medium	Low	Minimal	High Degree
Discharge to Water	Direct	Sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage or overflow of sewage from chemical toilets, when not maintained appropriately and serviced regularly.	Yes	Negative	Low	Use of chemical toilets to workers. Not using the bush for toilet facilities. 1 toilet to 20 workers.	Very High	Low	No Loss	Reversible
	Direct	Sedimentation of surface water resources due to poor or lack of stormwater management practices.	Yes	Negative	Low	Stormwater management will be properly implemented as per the engineering design such as to minimise silt discharge into surrounding systems during rainstorm events.	Very High	Low	No Loss	Reversible
	Direct	Contamination of surface water from spillage of hazardous substances e.g. hydrocarbons from poorly maintained construction vehicles and equipment and other construction materials e.g. paint.	No	Negative	Low	Stormwater management will be properly implemented as per the engineering design such as to minimise silt discharge into surrounding systems during rainstorm events.	Very High	Low	No Loss	Reversible

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Direct	Disturbance of natural drainage lines	Yes	Negative	Low	Discharge and divert stormwater to sediment trap to allow particulate matter to settle out. Under no circumstances may any area be used for ablution purposes. Vehicles to be serviced under controlled conditions. No construction rubble to be dumped.	Very High	Low	No Loss	Reversible
	Direct	Disturbance/pollution of groundwater	No	Negative	Low	Measures will be implemented to ensure that no hydrocarbons and/or other pollutant liquids are spilt, and if so, they are contained, and a clean-up protocol followed.	Very High	Low	No Loss	Reversible
	Direct	Disturbance of aquatic ecological systems	Yes	Negative	Low	Measures will be implemented to ensure that disturbances to aquatic ecological systems are prevented as far as possible.	Very High	Low	No Loss	Reversible
Waste Generation	Direct	Domestic waste generation and potential pollution as a result thereof.	No	Negative	Low	A waste management system will be formulated and implemented on site. All employees will be subjected to induction to understand the environmental management requirement on site. Domestic waste will be removed from the site by a certified waste contractor. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
	Direct	Construction waste generation and potential pollution as a result thereof.	No	Negative	Low-Medium	All construction waste will be placed in a demarcated area and disposed of accordingly. This area will be bermed so as to prevent the dispersal of said waste by wind and rain. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
	Direct	Hazardous waste generation and potential pollution due to poor waste management.	No	Negative	Low-Medium	All hazardous waste will be stored in a bunded and lockable area. Hazardous waste will be removed from the site by a certified waste contractor. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
Soil Alteration	Direct	Loss of topsoil	Yes	Negative	Low-Medium	Soil conservation practices to be implemented as per the EMPr.	Medium	Low	Minimal	High Degree
	Indirect	Loss of land capability	Yes	Negative	Low	Impact on the environment is expected to be of minimal importance,	None	Low	Minimal	High Degree
	Direct	Soil pollution through contamination with hazardous substances.	No	Negative	Low	Measures will be implemented to ensure that no hydrocarbons and/or other pollutant liquids are spilt, and if so, they are contained, and a clean-up protocol followed.	Very High	Low	No Loss	Reversible
Resource Consumption	Indirect	Electricity consumption	Yes	Negative	Low-Medium	Services agreement to be drawn up by consortium. Fair usage and minimisation of over usage.	Medium	Low	Minimal	High Degree
	Direct	Water consumption	Yes	Negative	Low-Medium	Fair usage and care not to over use the water resources.	Medium	Low	Minimal	High Degree
	Indirect	Fuel consumption	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised.	Medium	Low	Minimal	High Degree
	Indirect	Raw materials consumption	Yes	Negative	Low-Medium	Raw materials will be used efficiently. Recycling will be implemented on applicable waste streams.	Medium	Low	Minimal	High Degree

	Proposal - Knopjeslaagte Ptn 71										
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE		
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY	
Effects on Biodiversity	Direct	Loss of habitat	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint. Alien species must be removed to improve the ecological integrity of the area; The layout of the development should be designed to include individuals of *Boophone disticha* in conservation areas; *Hypoxis hemerocallidea* is should be transplanted to the conservation areas of the development, if it cannot be included in the conservation areas by the design of the layout of the development; A search and rescue plan are suggested for the *Hypoxis hemerocallidea* and *Boophone disticha* species to be conserved in situ, within the development. This will ensure protection of the species; During the construction phase of the development, building or waste material should be discarded in an authorised location, which should not be within the identified sensitive ecosystems. Movement of construction workers through sensitive areas should be minimised; It is recommended that the natural grassland vegetation is conserved in open landscaped gardens; All geophytes that currently occurs on the development site must be relocated to landscaped gardens. Retain natural vegetation as landscaped gardens.	High	Low	Minimal	High Degree
	Direct	Loss of fauna	Yes	Negative	Medium	No trapping or snaring of wild animals if any. Nesting sites should not be disturbed. The use of “migratory friendly” property borders, such as palisade fencing or wire fencing with large gaps, should be considered as this will allow for the ongoing survival of most species presently inhabiting the property. This will allow for the free movement of small mobile organisms (such as rodents). Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	High	Low	Minimal	High Degree
	Direct	Loss of flora	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint. See mitigation measures for "Loss of Habitat" impact.	High	Low	Minimal	High Degree
	Direct	Degradation of ecological systems	Yes	Negative	Low	Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	Medium	Low	Minimal	High Degree
	Direct	Disruption of natural corridors	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	Very High	Low	No Loss	Reversible

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
Incidents, Accidents and Potential Emergency Situations	Direct	Pollution incidents	No	Negative	Low	Spillages to be cleaned up immediately. Notification of DWS should groundwater be affected.	Very High	Low	No Loss	Reversible
	Direct	Health and safety incidents e.g. injury to workers or visitors to the site.	No	Negative	Low	Health and safety standards will be formulated prior construction and implemented during construction.	Very High	Low	No Loss	Reversible
	Indirect	Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material.	No	Negative	Low	All hazardous materials will be stored in a bunded and lockable area. Material Safety Data Sheet (MSDS) sheets will be available for all hazardous products.	Very High	Low	No Loss	Reversible
	Indirect	Fire and resultant injury, death and damage to property.	No	Negative	Low-Medium	Fire and emergency plans will be implemented during construction. Adequate firefighting equipment will be instituted as recommended.	Very High	Low	No Loss	Reversible
Social	Indirect	Visual impact	Yes	Negative	Low-Medium	The visual impact of construction activities will be medium term. Bollards and protective barriers as well as safety tape may be utilised around the site. The aesthetics of the area will be bettered by the development of the new development infrastructure.	Medium	Low	Minimal	High Degree
	Indirect	Safety and security: Potential influx of work seekers. Unauthorised access.	No	Negative	Low	Site security will ensure that the site is secured and only authorised access allowed. Appointment of people not to take place on site in order to reduce a potential influx of work seekers. No informal settlers will be allowed to establish on site.	High	Low	Minimal	High Degree
	Indirect	Traffic disruptions	Yes	Negative	Low-Medium	Traffic warning and calming measures will be put in place when construction activities may impact on traffic flow.	Medium	Low	Minimal	High Degree
	Direct	Loss of cultural heritage	No	Negative	Low-Medium	Should any human related graves or artefacts be discovered, work should be immediately stopped and SAHRA notified.	High	Low	Minimal	High Degree
	Direct	Loss of rural sense of place	Yes	Negative	Medium	The visual impact of construction activities will be medium term. Bollards and protective barriers as well as safety tape may be utilised around the site. The aesthetics of the area will be bettered by the development of the new development infrastructure. The development should be designed in line with future planning documents, architectural guidelines and existing and planned surrounding land uses.	High	Low	Minimal	High Degree
Economic	Direct	Increase in economy: Construction on site will provide employment and skills to the local community. The local economy will benefit in terms of supply of building materials and services.	No	Positive	Medium	To maximise this positive impact, local labour should be utilised and construction materials and supplies should be sourced locally, where possible.	Very High	High	No Loss	Reversible

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Direct	Construction on site will provide employment and skills to the local community.	No	Positive	Medium	To maximise this positive impact, local labour should be utilised and construction materials and supplies should be sourced locally, where possible.	Very High	High	No Loss	Reversible
OPERATIONAL PHASE										
Atmospheric Emissions	Direct	Emissions from vehicles and equipment (CO2, NOx, SOx, VOC's etc.)	Yes	Negative	Medium	Mitigation is possible through regulation on a government level, through regulation by enforcing vehicle emissions standards and through public awareness programmes.	Medium	Low-Medium	Minimal	High Degree
	Indirect	Noise	Yes	Negative	Low-Medium	Mitigation measures in EMPr to be implemented.	Medium	Low	Minimal	High Degree
Discharge to Water	Indirect	Sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage or overflow of sewage from chemical toilets, when not maintained appropriately and serviced regularly.	Yes	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
	Indirect	Sedimentation of surface water resources due to poor maintenance of stormwater infrastructure.	Yes	Negative	Low	Stormwater infrastructure must be designed with Sustainable Drainage Systems (SUDS) principles and be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
	Indirect	Disturbance of natural drainage lines.	Yes	Negative	Low	Discharge and divert stormwater to sediment trap to allow particulate matter to settle out. Under no circumstances may any area be used for ablution purposes. No waste to be dumped on the study area. All waste should be temporarily stored within waste skips to be emptied, when full.	Very High	Low	No Loss	Reversible
	Indirect	Disturbance/pollution of groundwater due to sewage spillages from poorly maintained infrastructure.	No	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
	Indirect	Disturbance of aquatic ecological systems	Yes	Negative	Low	Measures will be implemented to ensure that disturbances to adjacent aquatic ecological systems are prevented as far as possible. Measures include placing beams to the entrance of the open space area to prevent vehicles from entering the open space area but allowing pedestrians through. Environmental awareness signs could be placed throughout the open space area to educate residents and tenants of the importance of conserving the adjacent wetland and stream.	Very High	Low	No Loss	Reversible

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
Waste Generation	Direct	Domestic waste generation and potential pollution as a result thereof.	Yes	Negative	Medium	Waste to be collected on a weekly basis by a waste contractor. This will feed into the waste stream of Mogale City Local Municipality. Dustbins to be secured in place with closeable lids. Recycling to be encouraged at the development with separate receptacles for each waste type / recyclables and to be collected by the relevant providers / contractors once these bins or containers are full.	Medium	Low-Medium	Minimal	High Degree
Soil Alteration	Indirect	Loss of topsoil and erosion through inefficient landscaping and landscaping maintenance, as well as poor stormwater management and design of infrastructure.	Yes	Negative	Low	Topsoil conservation practices as per the Environmental Management Programme to be strictly implemented. Topsoil to be stored separately and protected for rehabilitation purposes and for use in the landscaping.	Very High	Low	No Loss	Reversible
	Indirect	Soil pollution caused by sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage through poor maintenance of sewage pipelines and connections.	Yes	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
Resource Consumption	Direct	Electricity consumption	Yes	Negative	Medium	Energy saving measures as per EMPR to be implemented.	Medium	Low-Medium	Minimal	High Degree
	Direct	Water consumption	Yes	Negative	Medium	Waster saving initiatives as per EMPR to be implemented.	Medium	Low-Medium	Minimal	High Degree
	Indirect	Loss of fauna	Yes	Negative	Low	Use of “migratory friendly” property borders, such as palisade fencing or wire fencing with large gaps this free movement corridors for small animals should be retained throughout the operational phase.	Very High	Low	No Loss	Reversible
	Indirect	Degradation of ecological systems, including the aquatic system adjacent to the study area.	Yes	Negative	Low	It is recommended that the natural grassland vegetation is conserved in open landscaped gardens; Retain natural vegetation as landscaped gardens. Use of “migratory friendly” property borders, such as palisade fencing or wire fencing with large gaps this free movement corridors for small animals should be retained throughout the operational phase.	Very High	Low	No Loss	Reversible

	Proposal - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
Incidents, Accidents and Potential Emergency Situations	Indirect	Fire	No	Negative	Low	Mitigation measures in EMPr to be implemented.	Very High	Low	No Loss	Reversible
Social	Direct	Visual impact	Yes	Negative	Medium	The buidings wihtin the development should be designed following the recommended architectural guidelines for the area.	Medium	Low	Minimal	High Degree
	Indirect	Safety and security	No	Negative	Low-Medium	Access control to be implemented at all times.	High	Low	Minimal	High Degree
	Indirect	Increase in traffic flow	Yes	Negative	Medium	All recommendations as per the TIA should be implemented.	High	Low-Medium	Minimal	High Degree
Economic	Direct	Increase in economy	No	Positive	Medium-High	Encourage business opportunities and economic development and growth.	Very High	High	No Loss	Reversible
	Indirect	Increase in property value	No	Positive	Medium	N/A	None	Medium	No Loss	Reversible
	Indirect	Employment	No	Positive	Medium-High	Encourage employment of local communities within the development.	Very High	High	No Loss	Reversible

For alternative:

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
CONSTRUCTION PHASE										
Atmospheric Emissions	Direct	Dust emissions altering air quality and visibility.	No	Negative	Low-Medium	Dust suppression measures will be implemented during the construction phase to minimise dust generated by construction activities.	Very High	Low	No Loss	Reversible
	Direct	Emissions from vehicles and machinery (CO2, NOx, SOx, VOC's etc.) altering air quality.	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised.	Medium	Low	Minimal	High Degree
	Indirect	Noise nuisance to surrounding land owners.	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised. Operations shall not occur before or after normal working hours. Noise monitoring should be undertaken as spot checks. When required noise mufflers should be utilized to reduced noise. It is important to keep an open channel of communication between all stakeholders and keep record of any concerns raised.	Medium	Low	Minimal	High Degree
Discharge to Water	Direct	Sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage or overflow of sewage from chemical toilets, when not maintained appropriately and serviced regularly.	Yes	Negative	Low	Use of chemical toilets to workers. Not using the bush for toilet facilities. 1 toilet to 20 workers.	Very High	Low	No Loss	Reversible
	Direct	Sedimentation of surface water resources due to poor or lack of stormwater management practices.	Yes	Negative	Low	Stormwater management will be properly implemented as per the engineering design such as to minimise silt discharge into surrounding systems during rainstorm events.	Very High	Low	No Loss	Reversible
	Direct	Contamination of surface water from spillage of hazardous substances e.g. hydrocarbons from poorly maintained construction vehicles and equipment and other construction materials e.g. paint.	No	Negative	Low	Stormwater management will be properly implemented as per the engineering design such as to minimise silt discharge into surrounding systems during rainstorm events.	Very High	Low	No Loss	Reversible
	Direct	Disturbance of natural drainage lines	Yes	Negative	Low	Discharge and divert stormwater to sediment trap to allow particulate matter to settle out. Under no circumstances may any area be used for ablution purposes. Vehicles to be serviced under controlled conditions. No construction rubble to be dumped.	Very High	Low	No Loss	Reversible

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Direct	Disturbance/pollution of groundwater	No	Negative	Low	Measures will be implemented to ensure that no hydrocarbons and/or other pollutant liquids are spilt, and if so, they are contained, and a clean-up protocol followed.	Very High	Low	No Loss	Reversible
	Direct	Disturbance of aquatic ecological systems	Yes	Negative	Low	Measures will be implemented to ensure that disturbances to aquatic ecological systems are prevented as far as possible.	Very High	Low	No Loss	Reversible
Waste Generation	Direct	Domestic waste generation and potential pollution as a result thereof.	No	Negative	Low	A waste management system will be formulated and implemented on site. All employees will be subjected to induction to understand the environmental management requirement on site. Domestic waste will be removed from the site by a certified waste contractor. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
	Direct	Construction waste generation and potential pollution as a result thereof.	No	Negative	Low-Medium	All construction waste will be placed in a demarcated area and disposed of accordingly. This area will be bermed so as to prevent the dispersal of said waste by wind and rain. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
	Direct	Hazardous waste generation and potential pollution due to poor waste management.	No	Negative	Low-Medium	All hazardous waste will be stored in a bunded and lockable area. Hazardous waste will be removed from the site by a certified waste contractor. Waste disposal certificates will be kept on record.	Very High	Low	No Loss	Reversible
Soil Alteration	Direct	Loss of topsoil	Yes	Negative	Low-Medium	Soil conservation practices to be implemented as per the EMPr.	Medium	Low	Minimal	High Degree
	Indirect	Loss of land capability	Yes	Negative	Low	Impact on the environment is expected to be of minimal importance,	None	Low	Minimal	High Degree
	Direct	Soil pollution through contamination with hazardous substances.	No	Negative	Low	Measures will be implemented to ensure that no hydrocarbons and/or other pollutant liquids are spilt, and if so, they are contained and a clean-up protocol followed.	Very High	Low	No Loss	Reversible
Resource Consumption	Indirect	Electricity consumption	Yes	Negative	Low-Medium	Services agreement to be drawn up by consortium. Fair usage and minimisation of over usage.	Medium	Low	Minimal	High Degree
	Direct	Water consumption	Yes	Negative	Low-Medium	Fair usage and care not to over use the water resources.	Medium	Low	Minimal	High Degree
	Indirect	Fuel consumption	Yes	Negative	Low-Medium	All construction vehicles will be maintained such as to operate efficiently. Idling times of machinery to be minimised.	Medium	Low	Minimal	High Degree
	Indirect	Raw materials consumption	Yes	Negative	Low-Medium	Raw materials will be used efficiently. Recycling will be implemented on applicable waste streams.	Medium	Low	Minimal	High Degree

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
Effects on Biodiversity	Direct	Loss of habitat	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint. Alien species must be removed to improve the ecological integrity of the area; The layout of the development should be designed to include individuals of *Boophone disticha* in conservation areas; *Hypoxis hemerocallidea* is should be transplanted to the conservation areas of the development, if it cannot be included in the conservation areas by the design of the layout of the development; A search and rescue plan are suggested for the *Hypoxis hemerocallidea* and *Boophone disticha* species to be conserved in situ, within the development. This will ensure protection of the species; During the construction phase of the development, building or waste material should be discarded in an authorised location, which should not be within the identified sensitive ecosystems. Movement of construction workers through sensitive areas should be minimised; It is recommended that the natural grassland vegetation is conserved in open landscaped gardens; All geophytes that currently occurs on the development site must be relocated to landscaped gardens. Retain natural vegetation as landscaped gardens.	High	Low	Minimal	High Degree
	Direct	Loss of fauna	Yes	Negative	Medium	No trapping or snaring of wild animals if any. Nesting sites should not be disturbed. The use of “migratory friendly” property borders, such as palisade fencing or wire fencing with large gaps, should be considered as this will allow for the ongoing survival of most species presently inhabiting the property. This will allow for the free movement of small mobile organisms (such as rodents). Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	High	Low	Minimal	High Degree
	Direct	Loss of flora	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint. See mitigation measures for "Loss of Habitat" impact.	High	Low	Minimal	High Degree
	Direct	Degradation of ecological systems	Yes	Negative	Low	Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	Medium	Low	Minimal	High Degree

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Direct	Disruption of natural corridors	Yes	Negative	Medium	Construction activities must be limited to the development site and good waste management to ensure minimal footprint.	Very High	Low	No Loss	Reversible
Incidents, Accidents and Potential Emergency Situations	Direct	Pollution incidents	No	Negative	Low	Spillages to be cleaned up immediately. Notification of DWS should groundwater be affected.	Very High	Low	No Loss	Reversible
	Direct	Health and safety incidents e.g. injury to workers or visitors to the site.	No	Negative	Low	Health and safety standards will be formulated prior construction and implemented during construction.	Very High	Low	No Loss	Reversible
	Indirect	Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material.	No	Negative	Low	All hazardous materials will be stored in a bunded and lockable area. Material Safety Data Sheet (MSDS) sheets will be available for all hazardous products.	Very High	Low	No Loss	Reversible
	Indirect	Fire and resultant injury, death and damage to property.	No	Negative	Low-Medium	Fire and emergency plans will be implemented during construction. Adequate firefighting equipment will be instituted as recommended.	Very High	Low	No Loss	Reversible
Social	Indirect	Visual impact	Yes	Negative	Low-Medium	The visual impact of construction activities will be medium term. Bollards and protective barriers as well as safety tape may be utilised around the site. The aesthetics of the area will be bettered by the development of the new development infrastructure.	Medium	Low	Minimal	High Degree
	Indirect	Safety and security: Potential influx of work seekers. Unauthorised access.	No	Negative	Low	Site security will ensure that the site is secured and only authorised access allowed. Appointment of people not to take place on site in order to reduce a potential influx of work seekers. No informal settlers will be allowed to establish on site.	High	Low	Minimal	High Degree
	Indirect	Traffic disruptions	Yes	Negative	Low-Medium	Traffic warning and calming measures will be put in place when construction activities may impact on traffic flow.	Medium	Low	Minimal	High Degree
	Direct	Loss of cultural heritage	No	Negative	Low-Medium	Should any human related graves or artefacts be discovered, work should be immediately stopped and SAHRA notified.	High	Low	Minimal	High Degree
	Direct	Loss of rural sense of place	Yes	Negative	Medium	The visual impact of construction activities will be medium term. Bollards and protective barriers as well as safety tape may be utilised around the site. The aesthetics of the area will be bettered by the development of the new development infrastructure. The development should be designed in line with future planning documents, architectural guidelines and existing and planned surrounding land uses.	High	Low	Minimal	High Degree

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
Economic	Direct	Increase in economy: Construction on site will provide employment and skills to the local community. The local economy will benefit in terms of supply of building materials and services.	No	Positive	Medium	To maximise this positive impact, local labour should be utilised and construction materials and supplies should be sourced locally, where possible.	Very High	High	No Loss	Reversible
	Direct	Construction on site will provide employment and skills to the local community.	No	Positive	Medium	To maximise this positive impact, local labour should be utilised and construction materials and supplies should be sourced locally, where possible.	Very High	High	No Loss	Reversible
OPERATIONAL PHASE										
Atmospheric Emissions	Direct	Emissions from vehicles and equipment (CO2, NOx, SOx, VOC's etc.)	Yes	Negative	Medium	Mitigation is possible through regulation on a government level, through regulation by enforcing vehicle emissions standards and through public awareness programmes.	Medium	Low-Medium	Minimal	High Degree
	Indirect	Noise	Yes	Negative	Low-Medium	Mitigation measures in EMPr to be implemented.	Medium	Low	Minimal	High Degree
Discharge to Water	Indirect	Sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage or overflow of sewage from chemical toilets, when not maintained appropriately and serviced regularly.	Yes	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
	Indirect	Sedimentation of surface water resources due to poor maintenance of stormwater infrastructure.	Yes	Negative	Low	Stormwater infrastructure must be designed with Sustainable Drainage Systems (SUDS) principles and be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
	Indirect	Disturbance of natural drainage lines.	Yes	Negative	Low	Discharge and divert stormwater to sediment trap to allow particulate matter to settle out. Under no circumstances may any area be used for ablution purposes. No waste to be dumped on the study area. All waste should be temporarily stored within waste skips to be emptied, when full.	Very High	Low	No Loss	Reversible
	Indirect	Disturbance/pollution of groundwater due to sewage spillages from poorly maintained infrastructure.	No	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Indirect	Disturbance of aquatic ecological systems	Yes	Negative	Low	Measures will be implemented to ensure that disturbances to adjacent aquatic ecological systems are prevented as far as possible. Measures include placing beams to the entrance of the open space area to prevent vehicles from entering the open space area but allowing pedestrians through. Environmental awareness signs could be placed throughout the open space area to educate residents and tenants of the importance of conserving the adjacent wetland and stream.	Very High	Low	No Loss	Reversible
Waste Generation	Direct	Domestic waste generation and potential pollution as a result thereof.	Yes	Negative	Medium	Waste to be collected on a weekly basis by a waste contractor. This will feed into the waste stream of Mogale City Local Municipality. Dustbins to be secured in place with closeable lids. Recycling to be encouraged at the development with separate receptacles for each waste type / recyclables and to be collected by the relevant providers / contractors once these bins or containers are full.	Medium	Low-Medium	Minimal	High Degree
Soil Alteration	Indirect	Loss of topsoil and erosion through inefficient landscaping and landscaping maintenance, as well as poor stormwater management and design of infrastructure.	Yes	Negative	Low	Topsoil conservation practices as per the Environmental Management Programme to be strictly implemented. Topsoil to be stored separately and protected for rehabilitation purposes and for use in the landscaping.	Very High	Low	No Loss	Reversible
	Indirect	Soil pollution caused by sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage through poor maintenance of sewage pipelines and connections.	Yes	Negative	Low	Sewage infrastructure must be inspected and maintained on a regular basis.	Very High	Low	No Loss	Reversible
Resource Consumption	Direct	Electricity consumption	Yes	Negative	Medium-High	Energy saving measures as per EMPR to be implemented.	Medium	Low-Medium	Minimal	High Degree
	Direct	Water consumption	Yes	Negative	Medium-High	Waster saving initiatives as per EMPR to be implemented.	Medium	Low-Medium	Minimal	High Degree
Effects on Biodiversity	Indirect	Loss of fauna	Yes	Negative	Low	Use of “migratory friendly” property borders, such as palisade fencing or wire fencing with large gaps this free movement corridors for small animals should be retained throughout the operational phase.	Very High	Low	No Loss	Reversible

	Alternative - Knopjeslaagte Ptn 71									
	IMPACTS				SIGNIFICANCE (WOM)	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE					LOSS RESOURCE	REVERSABILITY
	Indirect	Degradation of ecological systems, including the aquatic system adjacent to the study area.	Yes	Negative	Low	It is recommended that the natural grassland vegetation is conserved in open landscaped gardens; Retain natural vegetation as landscaped gardens. Use of "migratory friendly" property borders, such as palisade fencing or wire fencing with large gaps this free movement corridors for small animals should be retained throughout the operational phase.	Very High	Low	No Loss	Reversible
Incidents, Accidents and Potential Emergency Situations	Indirect	Fire	No	Negative	Low	Mitigation measures in EMPr to be implemented.	Very High	Low	No Loss	Reversible
Social	Direct	Visual impact	Yes	Negative	Medium	The buidings within the development should be designed following the recommended architectural guidelines for the area.	Low	Low-Medium	Partial	Medium Degree
	Indirect	Safety and security	No	Negative	Low-Medium	Access control to be implemented at all times.	High	Low	Minimal	High Degree
	Indirect	Increase in traffic flow	Yes	Negative	Medium-High	All recommendations as per the TIA should be implemented.	Medium	Medium	Partial	Medium Degree
Economic	Direct	Increase in economy	No	Positive	Medium-High	Encourage business opportunities and economic development and growth.	Very High	High	No Loss	Reversible
	Indirect	Increase in property value	No	Positive	Medium	N/A	None	Medium	No Loss	Reversible
	Indirect	Employment	No	Positive	Medium-High	Encourage employment of local communities within the development.	Very High	High	No Loss	Reversible

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

Specialist studies were undertaken in support of the proposed development. These are contained in Appendix G.

The following are limitations with respect to the ecological assessment of the property:

- The study was limited to a short snap shot investigation during 2 site assessments;
- The assessment of red data listed species was limited to a habitat assessment to determine the possibility of occurrence;
- The adjacent areas were not surveyed during the site investigation but was considered during the desktop assessment;
- Species lists were compiled along transects that represented all plant communities but is not an exhaustive list of plant species occurring on site;
- Sampling, by nature, implies that not all species in a study area will be recorded due to factors such as plant phenology as affected by seasonality, seasonal climatic conditions, microhabitats and both historical and current management practices;
- Field assessment notes are supplemented by making use of literature sources and existing data bases (SANBI/GDARD, Reference books, Articles etc.); and
- The main ecological and floristic observations, forming the basis for recommendations and / or any delineation, are, however, based on the field assessment observations.

In terms of the Heritage Impact Assessment the following are applicable:

- The authors acknowledge that the brief literature review is not exhaustive on the literature of the area. Due to the subsurface nature of archaeological artefacts, the possibility exists that some features or artefacts may not have been discovered/recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. Similarly, the depth of the deposit of heritage sites cannot be accurately determined due its subsurface nature. This report only deals with the footprint area of the proposed development and consisted of non-intrusive surface surveys. This study did not assess the impact on medicinal plants and intangible heritage as it is assumed that these components would have been highlighted through the public consultation process if relevant. It is possible that new information could come to light in future, which might change the results of this Impact Assessment.

4. 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.

Decommissioning is not envisaged. This is a permanent development. Hence the decommissioning phase has not been assessed. Furthermore, decommissioning of such a site will likely require a separate environmental authorisation at the time of decommissioning.

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

Refer to Appendix G for the Ecological Assessment and Heritage Studies.

Refer to Appendix I for other information pertaining to the proposed development in terms of engineering information.

Appendix I1: Outline Scheme Report: Water and Sewer

Appendix I2: Stormwater Management Plan

Appendix I3: Traffic Impact Assessment

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

Not Applicable.

5. 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:

Cumulative impacts are those impacts that are created because of the combination of impacts of the proposed project, with impacts of other projects or operations, to cause related impacts. These impacts occur when the incremental impact of the project, combined with the effects of other past, present and reasonably foreseeable future projects, are cumulatively considered. The assessment of cumulative impacts on a site-specific basis is complex, especially if many of the impacts occur on a much wider scale than the site currently being assessed and evaluated.

Potential negative cumulative impacts relating to the proposed township development for both alternative layouts and land uses include:

Air Quality

Emissions from vehicles and machinery (CO_2, NOx, SOx, VOC's etc.) can alter air quality. Recent developments in the area have increased the traffic and resultant emissions in the area slightly. During the construction phase construction vehicles and machinery on site will increase emissions of greenhouse gases on site and within the immediate area, and during the operational phase the increase in traffic will be from the residents residing in the new development travelling to and from work and other engagements. This was considered by the EAP in determining the impact of the development. The impact was still assessed as 'low' with the implementation of the mitigation measures during the construction phase due to the short-term duration of the impact. However, during the operational phase the impact was rated as low-medium due to its cumulative effect. Mitigation measures included in the EMPr must be implemented.

Noise

Recent developments in the area have increased the noise levels in the area slightly (although the general noise level is still low). This was considered by the EAP in determining the impact of the development. The impact was still assessed as 'low' with the implementation of the mitigation measures during both the construction and operational phases of the development. Mitigation measures included in the EMPr must be implemented.

Surface water impacts

- Sewage discharge into the wetland and stream adjacent to the study area and other surface water resources due to accidental spillage or overflow of sewage from chemical toilets, when not maintained appropriately and serviced regularly.
- Sedimentation of surface water resources due to poor or lack of stormwater management practices.
- Disturbance of natural drainage lines adjacent to the study area.
- Disturbance of aquatic ecological systems adjacent to the study area.

The proposed development and recent developments as well as other future developments currently in the planning phases may have the potential to impact the adjacent drainage line and wetland area, however, with the implementation of mitigation measures, these impacts are assessed as having a low significance.

Waste

Domestic Waste Generation**.** Recent developments in the area have increased the domestic waste generation in the area. This as well as future planned developments was considered by the EAP in determining the impact of the development. The impact was assessed as 'medium' before and 'low-medium' after mitigation. Mitigation measures included in the EMPr must be implemented.

Soil and land capability

- Loss of topsoil.
- Loss of land capability

The loss of land capability can be seen to be cumulative as developments in the Gauteng area have reduced the available land that can be productive. No mitigation measures are possible for this impact however it should be noted that the site is earmarked for low to medium density residential development and the agricultural potential of the study area is low, and thus this impact is not seen to be significant.

Natural resources

- Electricity consumption
- Water consumption
- Fuel consumption
- Raw materials consumption

All four types of resource consumption (water, electricity, raw materials and fuel) have a cumulative impact as they add to the existing and future use of resources. However, with mitigation measures being implemented, this impact can be reduced to having a low significance during the construction phase due to the short duration of the construction phase and a low-medium significance during the operational phase.

Biodiversity Impacts

- Loss of habitat
- Loss of fauna
- Loss of flora
- Degradation of ecological systems
- Disruption of natural corridors

Impacts to biodiversity can be seen to be cumulative in nature as development is prolific in Gauteng. However, the ecological specialists found that most of the study area has no sensitivity and a portion have low-medium sensitivity and two smaller portions have medium sensitivity. These impacts have been rated as having a low significance, after mitigation.

Socio-economic Impacts

- Visual impact
- Traffic disruptions
- Loss of sense of place

The loss of sense of place is related to the change in land use and the visual impact of the development. With mitigation measures a new 'sense of place' place may be created through streamlining developments and following town planning and architectural guidelines to harmonise the appearance and character of the surrounding developments.

In terms of traffic disruption, current traffic as well as traffic increases due to the new development were considered through the Traffic Impact Assessment. Cumulative impacts have therefore been catered for and through the implementation of the proposed upgrades and access roads, as well as other mitigation measures, these impacts can be mitigated to low levels of significance.

Based on the nature and extent of the study area and the proposed land uses, as well as the mitigation measures identified, it is concluded that the potential cumulative impacts related to the proposed residential township for both alternative layouts, can be mitigated to having a low significance overall.

6. 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:

In terms of the EIA regulations, a Basic Assessment Report must contain an environmental impact statement, which contains:

1. A summary of the key findings of the environmental impact assessment;
2. A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and
3. A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

1. Summary of the key findings of the environmental impact assessment

1.1 Need for the proposed development

- The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.
- The study area is located within an area where new developments and townships have been developed in recent years or are planned soon. This is due to the high demand in developable land near built-up areas and access routes.
- The study area is located adjacent to the existing urban edge and in a future development zone and near major through routes and highways. The study area is preferred due to its accessibility;
- Open and vacant land, which is not utilised within a built-up or developing area can be perceived as a weakness, due to the security threat that vacant land imposes, as well as the negative influence it has on the image of a neighbourhood.
- Unused agricultural land or vacant land, implying lower densities, makes provision of essential municipal services less viable and more expensive to provide.
- The development will increase the income base of the Municipality.
- The development will ensure optimal use of existing and /or proposed infrastructure and will prevent urban sprawl;
- The development will ensure social sustainability i.e. it will fulfil the basic needs of future inhabitants of the development. This will contribute to the well-being and quality of life of the residents.
- The development will contribute to a large infrastructure upliftment project to service the surrounding existing and proposed developments;
- The development will create temporary and permanent job opportunities;
- The proposed development is also consistent with approved land use policies (e.g. the Regional Spatial Development Framework, the Metropolitan Spatial Development Framework and the Integrated Development Plan for the City of Tshwane

1.2 Site Selection

The study area has been selected based on the availability of the land and the locality with easy access to the surrounding road and service infrastructure networks. The land is earmarked for this type of developments and therefore, the local authority supports the development based on available capacity of services for the proposed development.

1.3 Environmental Sensitivities

Based on the findings of the specialist studies undertaken through the Basic Assessment process, no environmental fatal flaws have been identified because of the construction and operational of the proposed development. The erven to be zoned as open space are planned as part of the development to ensure natural corridors are maintained. The ecological specialists found that most of the study area has no sensitivity and a portion have low-medium sensitivity and 2 smaller portions have medium sensitivity. These impacts have been rated as having a low significance after mitigation.

1.4 Socio-economic impacts

The development proposal will result in positive impacts on the local economy and afford residents the opportunity to buy properties in an area of City of Tshwane Metropolitan Municipality that has a shortage of affordable housing. Employment will be created and supplies for the proposed development can be sourced locally, which will result in a boost for the economy in the CoT. No significant cultural heritage resources have been identified on the study area.

1.5 Services Infrastructure

Applications for services to the CoT have been submitted and they will confirm and approve availability of electricity, capacity of sewage treatment, stormwater infrastructure, waste disposal and water to the proposed development. This forms part of the town planning application process.

1.6 Impact Assessment

The most significant potential impacts that may result from the proposed activity are shown in the impact assessment tables and in the summary provided in Section E, Chapter 6 of this report. The significance of these impacts can effectively be mitigated with the implementation of the EMPr contained in **Appendix H**.

2. A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.

The environmental sensitivities that have been identified on the study area have been indicated on the sensitivity map overlain onto the layout plan for both alternatives. (Refer to Appendix A3).

3. A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

Please refer to Section E, Chapter 6 for the summary of the positive and negative impacts and risks of the proposed activity and the alternative layout and land uses.

Alternative

In terms of the EIA regulations, a Basic Assessment Report must contain an environmental impact statement, which contains:

1. A summary of the key findings of the environmental impact assessment;
2. A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and
3. A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

1. Summary of the key findings of the environmental impact assessment

1.1 Need for the proposed development

- The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.
- The study area is located within an area where new developments and townships have been developed in recent years or are planned soon. This is due to the high demand in developable land near built-up areas and access routes.
- The study area is located adjacent to the existing urban edge and in a future development zone and near major through routes and highways. The study area is preferred due to its accessibility;
- Open and vacant land, which is not utilised within a built-up or developing area can be perceived as a weakness, due to the security threat that vacant land imposes, as well as the negative influence it has on the image of a neighbourhood.
- Unused agricultural land or vacant land, implying lower densities, makes provision of essential municipal services less viable and more expensive to provide.
- The development will increase the income base of the Municipality.
- The development will ensure optimal use of existing and /or proposed infrastructure and will prevent urban sprawl;
- The development will ensure social sustainability i.e. it will fulfil the basic needs of future inhabitants of the development. This will contribute to the well-being and quality of life of the residents.
- The development will contribute to a large infrastructure upliftment project to service the surrounding existing and proposed developments;
- The development will create temporary and permanent job opportunities;
- The proposed development is also consistent with approved land use policies (e.g. the Regional Spatial Development Framework, the Metropolitan Spatial Development Framework and the Integrated Development Plan for the City of Tshwane

1.2 Site Selection

The study area has been selected based on the availability of the land and the locality with easy access to the surrounding road and service infrastructure networks. The land is earmarked for this type of developments and therefore, the local authority supports the development based on available capacity of services for the proposed development.

1.3 Environmental Sensitivities

Based on the findings of the specialist studies undertaken through the Basic Assessment process, no environmental fatal flaws have been identified because of the construction and operational of the proposed development. The erven to be zoned as open space are planned as part of the development to ensure natural corridors are maintained. The ecological specialists found that most of the study area has no sensitivity and a portion have low-medium sensitivity and 2 smaller portions have medium sensitivity. These impacts have been rated as having a low significance after mitigation.

1.4 Socio-economic impacts

The development proposal will result in positive impacts on the local economy and afford residents the opportunity to buy properties in an area of City of Tshwane Metropolitan Municipality that has a shortage of affordable housing. Employment will be created and supplies for the proposed development can be sourced locally, which will result in a boost for the economy in the CoT. No significant cultural heritage resources have been identified on the study area.

1.5 Services Infrastructure

Applications for services to the CoT have been submitted and they will confirm and approve availability of electricity, capacity of sewage treatment, stormwater infrastructure, waste disposal and water to the proposed development. This forms part of the town planning application process.

1.6 Impact Assessment

The most significant potential impacts that may result from the proposed activity are shown in the impact assessment tables and in the summary provided in Section E, Chapter 6 of this report. The significance of these impacts can effectively be mitigated with the implementation of the EMPr contained in **Appendix H**.

2. A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.

The environmental sensitivities that have been identified on the study area have been indicated on the sensitivity map overlain onto the layout plan for both alternatives. (Refer to Appendix A3).

3. A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

Please refer to Section E, Chapter 6 for the summary of the positive and negative impacts and risks of the proposed activity and the alternative layout and land uses.

No-go (compulsory)

The No-go Alternative assumes that the property will retain its Agricultural Zoning. This implies that the site be left as is and that no development or alteration be done. If this alternative is pursued, the study area's existing habitat will be retained. Under this scenario, the following benefits and disadvantages are expected to occur:

- The No-go option will sterilise a prime development area where there is a need for residential land uses;
- The potential to provide additional housing, which appears to be in accordance with the prevailing land use regime in the area and the thinking of the local municipality, to the population, will be lost;
- The demand for housing and supplying new and approved developments will not be possible or feasible and financial losses could occur;
- A viable opportunity to exploit the limited opportunities in the area and creating jobs and income for the local market will be negated;
- By not approving the proposed development, the general area may not be economically uplifted neither will job opportunities and skills development be encouraged and the decision will not comply with the planning policies of the area;
- The area will fall further in disrepair and the protection and appropriate management of the ecological significant areas will be negated;
- Illegal squatters or vagrants could inhabit the site as the local area is currently impacted;
- Given the fact that the site will eventually degenerate if left unmanaged, and the fact that it is most likely unsuitable to be utilised for grazing or agricultural purposes due to the size of the study area and the high cost thereof, it is reasonable to state that the No-go option is less favourable than the Proposal;
- The approval will ensure that an EMPr be implemented and that the sensitive areas on the site will be managed.

The No-go alternative is therefore not preferred.

7. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

Please see Table for a summary of the impact assessment undertaken. In general, most negative impacts from both construction and operation could be mitigated to a low significance with the implementation of the proposed mitigation measures which are included in the EMPr. For this reason, the proposal is preferred.

Table: Summary of impacts on the proposed site layout for construction phase

Impacts	Comment
Atmospheric Emissions	Dust and vehicle emissions is evaluated as low impacts before mitigation and is kept as low after mitigation measures are implemented. This is mainly due to construction vehicles operating on site, as well as the clearance of groundcover. Noise levels will also increase in the area because of construction and is rated with low-medium significance but can be mitigated to a low significance.
Water Resources	Construction activities have the potential to impact negatively on surface and groundwater resources on and surrounding the study area through contamination, sedimentation and general disturbance to the adjacent natural drainage lines and aquatic ecological systems. These impacts were rated as having a low or low significance before mitigation and with a low significance after mitigation with no loss of resources.
Waste Generation	During the construction phase domestic, construction and hazardous waste will be generated. The impact of domestic waste was rated as with a significance rating of low before and after mitigation, construction waste and hazardous waste as low before and low after mitigation.
Soil Alteration	Soil maybe impacted on through the loss of topsoil, loss of land capability, alteration of the topography and soil pollution through contamination by spillage of hazardous materials e.g. hydrocarbons and sewage from chemical toilets. These impacts have been rated as low-medium (loss of topsoil) and low (loss of land capability and contamination) before mitigation and low after mitigation.
Resource Consumption	The consumption of raw materials is regarded as low-medium impact before mitigation. The effective use of raw materials will be promoted to minimise use. The construction phase will also cause an increase in electricity, water and indirectly, fuel consumption in the area. These impacts have been rated with low-medium significance due to the short and medium term of the construction period and the low volumes required. After mitigation, the significance rating for these impacts is low.

Effects on Biodiversity	The majority of the study area is disturbed with small portions of low-medium and medium sensitivity as indicated in **Figure 1:Sensitivity Map**. Impacts include: • Loss of habitat • Loss of fauna • Loss of flora • Degradation of ecological systems • Disruption of natural corridors. The significance rating of these impacts is all low after mitigation.
Incidents, Accidents and Potential Emergency Situations	This category of impacts includes potential pollution incidents and health and safety incidents e.g. injury to workers or visitors to the site i.e.: • Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material • Fire and resultant injury, death and damage to property. The incidents referred to above have the potential to cause significant socio-economic and biophysical impacts, however, the risk of them occurring when all mitigation and management measures are implemented, are low and the significance rating after mitigation is, therefore, low.
Social	Social impacts generally include impacts that influence the quality of life of people. For the proposed development the following social impacts have been identified: • The visual impact is rated as low-medium before and after mitigation; • Safety and security: - Potential influx of work seekers can be mitigated to a low significance; - Unauthorised access can be mitigated to a low significance. • Traffic disruptions are rated as low-medium significance, but can be mitigated to having only a low significance; • Loss of Sense of Place - This impact was rated with a medium significance rating before mitigation and low after mitigation.
Economic	Construction on site will provide employment and skills to the local community and the local economy will benefit in terms of supply of building materials and services to the proposed development. The significance rating of is Medium, but after measures implemented to maximise the benefits, the significance is High.

Table: Summary of impacts on the proposed site layout for operational phase

Impacts	Comment
Atmospheric Emissions	Emissions from vehicles (CO_2, NOx, SOx, VOC's etc.), due to an increase in traffic flow in the area may alter air quality in the long term or permanently. This impact cannot be directly mitigated by the developer, however, mitigation through regulation by government e.g. establishing emissions standards for vehicles, may reduce this impact in the long term. This impact is, therefore, rated as having a medium significance before mitigation and a low-medium significance after mitigation. The proposed operational phase of the project may also cause an increase in ambient noise levels which may be generated by an increase in traffic flow in the area, however though proper mitigation the impact of noise will be lowered. The significance of noise impacts is rated as low-medium before and low after mitigation.
Water Resources	The proposed development and associated activities have the potential to impact negatively on surface and groundwater resources on and surrounding the study area through contamination, sedimentation and general disturbance to the adjacent natural drainage lines and aquatic ecological systems. These impacts were rated as having a low significance before and after mitigation.
Waste generation	Domestic waste generation and potential pollution as a result thereof. During the operational phase domestic waste will be generated. The impact of domestic waste was rated as with a significance rating of medium before mitigation due to the high volumes of waste that may potentially be created by the proposed development and the long duration of the impact. However, with mitigation measures e.g. recycling practises this impact may be mitigated to a low-medium significance.
Soil Alteration	Soil maybe impacted on through the loss of topsoil through erosion and soil pollution through contamination by spillage of hazardous materials e.g. hydrocarbons and sewage from poorly maintained stormwater and sewage infrastructure. These impacts have been rated as low before and after mitigation.

Resource Consumption	During the operational phase, the proposed development will cause an increase in electricity and water consumption in the area. These impacts have been rated with medium significance due to long term of the operational phase and the significance volumes and capacity of resources and infrastructure required for the development. After mitigation, the significance rating for these impacts is low-medium. Electricity and water consumption can be mitigated through measures included in the Environmental Management Programme. The Outline Scheme Report also confirmed the availability and capacity for the proposed development. These impacts can therefore be mitigated to a low-medium significance rating.
Effects on Biodiversity	The majority of the study area is disturbed with small portions of low-medium and medium sensitivity as indicated in Figure 1: Sensitivity Map. Impacts during the operational phase include: • Loss of fauna; • Degradation of ecological systems. The significance rating of these impacts is all low after mitigation.
Incidents, Accidents and Potential Emergency Situations	This category of impacts includes potential pollution incidents and health and safety incidents e.g. injury to residents and tenants of the proposed development: • Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material; • Fire and resultant injury, death and damage to property. The incidents referred to above have the potential to cause significant socio-economic and biophysical impacts, however, the risk of them occurring when all mitigation and management measures are implemented, are low and the significance rating after mitigation is, therefore, low.
Social	Social impacts generally include impacts that influence the quality of life of people. For the proposed development the following social impacts have been identified: • The visual impact is rated as medium before and low after mitigation; • Safety and security: access control is rated as low-medium before and low after mitigation; • Increase in traffic flow. There will be a significant increase in traffic flow during the operational phase and the significance of this impact is rated as medium. However, this impact can be mitigated to having a low-medium significance through road upgrades and other mitigation measures.
Economic	The proposed development will positively affect the economic value of the local community by creating employment and increase the property value of neighbouring properties. The significance of economic impacts is medium (property values) and high (increase in economy and creation of employment opportunities) after implementation of measures to maximise the benefit.

For alternative:

Please see Table for a summary of the impact assessment undertaken. In general, most negative impacts from both construction and operation could be mitigated to a low significance with the implementation of the proposed mitigation measures which are included in the EMPr.

Table: Summary of impacts on the alternative site layout for construction phase

Impacts	Comment
Atmospheric Emissions	Dust and vehicle emissions is evaluated as low impacts before mitigation and is kept as low after mitigation measures are implemented. This is mainly due to construction vehicles operating on site, as well as the clearance of groundcover. Noise levels will also increase in the area because of construction and is rated with low-medium significance but can be mitigated to a low significance.
Water Resources	Construction activities have the potential to impact negatively on surface and groundwater resources on and surrounding the study area through contamination, sedimentation and general disturbance to the adjacent natural drainage lines and aquatic ecological systems. These impacts were rated as having a low or low significance before mitigation and with a low significance after mitigation with no loss of resources.
Waste Generation	During the construction phase domestic, construction and hazardous waste will be generated. The impact of domestic waste was rated as with a significance rating of low before and after mitigation, construction waste and hazardous waste as low before and low after mitigation.
Soil Alteration	Soil maybe impacted on through the loss of topsoil, loss of land capability, alteration of the topography and soil pollution through contamination by spillage of hazardous materials e.g. hydrocarbons and sewage from chemical toilets. These impacts have been rated as low-medium (loss of topsoil) and low (loss of land capability and contamination) before mitigation and low after mitigation.

Resource Consumption	The consumption of raw materials is regarded as low-medium impact before mitigation. The effective use of raw materials will be promoted to minimise use. The construction phase will also cause an increase in electricity, water and indirectly, fuel consumption in the area. These impacts have been rated with low-medium significance due to the short and medium term of the construction period and the low volumes required. After mitigation, the significance rating for these impacts is low.
Effects on Biodiversity	The majority of the study area is disturbed with small portions of low-medium and medium sensitivity as indicated in **Figure 1:Sensitivity Map**. Impacts include: • Loss of habitat • Loss of fauna • Loss of flora • Degradation of ecological systems • Disruption of natural corridors. The significance rating of these impacts is all low after mitigation.
Incidents, Accidents and Potential Emergency Situations	This category of impacts includes potential pollution incidents and health and safety incidents e.g. injury to workers or visitors to the site i.e.: • Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material • Fire and resultant injury, death and damage to property. The incidents referred to above have the potential to cause significant socio-economic and biophysical impacts, however, the risk of them occurring when all mitigation and management measures are implemented, are low and the significance rating after mitigation is, therefore, low.
Social	Social impacts generally include impacts that influence the quality of life of people. For the proposed development the following social impacts have been identified: • The visual impact is rated as low-medium before and after mitigation; • Safety and security: - Potential influx of work seekers can be mitigated to a low significance; - Unauthorised access can be mitigated to a low significance. • Traffic disruptions are rated as low-medium significance, but can be mitigated to having only a low significance; • Loss of Sense of Place - This impact was rated with a medium significance rating before mitigation and low after mitigation.
Economic	Construction on site will provide employment and skills to the local community and the local economy will benefit in terms of supply of building materials and services to the proposed development. The significance rating of is Medium, but after measures implemented to maximise the benefits, the significance is High.

Table: Summary of impacts on the alternative site layout for operational phase

Impacts	Comment
Atmospheric Emissions	Emissions from vehicles (CO_2, NOx, SOx, VOC's etc.), due to an increase in traffic flow in the area may alter air quality in the long term or permanently. This impact cannot be directly mitigated by the developer, however, mitigation through regulation by government e.g. establishing emissions standards for vehicles, may reduce this impact in the long term. This impact is, therefore, rated as having a medium significance before mitigation and a low-medium significance after mitigation. The proposed operational phase of the project may also cause an increase in ambient noise levels which may be generated by an increase in traffic flow in the area, however though proper mitigation the impact of noise will be lowered. The significance of noise impacts is rated as low-medium before and low after mitigation.
Water Resources	The proposed development and associated activities have the potential to impact negatively on surface and groundwater resources on and surrounding the study area through contamination, sedimentation and general disturbance to the adjacent natural drainage lines and aquatic ecological systems. These impacts were rated as having a low significance before and after mitigation.
Waste generation	Domestic waste generation and potential pollution as a result thereof. During the operational phase domestic waste will be generated. The impact of domestic waste was rated as with a significance rating of medium before mitigation due to the high volumes of waste that may potentially be created by the proposed development and the long duration of the impact. However, with mitigation measures e.g. recycling practises this impact may be mitigated to a low-medium significance.

Soil Alteration	Soil maybe impacted on through the loss of topsoil through erosion and soil pollution through contamination by spillage of hazardous materials e.g. hydrocarbons and sewage from poorly maintained stormwater and sewage infrastructure. These impacts have been rated as low before and after mitigation.
Resource Consumption	During the operational phase, the proposed development will cause an increase in electricity and water consumption in the area. These impacts have been rated with medium significance due to long term of the operational phase and the significance volumes and capacity of resources and infrastructure required for the development. After mitigation, the significance rating for these impacts is low-medium. Electricity and water consumption can be mitigated through measures included in the Environmental Management Programme. The Outline Scheme Report also confirmed the availability and capacity for the proposed development. These impacts can therefore be mitigated to a low-medium significance rating.
Effects on Biodiversity	The majority of the study area is disturbed with small portions of low-medium and medium sensitivity as indicated in Figure 1: Sensitivity Map. Impacts during the operational phase include: • Loss of fauna; • Degradation of ecological systems. The significance rating of these impacts is all low after mitigation.
Incidents, Accidents and Potential Emergency Situations	This category of impacts includes potential pollution incidents and health and safety incidents e.g. injury to residents and tenants of the proposed development: • Spillage and accidents and injury caused by the inappropriate storage of hydrocarbons and other hazardous material; • Fire and resultant injury, death and damage to property. The incidents referred to above have the potential to cause significant socio-economic and biophysical impacts, however, the risk of them occurring when all mitigation and management measures are implemented, are low and the significance rating after mitigation is, therefore, low.
Social	Social impacts generally include impacts that influence the quality of life of people. For the proposed development the following social impacts have been identified: • The visual impact is rated as medium before and low-medium after mitigation. This impact cannot be mitigated as effectively as the proposed land uses, due to the higher density of the land use, which will result in taller buildings that will be more visible; • Safety and security: access control is rated as low-medium before and low after mitigation; • Increase in traffic flow. There will be a significant increase in traffic flow during the operational phase and the significance of this impact is rated as medium-high. However, this impact can be mitigated to having a medium significance through road upgrades and other mitigation measures. This impact cannot be as effectively be mitigated as for the proposed land uses, due to the higher volumes of traffic that will be generated by the higher density of the land use.
Economic	The proposed development will positively affect the economic value of the local community by creating employment and increase the property value of neighbouring properties. The significance of economic impacts is medium (property values) and high (increase in economy and creation of employment opportunities) after implementation of measures to maximise the benefit.

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.

After assessing the environmental related impact in terms of the bio-physical and socio-economic aspects, the proposal was selected as it has the least impact on the environment.

The Proposal was selected because it will set out the goals as contained within the City of Tshwane Planning Documents. The proposed layout contains more lower density (individual) erven than the alternative and the public open space erven is linked, whereas public open space erven of the alternative layout is not linked. Natural corridors with the surrounding area and other open space areas can therefore, not be created by the alternative layout. The higher density land use of the alternative layout, will result in higher volumes of traffic, generation of higher volumes of domestic waste and sewage and higher volumes of electricity and water being consumed. The significance of the socio-economic impacts resulting from this will therefore be higher for the alternative activity than for the proposal.

8. SPATIAL DEVELOPMENT TOOLS

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

The following spatial development tools were applied and/or considered:

1. Spatial Planning and Land Use Management Act, 2013 (Act No.16 of 2013)

Section 7 of the Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) confirms that the following principles applies to spatial planning, land development and land use management:

7(a) The principle of spatial ***justice, whereby-:***

(i) Past spatial and other development imbalances must be redressed through improved access to and use of land.

It is our opinion that the greater community of this area will benefit from the development proposal through various new housing opportunities.

The development will enhance the urban environment through the strengthening of economic growth and strategic densification of future development zones, as required in terms of the RSDF.

(ii) Spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation.

(iii) Spatial planning mechanism, including land use schemes, must incorporate provisions that enable redress in access to land by disadvantaged communities and persons.

(iv) Land use management system must include all areas of a municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas.

(v) Land development procedures must include provisions that accommodate access to secure tenure and incremental upgrading of informal areas.

(vi) A Municipal Planning Tribunal considering an application before it, may not be implemented or restricted in the exercise of its discretion solely on the ground that the value of land or property is affected by the outcome of the application.

Principles (7)(a) (ii) to (vi) relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the property.

7(b) The principle of spatial sustainability, whereby spatial planning and land use management systems must-:

(i) Promote land development that is within the fiscal, institutional and administrative means of the Republic.

The proposed development, as motivated, complies with the fiscal, institutional and administrative means of the Republic as well as the Local Authority.

Development Policies (RSDF for Region 4), related administration and laws and the National Environmental Management Act, 1998, do allow for the application, as submitted, to be entertained.

(ii) Ensure that special consideration is given to the protection of prime and unique agricultural land.

In terms of Municipal policy, the property is earmarked for future urban land uses, not agricultural use. The Municipal policy is also due for review in the near future, which is to include the property and surroundings in the development zone.

(iii) Uphold consistency of land use measures in accordance with environmental management instruments.

This principle relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the property.

(iv) Promote and stimulate the effective and equitable functioning of land markets

This principle relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the property.

(v) Consider all current and future cost to all parties for the provision of infrastructure and social services in land developments.

This principle relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the property.

(vi) Promote land development in locations that are sustainable and limit urban sprawl.

The subject property border onto the urban edge of the City of Tshwane and will not contribute to urban sprawl, as it entails a brownfield development. Other similar developments in the area has recently been approved by Council and a services masterplan will be done in the near future to service the area.

According to relevant policy guidelines of the Municipality (i.e. the Regional Spatial Development Framework for Region 4, 2013), the subject property is earmarked for purposes of future urban development. Development pressure and the availability of developable land is channelling development opportunities into the area.

(vii) Result in communities that are viable.

The proposed development is in close proximity to residential, commercial, lifestyle and educational opportunities and will therefore ensure that there are sufficient residents in the general area to make full use of such facilities. As mentioned above, the site is located in a future development zone, which has been activated by other similar developments and applications being approved by Council in the area.

7(c) The principle of efficiency, whereby-:

(i) Land development optimises the use of existing resources and infrastructure.

The proposed development will promote efficient land development, as it entails the establishment of a place of residence near place of work. The proposed development will fit into the planned redevelopment of the area and create much needed housing opportunities within the municipality.

The subject property is strategically situated in relation to transportation routes, e.g. the M26 Road, R511, Ruimte Road and the N14 freeway. These routes connect the application site to the surrounding areas and municipalities on a provincial scale.

The availability of services, capacity of said services, and upgrades required will be determined/confirmed in the relevant Engineering Service Reports, as per the documentation included hereto as part of the application documentation.

(ii) Decision-making procedures are designed to minimise negative financial, social, economic or environmental impacts.

This principle relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the properties.

(iii) Development application procedures are efficient and streamlined and timeframes are adhered to by all parties.

This principle relates to obligations imposed on local government, and in this regard the legislation is

7(d) Principal of spatial resilience whereby *flexibility in spatial plans, policies and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks.*

This principle relates to obligations imposed on local government, and in this regard the legislation is clear in respect of the procedures to facilitate the development to the property.

7(e) The principle of good administration, whereby-:

(i) All spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act.

This principle relates to obligations imposed on local government. The application will be circulated to relevant internal municipal departments for their comments.

(ii) All government departments must provide their sector inputs and comply with any other prescribed requirements during the preparation or amendment of spatial planning frameworks.

This principle relates to obligations imposed on local government.

(iii) The requirements of any law relating to land development and land use are met timeously.

This principle relates to obligations imposed on local government.

(iv) The preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them.

This principle relates to obligations imposed on local government. It is also confirmed that the application will be advertised by the applicant in the prescribed manner.

(v) Policies, legislation and procedures must be clearly set in order to inform and empower members of the public.

This principle relates to obligations imposed on local government.

2. National Development Plan, 2030

The National Development Plan identifies five principles for spatial development: spatial justice, spatial sustainability, spatial resilience, spatial quality and spatial efficiency. The plan confirms that South African cities are highly fragmented, as little has been achieved to reverse apartheid geography. The plan proposes that the situation be addressed by establishing new norms and standards: amongst others by densifying cities, improving transport and locating jobs where people live. The containment of urban sprawl is particularly highlighted in the plan, confirming that sprawl be contained and reversed (if possible), *"…as denser forms of development are more efficient in terms of land usage, infrastructure cost and environmental protection."*

The proposed development aligns with the vision of the National Development Plan, as it will promote compaction of the city and limiting urban sprawl (by means of infill development), as well as by establishing a place of work in proximity to residential opportunities, which will result in reduced travel times. More housing opportunities will be provided in the municipal area, which will include low to medium density housing opportunities.

3. GDARD Conservation Plan version 3

The C-plan and environmentally sensitive layers were utilised during the compilation of this report. The study area falls within two types of Critical Biodiversity Areas i.e. important area and an Ecological Support Area. According to the Gauteng C-plan the majority of the proposed development area is considered Important and the more disturbed areas are classified as an ecological support area.

The proposed development site falls within an area with fragmented grasslands. Surrounding land uses include roads, residential areas and a golf course. The majority of the study area is disturbed, especially the northern section, consisting of buildings, modified vegetation and maize fields. Exotic Pine and Eucalyptus trees occurs in the northern section and along the boundaries of the site.

The grassland area occurring in the centre of the study area has an overall floral status of 'good', occurs within an endangered veld type (Egoli Granite Grassland) and according to the Gauteng C-plan the grassland vegetation is classified as 'important areas' and could therefore, be a possible important migratory corridor. However, only nine of the several grass species associated with Egoli Granite Grassland were observed in the study area and therefore this grassland is not seen to be representative of Egoli Granite Grassland. Consequently, the area of natural grassland observed on the proposed development site is considered to have a low-medium sensitivity. The less disturbed southern section has some rocky outcrops that are covered by the same species that are found in the surrounding grasslands. These rocky outcrops, together with the area containing the *Boophone disticha* were considered to be of medium sensitivity.

4. Gauteng Provincial Environmental Management Framework

The GPEMF was utilised in the compilation of this report. Since the study area is identified in the C-Plan as a Critical Biodiversity Area (CBA) i.e. Important Area and Ecological Support Area in terms of the Gauteng Conservation Plan V 3.3 and is / was also used for agricultural purposes it is placed within the Gauteng Province Environmental Management Framework (GPEMF) Zones 3 and 4. According to the EMF, residential land uses is not compatible with or desirable within these zones. However, according to the Gauteng Agricultural Potential Atlas (GAPA V4) the land on the study area has low agricultural potential. The ecological habitat assessment did conclude that most of the study area is classified as not sensitive and a portion as low-medium sensitive and two smaller portions as medium sensitive.

5. Gauteng Spatial Development Framework, 2011

The Gauteng SDF was compiled, amongst other plans, to specify a clear set of spatial objectives for municipalities to achieve to ensure realisation of the future provincial spatial infrastructure; and to enable and direct growth.

The SDF aims to articulate the spatial objectives of the Gauteng region to assist the alignment of neighbouring municipalities' spatial plans. It is proposed that key principles in local municipality SDFs should include (applicable to this application):

- Promotion of densification in specific areas to utilise resources more efficiently;
- Establishment of a hierarchy of nodes and supporting existing development nodes.

The SDF confirms on page 128 that *"it remains the intension to limit urban sprawl as a fundamental tenet or urban growth policy and to promote the intentions of intensification and densification, together with a transformed urban structure that de-emphasises the need for outward expansion of the urban system".*

The SDF furthermore identified four critical factors for development in the province, relevant to this development:

- **Contained urban growth:**

To contain urban growth, an Urban Edge was identified to curb urban sprawl. The idea behind the urban edge is to limit development within certain areas of a city. Only certain types of developments are allowed on the outside of the urban edge. The goal is to curb urban sprawl and thereby protecting the natural environment. One way to do this is to increase the densities of the built environment within the urban edge.

This edge is however not set in stone and can be amended if development pressure in an area requires the alteration of this "line" or edge. Normally, areas identified for future development or as future development nodes are not included within the urban edge of a municipality. Amendments to the relevant spatial legislation and frameworks of the municipality usually later include these areas within the edge, so the development potential can be unlocked. Approval of net land-use rights and applications in an area indicates that the characteristics of the area have changed over the ears.

- **Resourced based economic development:**

Resource based economic development should result in identification of the economic core. Development should be encouraged near existing resources, which includes infrastructure such as roads, water and electricity.
The proposed development is situated near existing and adjacent to approved proposed developments and infrastructure networks. Recent similar approved township establishment applications indicate that there is a growing economic base in the area.

- **Re-direction of urban growth:**

Developments in economically non-viable areas should be limited and thereby achieving growth within the economic growth sphere. The western Tshwane area is a fast-growing development area in Tshwane, and growth should be encouraged in the precinct. Several new township applications have been approved near and adjacent to the application site, indicating the growth trend towards this region. Further development pressure is also mounting.

- **Increased access and mobility:**

New land development areas should be planned/design to increase access and mobility of these developments. The proposed land development area could be regarded as accessible due to its strategic locally near the M26, R511 and N14 Highway.

6. City of Tshwane Integrated Development Plan (IDP), 2011-2016

The CTMM has adopted an IDP for 2011-2016 in terms of Section 25 of the Local Government, Municipal Systems Act, 2000 (Act 32 of 2000), which plan integrates, and coordinates plans and aligns the resources and capacity of the Municipality to implement these plans. The compilation of Spatial Development Frameworks forms part of the IDP.

Strategic Objective 2 of the IDP – (economic growth and development and job creation) and Strategic Objective 3 (sustainable communities) is particularly relevant to the proposed development.

City of Tshwane furthermore seeks to focus its efforts to complement National and Provincial Government to accomplish the following strategic objectives:

- Provide quality basic services and infrastructure;
- Facilitate higher and shared economic growth and development;
- To fight poverty, build clean, healthy, safe and sustainable communities;
- Foster participatory democracy through a caring, accessible and accountable service;
- To ensure good governance, financial viability and optimal institutional transformation with capacity to execute its mandate.

The strategic levers emanating from the city's macro and long-term strategy, including the medium-term plan reflect Tshwane's attempts in actively working towards achieving the targets set out at national and provincial level. This is to, in the end, ensure that the CTMM succeeds in achieving its vision of the leading international African Capital City of excellence that empowers the community to prosper in a safe and healthy environment.

Throughout the IDP, the CTMM is focussed to ensure:

- Encourage economic growth within the city, making it more competitive in global markets;
- Manage physical integration and compaction of the city and improve the quality and liveability within; and
- Ensure communities' well-being by making services more available to all, enhancing these services and making them more affordable.

The proposed development will encourage economic growth, lead to compaction of the city through infill development, and ensure the well-being of the community by providing a much-needed service and making it more available. It will also optimise the use of the existing municipal services network. Thus, it is in-line with the directives of the current planning policy and principles. The proposed development will also enable job creation during the construction phase, and will promote the sustainable use of land resources, land ownership and housing opportunities.

7. City of Tshwane Metropolitan Spatial Development Framework (MSDF), 2012

The MSDF was compiled to realise the vision of the City of Tshwane through spatial restructuring and to integrate all aspects of spatial planning. The "Smart Growth" approach to growth management entails the management of the physical growth of cities and is central to the implementation of the MSDF, and favours brownfield development and promotion of the mixing of compatible land uses ("doing the right thing in the right place in the right way at the right time"). The MSDF also encourages infill development and the consolidation of secondary or emerging nodes to create primary nodes as opposed to leapfrog development. The MSDF describes various strategies which guide the development of retail facilities, i.e. renewal strategy, maintenance strategy, expansion strategy, new growth areas strategy, nodal strategy and nodal interchange strategy. In terms of these parameters, the proposed development can be described as an Expansion Strategy.

These overall objectives are supported by more specific objectives:

- Stimulate economic growth;
- Utilise possible future growth and new developments to restructure and improve the urban form;
- Promote the availability of public transport; and
- Create healthy, comfortable and safe living and working environments for all.

Urban densification is seen as an important part of the spatial restructuring of the Tshwane Metropolitan area. This concept relates to: (1) An increase in the levels of access to goods, employment opportunities and public transport systems; (2) Viability of public transport systems; and (3) Optimal usage of land as a scarce resource.

The context of the application site is such that it is located adjacent to the build-up area of Copperleaf Golf Estate as well as the Diepsloot area. Recent applications for township establishment was also approved by Council (Peach Tree Extension 15 and Extension 16), towards the east of the application site. Vacant land is a scarce resource; thus, the developer seized the opportunity to develop the vacant property. As a result, the proposed development is in line with the principles dealing with containment of growth and compaction of urban development.

The proposed development stimulates economic growth by providing taxable residential property, thereby creating additional revenue for the CTMM and adding buying power to the local economy. The proposed development will enhance the image of the area by developing vacant land which has been neglected.

8. City of Tshwane Regional Spatial Development Framework (RSDF): Region 4, 2013

The RSDF for Region 4 earmarks the subject property for purposes of future urban development. The properties are situated outside the demarcated urban edge of 2013. In terms of the RSDF's Density Map, the property falls in a low density residential area. The RSDF concedes that the future urban development area "represents a natural direction for growth of the metropolitan area and region", subject to the provision of essential services and the LSDF for the area (i.e. Monavoni and Western Farms Development Framework, 2008).

The following development guidelines are proposed in the future urban area:

- Development that is in line with the Monavoni and Western Farms Development Framework;
- Contribution towards the goals of the City Strategy and MSDF;
- Availability of bulk engineering services;
- Protection of environmental sensitivity of the area;
- Proximity to other existing supporting social facilities, economic opportunities, retail and recreation;
- Physical features that may define the development (e.g. railway lines, watersheds, provincial roads, environmental areas);
- Provision of community facilities (e.g. schools, medical facilities, police stations).

The spatial development framework for the region is based on an integrated urban lattice on which densification and intensification of systems can take place in an integrated manner. A set of linear systems form the framework of the urban development lattice and relays urban energy from the traversing highways to lower order roads where it can be converted into physical development and economic growth. Existing and future mass transport routes are and should be integrated into the urban system.

The application site is located in close proximity to the R511, N14 -Highway and the M26, which has been identified by the RSDF as part of the east-west development mobility spines in the area which is defined as ab arterial along which traffic flows with minimum interruption. The proposed township establishment is thus in line with the proposals of the RSDF.

9. Monavoni and Western Farms Development Framework, 2020

In terms of the Monavoni and Western Farms Development framework 2020, (2010), the subject property is situated within Zone 9: Agricultural Zone, while adjacent approved townships Peach Tree Extensions 15 and 16, situated to the sout of the subject property, is situated in Zone 2: Low Density Residential Zone (maximum nett density: 25 dwelling units per hectare).

The Proposed Development Edge also runs between the subject property and adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the subject property.

The Framework "does not aim to be prescriptive on a site-specific level, but provides a framework for interpreting the vision, planning principles and structuring elements of the CTMM. The maps and graphic representations included are more strategic/ conceptual in nature and do not imply a site-specific interpretation" (MWFDF, 2020:15).

The Framework focusses on addressing economic developmental issues "as a means to provide job opportunities". Ensuring economic development will attract development to areas to the benefit of the larger area (Monavoni and Western Farms Development Framework 2020: 20). The strategic objectives identified for the region include:

- Enable an accessible, efficient and sustainable urban environment;
- Enable the development of a quality urban environment;
- Accommodate the neds of the poor while maintaining and maximizing the value of commercial and retail land;
- Guide the provision of adequate services and social facilities;
- Provide a variety of residential opportunities for a range of income earners;
- Create an environment that promotes the use of an effective public transport system; and
- Preserve and enhance protected environmental areas.

Potential development in the area is further hindered by the geotechnical conditions within the area. The Framework confirms that geotechnical conditions on the subject property is "intermediate", which also applies to the adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the subject property.

The MWFDF 2020: 61 records the most notable residential estate development within the Monavoni Region to be the Peach Tree development, located towards the west.

The Framework also indicates that both the subject property and adjacent approved townships Peach Tree Extensions 15 and 16, situated toward the south of the property, have low agricultural potential and medium development suitability. “Most of the southern and eastern parts of the Monavoni Region are of a low agricultural potential, implying that these areas are suitable for urban development from an agricultural point of view (MWWFDF 2020: 58).

9. 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	~~NO~~

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:

There are no fatal flaws associated with the proposed development and potential impacts to the environment identified through this process can be mitigated to acceptable levels. The impacts associated with the proposed development on this site are considered acceptable from an environmental perspective, provided that the proposed mitigation measures are implemented.

The following is recommended to be included in the conditions of the Environmental Authorisation:

- The construction and operation of the proposed development should be implemented according to an Environmental Management Programme (EMPr) [**Refer to Appendix H**] to adequately mitigate and manage the identified impacts;
- An Environmental Control Officer must be appointed to oversee the development during the construction phase, to implement the Environmental Management Programme (EMPr) and Environmental Authorisation (EA) and to monitor against same;
- A stormwater management plan with Sustainable Urban Drainage Systems (SUDS) principles must be compiled, approved, and implemented.

10. NEED AND DESIRABILITY OF THE PROPOSED DEVELOPMENT (AS PER GN 792 OF 2012, OR THE UPDATED VERSION OF THIS GUIDELINE)

In terms of the Needs and Desirability as per GN 792 of 2012 the following is applicable:

NEED ('timing'):

Question 1: Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved spatial development framework (SDF) agreed to by the relevant environmental authority? (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP).

The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.

Question 2: Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occurs here at this point in time?

The proposed development will enhance the general area by supplying the needed residential relief to the residential developments already approved or still under EIA process. It should therefore be approved as there is a current need for the activity.

Question 3: Does the community/area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate).

There is a general need in the area for residential developments as well as from the Municipality, and therefore this proposed development will alleviate and contribute to housing supply, economic growth and expansion, as well as job creation.

Question 4: Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?

As part of the development, the developer will be tasked to upgrade the required civil services and required infrastructure to service the development. Thus, the greater community will benefit from the upgrades. The proposed development can only be developed once the capacity requirements are fulfilled as per the local council's requirements. The development will contribute to a large infrastructure upliftment project to service the surrounding existing and proposed developments.

Question 5: Is this development provided for in the infrastructure planning of the municipality, and if not, what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?

The site is in an area earmarked for low to medium density residential development by the Municipality and thus supporting the proposed development.

Question 6: Is this project part of a national programme to address an issue of national concern or importance?

The proposed project forms part of the bigger scheme of developments in Region 4 of the City of Tshwane. It will enhance the municipality, by providing much needed residential facilities to the general area in question. The development will increase the income base of the Municipality.

DESIRABILITY {'placing'):

Question 1: Is the development the best practicable environmental option for this land/site?

Yes, as it will benefit the social context of the area. It will boost the economy and comply to the City of Tshwane IDP and SDF and other planning documents. Job creation will be encouraged and benefits in terms of its locality in closeness to residents of the general area will be encouraged.

Question 2: Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities?

The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.

Question 3: Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?

The study area falls within Zone 3 and 4, which is high control (outside the urban area) and normal control zones respectively.

Zone 3: High control zone (outside the urban development zone)

Intention

Special control zones are sensitive areas outside the urban development zone. These areas are sensitive to development activities and in several cases also have specific values that need to be protected.

Composition

The following areas have been identified in this zone:

- *CBAs (Irreplaceable and Important areas) and ESAs outside the urban development zone as defined in C-Plan 3.3;*
- *Rivers (including a 32m buffer on each side) and currently undeveloped ridges that must be conserved;*
- *Areas that are sensitive (as determined in the sensitivity assessment); and*
- *Protected areas.*

Conditions

No listed activities may be excluded from environmental assessment requirements in this zone and further activities may be added where necessary to protect the environment in this zone. Additional requirements (guidelines, precinct plans, etc.) to ensure the proper development of identified areas in this zone, in a manner that will enhance their potential for conservation, tourism and recreation may be introduced.

Zone 4: Normal control zone

Intention

This zone is dominated by agricultural uses outside the urban development zone as defined in the Gauteng Spatial Development Framework.

Conditions

No listed activities may be excluded from environmental assessment requirements in this zone.

Since the study area is identified in the C-Plan as a Critical Biodiversity Area (CBA) i.e. Important Area and Ecological Support Area in terms of the Gauteng Conservation Plan V 3.3 and is / was also used for agricultural purposes it is placed within the Gauteng Province Environmental Management Framework (GPEMF) Zones 3 and 4. According to the EMF, residential land uses is not compatible with or desirable within these zones. However, according to the Gauteng Agricultural Potential Atlas (GAPA V4) the land on the study area has low agricultural potential. The ecological habitat assessment did conclude that most of the study area is classified as not sensitive and a portion as low-medium sensitive and two smaller portions as medium sensitive.

The approval of this application may therefore compromise the integrity of the existing environmental management priorities for the area in terms of the GP EMF, however, it can be said to be acceptable, due to the relatively limited ecological sensitivity of the study area and the low agricultural potential of the study area.

Question 4: Do location factors favour this land use (associated with the activity applied for) at this place? (this relates to the contextualisation of the proposed land use on this site within its broader context).

The proposed land use rights of the proposed township, are in accordance with the proposals of the Integrated Development Plan (IDP), which earmarks the area for low to medium density residential uses.

Question 5: How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?

The activity will have the following impacts on biodiversity:

- *Loss of habitat;*
- *Loss of fauna;*
- *Loss of flora;*
- *Disruption of natural corridors; and*
- *Disturbances to ecological systems.*

The activity will have the following impacts on the heritage characteristics:

- *Chance finds heritage features;*
- *Structures of more than 60 years of age may be affected.*

Please refer to the Impact Rating Table.

The above impacts can be mitigated, and the significance was assessed as low levels after mitigation.

Question 6: How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?

The following social impacts are applicable:

- *Dust emissions;*
- *Vehicular pollution;*
- *Noise;*
- *Visual impact;*
- *Safety and security;*
- *Traffic disruptions;*
- *Loss of sense of place;*
- *Change of land use.*

Please refer to the Impact Rating table.

The above impacts can be mitigated, and the significance was assessed as low to low-medium levels after mitigation.

Question 7: Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?

No, the proposed development will be at the cost of the applicant.

Question 8: Will the proposed land use result in unacceptable cumulative impacts?

Minimal cumulative impacts are anticipated as discussed within this report, however, by the implementation of the EMPr contained in Appendix H and following mitigation measures mentioned in the Impact Assessment will drastically reduce the cumulative impacts.

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

The Environmental Authorisation will be required for a period of **10 years**, to ensure that all construction activities are completed.

12. 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 A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

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

Appendix H: EMPr

Appendix I: Other Information

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.