MONDLI
CONSULTING

MAGEZA MALL-MASSONS MILL COUNTRY ESTATE

DRAFT REPORT - Proposed construction of a shopping centre, associated food outlet with drive thru service and access roads.

ABSTRACT

Draft Basic Assessment report for the proposed development of Mageza Mall/Shopping Centre. Includes description of the proposed development, preferred alternatives, receiving environment, potential impacts and proposed mitigation measures. This report has been prepared in line with the EIA Regulations, 2014 as amended.

Prepared by: Mondli Consulting Services

Executive Summary

Mondli Consulting was appointed by Massons Mill Country Estate to conduct a Basic Assessment process for their proposed development of a Shopping Mall in Masons Mill Area, located in Ridgepark, Pietermaritzburg, Msunduzi Local Municipality. The site where the project will take place is falling under Ward 24 of Msunduzi Local Municipality, Umgungundlovu District Municipality.

The property that the site is located on is currently vacant with vegetation on it including both grass and some trees. It is bounded by the Slang Spruit River to the north/northwest, Mageza Service Station (Sasol) and Archie Gumede Drive in the south/southwest direction and Driftside Road and Contactim General Store in the southeast and northeast direction. Masons Mill Country Estate is proposing the development of a shopping mall on the said site which will include a brand anchor store, hardware, "line" stores, ablution facilities, offices takeaway food outlet with drive thru and parking space. The total footprint inclusive of all structures that will part of this development is 1.7Ha. The proposed project scope was assessed against the EIA Regulations (2014) and associated Listed Activities to identify the necessary process to be followed in order to comply with the National Environmental Management Act (NEMA, Act No 107 of 1998).

It was identified that the proposed development falls within thresholds of Activities listed within Listing Notice 1 and 3 of the EIA Regulations Listing Notices. Therefore, the proposed development is required to obtain an Environmental Authorization through the Basic Assessment Process prior to its commencement in order for it to be in compliance with NEMA/EIA Regulations.

This is the Draft Basic Assessment Report that has been compiled according to Appendix 1 of the EIA Regulations. This report has been formulated following undertaking of:

- Desktop and site assessment;
- Consideration of project scope as described by the Developer;
- Identifying Legislation relevant to the proposed development and
- Pre-Application meeting conducted with the Competent Authority.
- Specialist assessment/input.

The Basic Assessment Process and Report therefore includes amongst others:

- Description of the proposed development.
- Description of the receiving environment: description of the property and site including description of biophysical, geographical, heritage and socio-economic conditions of the site and locality of the proposed project.
- Investigation of alternatives for proposed project including site, technology to be used etc. or motivation for not having alternatives.
- Assessment of possible environmental impact of the proposed development.
- Proposed mitigation measures against the possible environmental impacts and steps to maximize positive impacts.
- Recommendations including monitoring recommendations.

The proposed development will result in loss of habitat for any faunal species that may be located within the site through clearance of the thicket, secondary grassland and degraded grassland plant communities that exist on the site. Associated impacts will be mitigated

through minimizing disturbed areas and re-vegetation with indigenous vegetation post construction.

An Aloe plant species was observed within the project footprint. These may need translocation following the necessary process.

The proposed development will need to be realigned to reduce impact on more sensitive portions of the property and utilize less sensitive portions and also for the purpose of providing for any and all required buffers.

A buffer area of 20m is recommended around the Slang Spruit River and a 15m buffer is recommended for the seep wetland located about 45m southwest of the site. Both these watercourses were identified to have Low PES as they have been heavily modified including modification of ecosystem services and ecological integrity.

Despite the mentioned negative impacts of the proposed development, the proposed development promises great gain to the Masons Mill/Ridgepark community and other surrounding communities through temporary and especially permanent employment opportunities as well as provision of required shopping services at a convenient location within a short distance of these areas. Overall, negative environmental impacts associated with the proposed development, can be reduced to acceptable limits through effective implementation of impact mitigation measures.

It is therefore the view of the EAP that the proposed development should be considered favorably. The proposed development can be closely monitored by the Competent Authority and other state departments that administer laws relevant to this development such as the Department of Water and Sanitation to ensure that all impact mitigation measures are implemented as they should be. An independent Environmental Control Officer will have to be appointed for continuous month-to-month auditing and monitoring, liaising with the Contractor and reporting to the relevant parties such as the competent authority. This would help ensure that the proposed development is constructed with least negative impacts on surrounding environment especially with regards to watercourses within/close to the site.

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DRAFT BASIC ASSESSMENT REPPORT – PROPOSED MAGEZA SHOPPING MALL

Submitted in terms of the Environmental Impact Assessment Regulations, 2014, as amended promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) to:

Department of Economic Development, Tourism and Environmental Affairs (EDTEA):

Project Title

Proposed Construction of Mageza Mall on portion of Erf 10 000, Pietermaritzburg and portion 1 of Erf 456 Pietermaritzburg to be consolidated together, Msunduzi Local Municipality, KwaZulu Natal

A. DETAILS AND EXPERTISE OF THE EAP WHO PREPARED THE REPORT:

Mondli Consulting Services was appointed by Mageza Country Estate (Masons Mill) to conduct a Basic Assessment process for their proposed development of a Shopping Mall / Centre on portion of erf 10 000, Pietermaritzburg and portion 1 of erf 456 Pietermaritzburg to be consolidated together.

Details of the EAP:

Business Name of EAP	Mondli Consulting Services		
Physical Address	6 Joseph Avenue, New Era House, Suite 9, Durban North		
Postal Address	P O Box 22536, Glenashley		
Postal Code	4022		
Telephone	0826799841	Cell	0824187708
Email	mondlib@webmail.co.za mondlibee@gmail.com	Fax	031 5725647

The expertise of the EAP (including curriculum vitae) IS ATTACHED as Appendix G (1)(b).

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
A Mhatu	Bachelor of Science Degree Ecology, Environment & Conservation and Geography	SACNASP Registered (Membership No. 125863).	Has over 6 years experience in conducting EIAs and EIA related work.
BM Mthembu	Diploma in Nature Conservation Master's Degree (Environmental Studies Dissertation, Geography) Bachelor of Laws (LLB)	EAPASA registered EAP: No. 2018/168 in accordance with the prescribed criteria of Regulation 15(1) of section 24 H Registration Authority Regulation Society of South African Geographers (Membership No. 28/09), confirmed to	Has been involved in environmental and conservation field for over 20 yrs. Conducted EIAs for over 18 years including Strategic Env. Assessment. Has been involved in

		comply with the requirements set by South African Council for Natural Scientific Professions.	the review and commenting on development projects impacting on the environment.

B. THE LOCATION OF THE ACTIVITY

(i) The site for the proposed Mageza Mall project is located within Ward 24 of Msunduzi Local Municipality, Umgungundlovu District Municipality, KwaZulu Natal Province. The 21-digit Surveyor

General code of each cadastral land parcel is given in the table below.

N	O	F	T	0	2	5	8	0	0	0	0	0	4	5	6	0	0	0	0	1
P	T	N		O	F		E	R	F		4	5	6		P	M	B			
N	O	F	T	0	2	5	8	0	0	0	1	0	0	0	0	0	0	0	0	0
R	E	M		O	F		E	R	F		1	0	0	0		P	M	B		

(ii) The physical address and farm name

The site for the proposed development is located on Portion of Erf 10 000, Pietermaritzburg and Portion 1 of Erf 4456 which will be consolidated. It is situated approximately 7.2km south of the Pietermaritzburg CBD. The property on which the site is located is currently vacant with no existing developments on the site although there are residential, business and industrial developments surrounding the site.

(iii) The general coordinates for the property are given below.

Latitude/Longitude	Degrees	Minutes	Seconds
South	29	38	54.19
East	30	21	53.53

C. A PLAN WHICH LOCATES THE PROPOSED ACTVITY OR ACTIVITES APPLIED FOR **AS WELL AS ASSOCIATED STRUCTURES AND INFRASTRUCTURE AT AN APPROPRIATE SCALE.**

A locality map has been attached under **Appendix A (i)** showing the locality of the property including surrounding towns. This includes the sketch map as well **(Appendix A(iii)).** A layout map showing where the structures will be located on site, as well as the Facility illustration **(Appendix A (ii).**

D. DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTVITY, **INCLUDING –**

(i) All listed and specified activities triggered and being applied **for**

Mageza Country Estate is proposing to construct Mageza Mall/Shopping Centre on portion of Erf 10 000, Pietermaritzburg and portion 1 of Erf 456 Pietermaritzburg to be consolidated together, within Msunduzi Local Municipality, KwaZulu – Natal. The shopping Centre will be approximately1.7 hectares in extent and will entail a brand anchor shop, and a number of smaller line shops and food outlets, ablution block and parking area. The proposed development will include removal of indigenous vegetation as part of the site clearance/preparation. There is a river located in proximity of the site which forms one of the borders of the property on which the proposed development will be undertaken. The said river has associated wetlands located within the development property which were suggestive by the vegetation on site with the exact location and extent of wetlands to be investigated by through specialist engagement.

The table below shows Listed Activities within the National Environmental Management Act, 1998 (NEMA), GNR 324, 325 and 327 that will be triggered by the proposed development based on the project description given and the receiving environment of the site.

Table 1: Table showing Listed activities triggered by the proposed development.

Indicate the number and the date of the relevant notice;	**Activity No(s) (in terms of the relevant notice)**	**Describe each listed activity as per the project description (and not as per wording of the relevant Government Notice):**
GNR. 327 of 2014 (Listing Notice 1) as amended on 7 April 2017.	Activity 27 The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation	The proposed development will have a total area of about 1.7Ha. There will be removal/clearance of vegetation as part of site preparation which will result in clearance of an area of more than 1 hectare of indigenous vegetation.
GNR. 324 of 2014 (Listing Notice 3) as amended on 7 April 2017.	Activity 12 The clearance of an area of 300 square metres or more of indigenous vegetation d. KwaZulu-Natal xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.	In this instance, the proposed shopping complex is located with a Listed Geographical area i.e. sensitive areas as identified in an Environmental Management framework as contemplated in chapter 5 of the Act and as adopted Page 6 of 8 by the competent authority namely high biodiversity and high wetland constraints, therefore the above will apply as the footprint will be above 300m².
GNR. 324 of 2014 (Listing Notice 3) as amended on 7 April 2017.	Activity 14 The development of-	In this instance, the proposed shopping complex is located with a Listed Geographical area i.e. sensitive areas as identified in an

	(ii) infrastructure or structures with a physical footprint of 10 square metres or more; (c) if no development setback has been adopted, within 32metres of a watercourse, measured from the edge of a watercourse. d. KwaZulu-Natal xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.	Environmental Management framework as contemplated in chapter 5 of the Act and as adopted Page 6 of 8 by the competent authority namely high biodiversity and high wetland constraints, therefore the above will apply as the footprint will be above 10m².

(ii) A description of the activities to be undertaken including associated structures and infrastructure

Background of the proposed development

Mageza Country Estate is proposing to construct Mageza Mall/Shopping Centre on portion of Erf 10 000, Pietermaritzburg and portion 1 of Erf 456 Pietermaritzburg to be consolidated together, within Msunduzi Local Municipality, KwaZulu – Natal. The shopping Centre will be approximately1.7 hectares in extent and will entail a brand anchor shop, and a number of smaller line shops and food outlets, ablution block and parking area. The proposed development will include removal of indigenous vegetation as part of the site clearance/preparation. There is a river located in proximity of the site which forms one of the borders of the property on which the proposed development will be undertaken. The said river has associated wetlands located within the development property which were suggestive by the vegetation on site with the exact location and extent of wetlands to be investigated by through specialist engagement.

Overview

The proposed development will include a construction of a shopping mall with a total project footprint of about 1.7Ha.

The development will include the following structures/facilities: -

- Anchor Shop and anchor yard
- Hardware and hardware yard
- Line Shops
- ATMS
- Office
- Electrical Room
- Bin Area
- Ablutions
- Parking
- Food Outlet with drive-thru

The applicable standards for the construction of shopping malls and similar building structures will be followed in construction of the proposed shopping mall.

Project Objectives

The proposed Mageza Mall is intended to provide convenient neighborhood shopping centre to the surrounding residents in the form of a new and modern shopping centre close to main roads and close to major residential areas. The development will supplement the existing petrol filling station and provide a comprehensive shopping experience for the area, and people travelling along the main roads to and from work.

The Imbali, Edendale, Grange and south western parts of Pietermaritzburg are in need of additional commercial development. Traditionally, small shops have met some of the demand but for broader choice of goods, and services, people have had to travel to City Centre which is one of the large shopping centers closer to Pietermaritzburg CBD. The Edendale Mall has proven to be successful along Edendale Road but there is a need for additional commercial facilities to be provided along main roads passing through Imbali and residential areas along the east west arterial links.

Services on-site

Access/Roads
The site for the proposed development is located within Archie Gumede Drive and Sikhumbuso Ngwenya Road precinct adjacent to the Mageza Service Station (Sasol) which is located at the corner of these two roads. Access to the site will be off these two roads and will be established following guidelines from Traffic Impact Assessment, KZN Department of Transport as well as guidelines and recommendations from the Municipal Traffic Department.

Electricity
The area within which the proposed development is located has Municipal supplied electricity. Electricity for the proposed development will therefore be sourced from the same supplier with proof of engagement of relevant party/representative to be attached to the assessment report.

Water Supply
The Masons Mill/Ridge Park area has Municipal water supply. Water for the proposed development is therefore intended to be sourced through the municipality.

Sewer Supply
Ablution facilities will form part of the proposed development. These will be kept clean through an appointed cleaning service provider throughout the operational phase of the proposed development. Sewer Disposal will be through the Municipal Sewer System.

Stormwater
The stormwater plan will be compiled as advised by the Project Engineer to dispose of the water from the site for the construction and operational phase.

Waste Management During the Construction Phase
All waste/rubble from the construction phase will be stored in wind and scavenger proof containers. Such waste will regularly be transported to and disposed of at the nearest waste disposal site (Pietermaritzburg Municipal Dump Site). The appropriate area and interval for waste disposal will be

agreed to between Engineer, Contractor and ECO to ensure that waste disposal does not culminate in any environmental degradation.

Waste Management During the Operational Phase
General Waste produced during the operational phase will be disposed of at either through collection by Municipal Waste Service or Privately Appointed Waste Contractor. Developer will take all necessary actions to ensure that waste from the proposed development does not cause any negative environmental impacts especially considering proximity of the site to watercourses.

Construction Phase

The construction phase of the development will include:

- Clearing of vegetation for site preparation
- Excavations for foundations
- Construction of the foundations and rest of the building structures including walls, windows and roofs
- Cubing for electricity and piping for water supply
- Painting and other finishings
- Installation of required facilities within the stores and mall as well as food outlet
- Development, paving and marking of parking areas and access

Vegetation on site will be retained as much as possible. Through engagement of an ECO, transplanting of some plants if necessary, should be undertaken should vegetation assessment confirm presence of plants of significant importance.

E. A DESCRIPTION OF THE POLICY AND LEGISLATIVE CONTEXT WITHIN WHICH THE DEVELOPMENT IS PROPOSED **INCLUDING –**

(i) An identification of all legislation, polices, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report.

Table 2: Table showing identified Legislation, policies, plans and Municipal Development planning frameworks applicable to the proposed development.

LEGISLATION	AUTHORITY	COMPLIANCE/APPLICABILITY
National Environmental Management Act (No. 107 of 1998).	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	The Environmental Management: EIA Regulations promulgated according to this Act guided the Environmental Impact Assessment Process conducted for the proposed development.

EIA Regulations, 2014 as amended.	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	EIA Regulations were adhered to during the Environmental Impact Assessment including determining the need for an Environmental Authorization, the Application/Assessment Process to be followed, conduction of the public participation and report formulation.
Guideline:5 Assessment of Alternatives and Impacts in support of EIA Regulations	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	These guidelines were considered in terms of exploring alternatives linked to the proposed development.
Guideline on Need and Desirability, Department of Environmental Affairs	Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	In terms of these guidelines the need and desirability of the project has to cover certain specifics like training, safety, service delivery, benefits to the local people and the alignment of planning related issues to the project.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	All necessary steps will be taken to reduce the impact of the project on the biodiversity of the receiving environment.
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	Measures have been provided within both the Basic Assessment Report (BAR) and Environmental Management Programme (EMPr) to ensure that waste produced during both construction and operational phase does not result in pollution of the surrounding environment on site.
The National Water Act (No. 36 of 1998).	Department of Human Settlements, Water and Sanitation	This is applicable mainly due to dust during construction phase. The Developer as the authorization holder (should

		one be issued), must ensure that all tenant's operational activities are in compliance with this act.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	All necessary permits will be obtained for the proposed development if it is confirmed that watercourse(s) in proximity of the site will be affected by the proposed development in a manner that triggers requirement of a Water Use License.
Alien and Invasive Species Regulations, 2014.	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	All waste produced during construction and operational phase of the project will be handled and disposed of in compliance to this Act and associated regulations.
National Forests Act (Act No. 84 of 1998)	Department of Environment, Forestry and Fisheries	All necessary precautions will be taken throughout the project life-cycle to ensure that no alien or invasive plant species are introduced as a result of the project.
KwaZulu-Natal Amafa and Research Institute Act, 2018	KZN Amafa Research and Institute	Some trees and shrubs within the site will have to be removed. The necessary precautions will be taken to minimize removal of trees especially those that are indigenous and of conservation importance. The relevant specialist will be engaged in this regard and all necessary permits in relation to this act will be obtained where and when necessary.
Noise Control Regulations (Regulations 154, 10 January 1992)	Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)	Provides for the safeguarding of heritage resources within the project area. There are no known heritage or cultural features within or close to the site. However, Amafa will be engaged for commenting and possible recovery and procedure to be followed for archeological

		resources will form part of the EMPr and BAR.
National Development Plan	RSA Government Departments, Municipalities and Public Entities	Noise levels throughout the project cycle must be kept as low as possible to ensure that there is no nuisance or health impact on community and/or workers resulting from the proposed project.
South African Constitution, 1996	Government of the Republic of South Africa	Members of the communities in proximity project area will be employed during the construction and operational phases. Community members may also be provided with the opportunity to hold managerial positions provided that they meet the requirements for such positions.
Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000)	Department of Justice and Correctional Services	Due diligence will be taken to ensure that project related activities do not result in the violation of constitutional rights of community members and/or employees within project.
Msunduzi Local Municipality Integrated Development Plan (IDP), 2017-2022	Msunduzi Local Municipality	According to the Municipality's IDP, Msunduzi Municipality needs to decentralize services obtained in the Town of Pietermaritzburg, increase economic activity and employment for residences within the areas surrounding the town. The proposed development is therefore in line with the IDP as it will provide economic activity and create employment. The conduction of the EIA and other assessments is aimed at ensuring reduced negative environmental and social impacts in such that the development is undertaken in a sustainable manner.
Umgungundlovu District Municipality Integrated	Umgungundlovu District Municipality	The proposed development is in line with the principles of the Umgungundlovu District

Development Plan (IDP), 2020/2021		Municipality. It's success will (on a small scale) help address some of the challenges outlined within the Umgungundlovu District IDP.

F. A MOTIVATION FOR THE NEED AND DESIRABILITY FOR THE PROPOSED DEVELOPMENT **INCLUDING THE NEED AND DESIRABILITY OF THE ACTIVTY IN THE CONTEXT OF THE PREFERED LOCATION**

The need and desirability of the project has to be informed by the principle of sustainability as provided for in the National Environmental Management Act, Guideline on Need and Desirability issued by the National Department of Environmental Affairs (2017), and ultimately the Constitution of South Africa. This serves as a way of ensuring that the proposed development is ecologically sustainable, and socially and economically justifiable.

The Guideline cited above among other things state that it is important to review the issues of need and desirability against the listed activities that has given rise to the application in its entirety. The need and desirability have to consider the broader community needs and interests as reflected in the municipal Integrated Development Plan (IDP), Spatial Development Framework (SDF) and Environmental Management Framework (EMF) for the area where the project is located.

Msunduzi Municipality is the second largest municipality in the Province of KwaZulu-Natal and is the capital of the province. It is a predominantly rural area located close to the towns of Verulam and Tongaat. The Municipality is characterized mainly by disadvantaged areas with main land uses including primary and secondary education facilities, health care facilities, community halls and administrative offices. One of the key challenges within the Municipality is local economic development with: -

- *Lack of viable economic activity centres to promote internal economic linkages.*
- *There is high unemployment rate (66.3%) and 60.3% of the population is not economically active. The high level of unemployment leads to an increased number of communities living under abject poverty.*

The proposed development will provide employment to some locals during construction and operational phases of the project. This will therefore result in some small-scale alleviation of poverty with numerous households to benefit economic development through salaries earned from employment on the project.

With high poverty, some families may also struggle to afford good nutrition foods especially with the ever increasing price of food. Having a local place where they can purchase eggs will most likely mean that they can purchase eggs at a lower price including cutting out travelling costs to nearby towns. This will mean one less item to stress about when grocery shopping. Some community members may even see this as a business opportunity and purchase the eggs at low price and resell at higher price with profit to be earned as income.

Although there are no existing structures within the property; there is evidence of prior disturbance which may include fire, animal grazing and plant removal. During the site visit one has also observed some new settlements on the northern side of the property. The portion of the property to be

developed is subsequently mainly grass with some shrubs and trees surrounding. The clearance of vegetation for the site is therefore not expected to result in disturbance of any species of conservation importance such as threatened/protected species with vegetation removal to mostly be comprised of grass. This is in the context of the modification of the original layout in line with the biodiversity study findings, moving the houses to low and medium sensitivity areas, as opposed to high sensitivity area as highlighted and detailed below.

Looking at the guideline on need and desirability, and focusing more on planning tools like the IDP, SDF and EMF, these have been useful in the assessment. The said guideline provides a list of 14 aspects, which must be considered. Below the14 aspects have been addressed for the proposed development.

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).***

In terms of the Msunduzi Spatial Development Framework (SDF) compiled as part of the Municipality's Integrated Development Plan (IDP), the whole site is classified as existing industrial land, and therefore identified for development purposes.

One of the priorities of Msunduzi Local Municipality as mentioned in the IDP (Msunduzi IDP 2017/2022), is to promote economic growth leading to the creation of decent jobs.
"The principle of self-sufficiency must be promoted. Development must be located in a way that reduces the need to travel, especially by car, and enables people, as far as possible, to meet their needs locally". This is one of the principles that underpin the Msunduzi IDP. The proposed development will help create long both temporary and long-term(permanent) employment during the construction phase and operational phase respectively. This is in line with priorities of the IDP.

The Msunduzi Local Municipality also aims to ensure that developments are sustainable in line with Global Sustainable Development Goals and the National Environmental Management Act (Act 107 of 1998). Through the Environmental Impact Assessment Process (BAR) being conducted for this project, negative impacts can be reduced and positive impacts can be enhanced through implementation of mitigation measures and recommendations including recommendations from different specialists and stakeholders. This will help ensure that the proposed development takes place in a sustainable manner.

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) occur here at this point in time?***

According to the National Management: Biodiversity Act (Act 10 of 2004) the site is situation within a threatened ecosystem, namely the Ngongoni Veld (SVs 4) which has a threat status of "Vulnerable". However, no primary vegetation (untransformed by local stressors) was observed during the biodiversity impact assessment field study and therefore the specialist's opinion is that the proposed project is unlikely to jeopardise the conservation objective for this ecosystem in terms of protected undisturbed habitat. There is no natural forest within the property and only one protected plant species was observed during the assessment. With mitigation measures in place, the proposed development is therefore not expected to cause any threat to long term biodiversity goals of the Municipality or province.

The project area is located just off the busy intersection of Archie Gumede Drive and Sikhumbuzo Ngwenya Road. The main modes of transport within the locality of the site include on foot (49%) ad minibus/taxi (35%). Generally, areas close to the site can be classified as Low-Middle income with low income households most likely to use public transport while middle income may have more access and use of own vehicles. Therefore, the location of the project is favorable to provide a place for communities to access required services closer to their area of residence which will reduce both travel time and costs required.

Therefore, except for the option of leaving the site as it is, this is the best development for the area as it will provide services that are a requirement for the surrounding community. With the Basic Assessment being conducted, sensitive areas within the site can be avoided and other mitigation measures can be implemented to reduce negative environmental impacts.

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).***

The proposed development is viewed as a project that is needed by the community. The proposed project will provide temporary employment during construction and permanent employment during the operational phase. This is much needed by the community and will provide a significant boost to those who benefit as much of the community is unemployed especially since some would have lost employment as a result of Covid 19 related impacts and impacts of the looting that recently took place in the province with a lot of places still struggling to recover after having been burnt down during the looting.
The proposed development will also benefit the communities by providing services such as ATMs and the shops at a much closer distance compared to what was available before the development of Mageza Mall. This will most likely decrease travelling costs for most to get to a place where they can purchase required items.

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?***

Electricity will be sourced through Eskom. A generator will be provided as backup power supply for the proposed shopping mall.
Water will be Municipal provided and the Developer is encouraged to have a rainwater harvesting system to supplement water supply where rainwater can be used for the ablution facilities.

It is therefore believed that required services can be obtained from the different sources and will be adequate for the operation of the proposed Mageza Mall.

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 proposed development has 3 roads directly located around it which are Archie Gumede Drive, Sikhumbuzo Ngwenya Road and Driftside Road. Access to the site is currently planned to be from Archie Gumede and Sikhumbuzo Ngwenya where the existing access to the Mageza Service station

will be upgraded to also provide access to Mageza Mall. Therefore, required municipal infrastructure is available.

All other relevant infrastructure is currently available which will need to be maintained and upgraded as necessary, not just for the project but for the benefit of the community at large.

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

To some extent the project does aim to address an issue of national concern as the issue of poverty and unemployment is not only a concern for local and provincial government but of the national government as well. One of the main ways to tackle unemployment and poverty within the country is to encourage local economic development which helps create employment for locals and to stimulate increased/improved local economic activity. The proposed development will not only create job opportunities but will also create a safe trading space for local small business that may be able to be placed within the mall.

7. Is the development the best practicable environmental option for this land/site?

The site for the proposed development is currently zoned as general industry and will be rezoned as mixed-use to accommodate the proposed development.

Based on the desktop assessment, the site has high sensitivity with irreplaceable vegetation and wetlands. However, the same cannot be said from a site assessment/on ground conditions have shown that the site only consists of one protected plant species and no other vegetation whose loss would compromise the biodiversity targets of the municipality. There was also no evidence of actual wetlands observed during the site assessment.

Therefore, the proposed development is suitable for the site.

8. 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?

It is not expected that the approval of this application would compromise the integrity of any IDP or SDF. The proposed development is in line with both Local and District Municipality IDP and SDF. The area is not zoned for protection and has not been set aside for any future use or development.

9. 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 Msunduzi EMF has identified development constraints on the site being high wetland development and high biodiversity. While the Conservation Plan and Ecosystem Services Plan identified totally irreplaceable areas on the entire site and riparian areas on site, respectively.

This suggests that the any disturbance and therefore proposed development on the site would compromise the integrity of the said plans/environmental management priorities for the area. However, on site conditions show that the site does not contain vegetation or watercourses that

would be expected perhaps due to disturbances that can be associated with the multiple developments that have taken place around the site. Therefore, the proposed development is unlikely to compromise the integrity of the existing environmental management priorities for the area. This especially so with implementation of mitigation measures against all expected negative environmental impacts.

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

Yes, the location factors favour the proposed land use. There is easy access to the site. The site is located close to a number of residential areas that would benefit from having a shopping mall near them.

11. 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 site is located within the Ngongoni Veld Ecosystem which is a threatened ecosystem with a threat status of "Vulnerable". Although no primary vegetation (untransformed by local stressors) was observed during the field assessment, the study area still contains natural vegetation and species associated with the benchmark vegetation type (Dry Coast Hinterland Grassland (Gs 19) and therefore, a loss in natural habitat is expected to be unavoidable. There was one (1) protected plant species (in terms of the KZN Provincial Conservation Ordinance (KZN PCO)) namely *Aloe Pruinosa* that was observed on site.

The loss of vegetation within the area to be cleared cannot be avoided. However, the impacts of this loss will be mitigated by conducting a search and rescue to transplant protected plant species, minimizing the area that is cleared and revegetating disturbed areas post-construction.

Although there is a river located near the site the said river is not expected to be directly affected by the proposed development. However, some indirect impacts may occur mainly linked to runoff during both construction and operational phases. Vegetation clearing and earthworks during the construction phase will influence the amount of dirt/soil that is carried by runoff into the river. Having hardened surfaces during operational phase will influence volume and velocity of runoff that flows into the river. Impacts linked with stormwater will be mitigated through stormwater management during both phases.

No cultural or heritage features were observed on or near the site. This will be confirmed through specialist input that is currently underway.

12. 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)?

Provided that the project is carried out as per the description and scope of works given to the EAP, the proposed development is not expected to have any negative impact on the people's health and wellbeing.

Noise and dust and exhaust emissions are expected during the construction phase. However, none of these are expected to be at levels that would have significant impact on people's health or wellbeing.

13. Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?

No. There are no unacceptable opportunity costs expected.

14. Will the proposed land use result in unacceptable cumulative impacts?

No unacceptable cumulative impacts are expected to result from the proposed development.

There are three (3) different phases that will form part of the proposed development. These are: -

(i) Pre-construction and planning phase

This phase includes the appointment of professionals across different fields of expertise for all required assessments, permits and designs that need to be undertaken as part of the planning to ensure successful implementation of the project and compliance to all relevant legislations, regulations and guidelines.

(ii) Construction phase

This phase includes appointment of Contractors, Sub-Contractors and labour to carry out construction of the different structural components of the project. This includes appointment of locals which are often appointed for labour but may also be appointed for other roles based on skills required versus skills possessed. This phase also includes a strong involvement of engineers and for this application, an Environmental Control Officer will also be required.

(iii) Operational phase

This will include operation of the different stores within the mall. This will include rental of spaces in the mall to different businesses and appointment of required work force. Another operational aspect is the maintenance of structures that are part of this development.

G. A MOTIVATION FOR THE PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTENATIVE

As per GN. R 326, Appendix 1(2)(b), alternatives for the proposed development are to be identified and considered, and this is in line with the definition under Chapter 1 of the EIA Regulations, interpreting alternatives as "in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the –

a. Property on which or location where the activity is proposed to be undertaken;
b. Type of activity to be undertaken;
c. Design or layout of the activity
d. Technology to be in the activity;
e. Operational aspects of the activity

This includes the option of not implementing the activity. This approach compels the developers and assessors to consider other potential land uses and possible future land uses for the site under assessment.

In essence this section focusses on the motivation for the preferred site, looking at the topics covered below:

Property on which the activity is undertaken

The property on which the proposed development will take place is under the ownership of the Developer (Mageza Country Estate). Therefore, no other property was considered.

The property is large enough for the proposed development and the location is favorable for the intended development. The Developer also owns Mageza Service Station located adjacent to the intended development and therefore, for the Developer, the intended development is an extension to the to the existing service station with the purposes of providing services required by surrounding communities.

Type of activity undertaken

This is the proposed development which is aimed at providing shopping facilities at a distance that is closer to what is currently available for the surrounding communities. This will include construction of a food takeaway outlet and parking space for the shoppers.

The Developer owns Mageza Service Station and through their business in the area, they have been able to identify a gap/requirement for the proposed mall as there is no mall close to their "target" area.

The alternative to the proposed development would be to construct a smaller center. However, this would limit the number of stores/businesses that can be accommodated and would therefore reduce the number of services that can be offered. A smaller center would most likely only house established businesses and leave no room for small and medium enterprises to be accommodated for. This would reduce the chances of local businesses being able to be housed within and trade from the proposed development.

Design and layout of the activity

The site layout and Facility illustration are shown as **Appendix A (ii)** as indicated above.

The proposed development will include construction of a shopping mall that will include:

- An anchor store and yard
- Hardware and yard
- Line shops
- Takeaway food outlet with drive thru
- Parking bays
- "internal"/ access road
- Public transport layby and
- Sidewalk

As it stands, the layout of the proposed development primarily utilizes a low sensitivity area but also includes use of medium and high sensitivity areas. The layout may be amended to avoid the high sensitivity area. The final layout will be made part of the final BAR including the recommendations/reasons for amendment of the layout.

Technology to be used by the activity

Basic construction technology will be used during the construction phase including TLB and tipper trucks. All vehicles and machinery to be used will be maintained in good condition and meet the operational standards to ensure safety of workers operating it and to eliminate any unnecessary environmental impacts.

Alternative site

Thus far there is only one site that has been considered which aligns the proposed development along the existing service station. Alternative layouts will be considered and presented in the final BAR once input from all specialists and departments has been made. Alternatives will be considered in order to avoid excessive damage to the environment and ensure use of space with least sensitivity, as much as possible.

No - go option

If the proposed development is not considered favorably, the site conditions will remain the same. However, over time some changes are likely to occur within and around the site.

The socio-economic opportunities that would have been presented by the proposed development during the construction and operational phases will be lost. Furthermore, the funds which have thus far been invested into the planning phase including designs and studies done will be lost.

The communities will continue to have to travel long distances to purchase essential items which will have associated additional costs compared to having a place to purchase from that is a short distance away that a person can easily walk to or take a short drive/walk to.

H. A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERED ALTERNATIVES **WITHIN THE SITE, INCLUDING:**

i. Details of all the alternatives considered

Property on which the activity is undertaken

The property within which the proposed development is located in owned by the developer and was therefore seen as suitable for the proposed development. In addition, the property is located next to Mageza Mall which is owned by the Developer for Mageza Mall. The property is therefore well within the area that is intended to be serviced by the proposed development.

Figure 1: Google Earth Image showing a rough outline of the property within which the proposed development is located.

The factors that make the property desirable for the proposed development include:

- The property is located near a busy road intersection with paved roads around the property meaning easy access through different modes of transport including though public transportation, via private vehicles and by foot. This means easy access for potential customers to access required services and purchase required items.
- Although the property is located within the Ngongoni Veld ecosystem which is categorized as vulnerable and a habitat will be lost through removal of vegetation, the impacts of the proposed development will not result in the compromise of biodiversity targets locally, provincially or nationally.
- There is a service station located adjacent to the property which is owned by the Developer for Mageza Mall. Although this service station has a convenience store, the store only offers limited services/products and therefore the property is suitable to service the same area being serviced by the service station but offering a greater range of products and services.
- There is provision of electricity by Eskom within the locality of the property with some Eskom poles and lines close to the property. This will make supply of power to the site easy.
- The property has more than enough space than is required for the proposed development.
- The slope/gradient of the site is favorable for the proposed development.

<u>Location of the site within the property</u>

The site for the proposed development is located adjacent to Mageza Service station and will be an expansion of that disturbance within the area. The positioning of the site within the property allows for easy access to the proposed mall with entrance from Archie Gumede which will be shared with existing

service station and another entrance from Sikhumbuzo Ngwenya Road which will be a new entrance. The location of the site will be reconsidered and amended once all input has been received from the different specialists and state departments to consider their concerns and recommendation with regards to the positioning of the site.

Figure 2: Image showing snippet of the positioning of the site within the property (full and clear layout attached under Appendix A.ii).

Type of activity undertaken

There is no other mall located within the "target" area to be serviced by the proposed development. Some of the services and products that people enquire about at the existing service station are not offered in the service station but would be provided in the shopping mall and therefore, there is a market for the proposed development. In addition, the proposed development will also provide a significant number of employment opportunities which is a good opportunity for permanent positive socio-economic impact on the surrounding communities. The property is surrounded by low-middle income communities and therefore, positioning of a mall in this area will allow people to be able to purchase essential items closer to their homes thereby reducing the total costs of accessing items such as essential food items.

Design and layout of the activity

The design and layout has thus far taken into consideration the building standards and guidelines. Other factors considered include findings of the traffic impact assessment in terms of access. The findings of the terrestrial biodiversity impact assessment have thus far not led to a need to change the proposed layout.

The design and layout therefore is intended to meet the intentions of the Developer in terms of number of stores to be housed within the mall and the desired location for the takeaway food outlet considering that the food outlet is intended to have a drive-thru service.

Technology to be used by the activity

Basic construction machinery will be used during the construction phase including plant such as TLB, different trucks that will be delivering material to the site, vehicles that will be transporting staff to and from the site as well as hand-held tools such as drilling equipment. There were therefore no technology alternatives considered as those to be used are not known to have any excessive detrimental impacts on the environment.

The only alternative would be to have a generator as a backup to the Eskom power source.

No – go option

The no-go option took into consideration the outcomes/impacts of the proposed development considering both positive and negative impacts associated with construction and operation phase of the proposed development.

Although there may be some negative impacts during the two project phases, overall, the proposed development will have positive impacts with specific reference to the positive socio-economic impacts during both the construction and operational phases. With measures put in place and effectively implemented, the negative environmental impacts of the proposed development can be reduced to levels of low significance.

ii. Details of the public participation process undertaken ***in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs***

The project will follow the standard public participation process as contemplated under Regulation 41 of the 2014 EIA Regulations, as outlined below.

- The ward councilor for the area that the proposed development is located within will be informed of the proposed development. Should any public participation meeting be required, the meeting will be conducted and recorded and minutes of the meeting will be attached to the final BAR.
- Site notices will be erected on and around the site in isiZulu and English. Guidelines of the EIA Regulations and the Public Participation Guidelines will be followed with regards to the size and other aspects of the site notices.
- Newspaper adverts will be placed in The Witness and its sister paper in English and isiZulu respectively.

- The draft Basic Assessment report will be circulated to all stakeholders, Interested and Affected Parties (I&APs) and state department for the 30-day commenting period as part of the Public Participation Process. All comments received will be attached to and incorporated in the Final BAR and EMPr.

*iii. A summary of the issues raised by interested and affected parties, **and an indication of the manner in which the issues were incorporated, or reasons for not including them***

This is the Draft BAR being circulated to I&APs, stakeholders, and state departments as per the table below giving them the opportunity to comment on the proposed development. The comments and responses to comments received will be recorded in the comments and response report which will be attached to the final BAR as **TABLE 15**. In addition, the EAP will Amend both the BAR and EMPr to incorporate/address comments received by the date of submission of the final BAR.

Table 3: Table showing identified stakeholders, I&APs and State Departments were consulted and given the opportunity to comment on the proposed development.

Name of Organisation/Department	Contact Person	Contact Details
Department of Economic Development, Tourism & Environmental Affairs	Shawn Janneker/Sphelele Mthwasa	No 8 Warwick Road Cascades Pietermaritzburg 3202 Tel: 033 347 1820 Shawn.Jenneker.kznedtea.gov.za/ Sphelele.Mkhwasa@kznedtea.gov.za
Ezemvelo KZN Wildlife	Dominic Wieners	P.O.Box 13053 Cascades 3202 (033) 845 1460 / 1739 / 1452
KwaZulu – Natal Amafa and Research Institute	Ms. Bernadet Pawandiwa	195 Langalibalele Street, Pietermaritzburg, 3201 (033) 394 6543 / bernadetp@amafapmb.co.za
Department of Human Settlements, Water & Sanitation	Ms Nonkululeko Mokoena / Mr Neo Leburu	P.O.Box 1018 Durban. 4000 031 336 2758 / 2789 / 083 2970832 / 083 297 0832
KZN Department of Transport	Ms Judy Reddy	224 Prince Alfred Street Pietermaritzburg 3200 Tel: 033 355 8600 judy.reddy@Kzntransport.gov.za
Msunduzi Local Municipality	Ntokozo Caluza	Private Bag X321 Pietermaritzburg

		3200
Umgungundlovu District Municipality	Environmental Health Division	242 Langalibalele Street Pietermaritzburg 3200
Department of Agriculture Forestry and Fisheries	Mr. A Mnyungula	185 Langalibalele Str. Pietermaritzburg 3200 Tel: 033 392 7729 E-mail: AyandaMny@daff.gov.za
ESKOM	Samantha Naicker	Durban – New Germany 031 710 5183 / nselesi@eskom.co.za

iv. *The environmental attributes associated with the alternatives* ***focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects***

Geographical and Physical Attributes

Land Use Character

The property for the proposed development is located I an area that is currently zoned as General Industry. It is proposed that the site be rezoned to Low Impact Mixed Use to accommodate the proposed development. All rezoning procedures will be concluded prior to the commencement of the construction of the proposed development. The site is currently vacant and surrounded by developments such as the Mageza Service Station and Contactim General Store. Eden Gardens Private Hospital is located about 1.3km from the site.

Climate

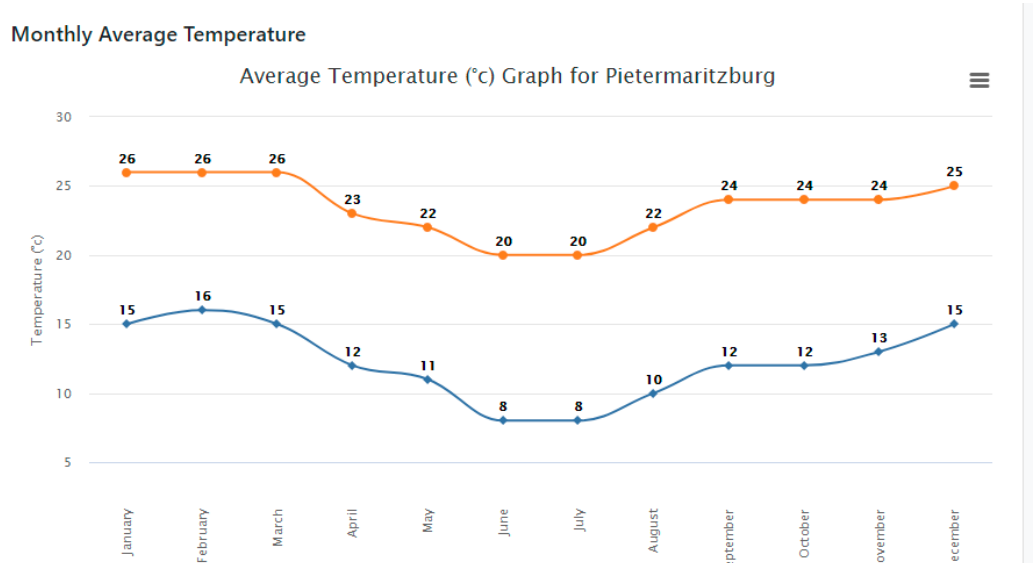

Figure 3: Graph showing average monthly High and Low temperatures for Pietermaritzburg (source: www.worldweatheronline.com) .

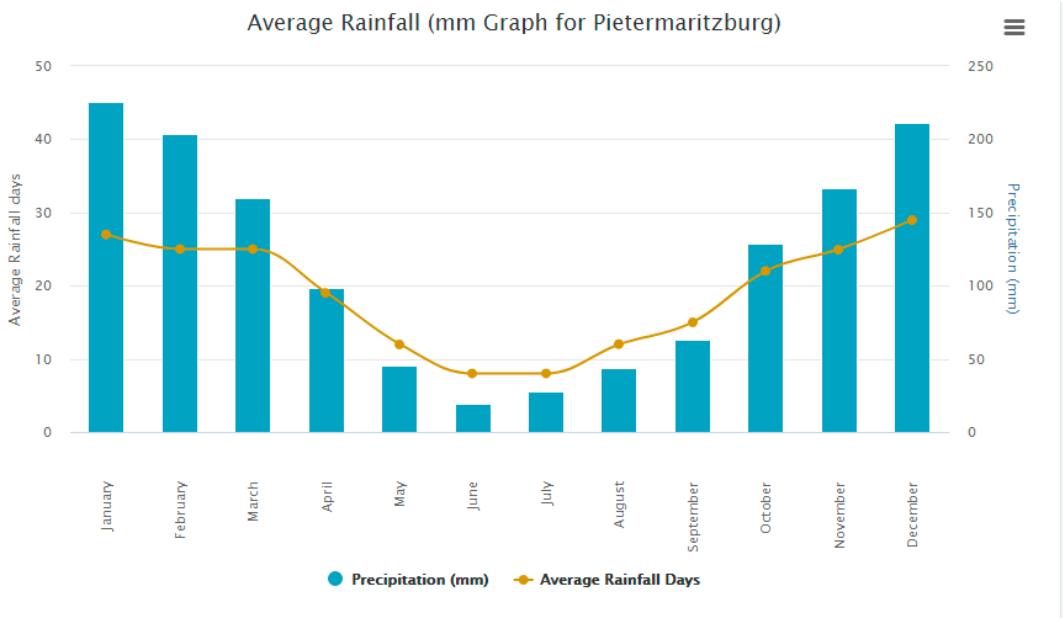

Figure 4: Graph showing average monthly rainfall for Pietermaritzburg (source: www.worldweatheronline.com).

The area that the site is located within is characterized by hot summers and mild winters. Rainfall if mainly received during the months of December-February.

During any summer season, some of the most common hazards that get identified include severe thunderstorms (that are often accompanied by heavy rainfall, lightning, strong winds and hail).

Description of ecological baseline

Vegetation

According to the desktop assessment conducted by BP Environmental Solutions, the proposed development is not associated with any Critical Biodiversity Area (CBA) categories (EKZN, 2016). Although there is that a small patch outside of the development footprint near the entrance of the existing petrol station, it is likely to be of little consequence, as the area in question contains no natural habitat and is occupied completely by parking and a portion of filling stations kiosk.

According to the "Schedule of Threatened Terrestrial Ecosystems in South Africa" (promulgated under NEMBA, Government Notice 1002 of 2011), and Figure 6 below, the proposed development occurs within one (1) Threatened Ecosystems which is classified as Vulnerable (Ngongoni Veld – SVs 4). No primary vegetation was observed on site at the time of the field assessment and therefore it is unlikely that the proposed development will have any impact to the conservation goals listed for this threatened ecosystem (BP Solutions Terrestrial Biodiversity Report, June 2021).

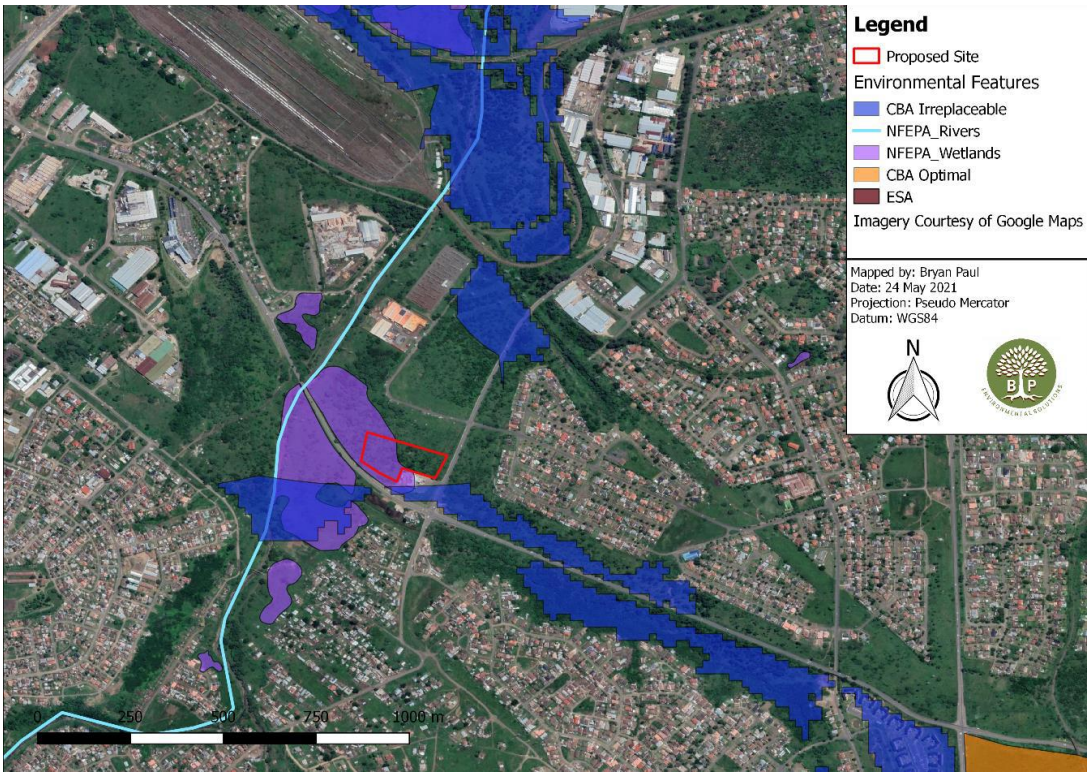

Figure 5: Illustration of applicable area s of conservation importance found within the proposed site and nationally protected freshwater habitat (BP Solution, June 2021).

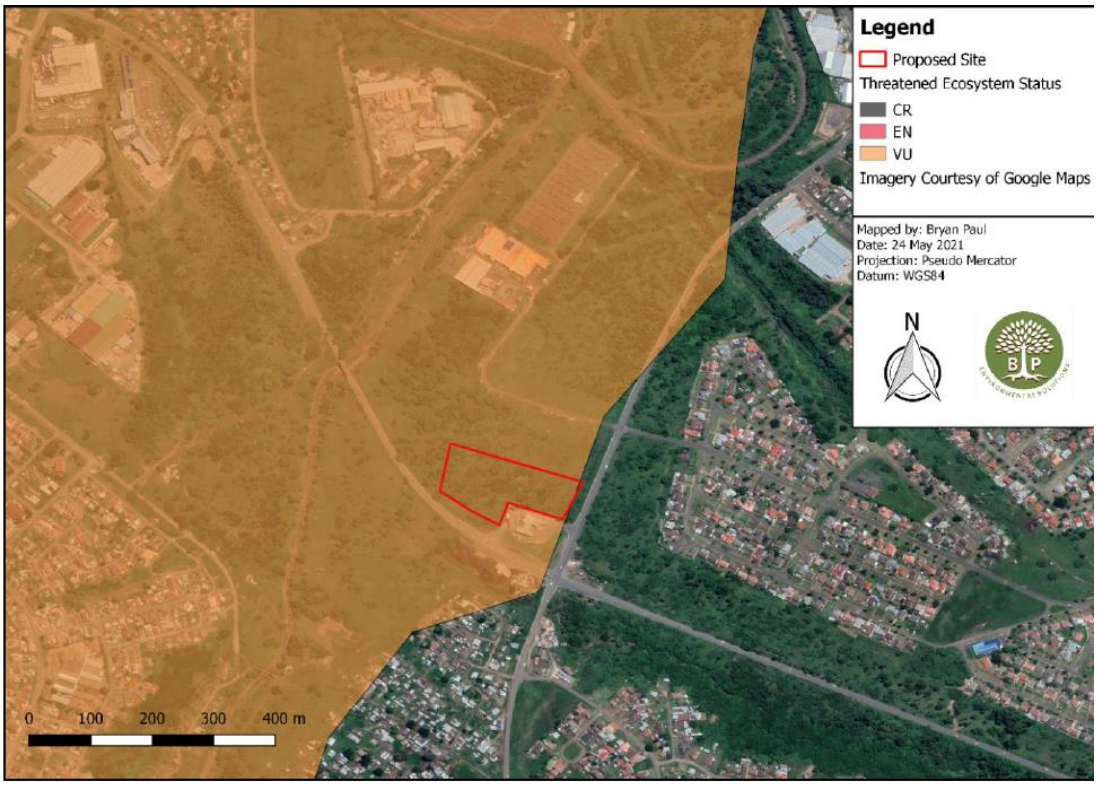

Figure 6: Illustration of the Threatened Ecosystem Status associated with the proposed study area (BP Solutions, June 2021)

The field assessment revealed that at a finer level, three plant communities existing within the study area, namely Thicket, Secondary Grassland and Degraded Secondary Grassland which are expected to occur within this region.

Thicket

The thicket represents a collection of woody plant species which have presumably encroached into a grassland area. The species composition aligns with what is expected within this vegetation type and occupies approximately one (1) hectare. The thicket community appears to become denser and more developed when moving towards the western portion of the property and towards the wetland habitat. This portion of the property provides good variation in habitat for bird species and other fauna in the more shaded under-canopy. It becomes less dense towards the east becomes less dense and opens up toward a plant community which is more representative of a grassland with the abundance of graminoid species and smaller trees *Dichrostachys cinerea* and *Ziziphus mucronata* subsp. *Mucronata*.

Figure 7: Snapshots of the Thicket communities occurring within the study area.

Table 4:Common plant species associated with the Thicket plant community.

Invasive Plant Species	• *Chromolaena odorata* (Triffid Weed) • *Ipomoea indica* (Morning Glory); • *Lantana camara* (Lantanta); • *Ricinus communis* (Castor-oil Plant); • *Solanum mauritianum* (Bug Weed); and • *Tecoma stans* (Yellow bells).
Indigenous Plant Species	• *Dichrostachys cinerea* (Sickle Bush); • *Digitaria eriantha* (Common Finger Grass); • *Erythrina lystistemon* (Common Coral Tree); • *Setaria sphacelata* var. *sericea* (Golden Bristle Grass);

	• *Vachellia nilotica subsp. Kraussiana* (Scented-pod Acacia); • *Vachellia sieberiana* var. *woodii* (Paperbark Thorn); and • *Ziziphus mucronata subsp. Mucronata (Buffalo Thorn).*

- **Degraded Secondary Grassland**

Represents the smallest land cover, with approximately 0.05 hectares that will be impacted upon by the proposed development. This community is dominated by Alien Invasive Plant Species (AIPS) like *Senna didymobotrya* (Peanut butter cassia) with limited to no natural vegetation remaining.

Table 5: Common plant species associated with the Degraded Secondary Grassland plant community.

Invasive Plant Species	• *Chromolaena odorata (Triffid weed);* • *Lantana camara (Lantana);* • *Passiflora subpeltata (White Passion-flower);* • *Senna didymobotrya (Peanut butter cassia);* • *Solanum mauritianum; and* • *Tagetes minuta (Khaki Bush).*
Indigenous Plant Species	• *Digitaria eriantha (*Common Finger Grass); • *Panicum maximum (*Weeping Love Grass); • *Vachellia nilotica. Subsp. Kraussiana (*Scented-pod Acacia); and • *Ziziphus mucronata subsp. Mucronata* (Buffalo Thorn).

- **Secondary Grassland**

These communities have undergone modification, having deviated from their natural state to a point where they are unlikely to maintain the same structure, function and ecological processes. Secondary grasslands can however, be found at different states and ranges of recovery. This community is dominated by graminoid species like *Digitaria eriantha*, *Panicum maximum* and Sporobolus pyramidalis with no particular dominance noted by said species. A small sub-population of approximately fifty (50) *Aloe Pruinosa* were observed within a manmade indentation near the northern boundary of the site. This species has been classified as “Vulnerable” and must not be harmed during project life-cycle and avoidance or translocation must be considered by the Developer.

Table 6: Table showing the common plant species associated with the Secondary Grassland Plant Community.

Invasive Plant Species	• *Lantana camara* (Lantana); • *Agave Americana* (Common Agave); and • *Tagetes minuta* (Khaki Bush).
Indigenous Plant Species	• *Aloe Pruinosa* (Powder Aloe); • *Aristida junciformis subsp. junciformis* (Ngongoni grass); • Cyperus textilis; • *Dichrostachys cinerea* (Sickle Bush); • *Digitaria eriantha* (Common Finger Grass); • *Panicum maximum* (Weeping Love Grass); and • *Vachellia nilotica. Subsp. Kraussiana* (Scented-pod Acacia).

Summary

The site is located within Ngongoni Veld which is categorized as threatened but the specialist assessment did not observe any primary vegetation within the study area and as such impacts to this ecosystem will be regarded as limited, provided that all mitigation technique listed within this report are adequately implemented. There was *one* (1) protected plant species (in terms of the KZN Provincial Conservation Ordinance (PCO) observed on site which is the *Aloe Pruinosa*. The site also consists of thicket plant communities that are habitat for birds. Clearance of these plant communities will therefore be associated with habitat loss.

Fauna

Several Species of Conservation Concern were recorded within the area through the Desktop assessment conducted by the Biodiversity Specialist and must be considered when constructing and operating the proposed facility. However, no faunal species of any particular conservation importance were observed during the site walk-through done by the specialist. No mammals, amphibians or herpetofauna were observed on site during the site assessment conducted by the biodiversity specialist and avifaunal species were not of any conservation importance.

Ecological Sensitivity

Vegetation has been used as a common biological indicator to identify the Present Ecological State (PES) or ecological health of ecosystems, given their overall ability to respond rapidly to disturbance. Areas that are highly disturbed will more than likely have non-conservative species that are not sensitive, have higher tolerance to disturbances and have broad distribution ranges as conservative plant species are highly sensitive, have narrow distribution ranges and low tolerance to disturbance and are therefore the first to be eradicated in disturbed conditions.

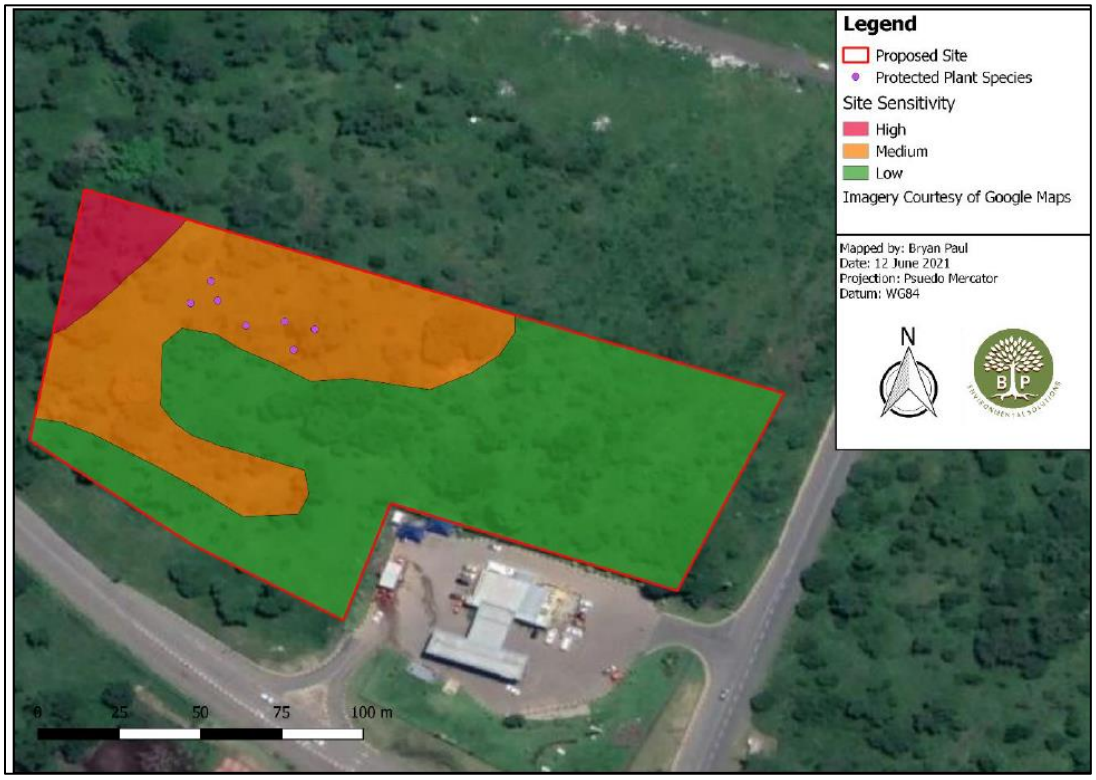

Figure 8: Sensitivity map of the proposed development. (Source: terrestrial biodiversity impact assessment study conducted by BP Environmental Solutions, June 2021).

The ecologist considered a 30m buffer area around a potential nearby wetland habitat as highly sensitive and should remain undeveloped and adopted as an ecological ecotone. The remaining site sensitivity consisted of areas with medium to low sensitivity scores which are considered developable, but with site specific restrictions in place. Although the proposed site has limited highly degraded areas, transformation within all three plant communities (Degraded Secondary Grassland, Secondary Grassland and Thicket) has resulted in the overall reduction in ecological value and services, especially in areas which surrounded road networks, the existing petrol filling station and adhoc dumping and clearing nearby. Ecological integrity improves however, in a westerly directly and especially when bordering the denser thicket and wetland buffer. Whilst no faunal species of SCC were observed, this area was most noteworthy and active throughout the field assessment.

Soil and Geology

The general geology of the area shows the site to occur on Pietermaritzburg Formation (Ecca Group) and of the Karoo Supergroup. These rocks are also intruded on both regional and local scales by dolerite of Jurassic age. The actual geology on the site was confirmed by the results of the fieldwork carried out by a specialist and comprised the shales of the Pietermaritzburg Formation. The site is underlain by a mantle of soil of variable thickness comprising colluvial and residual soils which overlie weathered shale bedrock.

The colluvium, occurring from ground surface generally comprises dark greyish brown, soft, gravelly clay, and occurs to a depth of about 0.25 to 0.75 metres below existing ground level (mbegl). Underlying the colluvial soils are residual shale soils comprising moist brown to greyish brown occasionally gravelly clay. The residual mudstone soils were identified in each test pit dug within the site during the site assessment. From the results of the DPL tests put down the upper colluvial soils generally exhibit a consistency of very soft to soft, and even as firm, down to between 0.3 and 0.6 mbegl. Below this depth the residual soils exhibit a consistency of soft to firm down to between 0.6 to 0.9 mbegl before increasing to firm to stiff all the way to near refusal depths of the DPL. Final refusal depths of the DPL tests ranged between 0.6 and 2.1 mbegl, which on average occurred at about 1.2mbegl.

Groundwater and Wetlands / Hydrology

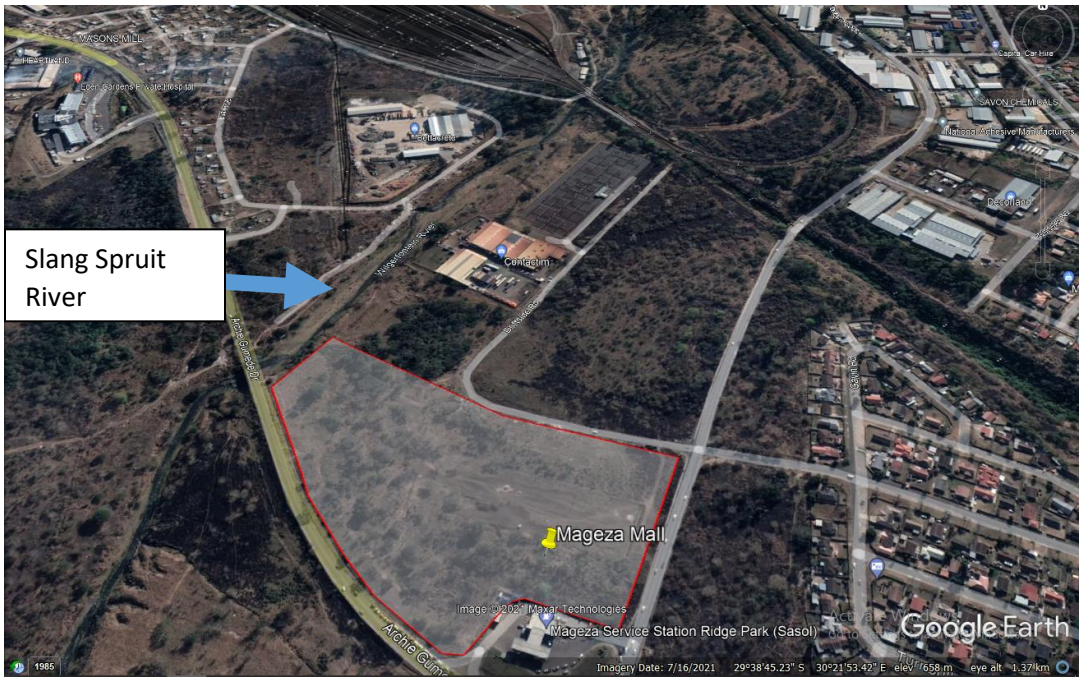

Figure 9: Google Earth Image showing approximate property outline and Slang Spruit River bordering the property.

There is a river that borders the site in the northerly and northwestern direction. According to the desktop assessment by the Biodiversity specialist and from the Msunduzi EMF status of the site, there is potential for wetlands within the site. The presence of a wetland within the property was confirmed through an Aquatic and Wetland Assessment conducted by Verdant Environmental.

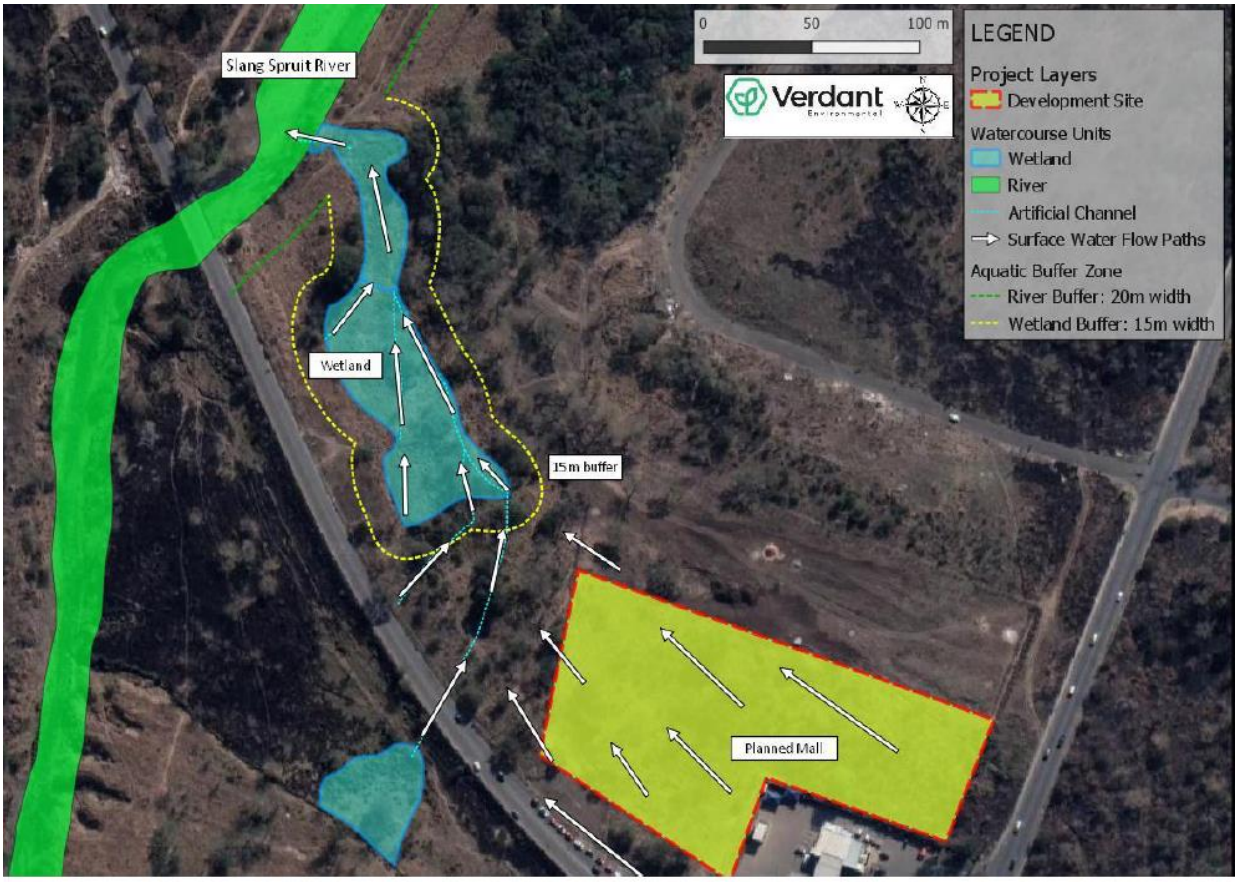

Figure 10: Image showing watercourses that can be associated with the site and the recommended buffers for the watercourses.

The Aquatic and Wetland Assessment was conducted in two phases including the Desktop Review of Freshwater Ecosystem Context and Site Assessment Phase. Different sources of information were consulted to obtain preliminary data in terms of freshwater ecosystems that may be associated with the site. This was followed by an onsite assessment which was conducted on the 24th of May 2021 to confirm onsite conditions in terms of freshwater ecosystems. Potential impacts of the proposed development on the water ecosystems around the site were identified. The significance of the potential construction and operational impacts was assessed using an impact assessment method developed by Eco-Pulse (2020) which is attached under Annexure A of the Aquatic and Wetland Assessment.

The main drainage feature in the study areas is the perennial Slang Spruit River located in the valley to the immediate west of the site and draining in a general northerly direction, within quaternary catchment U20J. The Slang Spruit discharges into the uMsunduze River, approximately 1.5km north of the site.

For this section we focus on the findings of the onsite/physical assessment of the site as this yields results of actual conditions within and around the site in comparison to a desktop assessment that mainly reveals expected conditions.

Figure 11: Watercourses within 500m radius of the site.

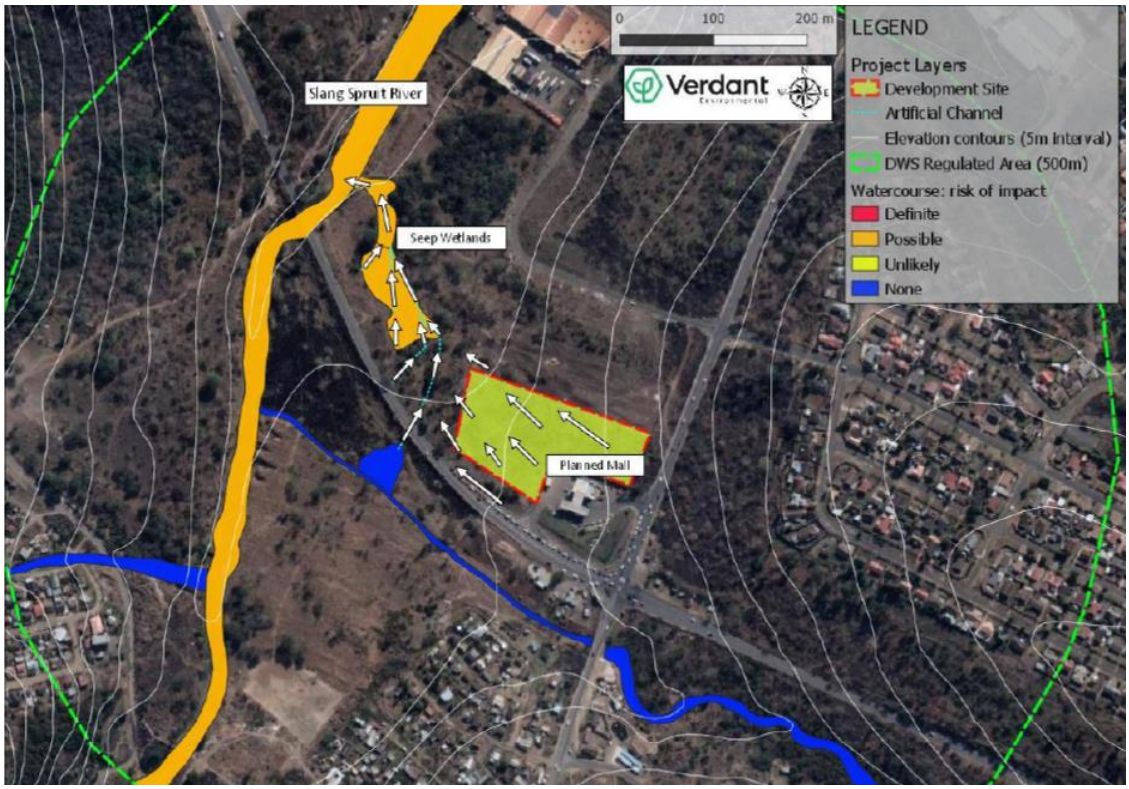

Figure 12: Image showing watercourses within 500m radius and likelihood of impact from the proposed development.

Wetlands and Wetland Attributes

The wetland close to the site is about 45m from the boundary of the proposed development and is classified as a seep wetland that is about 0.6Ha in extent with permanent and seasonal saturation. The vegetation communities comprise a mix of short secondary wet grassland and sedgeland with emergent wetland vegetation in the lowest lying areas where standing water was encountered. These vegetation types can be described as follows:

• **Mixed sedgeland in seasonal and permanent wetness zones**: comprising mainly the indigenous giant sedge, *Cyperus dives*, bulrushes (*Typha capensis*), with a mixture of native grasses such as *Sporobolus pyramidalis*.

• **Seasonally wet grassland**: dominated by the water-loving grass, *Leersia hexandra* (Wild rice grass), with smaller sedges such as *Carex sp*. and *Kyllinga melanosperma*. Alien invasive species present included *Paspalum sp*, *Ageratum houstonianum*, *Lantana camara* and *Tagetes minuta*.

The wetland was observed to have been notably disturbed, primarily as a result of the construction of the municipal road which crosses the wetland, with a large portion of the seep potentially having been infilled. Artificial drains have also been constructed to more efficiently convey storm water from the road surface away and through the seep. This disturbance has also led to an increase in invasive alien plants and weeds in the wetland habitat.

Potential artificial water inputs to the wetland from the nearby SASOL garage (storm water runoff and runoff from car wash facility) and broken municipal water pipes along the roadside, have likely increased the saturation levels within the wetland, making the soils wetter and more capable of supporting more permanent wetland habitat and vegetation communities.

Figure 13: Image showing the wetland to the left and river to the right.

River and River Attributes

Slang Spruit River is a perennial river with permanent flow with main water input being catchment runoff. Some of the vegetation observed along the river includes short exotic grasses including *Pennisetum clandestinum* (Kikuyu grass) comprise the riverbanks and flood benches, with tufts of *Aristida junciformis*

and scattered woody species (e.g. *Vachellia siberiana*) and alien invasive plants such as *Lantana camara*, *Solanum mauritianum*. Instream vegetation largely absent due to the depth of water and flows. Some patchy cover of *Cyperus dives* and *Sporobolus pyramidalis* on the wetted permitter of the channel.

Present Ecological Status (PES)

Wetland PES

The PES of the wetland was rated as a **'D' Category** or '**Poor**' where the modification of the wetland and surrounding has had a clearly detrimental impact on the wetland's integrity and approximately 50% of wetland integrity having been lost.

River PES

Having considered Instream PES, Riparian PES, and river habitat quality, the river's overall PES was rated as 'D/E' PES Category: Poor to Seriously Modified. This is largely due to impacts such as large loss of biota, habitat and ecosystem functions.

Both the river and the wetland were assessed as having and Ecological and Importance Sensitivity that is rated as **Low**.

Social attributes

The site for the proposed development is located within an urban area that is zoned as general industry. The area is called Masons Mill and is located within Ward 22 of the Msunduzi Local Municipality, approximately 7.2km south of the Pietermaritzburg CBD. Residential areas that are located within close proximity to the site include Ridgepark, The Grange, Richmond Crescent, Hazelmere, Westgate, Slangspruit, Edendale D and Edendale C.

Economic attributes

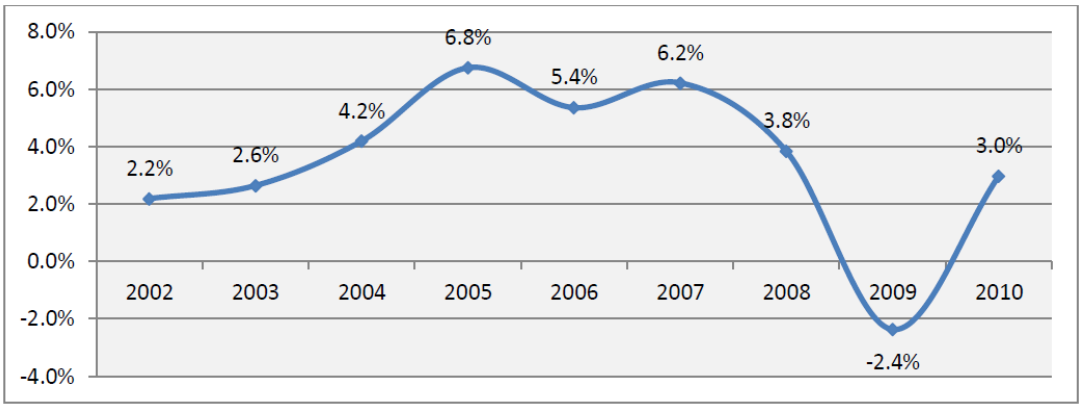

Figure 14: Figure showing the growth in gross domestic product (GDP) as gross value added (GVA) at constant 2005 prices for Msunduzi between 2001 and 2010.

During the period of 2001-2010, the largest contributor to the economy of Msunduzi was the manufacturing sector (21.4%). The finance, insurance, real estate & business services sector and the general government sector contributed 19.5% and 18.7% respectively with the transport, storage & communication sector contributing 14.0% to the total GDP.

The site is located within an area that is characterized as low-middle income. There are high unemployment rates with many residents within the area earning below R5000 a month.

Heritage, historical features, and cultural aspects

There was no heritage, historical or cultural features observed within or close to the site. However, a heritage impact assessment is currently being conducted and the results will be included in the final BAR.

v. *The impacts and risks identified for each alternative*, **including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts –**

(aa) can be reversed

The impacts associated with the proposed development cannot be reversed unless the project is decommissioned which is not expected to happen. However, the impacts can be reduced and compensated for as indicated in the impact statement/assessment table below. For example: the removal of vegetation may include removal of indigenous trees but such trees can be transplanted prior to the commencement of construction activities, and replanted on project completion.

(bb) may cause irreplaceable loss of resources

There is no irreplaceable loss of resources expected to occur as a result of the proposed development. Mitigation measures will provide for the avoidance, reduction and remediation of impacts to ensure that the overall integrity of the surrounding environment is preserved to allow for continued ecosystem functionality.

(cc) can be avoided, managed or mitigated

Some impacts can be avoided such as avoiding removal of identified indigenous vegetation with most impacts to be managed and mitigated with implementation of measures to ensure that such impacts are minimal and or compensated for.

Details of the impact rating tools

The table below shows the table of the impact significance rating scale that was used for assessing the impacts associated with the proposed development. The guidelines for the impact assessment process applied in compiling this document are outlined within Appendix 1 of the EIA regulations 2014, under which the requirements and objectives for a satisfactory manner to conduct an impact assessment process are outlined.

Table 7: Table showing significance rating scale.

SIGNIFICANCE VALUE	SIGNIFICANCE WEIGHTING	DESCRIPTION
<30	**Low**	This impact has a Low ecological significance, and does not impact on the decision to develop within the area.
30-60	**Medium**	Where the impact could influence the decision to develop in the area unless it is effectively mitigated.
>60 - 100	**High**	Where the impact must have an influence on the decision process to develop in the area.

The significance ratings given in the table above took into consideration different factors such as extent of impact, nature of impact and duration of impact.

These are explained in the table below.

Component	Definition	
Magnitude	**The intensity or size of the impact**:	
	Small: No visual effects.	0
	Minor: Impact on processes.	2
	Low: Minimal effect on ecological processes	4
	Medium/Moderate: The environment is altered but is able to perform ecological processes in a modified state, despite being negatively affected.	6
	High: The ecological processes are altered such that they cease due to drastic changes to the structure and function of systems.	8
	Very high: The ecological processes severely altered and complete destruction of patterns and permanent cessation of processes.	10
Duration	**The temporal scale / predicted lifetime of the impact**:	
	Very short term: 0 - 1 years.	1
	Short term: 2 - 5 years.	2
	Medium term: 5 -15 years.	3
	Long term: > 15 years.	4
	Permanent: Will persist indefinitely unless mitigated.	5
Extent	**Spatial scale of the impact**	
	Specific to site of impact.	1
	Local scale: Immediate surroundings.	2
	Regional scale: Province related scale.	3
	National: Specific to country.	4
	International: World wide/global.	5
Probability	**Likelihood of the impact occurring**	
	Very improbable: Possibility that will likely never occur.	1
	Improbable: Some low possibility of occurrence.	2
	Probable: Distinct possibility.	3
	Highly probable: Most likely to occur.	4

	Definite: Impact will occur regardless of any prevention measures.	5

Impact Significance = (Magnitude + Duration + Extent) x Probability

Nature

Herewith impacts are classified as either direct, indirect or cumulative.

- **Direct impacts:** impacts usually caused from activities carried out on site that can only be monitored to be carried out within certain confines but cannot at all be avoided, i.e. clearing of vegetation to mark a road reserve in an area populated with vegetation.
- **Indirect impacts:** secondary impacts resulting from direct impacts, i.e. erosion resulting from destabilised soils due to clearing of vegetation.
- **Cumulative impacts:** impacts which could result during the life cycle of the project as a result of one or two impacts that are usually unnoticed as single elements of such.

vi. *The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts* ***and risks associated with the alternatives***

The factors and ranking scales indicated above were used for the assessment of potential impacts considering the scope of works and environment within and around the preferred site as this is the only site being considered thus far for this application.

vii. *Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community* **that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects**

Positive impacts of the activity

Socio-economic benefits both during the construction and operational phase are the main positive impacts of the proposed development. In addition to temporary employment opportunities during the construction phase, the proposed development also promises a significant number of employment opportunities during the operation phase of the development. Development of the shopping mall will benefit local residents from surrounding communities by providing a shopping facility within a short travelling distance to purchase required items which will have associated economic benefit for these communities.

Negative impacts of the activity

During the construction phase, vegetation will be cleared as part of site preparation activities. This will lead to loss of habitat mainly for birds through the loss of thicket vegetation communities within the site. However, no negative impacts of the proposed development are expected to have any significant impacts on overall local and provincial biodiversity.

Impacts identified for the preferred site

Different aspects/activities that will be conducted as part of the proposed development will lead to the impacts that are likely to occur as a result of the proposed development throughout the project life cycle. These include but are not limited to:

- Stripping of topsoil, sub-soil and vegetation for the construction of the facility.
- The ingress and egress of vehicles and/or plant from site.
- Utilization of the facility.
- Decommissioning of the construction site camp and laydown area.
- Use of plant/machinery
- Use and storage of potentially hazardous substances

The impacts associated with these activities have been tabulated below.

The EIA Regulations, 2014 as amended stipulates requirements that need to be adhered to and objectives to be reached when undertaking environmental impact assessment. Key to a successful EIA is the accurate identification of environmental and social impacts and the subsequent assessment of the likely significance of each impact. This will assist in facilitating the prioritization of impacts, the identification of fatal flaws and the identification of mitigation measures.

viii. An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures

Table 8: Table showing some of the potential impacts that can be associated with the proposed development as well as proposed mitigation measures.

Activity	Resulting Impact	Proposed Mitigation
Pre-Construction Phase		
Failure to comply with environmental legislation/requirements of the EA	• Unlawful activities that could result in detrimental impacts on the environment. • Penalties/fines could be incurred by the Developer • The proposed construction activities would have to be ceased and remedial action implemented. • Loss of species of conservation importance. • Failure to implement impact mitigation measures	• An Environmental Control Officer must be appointed at least 2 months prior to the commencement of the proposed development. • Once appointed, the ECO must familiarize themselves with the EA, EMPr and any other accompanying documents and advise the Developer and or Contractor accordingly. • No form of on-site activity including site clearance may take place prior to notifying EDTEA of the commencement of the development.
Stripping of topsoil, sub-soil and vegetation for the construction of the facility.	• Decreased topsoil quality resulting in lowered plant growth rate. • Loss of indigenous species (flora & fauna). • Reduction is species diversity.	• An ECO must be appointed throughout the various phases of the development. • A pre-construction walk-through must be conducted by a suitably qualified professional. This must be used to identified and count all individual protected plant species which must be applied for in a

	• Habitat destruction and displacement of species. • Disruption to faunal movements and dispersal patterns. • Decreased bank stability. • Impact on Conservation objectives for a Critical Biodiversity Area (CBA). • Impact to a Threatened Ecosystem. • Increased erosion.	permit and translocated / avoided during construction. • Sufficient time must be allowed to apply for permits for all protected plant species found on site. No construction may commence within these areas, where protected plant species exist but where no permits have been issued. • Topsoil monitoring (depth and soil testing) must take place prior to soil stripping and backfilling. The ECO must determine if the quality of soil is satisfactory, prior to backfilling. • Topsoil must be sequentially removed in accordance with the requirements on site. • All topsoil must be adequately stored: o On a Flat surface; o Below two metres; o Suitably covered if stored for prolonged periods of time. o Separate from sub-soil and other stockpiles. o Not near watercourses • Amend the proposed layout to exclude all wetland habitat and apply a 30m buffer around said wetlands. • No clearance of vegetation must be allowed to take place outside of the construction footprint. • A pre-construction walk through by a botanist must take place for accurate marking of species for removal and/ or translocation. • If any SCC or plant species high on the Red List are identified within the proposed footprint, effective rescue and relocation of them must be undertaken. • All temporary embankments that are considered sensitive to erosion must be adequately retained and supported (sandbags, fascine work, retaining blocks etc.). • Silt traps must be used to control silt from being washed off site and into the surrounding watercourse or natural habitat. • All toilet facilities must be located outside of any sensitive area and must not be found within 50m of a watercourse. Regular servicing will prevent any spillages.

		• No faunal species must be killed or hunted during the project life-cycle.
Construction Phase		
Watercourse Specific Impacts		
Activity	**Resulting Impact**	**Proposed Mitigation**
Direct ecosystem destruction and modification impact	• Direct disturbance of riverine habitat and artificial wetlands onsite by clearing and trenching. • Accidental direct impacts to instream aquatic, riparian and/or wetland habitat and vegetation by heavy machinery during construction. • Degradation of wetland and river PES and loss of ecosystem services.	• Easily mitigatable by avoiding locating infrastructure within delineated rivers and wetlands and by implementing the aquatic buffer zone recommended.
Indirect hydrological and geomorphological impacts	• Erosion and/or sedimentation of instream aquatic, riparian and/or wetland ecosystems due to catchment and/or wetland / riparian zone soil and vegetation clearing and landcover disturbance during construction. • Fine, sandy/silty soils at the site will be relatively erodible if not properly managed, however, given the relatively gentle nature of the site, the risk of sediment mobilisation can be reduced with proper onsite management.	• Moderately mitigatable by ensuring activities remain outside of the aquatic buffer zone and by administering practical measures onsite to avoid erosion/sedimentation.
Water quality impacts	• Pollution of rivers and wetland ecosystems on the site and possibly also downstream, due to the mishandling of hazardous substances and/or improper maintenance of machinery during construction (e.g. oil and diesel leaks and spills). • Any erosion leading to sedimentation of rivers and wetlands onsite/downstream could also lead to raised water turbidity and suspended solids concentrations, also affecting water quality.	• Moderately mitigatable by ensuring activities remain outside of the recommended aquatic buffer zone and by administering practical measures onsite to avoid any spills or sedimentation impacts. • Where spills or sedimentation impacts occur, these will need to be contained and any affected water quality impact remediated, and the affected watercourses rehabilitated.
Fragmentation and ecological disturbance impacts	• Reduced wetland patch size and modified wetland/riverine ecological connectivity will not take place where impacts are	• Moderately mitigatable by ensuring activities remain outside of the aquatic buffer zone and by administering practical

	restricted to outside of the wetland areas and recommended buffer zone. • Expanded / more intense edge impacts could occur as a result of buffer zone encroachment, deterioration in vegetation quality and cover and the potential for increased alien invasive plant invasion due to disturbance causing activities near to rivers and wetlands. Noise pollution and vibrations associated with earthworks and the use of heavy machinery could affect local wildlife (birds, amphibians and small mammals especially). • Light pollution associated with construction crews and the use of heavy machinery use at night which could affect locally occurring nocturnal wetland species, such as amphibians, however this would only be significant during certain times of the year (i.e. the typical frog breeding season, for example). • Given that there are already existing facilities (operational buildings) in the vicinity of the property and a busy provincial road, existing noise and light impacts are already present and will therefore reduce the intensity of any further impacts which will be cumulative.	measures onsite to reduce noise and light pollution. • Edge impacts and alien plant infestation impacts can be quite easily remediated / rehabilitated should these occur.
Other Impacts		
Activity	**Resulting Impact**	**Proposed Mitigation**
Use and storing of potentially hazardous substances	• Contamination of soil within and around the site; • Contamination of ground and surface water with seeping of contaminants into soil and pollution of runoff; • Potential health risks with possibility of fire and other occurrences that can affect staff and surrounding community.	• All hazardous substances must be stored on impermeable surfaces throughout the project life cycle. • Storage areas where flammable substances are kept must be equipped with serviced fire extinguisher. • Emergency procedures must be known to all workers and must be made part of site induction/training.

		• All workers that handle potentially hazardous substances must be provided with the appropriate safety clothing.
The ingress and egress of vehicles and/or plant from site.	• Reduced photosynthesis of nearby vegetation due to dust settling on leaves; • Trampling of vegetation outside of the development footprint due to vehicle movements; • Compaction of fertile soils leading to reduced plant growth and soil quality; and • Plant die-offs due to hydrocarbon spills from vehicles. • Animal fatalities due to traffic related incidents. • Displacement due to increased noise and vibrations.	• Traffic signs much be erected throughout the site, demarcating the following: o Speed limits; o Sensitive areas; and o No-go areas • Dust suppression must be implemented on all access roads. This practice must be carefully monitored by the ECO and all water usage must be recorded throughout the project lifespan. • All temporary roads must receive rehabilitation prior to the closure of the site (deep-rip, backfilling of topsoil). • Vehicles may only traverse designated areas and access roads. • Heavy duty machinery must be stored in allocated areas and not left out in open spaces.
Use of Plant/Machinery and Working at Height	• Safety risks associated with use of plant or machinery which would include: o Injury to workers o Injury to locals • Injury risks where workers could fall from high levels • Leakages/spills of hydrocarbons from plant/machinery will result in contamination of soil and surface water.	• A health and safety officer must be appointed for the proposed development to ensure that all safety standards are met from the onset. • A safety rep must always be present on site for day to day monitoring of compliance and implementation of necessary measures to ensure safety of workers. • The workers' training must include training on emergency procedures that should be followed in case of an emergency. • All vehicles must be kept in good working condition. Any vehicles that are observed to be leaking must be serviced as soon as possible.
Waste Management	• Failure to store and dispose of waste accordingly will result in pollution of the surrounding environment including nearby watercourses such as Slang Spruit River. • Burning or burning of waste on site would result in air emissions and groundwater contamination. • Littering of waste around the site would have visual impacts on the area and negatively affect the appearance of the affected area.	• Wind and scavenger proof containers must be made available and used for on-site waste storage. • Waste from containers must regularly be disposed of at the nearest landfill site that is permitted to handle and dispose of such waste. • Waste disposal certificates/waybills must be kept on file as proof of safe waste disposal. • Workers must be trained to exercise environmentally friendly practices including proper disposal of waste.

	• Dumping of waste within and around the site would also affect any animals that may occur within or close to the site.	• Littering on or around the site must be strictly forbidden. • Any and all forms of waste must not, under any circumstances, be dumped into the river near the site or any other watercourse/natural environment. • Burning and burying of waste is strictly forbidden.
Nuisance: Noise and dust	• Noise may be from construction vehicles, workers and construction works. • Dust will be as a result of earthworks on the site.	• Construction works must be limited to working hours between 07:00am and 04:30pm. • Workers may not make any excessive/unnecessary noise within the site. • There may be no playing of loud music from the construction vehicles. • Construction vehicles must be kept in good condition to avoid excessive exhaust emissions and noise.
Socio-Economic	• Employment opportunities will be created for locals during the construction and operational phase of the proposed development. • Having the mall located in this area may also stimulate other developments that would have a positive socio-economic impact within the affected areas.	• Terms of employment must be clearly explained to all workers during the different phases of the proposed development. • The Contractor and developer must avoid making promises to the community especially those that will be hard to keep. • The Contractor and Developer must consider giving some form of certification to workers for the skills they displayed during their employment period. • At any stage appropriate, the developer may contribute to a community project such as development of a crèche.
Post-construction		
Decommissioning of the construction site camp and laydown area.	• Spillages of oils fuels and chemicals causing the contamination of soils, surface and ground water; • Hardened/ compacted soils reduce the vegetation growth; • Reinstatement of sub-standard topsoil reduces the growth and success of indigenous vegetation; • Proliferation of IAPS on site and into surrounding plant communities; • Introduction of exotic species through uninformed re-vegetation efforts.	• Rehabilitation must be conducted on site, by adequately backfilling topsoil and reinstating indigenous vegetation. • All access roads must be deep-ripped and adequately rehabilitated. • Rehabilitation of the site must be monitored by an ECO. • Natural berms and contours must be reinstated by the Contractor prior to the closure of site. • Fire-fighting equipment must be available on site at all times. • Spill kits must be available on site at all times and must be suitably equipped to deal with spills.

	• Exposed, unsupported soil being eroded and causing erosion gullies; • Unmanaged grazing by livestock, inhibiting successful rehabilitation practices; • Poor rehabilitation throughout the construction and defect liability period. • Poor stormwater runoff, leading to erosion on site.	• Stockpiles must be cleared of IAPS and this must be checked before infill. • No stockpiles must be left behind after the construction phase, but rather must backfill and/or removed from site.
Operational Phase		
Watercourse Specific Impacts		
Activity	**Resulting Impact**	**Proposed Mitigation**
Direct ecosystem destruction and modification impacts	• Accidental direct impacts to riverine, riparian and wetland habitat and wetland/buffer vegetation by heavy machinery during infrastructure repair and maintenance activities (particularly water and sewer pipelines and manholes for example).	• Easily mitigatable by ensuring maintenance activities are closely monitored and supervised to ensure no accidental incursions into wetland areas. • Any accidental impacts can be potentially remediated / rehabilitated should these occur.
Indirect hydrological and geomorphological impacts	• Erosion and/or sedimentation of onsite wetlands and downstream rivers, with the main risk being as a result of catchment hardening, alteration of runoff and interflow patterns and stormwater management. • The fine sandy/silty soils at the site will be relatively erodible if not properly managed, however, given the relatively flat nature of the site, the risk of sediment mobilisation can be reduced with proper storm water management. • Controlled discharge of 'clean' storm water could have a potential positive impact on the seep wetlands, through enhanced saturation levels and increased levels of permanent wetness which could enhance habitat quality should this be considered desirable.	• Moderately mitigatable by ensuring storm water is appropriately managed according to an adequate storm management plan implemented to specification. • Any indirect impacts to wetlands can be potentially remediated / rehabilitated should these occur.
Water quality impacts	• Potential accidental releases/spills from wastewater	• Moderately mitigatable by ensuring sewer infrastructure is appropriately designed and

	(sewer) pipelines and manholes through inadequate design, improper use of flush toilets (leading to blockages for example) or other unforeseen events (such as release of stormwater into sewer system, leading to potential overflow from manholes). • Any erosion leading to sedimentation of rivers and wetlands onsite/downstream could also lead to raised water turbidity and suspended solids concentrations, also affecting water quality. • Pollution of onsite and downstream rivers and onsite wetlands due to the mishandling of hazardous substances and/or improper maintenance of machinery during repair and maintenance activities (e.g. oil and diesel leaks).	sized, with adequate protection and by ensuring proper use of flush toilets. • Also, by ensuring maintenance activities are closely monitored and supervised to ensure no accidental incursions into riverine and wetland areas. • Where spills or sedimentation impacts do occur, these will need to be contained and any affected water quality impact remediated, and the affected watercourses rehabilitated.
Fragmentation and ecological disturbance impacts	• Expanded / more intense edge impacts could occur as a result of buffer zone encroachment, deterioration in vegetation quality and cover and the potential for increased alien invasive plant invasion due to disturbance causing activities taking place near to rivers and wetlands. • Noise and light pollution associated with the operational site could affect local wildlife and especially nocturnal wetland species, such as amphibians, however this would only be significant during certain times of the year (i.e. the typical frog breeding season, for example). • Given that there are already existing facilities (operational buildings) in the vicinity of the property and a busy provincial road, existing noise and light impacts are already present and will therefore reduce the	• Mitigating noise and light impacts will be difficult to enforce during the operation of the site, however lighting design to avoid casting light onto rivers/wetlands could be implemented. Edge impacts and alien plant infestation impacts can be quite easily controlled through maintenance activities within the aquatic buffer zone.

	intensity of any further impacts which will be cumulative.	
	•	•
Utilisation of the facility	• Adhoc clearing of vegetation during routine maintenance of the facility. • Illegal hunting and/or killing of local fauna. • Harvesting of local indigenous fauna/flora for medicinal use. • Introduction of diseases through the failure to control pest animals. • Surface and groundwater contamination from contaminated runoff. • Sedimentation of the river through stormwater flow. • Pollution of surrounding environment from poor waste management.	• No-go areas should be sign posted and communicated to all staff. • Routine maintenance should be conducted along the proposed boundary fence. • All hazardous waste must be adequately stored and disposed of at suitable facility. • No dumping of waste must be allowed at any point in time. • All stormwater drains must comply with South Africa legislations to avoid water and soil contamination on the surrounding environment. • All materials such as fuel that may be stored on site during the operational phase must be stored accordingly to avoid leaks and spills into surrounding environment. • The Developer must maintain the area around the site and ensure that natural vegetation grows successfully and that there are no bare surfaces from which soil can be eroded. • All waste during the operational phase, must be disposed of accordingly either directly to a landfill site or through the Municipal waste collection system. • The associated takeaway outlet must follow applicable standards and guidelines for operation of food outlets including storage and disposal of waste and old/used cooking oil.

ix. The possible mitigation measures that could be applied and level of residual risk

In the assessment process the potential to mitigate the negative impacts is determined and rated for each identified impact. The significance of environmental impacts has therefore been assessed considering any proposed mitigation measures.

- Where possible, the components of the project structures must be positioned in such that less trees are affected during the construction phase and in such that the more sensitive portions of the site are avoided.

- Where trees need to be removed, the appointed Environmental Control Officer must be engaged to ensure that the correct procedure is followed for removal of indigenous trees.
- A search and rescue must be conducted with a botanical specialist in order to identify and transplant plant species of conservation concern such as the aloe plant species that was observed during the biodiversity impact assessment.
- Unnecessary vegetation removal must be avoided through:
    - Clearly marking the site boundaries prior to the commencement of construction activities.
    - Areas beyond the site and construction area must be regarded as no-go zones especially where there is dense vegetation.
    - Access to the site for Construction vehicles must be designated and no construction vehicles should be allowed to access the site in any other way than the designated access.
- Erosion control measures must be implemented such as channeling water away from exposed areas, supporting bottom of stockpiled material/soil with sand bags or bricks or alternatively covering stockpiled material to protect from rain and taking all the steps necessary to ensure that exposed surfaces are worked on as quickly as possible and not left bare for an extended period of time.
- All waste produced during the construction phase including rubble and general waste must be collected and disposed of at the nearest approved waste dumping site. Waste management must also be implemented during the operational phase.
- All hazardous substances must be stored on an impermeable surface during both construction and operational phase. Concrete mixing must take place on mixing boards or on liner. Should any large amount of fuel be kept on site, the fuel must be kept on a properly established bunded area with the capacity to store/hold the contents of the container(s) placed on it.
- All areas that are not engineered which were cleared during the construction phase must be re-vegetated/grassed. Alien plant eradication must take place within and around the site during construction and operational phase.

  As many people as possible must be employed from the local community during both construction and operational phase. Where possible some form of certification of skills displayed must be given to the workers which could assist in obtaining other employment.
- Workers must be provided with the necessary safety equipment for tasks to be conducted during both the construction and operational phase.

Table 9: Impact Assessment for Potential Impacts

Impact and Risk		Duration	Extent	Likelihood	Magnitude	Significance	Mitigation
Pre-Construction Phase							
Stripping of topsoil, sub-soil and vegetation for the construction of the facility.	Without Mitigation	3 Medium Term	3 Regional Scale	4 Highly Probable	8 High	56 Medium	• An ECO must be appointed throughout the various phases of the development. • A pre-construction walk-through must be conducted by a suitably qualified professional. This must be used to identified and count all individual protected plant species which must be applied for in a permit and translocated / avoided during construction. • Sufficient time must be allowed to apply for permits for all protected plant species found on site. No construction may commence within these areas, where protected plant species exist but where no permits have been issued. • Topsoil monitoring (depth and soil testing) must take place prior to soil stripping and backfilling. The ECO must determine if the quality of soil is satisfactory, prior to backfilling. • Topsoil must be sequentially removed in accordance with the requirements on site. • All topsoil must be adequately stored: o On a Flat surface; o Below two metres; o Suitably covered if stored for prolonged periods of time. o Separate from sub-soil and other stockpiles. o Not near watercourses • Amend the proposed layout to exclude all wetland habitat and apply a 30m buffer around said wetlands.
	With Mitigation	3 Medium Term	2 Local Scale	4 Highly Probable	6 Medium	44 Medium	

Construction Phase							
Impact and Risk		**Duration**	**Extent**	**Likelihood**	**Magnitude**	**Significance**	**Mitigation**
The ingress and egress of vehicles and/or plant from site.	Without Mitigation	2 Short Term	2 Local Scale	3 Probable	6 Medium	30 Medium	• Traffic signs much be erected throughout the site, demarcating the following: o Speed limits; o Sensitive areas; and o No-go areas / ecotones • Dust suppression must be implemented on all access roads. This practise must be carefully monitored by the ECO and all water usage must be recorded throughout the project lifespan. • All temporary roads must receive rehabilitation prior to the closure of the site (deep-rip, backfilling of topsoil). • Vehicles may only traverse designated areas and access roads. • Heavy duty machinery must be stored in allocated areas and not left out in open spaces.
	With Mitigation	2 Short Term	2 Local Scale	3 Probable	2 Minor	18 Low	
Use, Handling and Storage of Hazardous Substances	Without Mitigation	2 Short Term	2 Local Scale	3 Probable	6 Medium	30 Medium	• All hazardous substances must be stored on impermeable surfaces throughout the project life cycle. • Storage areas where flammable substances are kept must be equipped with serviced fire extinguisher. • Emergency procedures must be known to all workers and must be made part of site induction/training. • All workers that handle potentially hazardous substances must be provided with the appropriate safety clothing.
	With Mitigation	1 Very Short Term	1 Site Specific	1 Very Improbable	2 Minor	4 Low	
Use of Plant/Machinery and Working at Height	Without Mitigation	2 Short Term	2 Local Scale	3 Probable	6 Medium	30 Medium	• A health and safety officer must be appointed for the proposed development to ensure that all safety standards are met from the onset. • A safety rep must always be present on site for day to day monitoring of compliance and implementation of necessary measures to ensure safety of workers.
	With Mitigation	1 Very Short Term	1 Site Specific	1 Very Improbable	2 Minor	4 Low	

							• The workers' training must include training on emergency procedures that should be followed in case of an emergency. • All vehicles must be kept in good working condition. Any vehicles that are observed to be leaking must be serviced as soon as possible.
Impact and Risk		**Duration**	**Extent**	**Likelihood**	**Magnitude**	**Significance**	**Mitigation**
Waste Management	Without Mitigation	3 Medium Term	2 Local Scale	4 Highly Probable	6 Medium	44 Medium	• Wind and scavenger proof containers must be made available and used for on-site waste storage. • Waste from containers must regularly be disposed of at the nearest landfill site that is permitted to handle and dispose of such waste. • Waste disposal certificates/waybills must be kept on file as proof of safe waste disposal. • Workers must be trained to exercise environmentally friendly practices including proper disposal of waste. • Littering on or around the site must be strictly forbidden. • Any and all forms of waste must not, under any circumstances, be dumped into the river near the site or any other watercourse/natural environment. • Burning and burying of waste is strictly forbidden.
	With Mitigation	1 Very Short Term	1 Site Specific	2 Improbable	2 Minor	8 Low	
Nuisance: Noise and dust	Without Mitigation	2 Short Term	2 Local Scale	4 Highly Probable	2 Minor	24 Low	• Construction works must be limited to working hours between 07:00am and 04:30pm. • Workers may not make any excessive/unnecessary noise within the site. • There may be no playing of loud music from the construction vehicles. • Construction vehicles must be kept in good condition to avoid excessive exhaust emissions and noise.
	With Mitigation	1 Very Short Term	1 Site Specific	3 Probable	2 Minor	12 Low	
Socio-Economic	Without Mitigation	1	2	5 Definite	6 Medium	45 Medium	

		Very Short Term	Local Scale				• Terms of employment must be clearly explained to all workers during the different phases of the proposed development. • The Contractor and developer must avoid making promises to the community especially those that will be hard to keep. • The Contractor and Developer must consider giving some form of certification to workers for the skills they displayed during their employment period. • At any stage appropriate, the developer may contribute to a community project such as development of a crèche.
	With Mitigation	1 Very Short Term	2 Local Scale	5 Definite	8 High	55 Medium	
Post Construction Phase							
Impact and Risk		**Duration**	**Extent**	**Likelihood**	**Magnitude**	**Significance**	**Mitigation**
Decommissioning of the construction site camp and laydown area.	Without Mitigation	2 Short Term	2 Local Scale	3 Probable	4 Low	24 Low	• Rehabilitation must be conducted on site, by adequately backfilling topsoil and reinstating indigenous vegetation. • All access roads must be deep-ripped and adequately rehabilitated. • Rehabilitation of the site must be monitored by an ECO. • Natural berms and contours must be reinstated by the Contractor prior to the closure of site. • Fire-fighting equipment must be available on site at all times. • Spill kits must be available on site at all times and must be suitably equipped to deal with spills. • Stockpiles must be cleared of IAPS and this must be checked before infill. No stockpiles must be left behind after the construction phase, but rather must backfill and/or removed from site.
	With Mitigation	1 Very Short Term	2 Local Scale	3 Probable	2 Minimal	15 Low	
Operational Phase							
Impact and Risk		**Duration**	**Extent**	**Likelihood**	**Magnitude**	**Significance**	**Mitigation**
Utilisation of the facility	Without Mitigation	5 Permanent	2 Local Scale	3 Probable	6 Medium	39 Medium	• No-go areas should be sign posted and communicated to all staff.

	With Mitigation	5 Permanent	1 Site Specific	3 Probable	2 Minor	24 Low	• Routine maintenance should be conducted along the proposed boundary fence. • All hazardous waste must be adequately stored and disposed of at suitable facility. • No dumping of waste must be allowed at any point in time. • All stormwater drains must comply with South Africa legislations to avoid water and soil contamination on the surrounding environment. • All materials such as fuel that may be stored on site during the operational phase must be stored accordingly to avoid leaks and spills into surrounding environment. • The Developer must maintain the area around the site and ensure that natural vegetation grows successfully and that there are no bare surfaces from which soil can be eroded. • All waste during the operational phase, must be disposed of accordingly either directly to a landfill site or through the Municipal waste collection system. • The associated takeaway outlet must follow applicable standards and guidelines for operation of food outlets including storage and disposal of waste and old/used cooking oil.

Impact Significance

Considering the table above, the average significance of potential impacts of the proposed development without mitigation is **Medium** and the average significance when considering implementation of mitigation measures is **Very Low**. It is therefore important that the implementation of the proposed development is closely monitored to assess and monitor compliance levels on the site and take necessary measures if compliance is not at satisfactory levels to successfully mitigate against potential impacts.

Average Impact Significance Without Mitigation	11.62 Medium
Average Impact Significance with Mitigation	3.42 Very Low

All impacts identified can be mitigated against with no irreversible damage to be caused to the environment or community. There is also no anticipated loss of any replaceable resource. Therefore, the socio-economic benefits of the proposed development outweigh the potential environmental impacts.

I. WHERE APPLICABLE, A SUMMARY OF THE FINDINGS AND IMPACT MANAGEMENT MEASURES IDENTIFIED IN ANY SPECIALSITS REPORT COMPLYING WITH APPENDIX 6 TO THESE REGULATIONS AND AN INDICATION AS TO HOW THESE FINDINGS AND RECOMMENDATION WERE INCLUDED IN THE FINAL REPORT; -

The following are the specialist studies that were recommended through the screening tool. Where applicable, reasons have been given for not undertaking certain specialist studies which had been recommended as per the pre-application screening tool and summary of findings for those undertaken are included.

Landscape/Visual Impact Assessment
The area within which the proposed development is located is characterized by different developments including light industrial, commercial and residential developments. The site itself is close to an existing service station and general store and other developments. Considering that the proposed development will consist of single storey buildings, it is not expected to have significant visual/landscape impacts. Therefore, no visual impact assessment has been conducted. However, should any of the commenting state Departments including competent authority, insist that this study be done, the Developer will ensure that the said study is undertaken for the proposed development.

Archaeological and Cultural Heritage Impact Assessment and Paleontology Impact Assessment
A heritage/archaeological impact assessment is currently underway with the report on findings to be provided by the appointed specialist. The findings of the study and recommendations therewith, with be included and incorporated into the final BAR and EMPr and the report itself will be attached under the Appendix D.

Terrestrial Biodiversity Impact Assessment – (Appendix D1)
This assessment was undertaken to include both fauna and flora assessments. During the desktop it was identified that the site was is not located within any Critical Biodiversity Area. However, the site is located within the Ngongoni Veld which is classified as Vulnerable. Three plant communities were observed within the site namely; thicket, secondary grassland and degraded secondary grassland. It is the view of the specialist that the thicket plant community provides a habitat for birds/avifauna species within the site and therefore removal of this vegetation will equate to a loss of habitat. The loss of the grassland will also be loss of habitat and therefore about 1.5Ha of habitat loss is expected to occur as a result of the proposed development.

There was only one plant species of conservation concern which is the *Aloe Pruinosa* with this species being protected in terms of the KZN Provincial Conservation Ordinance (KZN PCO). A permit application must thereto be lodged with the KZN Wildlife for the removal/translocation of this species.

Although no actual wetland was observed to occur on site, it was the opinion of the specialist based on desktop assessments that a wetland is likely to occur in the southwesterly direction of the site and that the proposed development will encroach on the 30m buffer of the wetland. Therefore, the proposed

development must be aligned in such that the portion of the site which has been assigned high sensitivity is avoided.

Recommendations

- A wetland habitat exists just outside of the site boundary and as such a 30 m protective buffer has been applied around this system to ensure the maintenance of its ecological function and stability.
- The development may proceed until strict management, and the recommendations and mitigation techniques provided within the biodiversity report must be followed throughout the life-cycle of the proposed development.
- Should the facility ever become derelict or no longer economically viable, the specialist further requests that pre-development conditions are put in place by Competent Authority to safeguard the integrity of surrounding environment and that the developer will be responsible for the land until it is adequately rehabilitated.
- A pre-construction walk-through must be conducted to ensure that an accurate account of the location and frequency of species of conservation concern is kept and used when apply for a permit from Ezemvelo KZN Wildlife.
- All highly sensitive areas are avoided, and are included in the proposed layout plan as a no-development ecotone (30m wetland buffer) and as much low sensitivity areas are used when confirming the development plan.

Aquatic Biodiversity Impact Assessment (Appendix D3)

An aquatic and wetland impact assessment was undertaken with site assessment conducted on the 24th of May 2021. Through the study, it was confirmed that one river is located within 500m radius of the site which is the Slang Spruit River. A seep wetland was also identified about 45m from the boundary of the proposed development. However, both these watercourses were found to be modified due to the combined effect of the developments that have taken place in the area through the years.
The recommended buffer zone for the wetland is 15m and the recommended buffer for the river is 20m. all recommended mitigation measures were incorporated into the Draft EMPr.

Avian Impact Assessment

This assessment formed a part of the biodiversity assessment and did not lead to any significant discoveries as no species of conservation concern were observed within the site on the date of the assessment (May 2021).

Feasibility / Socio-Economic Impact Assessment – (Appendix D2)

A socio-Economic Impact Assessment had been undertaken for the existing Mageza Service Station and has been attached to this report.

Plant Species Assessment

Covered within the terrestrial biodiversity assessment.

Animal Species Assessment

Covered within the terrestrial biodiversity assessment.

Traffic Impact Assessment (Appendix D3)

A traffic impact assessment was conducted for the proposed development in May of 2021 and the following findings were made:

- The 2026 forecast traffic conditions are good, and all critical intersections operate at acceptable levels of service in the peak hours.
- The proposed development will generate a total of 730 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 551 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour.
- Of this total traffic, 244 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 200 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour were pass by trips and 277 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 160 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour were diverted trips.
- The planning year horizon analysed the local traffic volumes in the year 2026 (5-year planning horizon). The background traffic was grown accumulatively at a growth rate of 2.5% for 5 years and added to the development generated traffic. The results indicated that none of the intersections that were analysed in this TIA will require any upgrades to accommodate the increase in traffic volumes.

Recommendations

- Formal sidewalks must be provided along the site frontage of Archie Gumede and Sikhumbuzo Ngwenya Road.
- A public transport layby is recommended to be provided on Archie Gumede before the left in left out.
- Street lighting must be provided in the vicinity of the site
- Access configuration is to be as per TRL attached to the Traffic Impact Assessment Report.
- The proposed development can therefore be supported from a traffic and transportation perspective.

Geotech Assessment

Given the depth of formation of the residual shale soils and relatively low groundwater level, heave can be expected to occur beneath foundations which are underlain by these soils. Therefore, measures to mitigate cracking of the structures due to heave beneath foundations should be considered.

- Foundations for new brick walls should consist of the Modified Normal type as given for Types
- H1 in the NHBRC Heave table attached
- Minimum founding level = 0.9m begl
- Foundations to comprise minimum 0.75mm wide strip footings, maximum bearing pressure =
- 80kPa for material of at least firm consistency
- Foundations must be designed to accommodate differential heave of about 10mm; this is based
- on the soils being described as ‘moist’ and therefore already in a partial state of heave.
- All foundations to be appropriately reinforced, i.e. modified normal
- Accommodation of heave and reducing cracking of the building as per NHBRC Heave Table for

Category H1 attached:

o Movement or articulation joints – spacings between wall panels not to exceed 3m in length to accommodate heave deflections

o Light reinforcement in masonry

o Site drainage – ensure building has a 1m wide concrete surround constructed with appropriate falls to shed stormwater away from walls and foundations
o Plumbing precautions to avoid leaking services in the vicinity of walls and foundations
Furthermore, it is recommended that none of the following be positioned within 3m of new structures to limit localised variation of the insitu moisture content of the foundation soils:

- Flower beds, plants or trees, and
- Sewage or stormwater soak pits.

It is recommended for the higher foundation loads associated with larger structures such as the anchor store that all foundations comprising shallow conventional strip and pad footings be taken into the weathered shale of where a maximum allowable bearing pressure of 150kPa is recommended. Where founding depths through deep fills and undisturbed insitu (or natural) soils exceeds 2.0 to 2.5m in depth, it will generally become uneconomical to use shallow foundations. In this case it is recommended that the buildings be piled. All piles should be designed to support their loads in end bearing on the underlying shale bedrock. All piles should be designed to withstand uplift forces due to soil heave. Provision should be made for differential heave below floor slabs or surface beds; movement jointing will be required. In cases where structures are highly sensitive to heave deflections, and movement jointing cannot be tolerated, suspended floors may need to be considered. It is recommended that Geological/Geotechnical specialist must inspect all foundation excavations to confirm bearing pressure and depth of
founding before concrete is cast.

All identified impacts and impact mitigation measures from specialist report have been incorporated into the relevant sections as well as the EMPr.

All outcomes from the specialist assessments that have been conducted were incorporated into final BAR and final EMPr. Outcomes of the assessments were used to:-

- Enrich the description of the receiving environment;
- Have influenced the final layout and design presented with the final BAR,
- Recommendations of the specialist's form part of final BAR and EMPr including recommended mitigation measures and identified potential impacts and

J. AN ENVIRONEMNTAL STATEMENT WHICH CONTAINS-

(i) *A summary of the key findings of the environmental impact assessment*;

The impact of habitat loss through removal of vegetation of the thicket, secondary grassland and degraded secondary grassland is viewed as the most significant negative impact of the proposed development especially as this impact cannot be avoided. The site is located within Ngongoni Veld which is categorized as vulnerable and therefore should not be disturbed. However, except for the aloe plant species, no plant or animal of conservation importance was observed on site and therefore the proposed development is unlikely to compromise local or provincial targets. This is especially the case with implementation of mitigation measures such as post-construction revegetation, amendment of project layout to use areas on the property that show low sensitivity, allowing for required buffer areas to sensitivities and translocating of protected plant species in such that there is no local loss to result from the proposed development.

The proposed development will greatly benefit the surrounding communities especially in light of the impacts of Covid 19 and recent looting events within the province. The ability to be able to walk/drive a short distance to the local mall to purchase required items will greatly benefit surrounding communities. In a country that is stricken by high unemployment rates, the permanent employment opportunities which will be opened up during the operation phase of the proposed development will also be of great socio-economic benefit.

(ii) 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 buffer

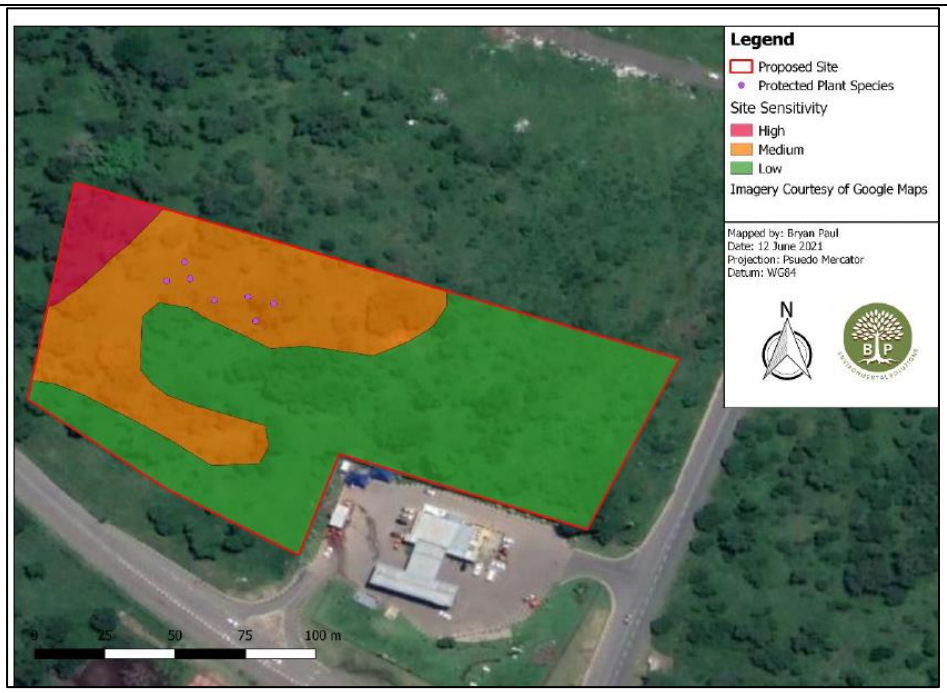

Figure 11 - Sensitivity map (Source: Terrestrial Biodiversity impact assessment report compiled by BP Environmental Solutions, June 2021

Following recommendations of the biodiversity specialist, the EAP will liaise with the developer for amendment of the site layout to use more of the low sensitivity area and avoid high sensitive areas. This amendment will be done following circulation of the draft BAR to ensure that all other recommendations with regards to the layout are factored into the amendments to be done.

K. BASED ON THE ASSESSMENT, AND WHERE APPLICABLE, IMPACT MANAGEMENT MEASURES FROM SPECIALISTS REPORTS, THE RECORDING OF THE PROPOSED IMPACT MANAGEMENT OUTCOMES FOR THE DEVELOPMENT FOR INCLUSION IN THE EMPr

The impact management measures in this section are from the biodiversity assessment conducted which encompassed faunal (mammal, reptile and avifauna) and floral assessment. The full list is tabulated on the specialist report from **page 40 to page 43** of the report. In this part of the report we have specifically focused on the recommendations made which are aimed at impact management for impacts that would most likely have significant outcomes.

- It is recommended that the preferred alternative is positioned to avoid the highly sensitive areas as possible.
- It is recommended that the 30 m ecotone is maintained as a non-development area. This area must be considered a no-go area during the project-cycle.
- An ECO must be appointed to oversee that the conditions stipulated in the Environmental Authorisation/ EMPr are carried out.
  o Pre-construction environmental induction for all construction staff on site must be conducted, this will include the following as a minimum requirement to be covered:
  o Dust suppression – Agreed practical methods confirmed by the Contractor;
  o All water use on site must be recorded throughout the lifespan of the project.

o Demarcation of no-go areas (surrounding properties and highly sensitive areas);
o Expected conduct of staff on site – not harvesting vegetation, usage of fire on site, reporting incidents, and relationship with ECO.
o Objectives and conditions of the approved EA, EMPr, Method Statements, ECO Audit Reports and Recommendations etc.
o Spill Protocol (small and large spills); and
o Emergency Numbers (ECO, Snake Expert, SAPS etc.).

- All areas earmarked to be cleared, must be adequately staked and inspected by the ECO to ensure that no fauna and/ or indigenous vegetation is accidentally injured/ killed / removed by construction activities on site.
- An accurate account of water usage (drinking, dust suppression etc.) must be kept by the Contractor.
- All construction vehicles should adhere to clearly defined and demarcated roads. No adhoc roads may be constructed without prior permission of the ECO and Engineers.
- Dust suppression and erosion management should be an integral component of the construction process.
- No dumping or burying of building waste or spoil material from the development should take place on areas other than a licensed landfill site.
- All hazardous materials should be stored appropriately to prevent contamination of the proposed development site. Any accidental chemical, fuel and oil spills that occur at the project site should be cleaned up appropriately as related to the nature of the spill.
  o An Environmental Incident Register must be kept throughout the project lifecycle; this will be used to record the following:
  o Rock falls into no-go areas;
  o Accidental spills of hazardous substances;
  o Observed die-offs of vegetation (on site and nearby);
  o Accidental removal of plants;
  o Complaints from Interest and Affected Parties/ Persons (I&APs);
- A search and rescue site walk-through must be completed by a suitably qualified specialist prior to construction to locate and mark SCC for translocation or preservation.
- If trenches need to be dug for drainage or other purposes, these should not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.
- Tool box talk must contain faunal and floral topics, at least once a month to all staff.
- Control measures must be in place during construction and the operation phases of the development to prevent the proliferation of IAPS and noxious weeds on site.

L. ANY ASPECTS WHICH WERE CONDITIONAL TO THE FINDINGS OF THE ASSESSMENT EITHER BY THE EAP OR SPECIALIST WHICH ARE TO BE INCLUDED AS CONDITIONS OF AUTHORISATION

- A stormwater management plan for the proposed development must be submitted and approved.

- As some species of conservation concern were identified within the site, a horticulturalist/vegetation specialist must be engaged prior to any vegetation removal to advise/guide translocation of such plant species. The necessary permits will also need to be obtained prior to any commencement of works on site.

- Appropriate buffers as recommended by the different specialists must be allowed for in the final layout.

M. A DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINITES, AND GAPS IN KNOWLEDGE WHICH RELATE TO THE ASSESSMENT AND MITIGATION MEASURES PROPOSED

The impact assessment has been conducted with the consideration of the project scope as per description given by the Developer. If the project is altered in any way, impacts that actually do occur on or around the site may be of higher significance.

The specialist studies were conducted over a limited space of time and therefore there may be some changes on site conditions at the time a site assessment is conducted by the different Departments or at the commencement of construction.

The EAP's view that the proposed developments socio-economic impacts outweigh negative potential environmental impacts is based on the assumption that conditions especially with provided mitigation measures in the EMPr that are to be adhered to which will reduce potential negative impacts to insignificant levels.

N. A REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE *AUTHORISED, AND IF THE OPINION IS THAT IT SHOULD BE AUTHORISED, ANY CONDITIONS THAT SHOULD BE* MADE IN RESPECT OF THAT AUTHORISATION;

Concluding Remarks including Preferred Project Location

Alternative sites for the proposed development will be presented in the final BAR following input from all specialists and the different state department to ensure that all recommendations are considered holistically in amending the layout. However, site alternatives can only be considered within the presented property as it is the only property available for the developer and perfectly suites the Developers intentions for the proposed mall.

Opinion as to Whether the Proposed Activity Should Be Authorized

The property that the proposed development is located on is surrounded by different developments which have already influenced the conditions on the site. Currently there is some illegal waste dumping on some portions of the site and therefore the site is likely to continue to be affected and surrounding land uses.

Although there are some negative impacts which can be associated with the proposed development, it is the opinion of the EAP that input from the different specialists and state departments will provide sufficient mitigation measures to reduce the project impacts to acceptable levels. Therefore, the socio-economic gain of the proposed development will outweigh the negative environmental impacts. The proposed development should therefore be considered favorably.

Condition to be Made Part of the EA

- All waste produced during the construction phase must be disposed of at the nearest landfill site and proof of safe waste disposal must be kept on site.
- No site clearance may take place without engaging the relevant specialist and obtaining a permit where one is required for translocation of sensitive plant species.
- All recommendations made by the specialists must be part of the conditions of the EA.
- The EMPr will form an integral part of the EA.

O. WHERE APPLICABLE, DETAILS OF ANY FINANCIAL PROVISIONS FOR THE REHABILITATION, CLOSURE, AND ONGOING POST DECOMMISSIOING MANAGEMENT OF NEGATIVE ENVIRONEMNTAL IMPACTS

The applicant must make provision for rehabilitation in the form of tree replacement and landscaping on project completion. There is also a need for alien species eradication programme, to address the issue of invader species mostly associated with earthworks relating to the project in terms of National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) and related Regulations dated 2014.

The implementation of Alien Invasive Management plan, Plant Rescue & Protection plan and Indigenous Landscape plan will require adequate planning and budget.

P. ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY

None identified at this point.

Q. **ANY OTHER MATTERS REQUIRED IN TERMS OF SECTION 24 (4) (a) AND (b) OF THE ACT**

None identified at this point.

THE ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT is attached as **Appendix E**

AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP **IN RELATION TO;**

(i) The correctness of the information provided in the reports at the time of compilation;

(ii) The inclusion of comments and inputs from stakeholders and I&APs;

(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and

(iii) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.

I,

confirm that the information provided in the report is correct;

The inclusion of comments and inputs from stakeholders and I&APs is correct;

The inclusion of inputs and recommendations from the specialist reports is correct;

Any information provided by the EAP to interested and affected parties and any responses by the EAP

to comments or inputs made by interested and affected parties.

Commissioner of oaths:

Commissioner:

Place:

Date: