



MONDLI
CONSULTING

THORNVILLE DEVELOPMENT-THE SQUARE OF THORNVILLE

DC22/0015/2023 - DRAFT BASSIC ASSESSMENT REPORT -
Proposed construction of a Thornville Development “The Square of Thornville” proposed to include Fuel Service Station, Retail Centre with anchor shop, line shops, restaurants and Gymnasium on portion 104 (of 30) of the Farm Leliefontein No. 1175 at Thornville, within Msunduzi Municipality, KwaZulu - Natal

ABSTRACT

This is the draft Basic Assessment report (BAR) for the proposed development of Thornville Development – The Square compiled by incorporating comments and concerns received thus far. It includes a description of the proposed development, preferred alternatives, receiving environment, potential impacts and proposed mitigation measures. Comments raised by the I&APs will be highlighted in the final report with a specific focus on issues/concerns raised. This draft 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 Thornville Square Holdings (Pty) Ltd to conduct a Basic Assessment process for their proposed development of a Shopping Centre and Service Station located at Thornville, Pietermaritzburg, Msunduzi Local Municipality. The site where the project will take place is falling under Ward 18 of Msunduzi Local Municipality, Umgungundlovu District Municipality.

The property that the site is located on is currently having a double storey dwelling with vegetation on it including both grass and some trees species. Thornville Square Holdings (Pty) Ltd is proposing the development of a shopping centre on the said site which will include a fuel service station, retail centre, anchor shop with line shops, restaurants and gymnasium with parking space. The total footprint inclusive of all structures that will be part of this development is about 7000m². The proposed project is 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 is observed 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.
- Public meeting held on 8 April 2023.
- Consideration of comments received from I&As thus far.

The Basic Assessment Process and draft 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 or motivation for not having alternatives.
- Assessment of possible environmental impact of the proposed development.
- Consideration and incorporation of comments received from the I&As.
- 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 vegetation where clearance will take place, however the faunal species that may be affected will have a chance to migrate to the grassland area that will remain on site.

The layout of the proposed development will be amended to avoid high sensitivity portions.

A buffer area of 15m for the retail centre and 20m for the fuel service station is recommended around the identified wetlands. Both these watercourses were identified to have Low PES as they have been heavily modified including modification of ecosystem services and ecological integrity. These buffers were recommended through the wetland assessment conducted by a suitably qualified specialist which considers the condition/health of the wetlands system.

Despite the mentioned negative impacts of the proposed development, the proposed development promises great gain to the Thornville community and other surrounding communities through temporary and permanent employment opportunities; as well as provision of required shopping services at a convenient location within a short distance of these areas. Although there are other identified shopping centers at a distance of 10km away, however the proposed Retail Centre will provide a great alternative. People mostly prefer convenience which in some cases can be associated with reduced costs. Therefore, people closer to the proposed Centre will likely make use of it reducing travel costs which means more funds available for the purchase of other items.

Overall, negative environmental impacts associated with the proposed development, can be reduced to acceptable limits through effective implementation of impact mitigation measures against potential negative impacts. The proposed development will not lead to a compromise of any local or national biodiversity principles/targets nor will it compromise the overall ecosystem functionality provided the recommendations made by Specialists studies and the EAP are followed.

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 vegetation and identified wetlands.

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DRAFT BASIC ASSESSMENT REPORT – PROPOSED THORNVILLE SHOPPING CENTRE

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:

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

Project Title

Proposed Construction of Thornville Development (“The Square of Thornville”) proposed to include fuel service station, retail centre with anchor shop, line shops, restaurants and gymnasium on portion 104 (of 30) of the Farm Leliefontein No. 1175 at Thornville, within Msunduzi Municipality, KwaZulu – Natal.

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

Mondli Consulting Services was appointed by Thornville Square Holdings (Pty) Ltd to conduct a Basic Assessment process for their proposed development of a Shopping Centre and Service Station located at Thornville, Pietermaritzburg, Msunduzi Local Municipality. The site where the project will take place is falling under Ward 18 of Msunduzi Local Municipality, Umgungundlovu District Municipality.

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	bm@mmcs.co.za mondlib@webmail.co.za	Fax	031 5725647

The expertise of the EAP:

Name of representative of the EAP	Education qualifications of	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 9 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	EAPASA registered EAP: No. 2019/168 in accordance with the prescribed criteria of Regulation 15(1) of section 24 H Registration Authority Regulation	Has been involved in environmental and conservation field for over 20 yrs. Conducted EIAs for over 20 years including Strategic Env. Assessment.

	(LLB)	Society of South African Geographers (Membership No. 28/09), confirmed to comply with the requirements set by South African Council for Natural Scientific Professions.	Has been involved in the review and commenting on development projects impacting on the environment.
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B. THE LOCATION OF THE ACTIVITY

(i) The site for the proposed Thornville Development project is located within Ward 18 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	0	0	0	0	0	0	0	1	1	7	5	0	0	0	0	0

(ii) The physical address and farm name

The site for the proposed development is located on portion 104 (of 30) of the Farm Leliefontein No. 1175 at Thornville, within Msunduzi Municipality, KwaZulu – Natal. The total site is 2, 8328 hectares in extent as per the title deed.

The site is mostly vacant, with a double storey dwelling on site. The site has a portion of grassland, with indigenous tree species that seem to have been planted over years.

According to Msunduzi Local Municipality the site is zoned Residential, with SDF showing settlement growth. Environmental and Development restrictions is showing a small portion reflected as Critical Biodiversity Area (CBA): Optimal, with some wetlands within the 500 metre buffer of the site.

According to Msunduzi Municipality Land Use and activity framework it is categorized urban residential settlement showing both existing settlement & infill, and settlement growth potential, with an existing emerging node in the vicinity. Msunduzi Municipality SDF 2022, is also showing agriculture, whereas the SDF 2015 is showing new housing opportunities.

The site is privately owned by the Zungu Family, and will be used by Thornville Square Holdings (Pty) Ltd for the purposes of business. The site is located along R56 road to Richmond from Pietermaritzburg.

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

Latitude/Longitude	Degrees	Minutes	Seconds
South	29 ⁰	42'	57.11''
East	30 ⁰	22'	28.48''

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

A locality map has been attached under **Appendix A (iii)** showing the locality of the property including surrounding towns. This includes the site development plan showing where the structures which will be located on site (**Appendix A (i)**).

D. DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY, INCLUDING –

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

Thornville Development (“The Square of Thornville”) is proposing the construction of Fuel Service Station, with convenience shop, including associated structures and infrastructure comprising fuel storage tanks [4 x 23 000 litres petrol], 3 x 23 000 litres diesel totaling 161 000 litres, all underground, 4 x pump islands and 8 bowsers, lubricants, gas, paraffin, concrete paving & canopy at the forecourt, Retail Centre with anchor shop with line shops comprising pharmacy, bottle store and restaurants. The Centre will also have the Gymnasium, tyre shop, taxi rank and Bus terminal.

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):
<p>GNR. 327 of 2014 (Listing Notice 1) as amended on 7 April 2017.</p> <p>Activity No. 14.</p>	<p>Activity No. 14 - the development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic meters.</p>	<p>In this instance, it is 161 000 litres of fuel that will be stored on site for commercial purposes in the form of a Filling Station.</p> <p>Gas will be stored in bottles of 9kg (30), 14 kg (10), 19kg (20) and 48kg (10), totaling 1270kg at any given time.</p> <p>10 000 litres of paraffin will also be stored on site, above the ground.</p> <p>The Service Station will stock no more than 200 litres of lubricants (oil & brake fluid) on site. It is not foreseen that the site will store more than the maximum stated above.</p>

<p>GNR. 327 of 2014 (Listing Notice 1) as amended on 7 April 2017.</p> <p>Activity No. 24.</p>	<p>Activity 24 – the development of a road –</p> <p>(ii) with a reserve wider than 13.5 meters, or where no road reserve exists where the road is wider than 8 meters;</p> <p>But excluding a road –</p> <p>(c) which is 1 kilometre or shorter</p>	<p>The project does not entail the development of the road as per the definition – “development” means the building, erection, construction or establishment of a facility..., but excludes any modification, alteration or expansion of such facility, structure or infrastructure with associated earthworks..... In any event even if the road was being developed, it would have been shorter than 1 kilometre, which becomes an exclusion.</p> <p>The EAP’s view is that this activity is not applicable.</p>
<p>GNR. 327 of 2014 (Listing Notice 1) as amended on 7 April 2017.</p> <p>Activity No. 56.</p>	<p>Activity 56 – the widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre –</p> <p>(i) where the existing reserve is wider than 13.5 meters; or</p> <p>(ii) where no reserve exists, where the existing road is wider than 8 metres;</p> <p>excluding where widening or lengthening occur inside urban area.</p>	<p>While there is a real possibility of the widening of the road by more than 6 metres in the vicinity of the project entrance, however this will definitely not be more than 1 kilometre.</p> <p>There is no road reserve on the side road as of now, and the road is currently not wider than 8 metres.</p> <p>However, as highlighted above, this activity is included subject to confirmation of the road upgrade and its specific specifications by the Traffic Engineer and Road Authorities.</p>
<p>GNR. 324 of 2014 (Listing Notice 3)</p> <p>Activity 4.</p>	<p>Activity No. 4 - the development of a road wider than 4 meters with a reserve less than 13, 5 metres.</p> <p><u>d. KwaZulu – Natal</u></p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act as adopted by the competent authority.</p>	<p>The project does not entail the development of the road as per the definition outlined above.</p> <p>However, the access road to the site will be widened to a reserve of approximately 18m.</p> <p>This activity is included subject to confirmation of the road upgrade and its specific specifications by the Traffic Engineer and Road Authorities.</p>

<p>GNR. 324 of 2014 (Listing Notice 3)</p> <p>Activity 12.</p>	<p>Activity No. 12 - the clearance of an area of 300 square metres or more of indigenous vegetation, except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan in the Geographical location of KZN; .</p> <p>d. <u>KwaZulu – Natal</u></p> <p>iv. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act as adopted by the competent authority.</p>	<p>We are of the view that this activity is triggered as Msunduzi Municipality has identified a small portion of the site as sensitive in the municipal EMF. There are also wetlands identified on site, as well as in the vicinity of the site.</p>
<p>GNR. 324 of 2014 (Listing Notice 3)</p> <p>Activity 18.</p>	<p>Activity No. 18 - the widening of a road by more than 4 meters, or the lengthening of a road by more than 1 kilometre.</p> <p>d. <u>KwaZulu – Natal</u></p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act as adopted by the competent authority.</p>	<p>The access road to the site will be widened to a reserve of approximately 18m. This will definitely not be more than 1 kilometer.</p> <p>The EAP’s view is that this activity is applicable, subject to confirmation of the road width and length by the Traffic Engineer and Road Authorities.</p>

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

Background of the proposed development

As highlighted above the project entails a Retail Centre with anchor shop and line shops comprising pharmacy, bottle store and restaurants. The Centre will also have the Gymnasium, tyre shop, taxi rank and Bus terminal.

The Centre will also have a Fuel Service Station, with convenience shop, including associated structures and infrastructure comprising fuel storage tanks [4 x 23 000 litres petrol], 3 x 23 000 litres diesel totaling 161 000 litres, all underground, 4 x pump islands and 8 bowsers, concrete paving & canopy at the forecourt,

Gas will be stored in bottles of 9kg (30), 14 kg (10), 19kg (20) and 48kg (10), totaling 1270kg at any given time. 10 000 litres of paraffin will also be stored on site, above the ground. The Service Station will stock no more than 200 litres of lubricants (oil & brake fluid) on site. It is not foreseen that the site will store more than the maximum stated above.

Overview

The proposed development will include a Retail Centre with a total project footprint of 5880m², excluding a parking estimated at about 1000m². Therefore the envisaged development footprint is about 7000m²

The development will include the following structures/facilities:

- Petrol Station = 1 000m²
- Food outlets = 200m²
- Retail shops = 1 500m²
- Line shops = 80m²
- Bottle Store = 200m²
- Pharmacy = 100m²
- Doctors Rooms = 500m²
- Gym = 800m²
- Tyre Shop = 500m²
- Bus Terminal = 500m²
- Taxi Rank = 500m²
- Parking – estimated at about 1 000m²

The applicable standards for the construction of a Retail Centre of this magnitude will be followed during the construction of the proposed project.

Project Objectives

The proposed Centre is intended to provide convenient neighborhood shopping experience, inclusive of other services like health and a service station to the surrounding residents and people travelling along R56 road. The development take advantage of the current N3 road expansion, and it is strategically located moving away from the city centre creating a Thornville development node.

Thornville is seen as a new node, based on the number of households, schools and businesses that have been built in the area in the recent past.

The development is likely to benefit the whole of Thornville neighbourhood, R56 including the travellers to and from the Eastern Cape, and the whole precinct. The growing area of Thornville is in need of a commercial development of this nature as confirmed by the concluded market feasibility study.

The proposed development will provide the residents with a wide choice when it comes to goods and services. Residents will not be compelled to travel all the way to the Pietermaritzburg city Centre.

Services on-site

Access/Roads

The site for the proposed development is located along a very busy R56 towards Richmond and Eastern Cape. Access to the site will be off a side gravel road that is branching from R56. The access point will have to be located at a distance of 80metre from R56 road. Further comments will be sought from both Msunduzi Local Municipality and the KwaZulu – Natal Department of Transport.

There will be short internal roads with a site circulation constructed in line with the recommendations of the traffic impact assessment.

Electricity

The site itself has a dwelling that has electricity connected. It will therefore be a matter of formalizing the connection to the proposed development through the Municipality.

During the construction phase, the necessary connections will be done on site after obtaining the necessary permits.

Water Supply

There is municipal water on site. The proposed development will do the necessary connections, through the relevant Water Services Authority.

During the construction phase, it is the responsibility of the contractor to provide water for construction purposes as well as clean drinking water for the workers.

Sewer Supply

There is no sewer infrastructure currently servicing the site. However, during the public meeting held on site there was an indication that there is a proposed municipal sewer line that will run in the vicinity of the site coming from Willowfontein connecting Mpumelelo area (France). It would appear the site will be within a connecting distance of this proposed sewer line. This will be formally confirmed with Msunduzi Local Municipality when comments are sought from them.

Temporary chemical toilets will be provided by the Contractor during the construction phase, and the number of toilets will be determined by the number of workers on site but a minimum of two toilets will need to be provided (one for males and one for females).

Stormwater

The aim of the stormwater management plan is to manage the stormwater resources of the collective watersheds to:

- Prevent flood damage or concentration of run-off;
- Divert stormwater into existing stormwater systems;
- Preserve the natural and beneficial functions of the natural drainage system;
- Preserve and enhance stormwater quality and
- Attenuate the difference between pre and post development flows

The compilation of the stormwater plan for the project is currently underway.

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 (New England Landfill site). The appropriate area and interval for waste disposal will be agreed upon between the 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 either through collection by Msunduzi Local Municipality or a private service provider. The developer will take all necessary measures to ensure that waste from the proposed development does not cause any negative environmental impacts.

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
- Tubing for electricity and piping for water supply
- Painting and other finishing
- Installation of required facilities within the stores and the Centre as well as food outlets
- Development, paving and marking of parking areas and access

Vegetation on site will be retained as much as possible. Through engagement of an Environmental Control Officer (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 guides 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 ought to be adhered to during the Environmental Impact Assessment including determining the need for an Environmental Authorization, the Application/Assessment Process to be followed, conducting of the public participation process 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 are 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

DRAFT BASIC ASSESSMENT REPORT FOR THORNVILLE DEVELOPMENT – THE SQAURE OF THORNVILLE

		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 draft Basic Assessment Report (BAR) and draft Environmental Management Programme (EMPr) for control of emissions that may lead to localized impacts on air quality. However, the proposed development is not expected to have any significant air quality related impacts.
The National Water Act (No. 36 of 1998).	Department of Human Settlements, Water and Sanitation	This piece of legislation is responsible for ensuring that water resources are safeguarded.
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 waste produced during construction and operational phase of the project will be handled and disposed of in compliance to this Act and associated Regulations to ensure that there are no adverse on/offsite impacts resulting from waste storage or disposal.
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 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.
National Forests Act (Act No. 84 of 1998)	Department of Environment, Forestry and Fisheries	The necessary precautions will be taken to minimize removal of trees, especially those that are indigenous and of conservation importance.

<p>KwaZulu-Natal Amafa and Research Institute Act, 2018</p>	<p>KZN Amafa Research and Institute</p>	<p>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 are being engaged for commenting and possible recovery and procedure to be followed for archeological resources will form part of the reports.</p>
<p>Noise Control Regulations (Regulations 154, 10 January 1992)</p>	<p>Department of Environment, Forestry and Fisheries (National Authority) Department of Economic Development, Tourism and Environmental Affairs (Provincial Authority)</p>	<p>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. These can only be achieved by following the prescripts of these Regulations.</p>
<p>National Development Plan</p>	<p>RSA Government Departments, Municipalities and Public Entities</p>	<p>Members of the communities in proximity project area will be employed during the construction and operational phases.</p>
<p>South African Constitution, 1996</p>	<p>Government of the Republic of South Africa</p>	<p>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.</p>
<p>Msunduzi Local Municipality Integrated Development Plan (IDP), 2017-2022</p>	<p>Msunduzi Local Municipality</p>	<p>According to the Municipality's IDP, Msunduzi Municipality needs to decentralize services obtained in the City of Pietermaritzburg, increase economic activity and employment for residences within the areas surrounding the City. The proposed development is therefore in line with the IDP as it will provide economic opportunities and create employment. The EIA and other assessments are aimed at ensuring reduced negative environmental and social impacts, such that the</p>

		development is undertaken in a sustainable manner.
Umgungundlovu District Municipality Development Plan (IDP), 2020/2021	Umgungundlovu District Municipality	The proposed development is in line with the goals and objectives of Umgungundlovu District Municipality. Its 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 ACTIVITY IN THE CONTEXT OF THE PREFERRED 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 have 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 serves as the Capital City of the Province. 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.*

Sustainable permanent jobs are likely to be created, which will include cashiers, packers, cleaners, petrol attendants, security personnel and other roles. Employment created during both construction and operational phases will go a long way in improving the household income. This may help most households to afford basic needs, especially in the face of constantly increasing fuel and food prices. Some people may have lost income sources due to retrenchment as a result of Covid-19. This development is likely to help such people to improve their finances, and give them a new source of hope for a better future.

Currently, there are no formal retail centres, similar to the proposed development, located within the area of Thornville. However, there are retail centres located within close proximity to the defined market area. The Greater Edendale Mall is about 9.9 km from the proposed centre. The Greater Edendale Mall is at 32 000m² in GLA. The Greater Edendale Mall serves the Edendale market including the primary and secondary markets of the proposed development. The Southgate shopping centre is located about 8.6 kms from the proposed centre, this centre can be classified as a local convenience centre with an estimated GLA of 1 000 m². This presents an opportunity for the proposed development to capture a significant amount of the market area population in future.

In terms of injections, the proposed development can be expected to experience some injections from areas such as Pietermaritzburg and through transient traffic along R56. The centre is located at a strategic point from the N3, R56 and a node at Thornville. The proposed development will also provide a Bus terminal for the buses travelling along the R56, and a taxi rank. The taxi rank and taxi routes will also contribute towards injections experienced by the proposed centre.

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 the 14 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 site is zoned as residential.

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 both temporary and long-term sustainable employment during both construction and operational phases. It will also help to provide for the shopping needs of the surrounding communities within their locality thereby reducing the need to travel to access their needs. 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 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 Msunduzi Municipality the site is located in an area which is regarded as a possible development node.

The project area is located just off R56. The main modes of transport within the locality of the site include on foot (49%) ad minibus/taxi (35%). 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 Thornville and surrounding communities. 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 as confirmed during the public meeting held on 8 April 2023. 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 lost employment as a result of Covid-19, and impacts of the looting that took place in July of 2021 within the province of KZN.

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. 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?

Most services are already available both on site and in the area, with sewer line already planned for the area.

Electricity will be sourced through the Municipality. A generator will be provided as backup power supply for the proposed Centre.

Portable water is available on site, and it will be a matter of doing the necessary connections to the proposed development. The Developer will be 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 are available from the different authorities, and will be adequate for the operation of the proposed Retail Centre and the Service Station.

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)?

It was stated during the public meeting that the sewer infrastructure is in the pipeline for the area, running from Willowfontein to Mpumelelo area (France). All other required 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?

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 stimulation of the local economic activity. The proposed development will not only create job opportunities, but will also create a safe trading space for local small businesses that may be able to be placed within the Centre.

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

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

Based on the national web based screening report, the site has high sensitivity with regards to terrestrial biodiversity. Environmental and Development restrictions is showing a small portion reflected as Critical Biodiversity Area (CBA): Optimal, with some wetlands within the 500 metre buffer of the site.

The proposed development intends avoiding all sensitive areas identified on site e.g. a grassland portion and wetlands.

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. According to comments from the SDF Department of the Msunduzi Local Municipality, the site is zoned residential.

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 a small portion reflected as Critical Biodiversity Area (CBA): Optimal, with some wetlands within the 500 metre buffer of the site. The national web-based screening report is showing the site as very high biodiversity theme.

However, on the ground the site is already disturbed with a dwelling on site. The portion that is regarded as sensitive can be avoided for the purposes of the proposed development.

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 centre 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 layout will avoid the sensitive area identified on site, as well as in the vicinity of the site. No cultural or heritage features were observed on or near the site.

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. These need to be undertaken as part of the

project planning to ensure successful implementation of the project, and its ultimate compliance to all relevant pieces of legislation.

(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 the operation of the different retail stores within the Retail Centre. This will include rental of spaces in the Centre to different businesses and appointment of required work force. Another operational aspect is the operation of a service station and auto industrial activities.

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

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:

Alternatives

Property on which the activity is undertaken

The site where the proposed project is located is owned by Zungu Family, and will be used under the auspices of Thornville Square Holdings (Pty) Ltd for the purposes of the proposed development. The site is zoned residential. The applicant has identified a need for the Retail Centre and Service Station on this node which is strategically located along R56.

One of the challenges that the Msunduzi Local Municipality is facing is high rate of unemployment and general poverty, especially in the townships and rural areas of the city. Therefore, the construction of this Retail Centre and Service Station will go some way in meeting this endemic challenge.

The identified site is ideally located, and in line with the requirements for the site intended for a Retail Centre. The site will not result in the displacement of any people or the need to put up new infrastructure. The size of this site is also acceptable providing enough space for parking.

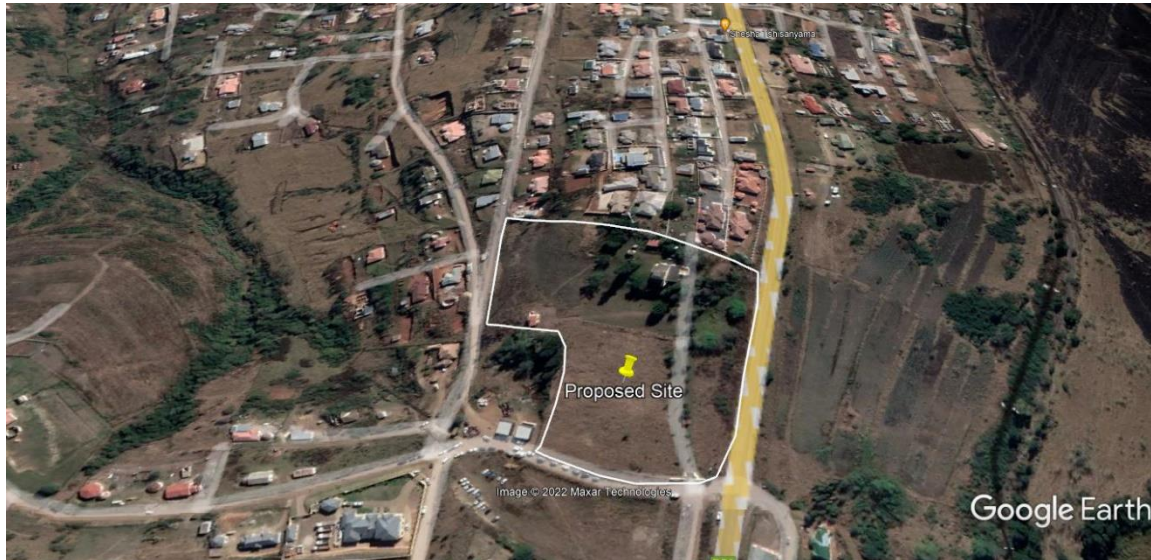


Figure 1 - Google Earth Image showing an outline of the property within which the proposed development is located.

At this point in time, the Applicant has identified a need for the Retail Centre that will service the people residing in this vicinity, and greater Pietermaritzburg area, and those travelling along R56 to areas like Richmond and Eastern Cape.

There were no alternative sites considered, although other alternatives as outlined below have been considered by the proposed project. This specific site has been chosen as a preferred site because of the following reasons:

- The site is ideally located and easily accessible in terms of the road network, and is likely to have an appeal to potential shoppers and motorists.
- The site is located in an area with well-established infrastructure in terms of electricity, roads, waste removal, stormwater and portable water.
- The site is big enough, being 2.8328 HAs in extent.
- The property is located near a busy R56 road, meaning easy access through different modes of transport including public transportation, via private vehicles and by foot. This means easy access for potential customers to access required services and purchase required items.
- The site is already owned by the Developer.
- The slope / gradient of the site is favorable for the proposed development.

Type of activity undertaken

The Retail Centre by its very nature requires a site that is huge enough to provide space for all shops that will form part of the development, as well as enough parking space for shoppers. The site has to be

accessible to the consumers, and therefore its location within the well-established road network is pivotal. The proposed activity meets the requirements for the proposed Retail Centre and Service Station.

Details of all the alternatives considered

The main role of alternatives is to find the most effective way of meeting the need and purpose of the proposed project, which can be through enhancing the environmental benefits of the proposed activity or by reducing or even avoiding potentially significant negative impacts to the environment.

There are several types of alternatives that have been put forward by different writers, yet not all alternatives may be necessarily be appropriate for each assessment process. It is therefore, important to focus on those that are most appropriate for the project in question. This talks directly to determination and analysis of alternatives that are relevant for the project being examined, in this instance Thornville Square Retail Centre and Service Station at Thornville area, Pietermaritzburg.

The following alternatives are deemed relevant to this project:

Activity alternatives

This talks to a project alternative, which can be a change in the nature of the proposed activity as originally envisaged. As much as the site is zoned residential, however the applicant has opted for the Retail Centre and Service Station due to the need and desirability of the proposed project. The activity is also not at odds with the municipal integrated development plan (IDP) which is a key planning document for the whole municipal area.

The activity is deemed suitable on this site from the planning, social, economic and environmental perspectives.

Location alternatives

The location of the site meets the requirements of a Retail Centre in that it is located in an area with well-established road network. The area has well established engineering services, and there is no need to put the whole lot of new services.

The site can be accessed by potential shoppers with ease. Some of the shoppers from the local area will be able to access the site on foot.

The location within the site has been changed through the layout to avoid sensitive portions where most of the indigenous tree species and grassland are located.

There are instances where a private landowner wishes to develop land, which is privately owned as it is the case with this site. In such cases, alternative locations are not always practical, and other types of alternatives will assume importance.

It is against this background that there is no other site that has been identified and assessed with respect to this project. The identified location is seen as ideal based on the studies and discussions held with stakeholders regarding the placing of the Retail Centre and Service Station within the site.

Technological alternatives

This alternative talks to when the same goal is achieved by using a different method or technology as part of the proposed activity. In the scenario, the most benefit possible is achieved with less or no impact to the environment. Technology to be used within the Centre will also include the use of surveillance systems for security purposes.

The buildings will have to comply with the National Building Standards and Regulations. Buildings will be constructed up to the SANS10400 standards. The proponent will take into account the various technologies available such as water harvesting and energy efficiency mechanisms during construction. It should be noted that consideration will be given to water and energy saving devices, where applicable. The applicant will also consider recycling during the operational phase of the project.

Some of the potential investors have emphasized issues of climate change and green designs. They have also asked for the exploration of solar, type of material to be used, water harvesting and buildings with natural lights.

Demand alternatives

The stakeholders have not suggested any possible alternative project that is in demand in this area and on this specific site. The area has been zoned residential for many years, yet nothing has happened until the Developer bought it, followed by the proposal in question. In fact the stakeholders unanimously supported the project during the public participation process held on 8 April 2023.

Site layout alternatives

This alternative allows considerations of different spatial configurations of an activity within a particular site. In this instance, the original layout has been modified to avoid sensitive areas on site, and on the surrounding areas. The layout has been modified to avoid high sensitive area in terms of biodiversity. Other factors considered include findings of the traffic impact assessment in terms of access point, which has recommended its location at a distance of 60m – 80m from R56.

The final site development plan / layout has avoided the sensitive areas of the site, to more moderate and less sensitive sections of the site. The project has an obligation to prevent any environmental degradation, in particular the impact on water resources and biodiversity within and around this site.

The proposed final layout will offer the highest levels of biophysical and environmental benefits, as the hard surface, in conjunction with the proposed storm-water infrastructure, will manage water movement more effectively, and minimise erosion and possible sedimentation to the watercourses. The presence of the project provides an opportunity to conserve the biodiversity that is on site.

It can therefore be concluded from this perspective that the proposed location within the property is environmental and socially acceptable, with no serious fatal flaws identified. It is also not foreseen that the location will be too costly from the financial perspective.

Scale alternatives

This alternative talk to the scale of the project whereby activities can be broken down into smaller units as opposed to a much larger project scale which may cause extensive impacts on the environment. In this instance the site is 2. 8328 HAS, and the project will only use about 7 000m² of the site for this project.

Design alternatives

The design of the project will take the environmental considerations into account, in terms of allowing natural light into the building, thus saving on energy requirements. The design and buildings will be in line with the prescripts of National Building Standards and Regulations. The design will take into consideration the aesthetics as prescribed by the local Municipality.

No go option / alternative

The no-go option is defined as an option of not undertaking the proposed activity and its inherent alternatives. This alternative assumes that the activity does not go ahead, meaning that the status quo with regards to the site will continue. The no-go option must take 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.

In a situation where negative environmental impacts have high significance, the no-go option takes on particular importance and centre stage. There are instances where the no-go option may be the only realistic alternative and then it becomes a major area of focus, and it assumes an important role. It is on the basis of this scenario that the no-go option has to be considered in all projects including Thornville Square Development. However, the no-go option is not seen as an alternative in this instance and context.

In essence the no-go option provides the means to compare the impacts of project alternatives with the scenario of a project not going ahead. In evaluating the no-go option it is critical to take into account the implications of foregoing the benefits of the proposed project.

The proposed activity will contribute immensely in the local economic development of the area, and provision of sustainable jobs. The no-go option is not considered appropriate because it will hinder the envisaged local economic development. Furthermore, the unemployed will lose out in terms of potential job opportunities that are likely to be created by this development. This is particular true for the unskilled local people, especially during the construction phase. The local small businesses are also likely to benefit during the project construction phase, and without this project they are likely to lose out. The no go option will mean the loss of informal trading opportunities during construction phase of the project.

The Centre will play a very important role in the economy of Greater Pietermaritzburg. The no-go option would therefore deprive the city a well needed revenue contributing to the prosperity of Pietermaritzburg.

The no go option will deprive the people in the vicinity of this site to access job opportunities at a walking distance. Some of the locals may even exploit an opportunity for rental with regard to the workers who will be employed by the Centre who may be from far or who may need to work at night and require the nearby accommodation.

The economic profile of the general area will remain unchanged and will not be improved if this project implementation is abandoned. The proposed activity and facility will afford the local people an opportunity to be employed, and this will go some way in poverty reduction in the area. If this option is not pursued the unemployed are likely to lose out in terms of potential job opportunities that are likely to be created by this development. This is particularly true for the locals who are unskilled, as they stand

a chance to be employed during the construction and operational phases. During the construction phase they will acquire certain skills.

The proposed development is aligned with the planning initiatives for the area and is therefore considered a viable and sustainable development that will contribute to regional economic growth. The economic profile of the general area will remain unchanged and will not be improved if the no go option is followed.

Other than the implications of foregoing the benefits of the proposed project, the no – go option must also provide means to compare the impacts of project alternatives with the scenario of a project not going ahead. In this instance this means the watercourses and biodiversity on and around the site will remain intact with not even the slightest chance of pollution polluting or impacting on them from the proposed project. The vegetation on site will remain intact without any disturbance.

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.

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

(i) Details of all the alternatives considered

The key criteria when identifying alternatives is that they should be practical, feasible, relevant, reasonable and viable. The stakeholders need to have been afforded an opportunity to make a meaningful contribution with regard to alternatives.

The impact of each of the alternatives need to have been considered. The evaluation should focus on a few preferred alternatives and should include a comprehensive comparison of all potential impacts, including biophysical, social and economic aspects.

Once all the alternatives are identified, then the focus must shift to the few relevant ones, and those deemed inappropriate must be eliminated. The elimination process should be well documented and substantiated, with an explanation of why certain alternatives are not being considered in detail.

A detailed analysis of potential environmental impacts should be given for each of the remaining preferred alternatives, as well as a consideration of technical and financial aspects as they also have potential impacts.

Alternatives should then be screened to limit effort and cost associated with data collection and analysis. Screening should be based on criteria such as ability of technology to meet project objectives, availability of resource requirements, location suitability and social acceptability. Once the shortlist of alternative technologies, is identified, the next step is to identify a range of alternative locations. The location alternatives should then be screened. Once a short list of options has been produced, each alternative should be evaluated.

The final step in the process is to comparatively assess the alternatives. Alternatives must be assessed and evaluated at a scale and level that enables adequate comparison with the proposed project. Assessment should focus on the potential impacts, both direct and indirect or cumulative, on the environment of all reasonable alternatives.

Methods for comparing alternatives range from very simple descriptive and non-quantitative methods, through methods based on varying levels of quantification to a full quantitative comparison, in which all impacts are expressed in monetary terms.

Irrespective of the method used, it is important to note that the alternatives are compared in terms of all potential biophysical, social and economic impacts, both positive and negative. The effectiveness of mitigation measures should also be included. Technical and financial criteria are also relevant. The same evaluation criteria should be used for all alternatives. The comparison should be systematic and well documented, with reasons for the preferred alternatives clearly outlined.

Where alternatives are required, they become important in the sense that alternatives are a basic integrated environmental management (IEM) principle. This project did not use any specific matrix to compare alternative sites as this was the only site available and owned by the proponent. The initial desktop analysis of the site, and ultimately the physical assessment did not show serious impediments. The site has also been subjected to feasibility through various studies that include socio – economic assessment, geotechnical, biodiversity and aquatic assessment. These studies did not reveal any fatal flow with regard to the exact location of the proposed development.

In the context of the foregoing, there was no need for a detailed identification and ranking of alternative candidate site and the ranking thereof. Furthermore, the chosen site within the property is not in conflict with the current municipal planning tools like the IDP.

The exact location chosen has taken into consideration the position of the existing dwelling on site in relation to the vacant area. The proximity to the access point and services like the proposed sewer pipeline. The location of the proposed project buildings closer to the road does make economic sense.

Property on which the activity is undertaken

The property within which the proposed development is located is owned by the developer. The property was selected for this project on the basis of its strategic location in relation to the road network being R56 and N3, and its position in Thornville. Therefore, locating it on the identified property makes sense especially considering that the Developer did not have to go through land acquisition processes and costs as they already own the property.

Activity alternatives

As much as the site is zoned general residential, however the applicant has opted for the Retail Centre and Service Station due to the need and desirability of the proposed project. The site has been zoned as such for many years, and the Developer has identified its potential for a commercial activity that will benefit the surrounding community and the motorists travelling along R56. The applicant has identified a business opportunity based on his interaction with the community. The activity is deemed suitable on this site from the social, economic and environmental perspective.

Location of the site

The positioning of the site within the property allows for easy access to the proposed Centre and Service Station. The location of the site meets the requirements of a Centre of this type in that it is located in an area with well-established road network. The site can be accessed by potential shoppers with ease, some of the shoppers from the local area will be able to access the site on foot. The area has a reasonably well established engineering services.

The location within the site has been changed through the layout to avoid sensitive area in the vicinity of the existing dwelling.

Type of activity undertaken

According to the Socio economic / feasibility Study there is no other Retail Centre located within the “market” area to be serviced by the proposed development. Some of the services and products are going to be unique e.g. medical services and gymnasium. Based on the experience of interacting with stakeholders and the feasibility study / socio economic assessment 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 Retail Centre in this area will allow people to be able to purchase essential items closer to their homes thereby reducing the total travelling costs of accessing such essential food items.

Technological alternatives

The buildings will comply with the National Building Standards and Regulations. The proponent will take into account the various technologies available such as water harvesting and energy efficiency during construction. It should be noted that consideration will be given to water and energy saving devices, where applicable. The applicant will also consider recycling at an operational stage of the Centre.

Demand alternatives

The stakeholders unanimously supported the project during the public participation process as reflected in the minutes. The feasibility study / socio – economic assessment has confirmed the viability of the proposed project.

Site layout alternatives

The original design of the project was changed as it was intended to incorporate the existing dwelling on site. Among other changes has been the issue of avoiding the sensitive areas and indigenous tree species on the area closer to the existing dwelling. The project has an obligation to prevent any environmental degradation, in particular the water resources and biodiversity within and around this site.

The proposed final layout will also avoid the identified wetlands in and around the site. The presence of the project provides an opportunity to conserve the indigenous species found on site.

The layout is therefore intended to meet the intentions of the Developer in terms of number of stores to be housed within the Centre, and the desired location for the food outlets. But it has also taken into consideration the outcomes of all specialist studies.

Scale alternatives

In this instance the site is 2.8328 HAs in extent, and the proposed project will only use about 7 000m² of the site.

Design alternatives

The design and buildings will be in line with the prescripts of National Building Standards and Regulations. The design will take into consideration the aesthetic value that is expected as set by Msunduzi Municipality.

No - go option alternative

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

The economic profile of the general area will remain unchanged and will not be improved if this option is to be abandoned. The proposed activity and facility will afford the local people an opportunity to be employed, and this will go some way in reducing poverty. If this option is not pursued the unemployed are likely to lose out in terms of potential job opportunities that are likely to be created by this development. This is particularly true for the locals who are unskilled, as they stand a chance to be employed during the construction and operational phases. During the construction phase they will acquire certain skills. The local small businesses are also likely to benefit during the project construction phase. The no go option will mean the loss of informal trading opportunities during construction phase of the project.

The no-go option would also mean that the site remains intact in terms of its biodiversity. The mitigation measures put in place through the Environmental Management Programme are likely to result in the environmental improvement in the area, and on site.

i. 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 is following the standard public participation process as contemplated under Regulation 41 of the 2014 EIA Regulations, as outlined below.

- The ward councilor of the area where the project is located i.e. ward 18 was informed and fully briefed about the project. The ward Cllr Buthelezi was also in attendance during the well-attended public meeting held on 8 April 2023, and he formed part of the day's programme and presentations to the community in attendance.
- The public meeting was held on 8 April 2023 **(see attached minutes and attendance register – Appendix B (3)(ii) and (iii).)**

DRAFT BASIC ASSESSMENT REPORT FOR THORNVILLE DEVELOPMENT – THE SQAURE OF THORNVILLE

- Site notices were erected on and around the site in isiZulu and English. Guidelines of the EIA Regulations and the Public Participation Guidelines were followed with regards to the size and other aspects of the site notices.
- Newspaper advert was published in The Witness (English) on 19 April 2023 (**see attached Appendix B (2)**).
- The draft Basic Assessment will be circulated to all registered stakeholders, Interested and Affected Parties (I&APs) and state department for the 30-day commenting period as part of the Public Participation Process. The comments received will be incorporated into the final BAR and EMPr and recorded in the comments and response report (**Table 8**) and also attached as Appendix B as well as proof of all other activities conducted as part of the public participation process.

ii. 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

The Draft BAR will be circulated to I&APs, stakeholders, and state departments as per the table (**Table 3**) below giving them the opportunity to comment on the proposed development. The comments received will be recorded in the comments and response report to be attached to this document as **TABLE 8**.

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

Name of Organisation/Department	Contact Person	Contact Details
Department of Economic Development, Tourism & Environmental Affairs	Shawn Janneker/Mapule Mdletshe	No 8 Warwick Road Cascades Pietermaritzburg 3202 Tel: 033 347 1820 Shawn.Janneker.kznedtea.gov.za/ Sphelele.Mkhwasa@kznedtea.gov.za
Ezemvelo KZN Wildlife	IEM Co-ordinator	P.O.Box 13053 Cascades 3202 (033) 845 1460 / 1739 / 1452
KwaZulu – Natal Amafa and Research Institute	Mr. John Pakwe	195 Langalibalele Street, Pietermaritzburg, 3201 (033) 394 6543
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	Melusi Maphumulo	Private Bag X321 Pietermaritzburg 3200

		Tel: 033 392 3244
Umgungundlovu District Municipality	Mandisa Khomo/Nokulunga Nxumalo	242 Langalibalele Street Pietermaritzburg 3200 Tel: 033 897 6811/6723 Email: mandisa.khomo@umdm.gov.za/ nokulunga.nxumalo@umdm.gov.za
Department of Forestry Fisheries and Environment (DFFE) (Forestry and Fisheries Regulation and Support Department)	Thabisile Xulu	185 Langalibalele Str. Pietermaritzburg 3200 Tel: 033 392 7722 E-mail: AyandaMny@daff.gov.za
Ward 18 Councilor	CLlr Buthelezi	
ESKOM	Samantha Naicker	Durban – New Germany 031 710 5183 / 072 957 1007 / KZNOU-L&R@eskom.co.za /NaickeSa@eskom.co.za

iii. 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 proposed site is located within a residential area, which is a combination of formal and informal/rural areas. The surrounding suburbs to the north of the site include Westgate, Foxhill Embleton, Slangspruit, Shenstone and Thornville to the south.

The Msunduzi Spatial Development Plan approved in 2022, provides some overall guidance to the development of the area along the R56 in which the site is located. The R56 which connects Thornville and Pietermaritzburg is, according to the SDF (page 97), earmarked as a primary corridor. The Msunduzi SDF identifies an emerging node 2 km south of the site.

The property for the proposed development is located in an area that is currently zoned Residential. It is proposed that the site will 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 has a main double storey dwelling and other smaller houses, and the larger part of it is vacant.

Climate

This region is characterized by a summer rainfall with limited rainfall within winter months. The mean annual precipitation ranges from 550 to 1 000 mm with the mean maximum and minimum temperatures being 36.9° C and 4.0° C for January and June respectively (Mucina and Rutherford, 2006).

Description of ecological baseline

Vegetation

The Thornville Development project is situated within the Indian Ocean Coastal Belt (IOCB). The IOCB occurs as an almost 800 km long coastal strip between the South African borders with Mozambique as far south as the mouth of the Great Kei River (near East London). It spans altitudes from 0–450 m (and higher up to 600 m in the Pondoland-Ugu Sandstone Coastal Sourveld).

The landscapes of the IOCB are flat (Maputaland) or characterized by alternating rolling hills and deeply incised valleys (coastal stretch between Richards Bay and Port Edward in KwaZulu – Natal).

The proposed development overlaps with the Dry Coast Hinterland Grassland. Notably the Dry Coast Hinterland Grassland was previously regarded as Ngongoni veld.

The national web based screening tool is showing the site as very high theme with regards to the terrestrial biodiversity, probably because the grassland portion that is found on site, mostly along R56 and sections of the site. Msunduzi Municipality Environmental Management Framework is showing the site as having Environmental and Development restrictions in the form of a small portion reflected as Critical Biodiversity Area (CBA): Optimal, with some wetlands within the 500 metre buffer of the site.

The EAP 's view is that based on the screening tool, Msunduzi EMF information and our walk about on site there is no need for a fully fledged biodiversity study. Furthermore, the main portion of biodiversity constraints falls on the building line from R56 to the proposed site. The proposed project has no intention of encroaching on the strip of the biodiversity adjacent to R56. The development footprint and the layout will be adjusted as such.

Below is the photo of the portion of the site showing the vegetation:



Figure 2 - Snapshot of vegetation on site

Fauna

No faunal species of any particular conservation importance were observed during the site walk-through done by the environmental assessment team. No mammals, amphibians or herpetofauna were observed on site during the site assessment conducted by the in-house conservationists.

Soil and Geology

The site is underlain by colluvial and residual soils which are underlain by shales of the Pietermaritzburg Formation, and to a lesser extent dolerites of Jurassic age.

The assessment encountered Colluvium in all of the test pits excavated by the Geotechnical Engineer, across the site and extends to depths ranging from 0.2 m to 0.7 m with an averaged depth of 0.3 m. It was seen to comprise slightly moist, dark greyish brown, silty clay with varying amounts of gravel.

Groundwater and Wetlands / Hydrology

The following tasks were completed in fulfilment of the terms of reference for this assessment:

- The delineation, classification and assessment of wetlands within the regulation area;
- Conduct risk assessments relevant to the proposed activity;
- Recommendations relevant to associated impacts ;and

A 500m buffer was demarcated for the project area to identify wetlands within the regulatory zone.

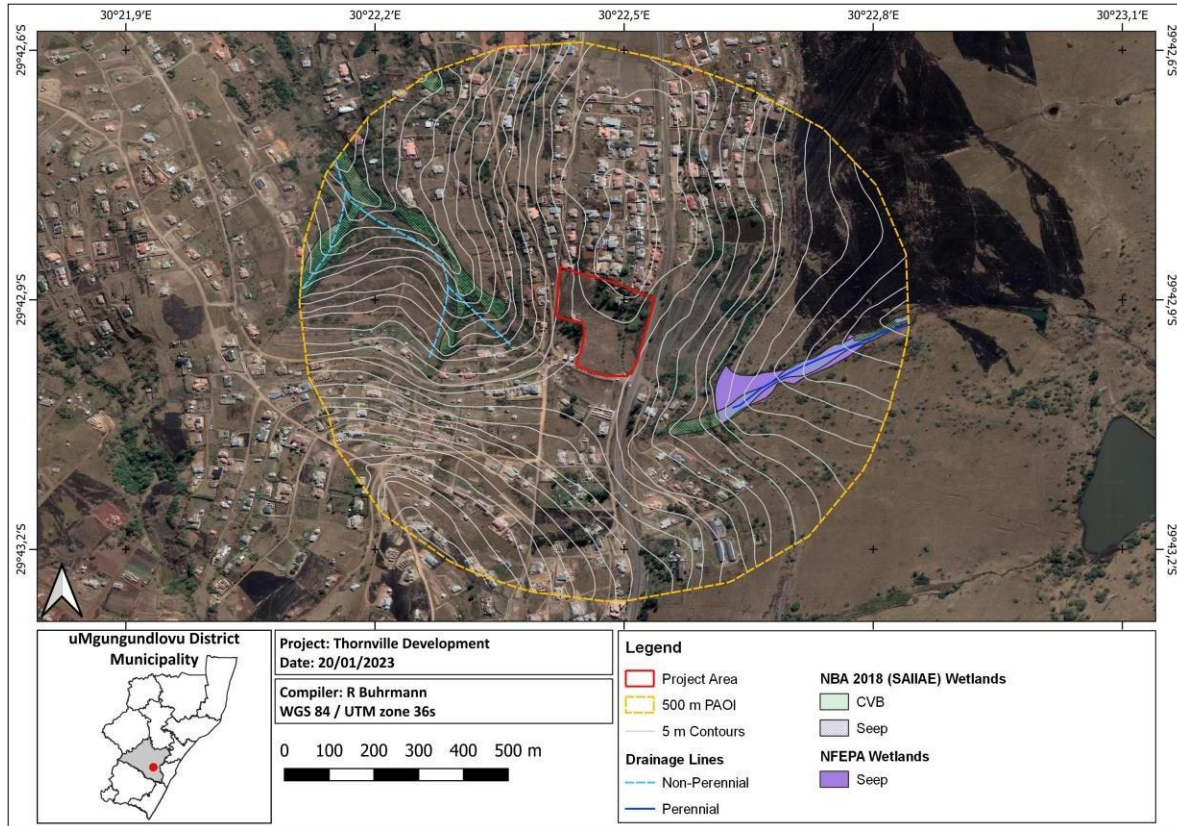


Figure 3 - 500m regulated zone (Source: Wetland Assessment for the Thornville Development prepared by the Biodiversity Company)

According to Nel et al. (2011), only two seep wetlands were identified within the 500 m project area of influence as reflected below:

Social attributes

The site is falling under ward 18 at Thornville. The information from Statistics South Africa has shown that over 70% of the population in the area is youth. This area is rural in nature transforming rapidly into an urbanised area with limited existing shopping facilities.

Economic attributes

The site is well located from a commercial market point of view and will be able to serve the local community and the passing traffic. The Feasibility Assessment and Socio Economic Study has shown that the projected current demand for the proposed neighborhood centre is for 3 385 m² as of 2022, and likely to grow to 5 884 m² in 2025 and 6 822 m² in 2030.

The proposed development will have no significant impact on the other competing retail centres as their demand markets are dispersed throughout Pietermaritzburg and do not rely solely on the catchment market of the proposed centre.

The Feasibility Assessment and Socio Economic Study has highlighted that this development may have specific aspects that make it somewhat unique from broad national and provincial trends. The most important of which is that there are currently no formal retail offerings in this rapidly urbanizing area and the closest available shopping centre is more than 8 km away which comprises of one anchor store, Spar, and convenient shops. This indicates that the community have limited options when it comes to the variety of shops. They are required to travel more than 8 kms for other retail options and services such as clothing, furniture, household goods and banking services.

Employment at the shopping centre and the filling station is likely to generate about 350 full time jobs and 100 part time jobs. The economic impact of the proposed project is captured under Table 9 (p.40) of the report.

The proposed development is fully in line with the development plans and objectives of Msunduzi Local Municipality. The proposed development contributes to the growth of the City through economic activity and employment creation, the densification of the urbanizing area and supporting the growth of the emerging node.

The proposed development is part of the economic growth and development of the area and will lead to the attractiveness of the area as a residential area in which to live. The absence of shopping facilities is currently a deterrent to live and invest in the area. The development therefore will lead to a further increase of demand and the densification of the area, leading to increased property values.

Heritage, historical features, and cultural aspects

There was no heritage, historical or cultural features observed within or close to the site. The comments of KwaZulu – Natal Amafa Research Institute are still awaited.

iv. 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 project will not traverse the identified wetlands. The impacts of the portion of vegetation that will be cleared can be reduced and compensated for by transplanting and replanting on site.

(bb) may cause irreplaceable loss of resources

If the proposed project was to develop a small portion at the far corner of the site near the proposed taxi rank, this would have meant a 0.05 ha (473.4 m²) of wetland area loss. However, as indicated above this is unnecessary as the layout can be adjusted to adopt avoidance principle as contemplated by the mitigation hierarchy.

Therefore, there is no irreplaceable loss of resources expected to occur as a result of the proposed development. Furthermore, the project will put in place mitigation measures that 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 the wetland portion at the far corner mentioned above. The tree species and grassland will be avoided as highlighted above. Mitigation measures will be introduced for the planting of trees post construction.

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 4: 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 in an area with vegetation.
 - **Indirect impacts:** secondary impacts resulting from direct impacts, i.e. erosion resulting from destabilised soils that may have been caused by vegetation clearance.
 - **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.
- v. *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 for this application.

- vi. *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 Retail Centre will benefit local residents from surrounding communities by providing a shopping facility within a short travelling distance to purchase required items.

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 small animals. It has to be noted that a significant portion of the grassland will be left untouched and this will allow species to migrate from the area to be cleared to the area that will not be affected by the development footprint. 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 which might lead to the impacts associated with the proposed development considering the project life cycle. These include but are not limited to:

- Stripping of topsoil, sub-soil and vegetation for the construction of the facility.
- Soil erosion during earthworks, construction and operational phases.
- Air pollution in the form of dust during construction.
- Soil contamination during construction and operational phases.
- Soil contamination during operational phase.
- Underground, surface water pollution and wetlands.
- Stockpiling.
- Location of construction camp.
- Littering and solid waste.
- Heritage objects, fossils and graves found during earthworks.
- Concrete mixing.
- Alien plants - eradication that might invade the area after earthworks.
- Noise pollution during construction and operational phases.
- Traffic Management - the ingress and egress of vehicles and /or plant from site.
- Visual impact.
- Health and Safety.
- Social and economic impacts.
- Decommissioning of the construction site camp and laydown area.

Impacts identified for the preferred site

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.

- vii. *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 5: 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	<ul style="list-style-type: none"> • Unlawful activities that could result in adverse 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 	<ul style="list-style-type: none"> • An Environmental Control Officer must be appointed 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.	<ul style="list-style-type: none"> • Decreased topsoil quality resulting in lowered plant growth rate. • Loss of indigenous species (flora & fauna). • Reduction in species diversity. • Habitat destruction and displacement of species. • Disruption to faunal movements and dispersal patterns. • Impact on Conservation objectives for a Critical Biodiversity Area (CBA). • Impact to a Threatened Ecosystem. • Increased erosion. 	<ul style="list-style-type: none"> • 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 identify and count all individual tree species which may need transplanting or replanting. This include those that must be 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: <ul style="list-style-type: none"> ○ On a Flat surface;

		<ul style="list-style-type: none"> ○ Below two metres; ○ Suitably covered if stored for prolonged periods of time. ○ Separate from sub-soil and other stockpiles. ○ Not near watercourses ● Amend the proposed layout to exclude all wetland habitat and apply a 20m 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 / Wetlands specific impacts		
Activity	Resulting Impact	Proposed Mitigation
Direct ecosystem destruction and modification impact	<ul style="list-style-type: none"> ● Direct disturbance of wetlands on and near the site by clearing and trenching. ● Accidental direct impacts to wetland habitat and vegetation by heavy machinery during construction. ● Degradation of wetland PES and loss of ecosystem services. 	<ul style="list-style-type: none"> ● Easily mitigatable by avoiding locating infrastructure within wetlands and by implementing the wetland buffer zone recommended.
Indirect hydrological and	<ul style="list-style-type: none"> ● Fine, sandy/silty soils at the site will be relatively erodible if not properly 	<ul style="list-style-type: none"> ● Moderately mitigatable by ensuring activities remain outside of the wetland

geomorphological impacts	managed, however, given the relatively gentle nature of the site, the risk of sediment mobilization can be reduced with proper onsite management.	buffer zone and by administering practical measures onsite to avoid erosion/sedimentation.
Water quality impacts	<ul style="list-style-type: none"> • Pollution drainage lines and wetland ecosystems on and near the site, due to mismanagement 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 wetlands could lead to raised water turbidity and suspended solids concentrations, affecting water quality. 	<ul style="list-style-type: none"> • Moderately mitigatable by ensuring activities remain outside of the recommended buffers 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 mitigated.
Fragmentation and ecological disturbance impacts	<ul style="list-style-type: none"> • Reduced wetland size and modified wetland ecological connectivity will not take place where impacts are restricted to outside of the wetland areas and recommended buffers. • Expanded / more intense edge impacts could occur as a result of buffer zone encroachment, deterioration in vegetation quality and cover. Potential for increased alien invasive plant invasion due to vegetation disturbance. Noise pollution and vibrations associated with earthworks and the use of heavy machinery could affect local wildlife (birds, amphibians and small mammals). • Light pollution associated with construction crews, and the use of heavy machinery at night could affect locally occurring nocturnal wetland species, such as amphibians, however this would only be significant during certain times of the year (e.g. frog breeding season). • Given that there are already existing buildings on site, and busy R56 provincial road, existing noise and light impacts are already present. 	<ul style="list-style-type: none"> • Moderately mitigatable by ensuring activities remain outside of the wetland buffer zone and by administering practical measures onsite to reduce noise and light pollution. • Edge impacts and alien plant infestation impacts can be quite easily remediated / rehabilitated should these occur.

<p>Use and storing of potentially hazardous substances</p>	<ul style="list-style-type: none"> • 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 and safety risks with possibility of fire and other occurrences that can affect staff and surrounding community. 	<ul style="list-style-type: none"> • 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. • No smoking must be allowed within or close to storage areas especially where flammable substances are kept. • Material Safety Data Sheets must be kept for all potentially hazardous substances. • All workers who will handle potentially hazardous substances must undergo applicable training and be provided with relevant safety clothing. • 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.
Other Impacts		
Activity	Resulting Impact	Proposed Mitigation
<p>Use and storing of potentially hazardous substances</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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.
<p>The ingress and egress of vehicles and/or plant from site.</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Traffic signs much be erected throughout the site, demarcating the following: <ul style="list-style-type: none"> ○ Speed limits; ○ Sensitive areas; and ○ 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 be rehabilitated prior to the closure of the site e.g. backfilling of topsoil.

	<ul style="list-style-type: none"> • Displacement due to increased noise and vibrations. 	<ul style="list-style-type: none"> • Vehicles may only traverse designated areas and access roads. • Heavy duty machinery must be stored in demarcated areas.
Use of Plant/Machinery and Working at Height	<ul style="list-style-type: none"> • Safety risks associated with use of plant or machinery which would include: <ul style="list-style-type: none"> ○ Injury to workers ○ 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. 	<ul style="list-style-type: none"> • 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 representative 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	<ul style="list-style-type: none"> • Failure to store and dispose of waste accordingly will result in pollution of the surrounding environment including nearby watercourses / wetlands. • 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. • Dumping of waste within and around the site would also affect any animals that may occur within or close to the site. 	<ul style="list-style-type: none"> • 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. • 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	<ul style="list-style-type: none"> • Noise may be from construction vehicles, workers and construction works. • Dust will be as a result of earthworks on the site. 	<ul style="list-style-type: none"> • Construction works must be limited to working hours between 07:00am and 18:00pm. • Workers may not make any excessive/unnecessary noise within the site. • There may be no playing of loud music from the construction vehicles.

		<ul style="list-style-type: none"> Construction vehicles must be kept in good condition to avoid excessive exhaust emissions and noise.
Socio-Economic	<ul style="list-style-type: none"> Employment opportunities will be created for locals during the construction and operational phase of the proposed development. Having the Retail Centre and Service Station located in this area may also stimulate other developments that would have a positive socio-economic impact on the whole node. 	<ul style="list-style-type: none"> 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.
Post-construction		
Decommissioning of the construction site camp and laydown area.	<ul style="list-style-type: none"> 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; Introduction of exotic species through uninformed re-vegetation efforts. 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. 	<ul style="list-style-type: none"> 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. No stockpiles must be left behind after the construction phase, but rather must backfill and/or removed from site.
Operational Phase		
Watercourse / wetland specific impacts		
Activity	Resulting Impact	Proposed Mitigation
Direct ecosystem destruction and modification impacts	<ul style="list-style-type: none"> Accidental direct impacts to wetland habitat and buffer vegetation by heavy machinery during infrastructure repair and maintenance activities (e.g. water and sewer pipelines). 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Erosion and/or sedimentation of onsite wetlands, with the main risk 	<ul style="list-style-type: none"> Moderately mitigatable by ensuring storm water is appropriately managed according

<p>geomorphological impacts</p>	<p>being as a result of catchment hardening, alteration of runoff and interflow patterns and stormwater management.</p> <ul style="list-style-type: none"> • The fine sandy/silty soils at the site will be relatively erodible if not properly managed, however, given the 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. 	<p>to an adequate storm management plan implemented to specification.</p> <ul style="list-style-type: none"> • Any indirect impacts to wetlands can be potentially remediated / rehabilitated should these occur.
<p>Water quality impacts</p>	<ul style="list-style-type: none"> • Potential accidental releases/spills from wastewater (sewer) pipelines and manholes through inadequate design, improper use of flush toilets (due to blockages) or other unforeseen events (such as release of stormwater into sewer system, leading to potential overflow from manholes). • Any erosion leading to sedimentation of wetlands onsite and off-site could also lead to raised water turbidity and suspended solids concentrations, also affecting water quality. • Pollution of onsite wetlands due to the mismanagement of hazardous substances and/or improper maintenance of machinery during repair and maintenance activities (e.g. oil and diesel leaks). 	<ul style="list-style-type: none"> • Moderately mitigatable by ensuring sewer infrastructure is appropriately designed and 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 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.
<p>Fragmentation and ecological disturbance impacts</p>	<ul style="list-style-type: none"> • 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. • Noise and light pollution associated with the operational site could affect local wildlife and especially 	<ul style="list-style-type: none"> • Mitigating noise and light impacts will be difficult to enforce during the operation of the site, however lighting design to avoid casting light onto wetlands could be implemented. Edge impacts and alien plant infestation impacts can be quite easily controlled through maintenance activities within the wetland buffer zone.

	<p>nocturnal wetland species, such as amphibians, however this would only be significant during certain times of the year (e.g. frog breeding season).</p> <ul style="list-style-type: none"> Given that there are already existing buildings on 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. 	
Utilisation of the facility	<ul style="list-style-type: none"> Adhoc clearing of vegetation during routine maintenance of the facility. 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 wetlands through stormwater flow. Pollution of surrounding environment due to poor waste management. 	<ul style="list-style-type: none"> 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 African 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. The medical suites / doctors rooms must dispose of their healthcare waste in line with legislation, and collection done by an accredited service provider.
Operation of Fuel Station and associated facilities	<ul style="list-style-type: none"> Possible contamination of groundwater through leaks in fuel storage tanks. 	<ul style="list-style-type: none"> SANS 10089-3 must be adhered to with regards to installation, modification, and

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	<ul style="list-style-type: none"> • Potential traffic build up with additional vehicles accessing the service station and other facilities. • Increased erosion around the site due to paved surface. • Odour and pests due to poor waste management. 	<p>decommissioning of underground storage tanks, pumps/dispensers and pipework.</p> <ul style="list-style-type: none"> • Traffic control measures in line with KZN DoT and Municipal requirements must be implemented. • Waste must not be allowed to pile up on site. Waste must either be removed through the Municipal or through a private Contractor. An agreement can be entered into with informal recyclers in the area where waste materials on the development are collected into different receptacles according to waste types for collection by the recyclers. This would reduce the amount of waste that the Development needs to dispose of and would contribute to the project as a whole being more environmentally sustainable.
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Table 6: Socio- Economic Impacts rating for the Proposed Development (Source: SRR Feasibility Assessment and Socio-economic Impact dated January 2023)

REF NUMBER	PHASE	IMPACT DESCRIPTION	NATURE	Severity	Rate	Duration	Rate	Spatial Scale	Rate	Frequency
1	Construction and operations	Economic activity: employment and investment	Positive	Significant	3	Beyond 10 years/ Permanent	5	Within boundary area/ Beyond business unit area	4	Daily/ hourly
2	Operational	Impact on existing shopping centres and filling stations	Positive	Insignificant	1	Beyond 10 years/ Permanent	5	Within boundary area/ Beyond business unit area	4	Daily/ hourly
3	Operational	Municipal development objectives	Positive	Significant	3	Beyond 10 years/ Permanent	5	Surrounding area	2	Daily/ hourly
4	Operational	Convenience to the community	Positive	Great	4	Beyond 10 years/ Permanent	5	Within business unit area or responsibility	3	Daily/ hourly
5	Operational	Property values	Positive	Significant	3	Beyond 10 years/ Permanent	5	Surrounding area	2	Daily/ hourly
6	Operational	Sense of place	Positive	Small	2	Beyond 10 years/ Permanent	5	Surrounding area	2	Daily/ hourly
7	Construction and operations	Additional noise	Negative	Significant	3	Beyond 10 years/ Permanent	5	Immediate, fully contained area	1	Once/ more in a week

8	Operational	Safety and security	Negative	Significant	3	Beyond 10 years/ Permanent	5	Immediate, fully contained area	1	Once/ more in a week
9	Operational	Disadvantaged person, women and youth	Positive	Small	2	Beyond 10 years/ Permanent	5	Surrounding area	2	Daily/ hourly

viii. 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.

- The components of the project structures must be positioned in such a way that less vegetation is affected during the construction phase, and 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 should there be any.
- 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.
 - 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 it 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 landfill 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 phases. Concrete mixing must take place on mixing boards or on liner.
- 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 phases.

Table 7: Impact Assessment for Potential Impacts

Impact and Risk	Duration	Extent	Probability	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	<ul style="list-style-type: none"> • 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 identify 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: <ul style="list-style-type: none"> 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	

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Construction Phase							
Impact and Risk		Duration	Extent	Probability	Magnitude	Significance	Mitigation
The ingress and egress of vehicles and/or plant from site.	Without Mitigation	2 Long Term	2 Local Scale	3 Probable	4 Medium	24 Low	<ul style="list-style-type: none"> • Traffic signs much be erected throughout the site, demarcating the following: <ul style="list-style-type: none"> o Speed limits; o Sensitive areas; and o No-go areas / ecotones • 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.
	With Mitigation	2 Medium Term	1 Local Scale	3 Probable	2 Low	15 Low	
Use, Handling and Storage of Hazardous Substances	Without Mitigation	2 Short Term	2 Local Scale	3 Probable	6 Medium	30 Medium	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	

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Impact and Risk		Duration	Extent	Probability	Magnitude	Significance	Mitigation
							<ul style="list-style-type: none"> 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	Without Mitigation	3 Medium Term	2 Local Scale	4 Highly Probable	6 Medium	44 Medium	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	

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		Very Short Term	Local Scale				<ul style="list-style-type: none"> • 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	Probability	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	<ul style="list-style-type: none"> • 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. <p>No stockpiles must be left behind after the construction phase, but rather must backfill and/or removed from site.</p>
	With Mitigation	1 Very Short Term	2 Local Scale	3 Probable	2 Minimal	15 Low	

Operational Phase

Impact and Risk	Duration	Extent	Probability	Magnitude	Significance	Mitigation
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Utilisation of the facility	Without Mitigation	5 Permanent	2 Local scale	3 Probable	6 Medium	39 Medium	<ul style="list-style-type: none"> 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. <p>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.</p>
	With Mitigation	5 Permanent	1 Site Specific	3 Probable	2 Minor	24 Low	
Operation of fuel station and associated facilities	Without Mitigation	5 Permanent	2 Local Scale	4 Highly Probable	8 High	60 High	<ul style="list-style-type: none"> SANS 10089-3 must be adhered to with regards to installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework. Traffic control measures in line with KZN DoT and Municipal requirements must be implemented. Waste must not be allowed to pile up on site. Waste must either be removed through the Municipal or through a private Contractor. An agreement can be entered into
	With Mitigation	2 Short Term	1 Site Specific	2 Improbable	4 Low	14 Low	

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							with informal recyclers in the area where waste materials on the development are collected into different receptacles according to waste types for collection by the recyclers. This would reduce the amount of waste that the Development needs to dispose of and would contribute to the project as a whole being more environmentally sustainable.
							<ul style="list-style-type: none"> An appropriate drainage system must be put in place for draining water from the pool during pool servicing. Under no circumstances should water from the pool be discharged into the surrounding environment.
Fragmentation and ecological disturbance impacts	Without Mitigation	2	3	3	4	27 Medium	<ul style="list-style-type: none"> Controlling both the direct and indirect impacts of the proposed development will be key in ensuring the sustainability of this development. Mitigating noise and light impacts will be difficult to enforce during the operation of the site, however lighting design to avoid casting light onto areas beyond the site may be implemented. Edge impacts and alien plant infestation impacts can be quite easily controlled through maintenance activities. Edge effects whilst unavoidable should be carefully controlled by applying mitigation techniques early, and loss of ecosystem function should be controlled by careful monitoring and avoidance of any activities from taking place outside of the proposed development footprint.
	With Mitigation	1	2	2	2	10 Low	

Considering the tables 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 **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. In the absence of implementation of the mitigation measures, the proposed development can have dire environmental impacts especially the storage of fuel on underground water, surface and wetlands.

Average Impact Significance Without Mitigation	36.6 Medium
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Average Impact Significance with Mitigation	18.6 Low
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All impacts identified can be mitigated against with no irreversible damage caused to the receiving environment and the community. There is also no anticipated loss of any replaceable resources, given the recommendations of wetland buffers on site. The EAP's view is that 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 SPECIALISTS 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 residential households, with pockets of businesses like hardware. The site itself is close to an existing service station and general store and other developments. Looking at the character of the area, 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. The EAP's view is that it is not necessary.

Archaeological and Cultural Heritage Impact Assessment and Paleontology Impact Assessment

Based on the site walk and observations on site, the EAP's view is that there are no heritage objects on site due to its previous disturbance. However this will be confirmed by KwaZulu – Natal Amafa Research and Institute when they provide comments to the draft Basic Assessment report.

Wetland Assessment for the Thornville Development prepared by Biodiversity Company dated January 2023 - (Appendix D2)

The following tasks were completed in fulfilment of the terms of reference for this assessment:

- The delineation, classification and assessment of wetlands within the regulation area;
- Conduct risk assessments relevant to the proposed activity;
- Recommendations relevant to associated impacts ;and

A 500m buffer was demarcated for the project area to identify wetlands within the regulatory zone as reflected below:

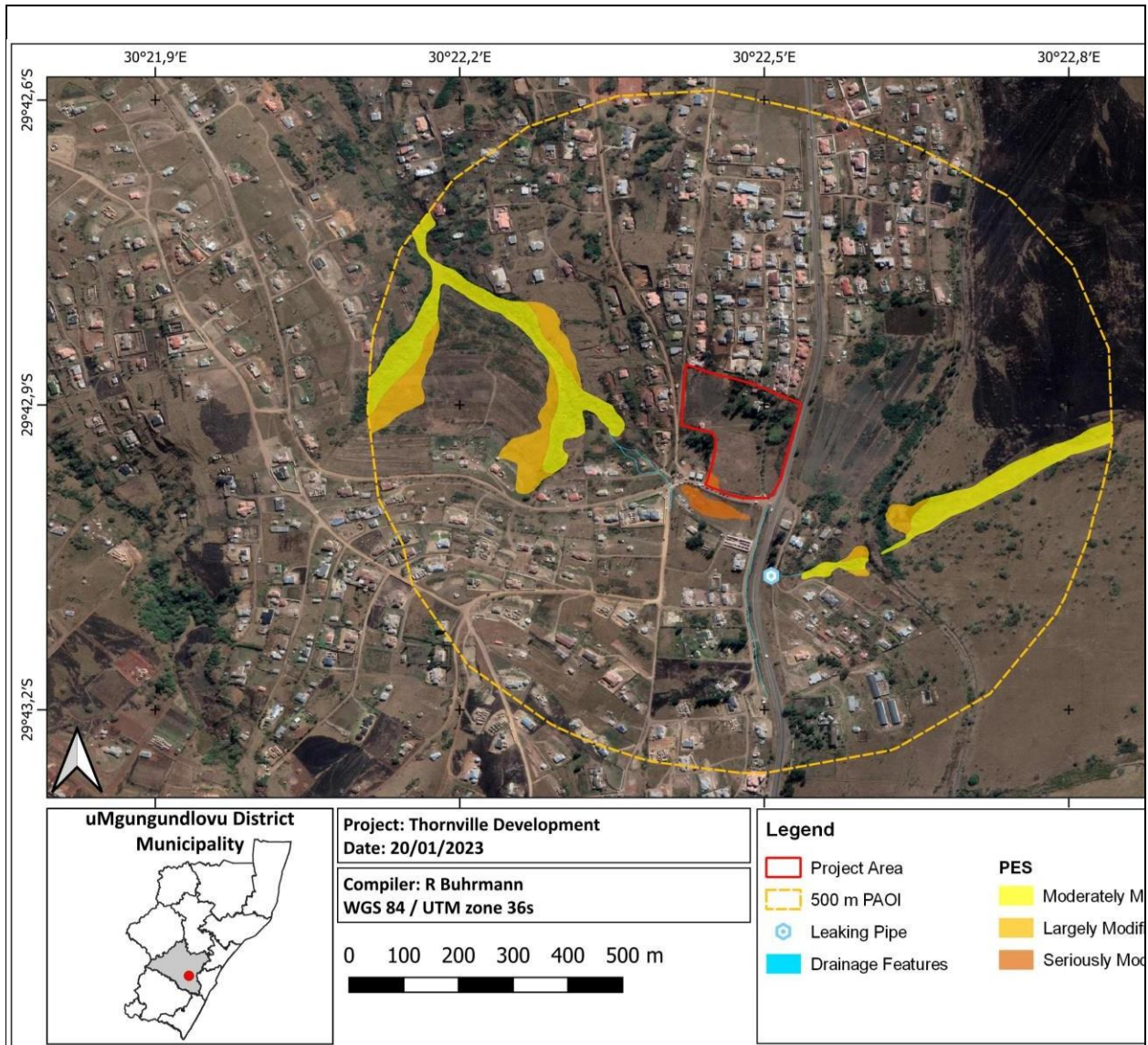


Figure 4 - State of delineated wetlands (Source: Wetland Assessment for the Thornville Development prepared by the Biodiversity Company)

If construction and operational activities occur outside the recommended 15m buffer and 20m buffer respectively, the post mitigation ratings for the development will be “Low”.

The following project specific mitigation measures are prescribed:

- The recommended buffer zone for the development and petrol filling station of 15m and 20m, respectively, should be strictly adhered to;
- The buffer zone for all wetland areas is applicable to all non-essential project aspects such as laydown and storage areas, waste collection sites, ablutions and offices, not required to be within wetlands systems.
- Development within the seepage area must be kept to an absolute minimum. All clean water must be diverted back into the seepage area;
- A comprehensive stormwater management plan must separate clean and dirty water and

allow for clean water to be diverted and discharged into the wetland systems. Energy dissipaters must be installed / created at discharge areas to prevent erosion;

- Soft or green engineering features which must be included in the design include “sunken” flower / plant beds, as much grass area as possible and vegetated swales for the management of stormwater;
- The project area should prioritise development on the “flatter” area of the site, this will assist in limiting run-off from the development. Surface flow from the north (residential area) must be diverted (by swales) around the development footprint area;
- Run-off from the petrol filling station footprint area must be addressed in the stormwater management plan, attenuating and polishing the contaminated water; and

Underground storage tanks to be used for the project must be double skin to reduce the likelihood of contamination of the downstream systems.

The average ecosystem service scores range from “Moderately Low” to “Moderately High”. Ecosystem services contributing to these scores include flood attenuation, streamflow regulation, sediment trapping, phosphate assimilation, nitrate assimilation, toxicant assimilation, erosion control, biodiversity maintenance. The delineated wetland systems have been scored overall present ecological state ratings from “Moderately Modified” (class C) to “Seriously Modified” (class E). The importance and sensitivity score of the delineated wetlands is Moderately sensitive. As highlighted above, a 15 m and 20 m buffer zone has been calculated and recommended for the proposed development and petrol filling station, respectively.

Several moderate residual risks were identified in the water resource risk assessment. Should the design not be adjusted, the project will result in the loss of 0.05 ha (473.4 m²) of wetland area. In regard to the mitigation hierarchy, it has thus been recommended that a rehabilitation strategy for the unchanneled valley bottom wetland directly south of the development be implemented for the project to compensate for the partial loss of wetland area, and the associated degradation of the affected systems, unless the project design be designed to avoid these wetland areas and associated buffers. This would result in no net loss of wetland area (due to the low ecoservice and PES scored for the seepage wetland to be lost). Mitigation measures have been prescribed for other aspects seeking to avoid impacts with the implementation of the buffer areas, and to mitigate any indirect risks posed by the project.

In accordance with the GA in terms of section 39 of the NWA, for water uses as defined in section 21 (c) or section 21 (i) a GA does not apply *“to any water use in terms of section 21(c) or (i) of the Act associated with the construction, installation or maintenance of any sewer pipelines, pipelines carrying hazardous materials and to raw water and waste water treatment works”*. Owing to the fact that this project is for the construction of a development, it is likely that there will be a requirement for waste water disposal, where a water use license will be required. Therefore, a General Authorisation is not permissible for the development.

The EAP's assessment and view is that no pipelines must traverse any of the identified wetlands on site, and in the immediate vicinity. The project will connect to the planned municipal sewer line, and there will be no onsite waste disposal.

Overall, it is the Wetland Specialist's opinion that should all mitigations be implemented, the proposed development may proceed.

Vegetation / Terrestrial Biodiversity Impact Assessment

As part of the Wetland Study, the Specialist was requested to look at the high level vegetation on site. According to Biodiversity Company the Thornville Development project is situated within the Indian Ocean Coastal Belt (IOCB). The IOCB occurs as an almost 800 km long coastal strip between the South African borders with Mozambique as far south as the mouth of the Great Kei River (near East London). It spans altitudes from 0–450 m (and higher up to 600 m in the Pondoland-Ugu Sandstone Coastal Sourveld).

The landscapes of the IOCB are flat (Maputaland) or characterised by alternating rolling hills and deeply incised valleys (coastal stretch between Richards Bay and Port Edward in KwaZulu-Natal and then more markedly further south to Port St Johns as far as the Great Kei River mouth). Elevated plateaus and deep gorges are characteristic of the Pondoland coast and other regions with underlying sandstone geology. The belt is about 35 km wide at some places in the north (somewhat wider in the valley of the Thukela River), narrowing irregularly southwards to <20 km in parts of Pondoland to <10 km in several parts of the Wild Coast. The pronounced hot and damp tropical character of the climate of the IOCB in summer and its mild and slightly drier subtropical character in winter can be ascribed to the synergistic influence of the unusual southbound shift of the Intertropical Convergence Zone and the warm Agulhas Current flowing close to the eastern coasts of South Africa. On a fine-scale vegetation type.

The proposed development overlaps with the Dry Coast Hinterland Grassland. Notably the Dry Coast Hinterland Grassland was previously regarded as Ngongoni veld. The latter is classified as vulnerable.

The national web based screening tool is showing the site as very high theme with regards to the terrestrial biodiversity, probably because the grassland portion that is found on site, mostly along R56 and sections of the site. Msunduzi Municipality Environmental Management Framework is showing the site as having Environmental and Development restrictions in the form of a small portion reflected as Critical Biodiversity Area (CBA): Optimal, with some wetlands within the 500 metre buffer of the site. The EAP 's view is that based on the screening tool, Msunduzi EMF information and our walk about on site there is no need for a fully fledged biodiversity study. Furthermore, the main portion of biodiversity constraints falls on the building line from R56 to the proposed site. The proposed project has no intention of encroaching on the strip of the biodiversity adjacent to R56. The development footprint and the layout will be adjusted as such.

This Basic Assessment report will also be circulated to Ezemvelo KZN Wildlife and Umgungundlovu District Municipality for their comments.

Avian Impact Assessment

This assessment was not done based on the site observation of the assessing team. In any event the tree species on site are unlikely to be affected by the project in any significant scale as to affect birdlife.

Feasibility / Socio-Economic Impact Assessment prepared by Social Risk Research (SSR) dated January 2023 – (Appendix D1)

The purpose of the report is to address the following:

- a) Feasibility study for a proposed fuel service station and retail centre with associated land-uses.
- b) Formulate a socio-economic impact assessment for the proposed development.

The assessment includes:

- A market assessment of existing trends and opportunities related to the proposed development.
- Assessment of the feasibility of the proposed development given an assessment of the supporting catchments markets.
- The assessment will unpack the proposed land-use activities and guide the client with regards to the feasibility of the development.
- Identification the extent of potential socio-economic impacts during construction and operation phases of the project.

The proposed site is located within a residential area, which is a combination of formal and informal/rural areas. The surrounding suburbs to the north of the site include Westgate, Foxhill Embleton, Slangspruit, Shenstone and Thornville to the south.

Residents living in surrounding areas from the site mostly commute to the industrial and commercial activities in Pietermaritzburg and surrounding areas for employment. Unemployment levels in the area of the site are generally high. There are no existing shopping centres in the area. The residents travel to the Southgate Spar, Edendale, Scottsville and the CBD to do shopping.

Some important rural collector roads come together at the site where it joins up with R56. The site of the proposed development is in the South-eastern planning precinct under Ward 18 of the Msunduzi Municipality. The population density of the South-eastern district is relatively low, and the population of the area accounts for only a small percentage of the total Msunduzi population. Most of the population is in the west in Ward 18 and most of this is within Ambleton. While the west accounts for the higher population figures, it is the least serviced, and has the least development opportunity. The area has a young population with 70% of the population under 35 years of age.

The Msunduzi Spatial Development Plan (SDF) approved in 2022, provides some overall guidance to the development of the area along the R56 in which the site is located. The R56 which connects Thornville and Pietermaritzburg is, according to the SDF (page 97), earmarked as a primary corridor. The Msunduzi SDF identifies an emerging node 2 km south of the site.

The scale and pace of development in the area is likely to have a modest poverty reduction impact over a five-to-ten-year period as some employment is generated and as infrastructure, economic opportunities and accessibility improve across the area.

The context of the proposed development as shown above in terms of the site's macro and micro locations within the planning frameworks of the Msunduzi development support the proposed filling station and retail centre development. The proposed development fits the overall macro road network and the micro land-use development potential of the area.

The proposed development presents an opportunity to improve the quality of life for the residents of the area. The closest shopping area is at the Southgate Super Spar approximately 8.6 km to the north. By creating employment opportunities and attracting future investment into to the area which could be beneficial to the community.

Retail Centre

There are currently no shopping centres in the vicinity of the site. A list of all the shopping centres in Pietermaritzburg are provided in the report, with detail information of those most important to this project. The three key centres of importance as competitors to the project are:

- The Mall at Scottsville Scottsville.
- Woodburn Shopping Centre Scottsville.
- Super Spar Southgate Southgate.

The existing malls are approximately 8 to 10 km away from the proposed site. There are few existing spaza/ tuck shops in the area. A total of six tuckshops were identified within the vicinity of the site. The closest identified supermarket is Southgate Spar centre which is located more than 5km away from the proposed site as highlighted above. Further down the road on R56 road towards the CBD there is an existing convenient store called Pietermaritzburg Supermarket serving mainly the passing traffic and the Pelham Community.

It is recognized that this development may have specific aspects that make it somewhat unique from broad national and provincial trends, most important of which is that there are currently no formal retail offerings in this rapidly urbanizing area and the closest available shopping Centre is approximately more than 5 km away. This clearly indicate that the community have limited options when it comes variety of shops.

Current projected demand for the proposed neighbourhood centre is for 3 385 m² as of 2022, and to grow to 5 884 m² in 2025 and 6 822 m² in 2030. There is sufficient demand to support a neighborhood centre within the development.

The proposed development will have no significant impact on the other competing retail centres as their demand markets are dispersed throughout Pietermaritzburg and do not rely solely on the catchment market of the proposed centre.

The main features of this retail assessment are:

- A household population of 5000 people is included in the market catchment area that comprise the population of Foxhill and other surrounding areas.
- This area is rural in nature transforming rapidly into an urbanized area with limited existing shopping facilities. The main competitor for the proposed development is Southgate Spar.

- The proposed retail centre is close to a residential area and well connected to road networks. This makes the proposed shopping centre ideally situated to capture the local, surrounding market and transient market.
- The assessment indicated a need for new shopping facilities in the area, as there are no current facilities to meet the growing local demand in the area, as a result of rapid urbanization in the area.
- It is recognized that this development may have specific aspects that make it somewhat unique from broad national and provincial trends, most important of which is that there are currently no formal retail offerings in this rapidly urbanizing area.
- The market demand assessment shows sufficient demand exists within the market catchment area to sustain the proposed retail development.

The assessment concluded that there is market demand in the catchment area of the proposed retail centre.

Fuel Service Station

The site is located along the R56 and is visible and accessible from the main R56 road. The site is at a junction where several rural collector roads join into the R56. Thus, the site is well located from a commercial market point of view and will be able to serve the local community and the passing traffic.

It has been shown that the population in the area is rapidly growing with new residential developments and other supporting services. Due to the influx of people into the area and the growing traffic volumes, it is expected that the demand for fuel in the area will also increase. The current supply of petrol filling stations is limited to one station at Thornville (2.5 km away) which is located off the R56 and therefore services the local agricultural market more than the passing Richmond to Pietermaritzburg market. There is also a Total station located at Southgate, but that is more about 11 km from the site.

The proposed petrol filling station is strategically located to provide services to both the community and the transient traffic on R56 road. Heavy vehicles traveling to or from Pietermaritzburg industrial areas and light motor vehicles traveling to or from the Pietermaritzburg to Richmond, all the way to the Eastern Cape that use this route will be the target market of the petrol filling station. The proposed petrol filling station has no direct competition, the only petrol filling station that is likely to experience diffused market impact is Total Garage at Southgate Spar.

Neither the Thornville nor the Southgate stations will be significantly impacted by, or will impact on, the proposed station. The Southgate filling station is not reliant on the traffic on the R56 for its market sales. The Southgate station serves a large local residential population in the suburbs of The Grange, the eastern parts of Imbali, Westgate, Slangspruit, Ambleton and Foxhill. The Thornville station is a small one serving mainly the local agricultural market of Thornville.

Based on the traffic and demand model the proposed filling station will attract a demand of 366,086 per month on average. The industry standard is that a station that can pump more than 300 000 per month is viable. It follows that the proposed station will be viable. Since there are no filling stations that is in direct competition with the proposed station, the impact of the proposed station on the other stations, and of those stations on this one, will be minimal.

The total fuel demand is estimated to be above 300 000 litres of per month. This exceeds 300 000 litres normally used as a measure of the feasibility of fuel stations. As such, the proposed filling station will be feasible.

Socio economic impacts of the proposed development

Employment at the shopping centre and the filling station is likely to generate about 350 full time jobs and 100 part time jobs. The economic impact of the proposed project is captured under Table 9 (p.40) of the report.

The proposed development is fully in line with the development plans and objectives of Msunduzi Local Municipality. The proposed development contributes to the growth of the City through economic activity and employment creation, the densification of the urbanizing area and supporting the growth of the emerging node.

The proposed development is part of the economic growth and development of the area and will lead to the attractiveness of the area as a residential area in which to live. The absence of shopping facilities is currently a deterrent to live and invest in the area. The development therefore will lead to a further increase of demand and the densification of the area, leading to increased property values.

The proposed development will lead to an increase in noise levels in the area. During the building period noise levels may increase slightly but during the operational period, noise will increase due to the increase in vehicles, trucks and busses coming to the shopping centre and petrol filling station. The increase in noise is likely to be limited to the immediate area surrounding the site.

Conclusions and recommendations

Based on the analysis and findings of this report, the proposed shopping centre and petrol filling station development are viable from a socio-economic point of view. It is therefore recommended that the proposed project continue subject to the following mitigations:

1. Noise levels emanating from the shopping centre and filling station should be minimized:
 - a. Restrict all activities during construction and operations to day-light working hours.
 - b. Diffuse the impact of noise through the planning of trees and vegetation that are able to absorb noise from the site.
2. Manage the safety and security of the site and surrounding area and communities by:
 - a. Providing security services on-site.
 - b. Assist the community in establishing a community policing forum and active participation in such a forum.
3. Employ the locals as much as possible during the construction and operational phases.
4. Implement a skills training programme for employees and community members to advance their skills.
5. Institute a supplier development programme aimed at sourcing goods and services from local enterprises.

Plant Species Assessment

The issue of vegetation is already covered above. The project will avoid vegetation and tree species as much as possible on site.

Animal Species Assessment

No animal species of conservation concern were observed during the environmental team site walk. In addition a significant portion of the vulnerable grassland will remain intact on site, providing a possibility of small animal species to migrate to the section of the site due to the vegetation clearance on site. This include wetland systems.

Traffic Impact Assessment prepared by Emaan Traffic Engineers dated April 2023 - (Appendix D3)

A traffic impact assessment has been conducted for the proposed development and the following findings have been made:

- The existing traffic conditions are acceptable, and all critical intersections operate at acceptable levels of service in the peak hours.
- The access to be from the unnamed gravel road, 60 to 80m away from the R56 – no access permitted from the R56.
- The R56 Class 1 Road will have a 15m building line from the road reserve.
- As per UTG7, the shoulder sight distance for an urban road is 45m. The access points for the site meets these requirements.
- The R56 is 6.2m in width.
- To assess the 5-year design horizon the existing background peak hour traffic needs to be factored up by a specified growth rate from 2022 to 2027. The Thornville area has the potential to develop further, therefore increasing the traffic volumes in this area in the future.
- Due to this a 2.5% per annum growth rate as indicated in TMH17 is considered reasonable for the roads expected to be affected by the traffic generated by the proposed site.
- The site will have one two-way access off the existing unnamed gravel road 60m-80m away from the R56.
- Link Upgrade of Gravel Access Road: Upgrade for the Unnamed Gravel Access Road is required in the with development scenario to two lanes in each direction from the R56 to the Site Access.
- The proposed development is expected to generate additional pedestrians and public transport passengers. Sight distance conditions for pedestrians at the access intersection are good and the additional traffic entering and leaving the site at the access intersection is not expected to have any major impact on existing pedestrian movement along any of the roads within the study area.
- A development of this nature will create Public Transport (PT) demand. It is recommended that PT laybys are provided on the unnamed gravel road either side of the site access in both directions.
- The existing traffic conditions are acceptable, and all critical intersections operate at acceptable levels of service in the peak hours.
- The 5 year with development scenario was analysed. The background traffic was added to the development generated traffic. The results indicated that none of the intersections that were analysed in this TIA will require any further upgrades to accommodate the increase in traffic volumes.

- 15 m KZN DoT building line has been applied from the reserve of the R56 in preparation of the Site Development Plan.
- No adverse road safety conditions are expected to occur due to the increase in traffic generated by the proposed development.

Recommendations

- It is recommended that public transport (PT) laybys and sidewalks are provided on the unnamed gravel road either side of the site access in both directions.

The proposed development is supported from a traffic and transportation perspective.

Geotech Assessment prepared by Geozone Geoservices dated March 2023 - (Appendix D4)

The fieldwork was carried out in November 2022, and comprised eight machine dug test pits, designated TP1 to TP8.

The site is underlain by colluvial and residual soils which are underlain by shales of the Pietermaritzburg Formation, and to a lesser extent dolerites of Jurassic age.

The assessment encountered Colluvium in all of the test pits excavated across the site, and extends to depths ranging from 0.2 m to 0.7 m with an averaged depth of 0.3 m. It was seen to comprise slightly moist, dark greyish brown, silty clay with varying amounts of gravel.

No groundwater was encountered in any of the test pits excavated on the site. However, groundwater seepage may occur along the interface of the various soil and rock horizons during the wet summer months or after periods of heavy rainfall.

The assessment has concluded that from a slope stability point of view, the slope is considered stable and suitable for development.

Earthworks should be carried out in accordance with SABS 1200 (current version). The site will need to be modified to create the cut to fill platforms on which the proposed structures and forecourt are to be constructed.

During and after construction, the site should be well graded to permit water to readily drain from the platforms, and to prevent ponding of water on the surface and to prevent the ingress of water into the newly emplaced fills and the subsurface soils. Surface water collected on the forecourt, hardened areas, parking areas and access roads should be directed into open, lined drains and disposed of responsibly downslope of the site, taking care not to allow the water to become a nuisance to neighboring properties. Precautions also need to be put in place to prevent hydrocarbons from contaminating surface and groundwater systems.

One of the most important factors in the stable development of the site is the control and removal of stormwater. It is imperative that drainage measures be designed in such a way that stormwater and groundwater is collected and discharged in a controlled manner away from the foundations and paved areas.

Ideally foundations should be taken down to the underlying shale bedrock. Average depth to bedrock which lies at depths ranging from 0.2 m to 0.8 m in the shale areas, which is to say over the majority of the site. Under no circumstances should foundations be placed in fill unless it has been specifically engineered to support structural foundations.

It is imperative that GeoZone GeoServices inspect and approve all foundation excavations and earthworks before the installation of piles, the construction of retaining walls for the pouring of foundations.

No groundwater was encountered during the test pit investigation, nor was water recorded in the piezometers which were subsequently after completion of the fieldwork. However, it is recommended that these piezometers are dipped on a more regular basis to confirm whether a shallow groundwater table exists. It must be borne in mind that the region has also been through one of the wettest periods on record, and as such, if any groundwater seepage was to have taken place it would have been at this time. The fact that there is no shallow groundwater table present is advantageous in terms of constraining the lateral migration.

Based on the lack of water table, and the ability of the underlying clays and rock to limit the downward migration of contaminants, it is considered that the threat of the development of a migrating contaminants plume is low.

All outcomes from the specialist assessments that have been incorporated into this report and draft EMPr.

Outcomes of the assessments were used to:

- Enrich the description of the receiving environment;
- Will influence the final layout and design that will be presented with the final BAR;
- Recommendations of the specialists form part of the draft BAR and EMPr including recommended mitigation measures and identified potential impacts.

J. AN ENVIRONEMNTAL STATEMENT WHICH CONTAINS -

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

The impact of vegetation clearance, wetlands and groundwater contamination are viewed as the most significant negative impacts of the proposed development. The site comprises Ngongoni veld type of grassland which is categorized as vulnerable. However, no other plant or animal of conservation importance was observed on site that is likely to be disturbed. It has to be noted that mitigation measures will also be put in place. This will include revegetation, amendment of project layout, observing wetland buffers and avoidance in terms of the hierarchy.

Wetlands within and around the property are not expected to be directly affected by the proposed development as the development footprint does not traverse any of the wetlands. The tyre shop which is labelled as number 9 in the layout will be moved from the wetland area and its buffer. It will be important that these wetlands be clearly demarcated as no-go zones especially the wetland which is at

the western corner of the site. Channeling/management of stormwater during both the construction and operation phase will be crucial for avoiding/limiting indirect impacts of the proposed development on the said watercourses / wetlands.

The traffic conditions are likely to increase in the vicinity of the proposed project.

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 of KwaZulu - Natal. The ability to be able to walk/drive a short distance to the local Retail Centre to purchase required items will greatly benefit surrounding communities. In a country that is characterized by high unemployment rates, the permanent employment opportunities which will be created 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

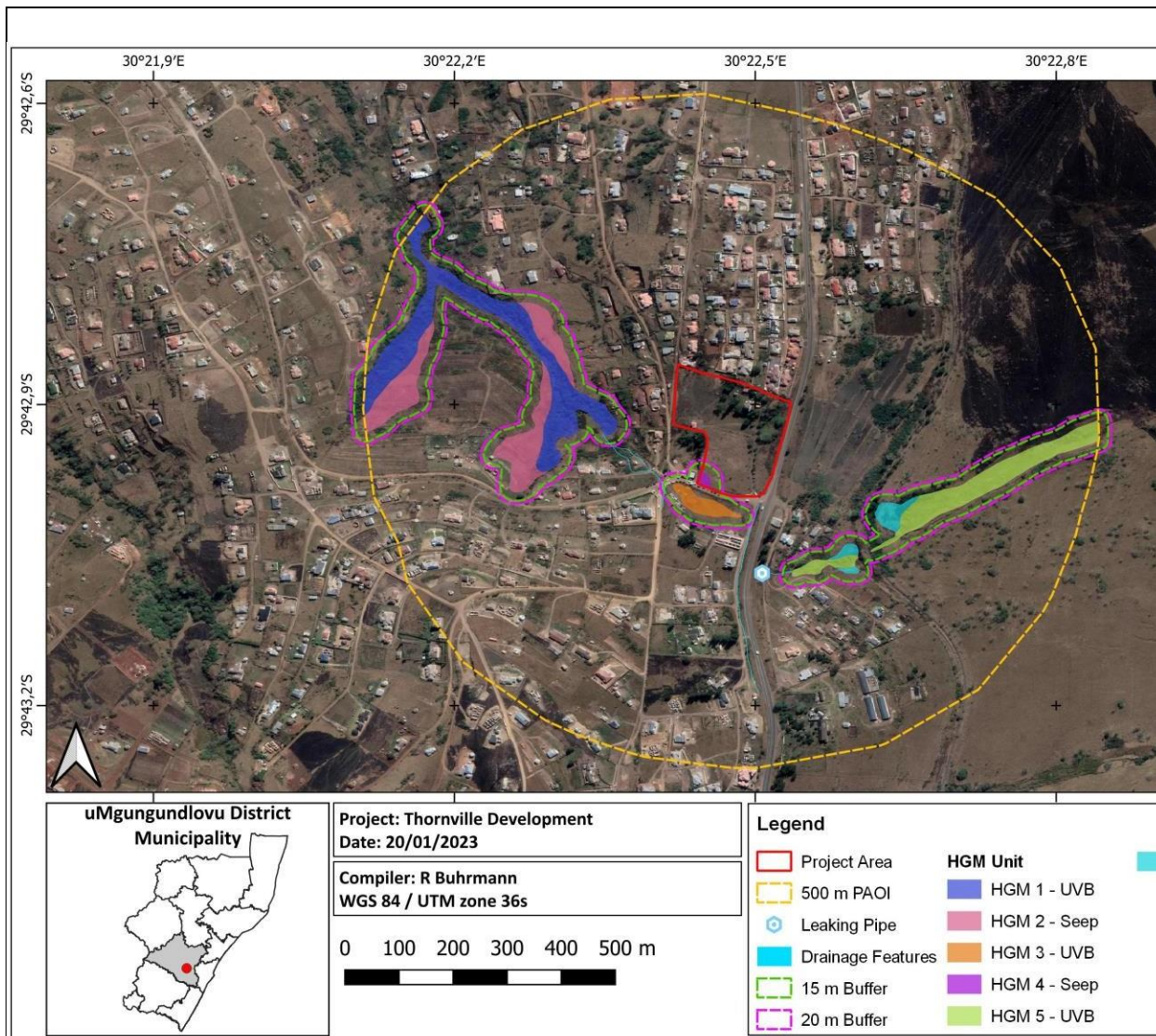


Figure 5 - Map showing some of the sensitivities on site with recommended buffers (Source: Wetland Assessment for the Thornville Development prepared by the Biodiversity Company)

Following recommendations of the Wetland specialist, the EAP will liaise with the developer for the amendment of the site layout to avoid sensitive areas like wetlands. It is possible that the vegetation on site and wetlands, could be avoided without compromising the viability of the project.

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 several studies conducted on site. In this part of the report we are specifically focusing on the recommendations made which are aimed at impact management for impacts that would most likely have significant outcomes.

- It is recommended that the development footprint is positioned as to avoid the highly sensitive areas like wetlands and vegetation.
- It is recommended that the 25m buffer for the retail centre, and 30m for the fuel service station be maintained as a no-go area.
- 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 wetlands as no-go 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:
 - Rock falls into no-go areas;
 - Accidental spills of hazardous substances;
 - Observed die-offs of vegetation (on site);
 - Accidental removal of plants;
 - Complaints from Interested 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 and humans may fall in. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.
- Tool box talk on environmental issues on site must be conducted, 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 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 wetland buffer of 15m for the retail centre, and 20m for the fuel service station within the property is recommended by the wetland specialist.
- The grassland area along the building line and R56 on site must not be encroached by the development footprint.
- All alien invasive plant species on site must be removed.
- Any tree species removed must be replanted on site.

M. A DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES, 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

The preferred site is the only suitable site in the area that is owned by the developer with all the necessary attributes for the proposed development. The property is also adjacent to the R56 road, and closer to the community of Thornville.

Alternatives for location of the proposed development within the property has taken into account the environmental sensitivities within the site such as the wetlands and vegetation. The proposed development footprint has also taken into consideration the distance of 80 metres from R56 as proposed by the Traffic Engineer.

The Developer has taken a step to amend the layout following input from specialist's especially the Wetland and the Traffic Engineer to avoid sensitivities and observe road protocols.

The EAP is adamant that the sensitivities observed on site must not be encroached upon by the proposed development.

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. This include residential developments, tuckshops and the road construction.

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. It is the view of the EAP that the project will avoid wetlands and the grassland along the R56 road and building line.

Conditions 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 ECO and relevant specialist as may be required.
- 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.
- The recommended buffers and vegetation along R56 and building line must remain no go areas.

O. WHERE APPLICABLE, DETAILS OF ANY FINANCIAL PROVISIONS FOR THE REHABILITATION, CLOSURE, AND ONGOING POST DECOMMISSIONING MANAGEMENT OF NEGATIVE ENVIRONMENTAL 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 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: