Delta Diesel City

UMLAAS ROAD PETRO PORT WHOLESALE DIESEL DEPOT

DRAFT BASIC ASSESSMENT REPORT

EDTEA REF NO: *TO BE ASSIGNED*

Report prepared for:

Delta Diesel City
19 Trafford Road
Westmead
3610

Report prepared by:

Metamorphosis Environmental Consultants
P O Box 2116
Link Hills
3652

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

BA	Basic Assessment
BAR	Basic Assessment Report
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EDTEA	Department of Economic Development, Traditional and Environmental Affairs
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo KwaZulu-Natal Wildlife
EMPr	Environmental Management Programme
ha	hectare
I&APs	Interested and Affected Parties
KZN	KwaZulu-Natal Province
NEMA	National Environmental Management Act (Act No. 107 of 1998)

DETAILS AND EXPERTISE OF THE SPECIALIST TEAM

Details and CVs of specialists are contained in Appendix E.

ADHERANCE TO REGULATORY REQUIREMENTS

Table 1 Required content of Basic Assessment Report according to GNR 326 (7 April 2017)

	Content of Basic Assessment report according to GNR 326 (7 April 2017)		Reference
1		A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application must include	
a		Details of	
	i	The EAP who prepared the report and	Appendix A
	ii	The expertise of the EAP, including a curriculum vitae	Appendix A
b		The location of the activity, including	Section 1.3, Figures 1 & 2
	i	The 21-digit Surveyor General code of each cadastral land parcel	Appendix A
	ii	Where available, the physical address and farm name	Appendix A
	iii	Where the required information in items (i) and (ii)is not available, the coordinates of the boundary of the property or properties	N/a.
c		A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale, or if it is	Figure 2
	i	A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken, or	N/a
	ii	On land where the property has not been defined, the coordinates within which the activity is to be undertaken	N/a
d		A description of the scope of the proposed activity, including	Chapters 1 and 3.
	i	All listed and specified activities triggered and being applied for, and	Table 6
	ii	A description of the activities to be undertaken including associated structures and infrastructure	Chapter 1, Table 6; Chapter 3
e		A description of the policy and legislative context within which the development is proposed including	Chapter 2
	i	An identification of all legislation, policies, 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, and	Chapter 2
	ii	How the proposed activity complies with and responds to the legislation and policy context, plans guidelines, tools frameworks and instruments	Section 1.2
f		A motivation for the need and desirability for the proposed development including the need and desirability of the captivity in the context of the preferred location	Section 1.2
g		A motivation for the preferred site, activity and technology alternative	Chapter 4
h		A full description of the process followed to reach the proposed preferred alternative within the site including	Chapter 4

	Content of Basic Assessment report according to GNR 326 (7 April 2017)		Reference
	i	Details of all the alternatives considered	Chapter 3 & 4
	ii	Details of the public participation process undertaken in terms of regulation 411 of the Regulations, including copies of the supporting documents and inputs	Chapter 6, Appendix D
	iii	A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.	Section 6.4. Table 13 and Appendix D
	iv	The environment attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspect.	Chapter 5
	v	The impact 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	Chapter 8
	aa	Can be reversed	Chapter 9
	bb	May cause irreplaceable loss of resources, and	Chapter 9
	cc	Can be avoided, managed or mitigated	Chapter 8 & 9
	iv	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,	Chapter 7
	vii	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Chapter 8
	viii	The possible mitigation measures that could be applied and level of residual risk	Chapter 8
	ix	The outcome of the site selection matrix	N/a
	x	If no alternative locations for the activity were investigated, the motivation for not considering such, and	Chapter 4
	xi	A concluding statement indicating the preferred alternatives, including preferred location of the activity	N/a
i		A full description of the process undertaken to identify assess and rank the impacts the activity will impose on the preferred location through the life of the activity including	Chapter 7
	ii	A description of all environmental issues and risks that were identified during the environmental impact assessment process, and	Chapter 8
	ii	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	Chapter 9
j		An assessment of each identified potentially significant impact and risk, including	Chapter 9
	i	Cumulative impacts	Chapter 9
	ii	The nature, significance and consequences of the impacts and risk	Chapter 9
	iii	The extent and duration of the impact and risk	Chapter 9
	iv	The probability of the impact and risk occurring	Chapter 9

	Content of Basic Assessment report according to GNR 326 (7 April 2017)		Reference
	v	The degree to which the impact and risk can be reversed	Chapter 9
	vi	The degree to which the impact and risk may cause irreplaceable loss of resources and	Chapter 9
	vii	The degree which the impact and risk can be avoided, managed or mitigated	Chapter 9
k		Where applicable, a summary of the findings and impact management measures identified in any specialist's report complying and Appendix 6 to these regulations and an indication as to how these findings and recommendations have been included in the final report	Chapter 8
l		An environmental impact statement which contains	
	i	A summary of the key findings of the environmental impact assessment	Chapter 10
	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 buffers and	Appendix E
	iii	A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives	Executive Summary, Chapter 10, and Chapter 11
m		Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed (impact management objectives and the) impact management outcomes for the development for the inclusion in the EMPr	Chapter 8, Appendix F
n		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	Chapter 11
o		A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Section 7.2
p		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.	Chapter 11
q		Where the proposed activity does not include operational aspects, period for which the environment al authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised	N/a
r		An undertaking under oath or affirmation by the EAP in relation to	Appendix A
	i	The correctness of the information provided in the reports	Appendix A
	ii	The inclusion of comments and inputs from stakeholders and I&APs	Appendix A
	iii	The inclusion of inputs and recommendations from the specialist reports where relevant, and	Appendix A
	iv	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, and	Appendix A
s		Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts	N/a
t		Any specific information that may be required by the competent authority,	N/a

	Content of Basic Assessment report according to GNR 326 (7 April 2017)		Reference
		and	
u		Any other matters required in terms of section 24(4)(a) and (b) of the Act.	N/a

Table 2 Regulatory requirement for public participation in a Basic Assessment Process according to Chapter 6 of GNR 326 (7 April 2017)

	Public Participation Process (Chapter 6 of GNR 326, 7 April 2017)		Undertaken during the Basic Assessment
41(1)		This regulation only applies in instances where adherence to the provisions of these regulations specifically required.	
2		The person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by—	
a		fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of—	Appendix D
	i	the site where the activity to which the application or proposed application relates is or is to be undertaken; and	Appendix D
	ii	any alternative site	N/a
b		giving written notice, in any of the manners provided for in section 47D of the Act to—	
	i	the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken	Section 6.3; Appendix D
	ii	owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;	Section 6.3; Appendix D
	iii	the municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area;	Section 6.3; Appendix D
	iv	the municipality which has jurisdiction in the area	Section 6.3; Appendix D
	v	any organ of state having jurisdiction in respect of any aspect of the activity; and	Section 6.3; Appendix D
	vi	any other party as required by the competent authority;	Section 6.3
c		placing an advertisement in—	
	i	one local newspaper; or	Section 6.3; Appendix D
	ii	any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	N/a
d		placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in	N/a

	Public Participation Process (Chapter 6 of GNR 326, 7 April 2017)		Undertaken during the Basic Assessment
		paragraph (c)(ii); and	
e		using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to—	
	i	illiteracy;	
	ii	disability; or	
	iii	any other disadvantage.	
3		A notice, notice board or advertisement referred to in subregulations (2) must—	
a		give details of the application or proposed application which is subjected to public participation; and	Appendix D
b		state—	
	i	whether basic assessment or S&EIR procedures are being applied to the application;	Appendix D
	ii	the nature and location of the activity to which the application relates;	Appendix D
	iii	where further information on the application or proposed application can be obtained; and	Appendix D
	iv	the manner in which and the person to whom representations in respect of the application or proposed application may be made	Appendix D
4		A notice board referred to in subregulation (2) must—	Appendix D
a		be of a size of at least 60cm by 42cm; and	Appendix D
b		display the required information in lettering and in a format as may be determined by the competent authority.	Appendix D
5		Where public participation is conducted in terms of this regulation for an application or proposed application, subregulation (2)(a), (b), (c) and (d) need not be complied with again during the additional public participation process contemplated in regulations 19(1)(b) or 23(1)(b) or the public participation process contemplated in regulation 21(2)(d), on condition that—	Noted.
a		such process has been preceded by a public participation process which included compliance with subregulations (2)(a), (b), (c) and (d); and	N/a
b		written notice is given to registered interested and affected parties regarding where the—	N/a
	i	revised basic assessment report or, EMPr or closure plan, as contemplated in regulation 19(1)(b);	N/a
	ii	revised environmental impact assessment report or EMPr as contemplated in regulation 23(1)(b); or	N/a
	ii	environmental impact assessment report and EMPr as contemplated in regulation 21(2)(d); may be obtained, the manner in which and the person to whom representations on these reports or plans may be made and the date on which such representations are due.	N/a
6		When complying with this regulation, the person conducting the public participation process must ensure that—	
a		information containing all relevant facts in respect of the application or proposed application is made available to potential interested and affected	This BAR

	Public Participation Process (Chapter 6 of GNR 326, 7 April 2017)		Undertaken during the Basic Assessment
		parties; and	
b		participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.	Section 6.3; Appendix D
7		Where an environmental authorisation is required in terms of these Regulations and an authorisation, permit or licence is required in terms of a specific environmental management Act, the public participation process contemplated in this Chapter may be combined with any public participation processes prescribed in terms of a specific environmental management Act, on condition that all relevant authorities agree to such combination of processes.	Noted.

1. INTRODUCTION

1.1 Background

This report is a Basic Assessment Report (BAR) for part of the application by Delta Diesel City to develop a wholesale truckstop to provide fuel for their own fleet of tankers for distribution. Thie site is located on Erf 34, Umlaas Road in KwaZulu-Natal. The report has been prepared on behalf of Dela Diesel City by Metamorphosis Environmental Consultants (MEC), in terms of the requirements of the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended), published under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The details of the MEC Environmental Assessment Practitioner (EAP) team are provided in Appendix A.

1.2 Project purpose, need and desirability

The purpose of the proposed Petro Port is to facilitate the distribution of diesel from the refineries to Delta's clients. The depot will enable Delta to increase the efficiency of its distribution network, reducing waiting times at the Refineries.

According to the Mkhambathini SDF Mapbook 2019, Umlaas Road lies adjacent to the National Provincial Movement Corridor (National Road N3), making it perfectly located for wholesale fuel distribution for Delta's fleet of vehicles. Umlaas Road is identified as a Gateway Node in the SDF, adjacent to the Camperdown Municipal Development node and on the R603 Primarty corridor. (See Figure 1).

Camperdown is generally considered the main growth centre and an economic hub in the Municipality.

According the Makhambathini IDP, there is 28% unemployment in the District and the Local Economic Development Unit is continuing with the strengthening of the small, medium and micro business sub sector in the area. According to the IDP:

> Among the 17 projects are the initiatives to improve the movement of goods through the Durban-Free State-Gauteng logistics and industrial corridor by prioritising a range of rail and port improvements, supported significantly by a R300-billion investment programme by Transnet over the coming seven years. One of the rail links targeted for upgrading runs through Mkhambathini and is the main Durban Johannesburg link. Subsequent to this is the upgrade and expansion of the N11 road linking the city of EThekwini in Durban, via Mkhambathini to Johannesburg and Mpumalanga Province. These infrastructure programs are meant to boost the economy of the country in order to achieve the vision 2030. In conclusion, Mkhambathini has also been identified as one of the Industrial hubs with particular emphasis on the manufacturing sector which is textile and chemicals.

This supports the choice of location for the fuel wholesale distribution site and also demonstrates that the proposed development is in line with the IDP proposals and thus the principles of sustainable development. The site is currently zoned for industrial use and is surrounded by existing industry.

The Municipality is in need of economic development in order to provide jobs and uplift the community. Goal 1 od the KZN PGDP 7 Strategic goals is Job Creation. On eof the key challenges listed in the IDP is to Exploit the Strategic Location (9.8), and the proposed development will strengthen the Municipality's position in this regard.

There is a proposal to construct a new 2ML waste water treatment works at Camperdown, which would ultimately service the petro Port site.

The sensitive development of the site will assist with the IDP goals of sustainable development and improved safety and security as the land is currently vacant and used for informal dumping activities.

The IDP lists the 6 KZN Key Performance objectives and the proposed development will facilitate, amongst others, KPA No 3

KPA3: LOCAL ECONOMIC DEVELOPMENT AND SOCIAL DEVELOPMENT		
Create and Promote an environment that promotes the development of the local economy and facilitate job creation through sustainable projects	Create a climate that will allow for economic development	✚ Facilitate the implementation of LED projects ✚ Develop LED Strategy; ✚ Identify Land for development

Approximately 40 skilled and 100 unskilled workers will be required during the construction phase of the project and the project will provide about 50 permanent jobs during operational phase, ranging from administrative positions to maintenance, domestic, gardening, etc.

The required skills match the skills available in the area and this development is situated within easy travelling distance from where a potential labour force resides, thus facilitating socio-economic upliftment in the area.

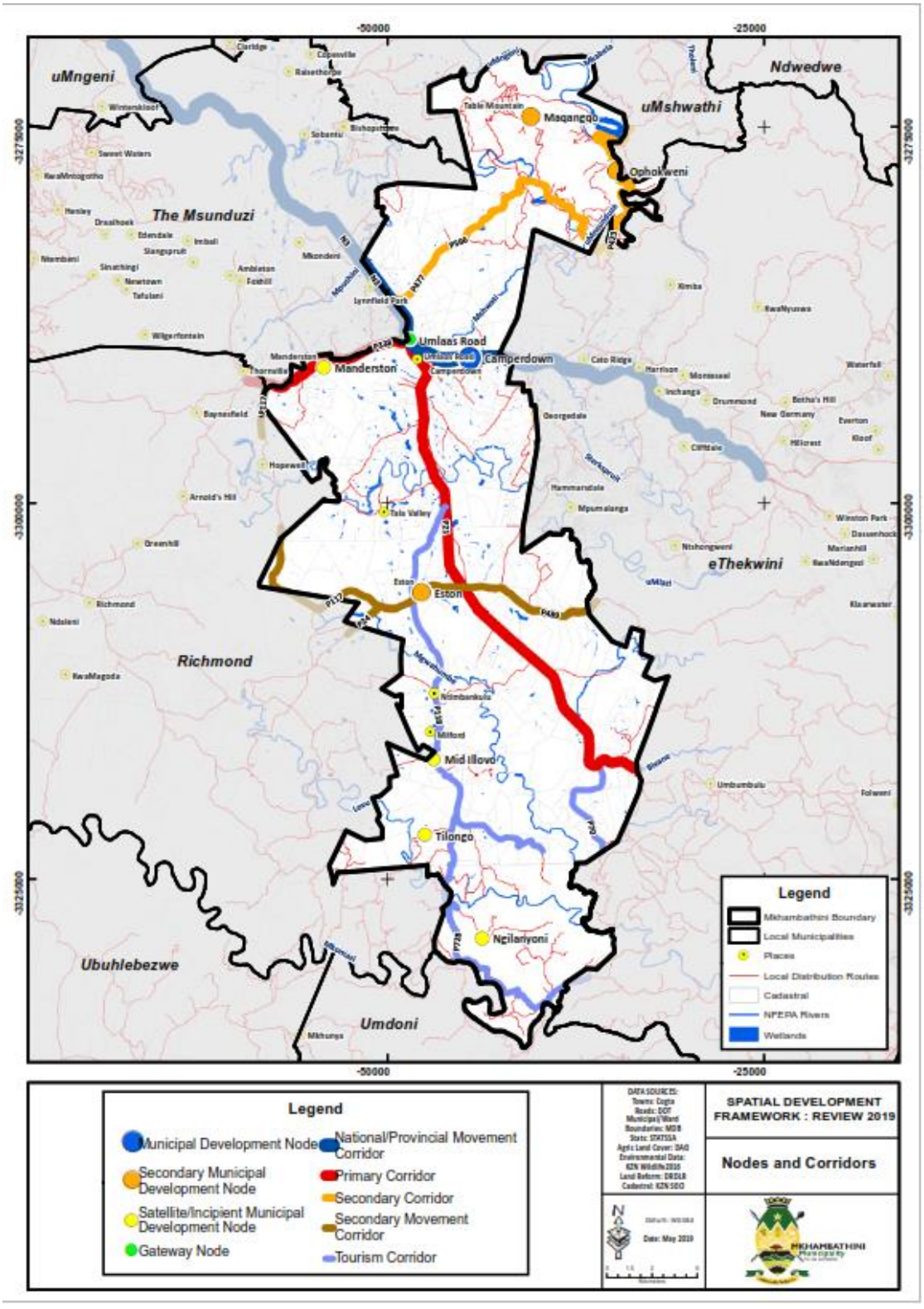
The site was chosen due to its size and location close to the N3 and R603 which are identified as key transportation corridors. It is the ideal location for fuel distribution and as stated previously, the site is currently zoned for industrial use and is located within an existing industrial area.

From an environmental perspective, the site is favourable as it is located away from rivers and wetlands and is not in or close to a Critical Biodiversity area. It does not contain any sensitive or endangered species and has previously been disturbed. There are several invasive species on the site and a portion of the site has been used for illegal dumping. The development of the site will result in the removal of both the refuse and the alien vegetation. Large areas of the site will be landscaped using appropriate indigenous vegetation, thereby improving the biodiversity of the site.

Stormwater will be collected on the site and used for irrigation. The use of septic tanks and French drains will also result in no nett loss of water resources in the area.

Very little waste will be generated by the operation and wastes will be recycled wherever possible.

Figure 1 Mkhambathini SDF Nodes and Corridors



1.3 Location and scope of the project

The study area falls within Mkhambathini Local Municipality, KwaZulu-Natal, affecting Ward 3 in the Northern portion of the Municipality.

The development falls within the town of Umlaas Road on Erf34, which lies within a developed industrial area. (See Figure 2)

Table 3 Municipalities and wards affected by the project

Province	KwaZulu-Natal
District Municipality	uMgungundlovu District Municipality
Local Municipality	Mkhambathini local Municipality
Ward Number	3

Table 4 Geographical co-ordinates of the project

	Latitude (S)	**Longitude (E)**
Centre point of Erf 34	29° 43' 37"	30° 30' 05"

Figure 2 Location of proposed development

1.4 Environmental authorisation requirements and listed activities triggered by the project

In terms of the 2014 EIA Regulations (as amended April 2017) published in Government Notices R.324, R.325, R.326 and R.327 under Section 24 of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), the proposed project triggers activities that may affect the environment. Therefore, Delta Diesel City requires environmental authorisation from the competent authority, viz. the Provincial Department of Economic Development, Traditional and Environmental Affairs (EDTEA).

1.4.1 Listed activities triggered by the project

Activities from Listing Notice 1 (GN R.327) are triggered by the project and are detailed in Table 5.

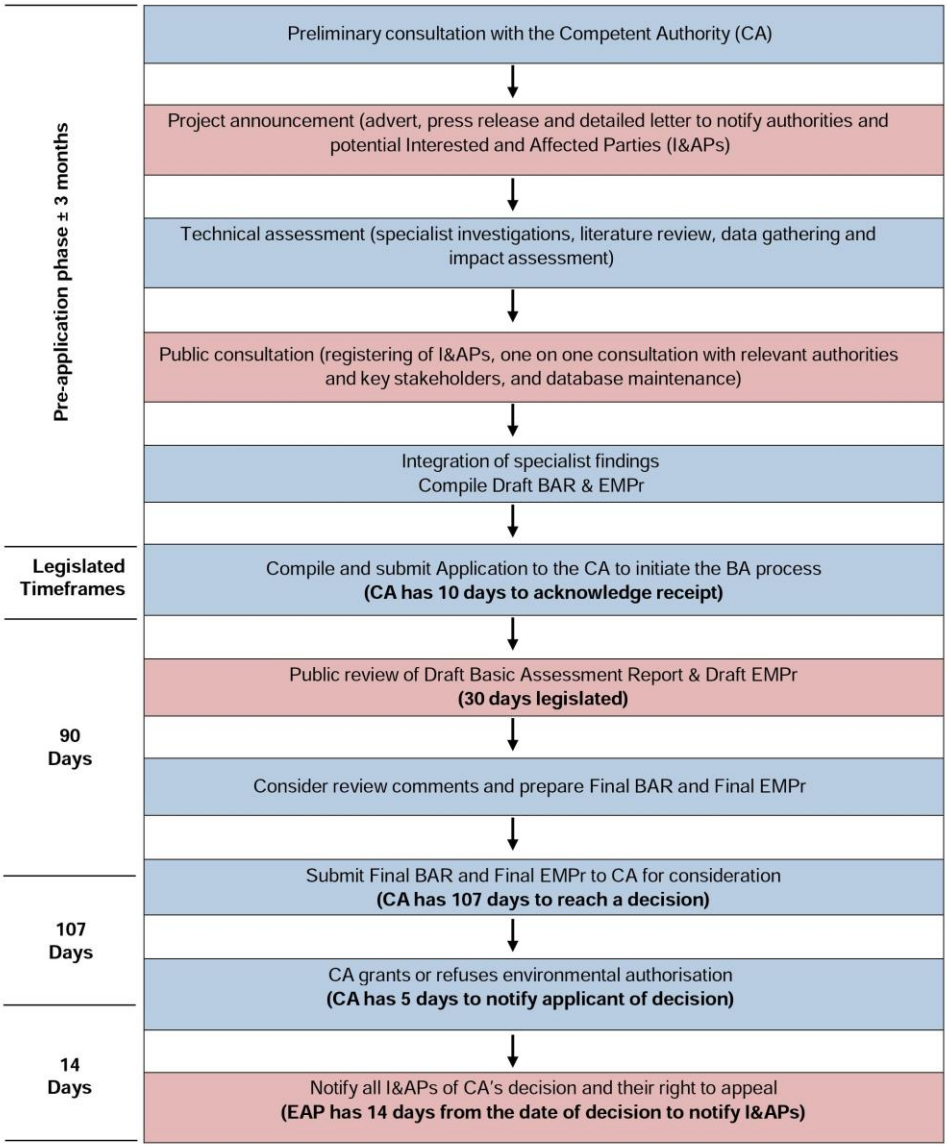
Table 5 Listed activities in terms of which Delta Diesel City is seeking environmental authorisation for the proposed development.

Listed activity as described in GN R.327, GN R.325 and GN R.324 (EIA Regulations 2014, as amended)	Description of project activity that may trigger the listed activity
Listing Notice 1 (Government Notice, No. R. 327, 7 Apr 2017) Item 14: The Developent 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 cubic metres or more but not exceeding 500 cubic metres.	The development will involve the installation of 6 x 83 litre underground diesel storage tanks on the site, to be used to fill tankers for distribution.
Listing Notice 1 (Government Notice, No. R. 327, 7 Apr 2017) Item 27: The Clearance of an area of 1 hectare or more, but less than 20ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for: i. The undertaking of a linear activity ii. Maintenance purposes undertaken in accordance with a maintenance management plan.	The total development footprint is approximately 0,8ha. The total estimated area of disturbance is about 2ha (the size of the site).

Days	Notify all I&APs of CA's decision and their right to appeal **(EAP has 14 days from the date of decision to notify I&APs)**

1.4.2

BASIC ASSESSMENT PROCESS



1.4.3 Contents of a Basic Assessment Report (BAR)

A BAR must contain the information set out in Appendix 1 of GN No. 326. Table 1 indicates where in this BAR these various components are covered.

1.4.4 Public participation process during the Basic Assessment

Public participation is to be undertaken in accordance with Chapter 6 of GN No. 326. A detailed description of the public participation undertaken for this project is provided in Chapter 6 of this BAR.

2. LEGISLATIVE FRAMEWORK

Further to the regulatory process for environmental authorisation outlined in Section 1.4, the environmental legislation applicable to this project includes but is not limited to that indicated in Table 6. Note that the development is in line with, national, provincial and municipal development goals and planning frameworks.

Table 6 Applicable legislation, policies and guidelines

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) (as amended)	The Environmental Clause, Access to Information, Fair Administrative Action, Enforcement of Rights and Administrative Review	Government of South Africa	1996
National Environmental Management Act, 1998 (Act No. 107 of 1998)	Management of activities that may have a significant impact on the environment. Principles include: ❒ The sustainability principle. ❒ The life-cycle, cradle-to-grave principle. ❒ The 'polluter pays' principle. ❒ The precautionary principle. ❒ The duty of care principle. ❒ Fair and transparent public consultation.	Department of Environmental Affairs	1998
National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)	The conservation of natural habitats, fauna and flora. Permits required to remove or relocate protected plant species.	Department of Environmental Affairs	2004
National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003)	To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes.	Department of Environmental Affairs	2003
National Environmental Management: Waste Act, 2008 (Act No.59 of 2008)	Management of activities that generate waste.	KZN Department of Economic Development, Tourism and Environmental Affairs	2008

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
KwaZulu-Natal Nature Conservation Management Act,1997 (Act 9 of 1997)	The Act provides for the management of nature conservation within KZN and protected areas. Permits required to remove or relocate protected plant species.	Ezemvelo KZN Wildlife	1997
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	The conservation of agricultural resources. Protection of soils.	KZN Department of Economic Development, Tourism and Environmental Affairs	1983
National Forests Act, 1998 (Act No. 84 of 1998)	The conservation of natural forests. Permits required to remove or cut protected tree species.	Department of Agriculture, Forestry and Fisheries	1998
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	The protection of cultural heritage resources and the management of activities that may have a significant impact on cultural heritage resources.	South African Heritage Resources Agency	1999
KwaZulu-Natal Heritage Act, 1997 (Act No. 10 of 1997)	The protection of cultural heritage resources and the management of activities that may have a significant impact on cultural heritage resources (specifically within KZN).	Amafa aKwaZulu-Natali	1997
Environment Conservation Act, 1989 (Act No 73 of 1989)	National Noise Control Regulations (GN R154 dated 10 January 1992)	Department of Environmental Affairs	1989
National Water Act, 1998 (Act No 36 of 1998)	Legislation regulating and protecting water resources in South Africa which includes non-consumptive water uses such as the impeding or diverting of water in a water course or altering of beds, banks or characteristics of a watercourse. Also regulates abstraction of large volumes of water from natural water bodies.	Department of Water and Sanitation Provincial Office of Water and Sanitation	1998
National Environmental Management: Air Quality Act, 2004 (Act No 39 of 2004)	Measures in respect to air quality.	Department of Environmental Affairs	2004
National Roads Traffic Act, 1996 (Act No 93 of 1996)	Measures in respect to road use in South Africa	South African National Roads Agency Limited (national roads); Provincial Department of Transport	1996
Promotion of Access to Information Act, 2000 (Act No 2 of 2000)	All requests for access to information held by the state or private bodies are provided for in the Act under Section 11.	Department of Justice and Constitutional Development	2000

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Promotion of Administration Justice Act, 2000 (Act No 3 of 2000)	In terms of Section 3, the Government is required to act lawfully and take procedurally fair, reasonable, and rational decisions. Interested and affected parties have a right to be heard.	Department of Justice and Constitutional Development	2000
Public Participation Guideline in Terms of the National Environmental Management Act, 1998 and Environmental Impact Assessment Regulations	The guideline provides information and guidance for proponents or applicants, I&APs, competent authorities and Environmental Assessment Practitioners on the public participation requirements of the Act. It further provides information on the characteristics of a rigorous and inclusive public participation process.	Department of Environmental Affairs	2017
Guideline Series 5: Companion to the Environmental Impact Assessment Regulations of 2010 Guideline Series 7: Public Participation in the Environmental Impact Assessment Process Guideline Series 9: Need and Desirability in terms of the Environmental Impact Assessment Regulations of 2010 (Draft) DEA Alternatives Guideline 5 DEA Guidelines for EMPs	These guidelines provide information and guidance on the requirements of the EIA Regulations and various associated aspects of the environmental impact assessment process.	Department of Environmental Affairs	2010

3. DESCRIPTION OF THE PROPOSED ACTIVITY

3.1 Proposed Development

The development will comprise the construction of two workshops, a small double story office block with ablutions and the installation of six 83m^3 underground diesel tanks. The proposed layout is shown on Figure 3.

The tanks will be installed by Petrocall.

The development will comprise the follosing infrastructure:

- Offices 600m^2
- Ablutions 140m^2
- Workshop 540m^2
- Workshop 360m^2
- Security 50m^2
- Roads and parking 6657m^2

Figure 3: Proposed Site Layout Plan

INSERT A3 FIGURE SHOWING LAYOUT

3.2 Construction phase activities

3.2.1 Access to construction sites

All access for construction will be via existing roads (national, provincial and municipal roads).

3.2.2 Relocation of services

There are no services on the sites which will require relocation. It should be noted that the Umgeni Water Pipeline and Eskom servitudes have been accommodated in the project planning.

3.2.3 Contractors' site offices and stockpile areas

Contractors' site offices and stockpile areas will be located within the development area. The exact sites will be identified by the contractor who is awarded the tender for the work. Siting and establishment will be guided by specifications in the Environmental Management Programme (EMPr). No staff (except security) will be accommodated overnight at site offices/stockpile sites.

3.2.4 Waste management

Solid waste
Solid waste will be produced during construction. However, there will be no waste management activities requiring a permit in terms of the Waste Regulations under the National Environmental Management: Waste Act.

The construction will generate some general builders waste such as cement bags, packaging, plastic and used metal canisters.

Liquid effluent/waste water

During construction, rented portable chemical toilets will be used for workers, to be serviced by the contractor's appointed service provider. There will be no other liquid wastes generated during construction.

Emissions
There will be no emissions other than exhaust and dust emissions. Minor fugitive emissions may occur in the vicinity of the diesel tanks during offloading and refuelling.

3.2.5 Borrow pits and quarries

No new borrow pits or quarries will be established as materials will be sourced from commercial sources.

3.2.6 Batching plants

No batching plants will be established on site.

3.2.7 Water use

3.2.8 Energy use

During construction, conventional sources of energy will be used (e.g. Eskom supply, generators, and conventional fuels and oils).

3.2.9 Earthworks

3.2.10 Generation of noise

During construction, certain activities will elevate existing noise levels in the area. Project construction activities will add to the existing noise levels. Although this will be temporary and confined to daylight hours.

3.2.11 Accommodation of traffic during construction

Being an industrial area, the roads are designed to accommodate use by heavy trucks. The traffic impact assessment indicates that there will be no significant impacts of the longer term increase in traffic, which will be heavier than construction traffic. Traffic management recommendations are provided in the EMPr to ensure that disruption and risks are minimised during construction.

3.2.12 General construction activities

The main construction activities are presented hereunder.

Site preparation

- Establishment of site camp and stockpile areas.
- Provision for on site waste management – sewage, waste water, solid waste, general waste, etc.
- Provision for storage/handling/disposal of hazardous substances (e.g. cement, asphalt, fuels and oils). A bunded area will be provided for storage.
- Clearance of vegetation.
- Removal and stockpiling of topsoil and subsoil.

Construction

- Earthworks.
- Construction of the sewer and stormwater reticulation
- Construction of access roads.
- Building work associated with the development

Re-instatement and rehabilitation

- Reinstatement of topsoil.
- Revegetation and landscaping.
- Erosion control.
- Alien plant control.

3.2.13 Employment opportunities

Contractors, with their skilled labour, will be appointed by the developer. Unskilled labour will be sourced by the contractors involved in the work.

Approximately 40 skilled and 100 unskilled workers will be required during the construction phase of the project and the project will provide about 50 permanent jobs during operational phase, ranging from administrative and technical positions to maintenance, domestic, gardening etc.

3.2.14 Communication with land owners and stakeholders

All key stakeholders including the adjacent property owners have been notified and given an opportunity to consult with the project team as part of the public participation process conducted for this application for environmental authorisation. During construction, the developer and its appointed contractor(s) will be responsible for keeping adjacent landowners informed of relevant planned construction activities.

3.3 Operation phase activities

3.3.1 Vehicle traffic

Traffic studies have indicated that the road infrastructure is adequate for the additional vehicle usage generated as a result of the the development. However, the current maintenance of the road is an issue with the useable portion of the road being much less than the 7,5m design.

3.3.2 Waste generation

Once the development has been completed, the generation of waste will be restricted to domestic waste and sewage.

Operational waste will comprise general office waste and some hazardous wastes from the workshops (used oils/filters etc). The inert waste will be disposed at a general licensed landfill site whilst the hazardous waste will be classified and disposed of at a suitably licenced site. Storage of waste will be in accordance with the National Norms and Standards for Storage of Wastes.

The operational phase of the project will produce sewage, which will be disposed via septic tank and French drain. Dirty wastewater from the workshops and refuelling areas will be disposed through an oil separator. Sludge from the oil separate will be removed periodically and sent to a licenced hazardous landfill site for disposal. Clean water from the separator will be disposed through the septic tank.

The stormwater collected in the retention pond will be used for irrigation on the site.

3.3.3 Energy use

The detailed design is still being undertaken and energy saving initiatives and alternative sources of energy are being considered.

3.3.4 Generation of noise

The development will generate relatively low levels of noise on an ongoing basis. Noise levels will be typical of a light industrial area and should not exceed the SANS standards for industrial areas.

4. PROJECT ALTERNATIVES

4.1 Property/location/ alternatives

The property is zoned for light industrial development and was purchased with the intention of developing it into the truck stop. Therefore no site alternatives were considered.

4.2 Design/layout alternatives

The initial layouts proposed by the developer covered larger portions of the property, the size of the workshops has been reduced from the original proposals.

The layouts were revised once information regarding the Eskom and Umgeni Water Requirements were established.

4.3 Technology alternatives

The detailed design of the property is still being undertaken and energy saving initiatives and alternative sources of energy are being considered. Recycling of grey water and water use reduction strategies will also be included into the designs.

At least 60% of stormwater will be attenuated on site, the architects are hoping to achieve 80% in the final plans.

4.4 The no-go alternative

The property is zoned for industrial development and are surrounded by industry. Land is at a premium in this area and should this developer choose not to develop the site, it is highly likely that it will still ultimately be developed. Other uses could have a significantly higher potential environmental and social impact than the proposed truck stop.

Currently the vacant properties pose a security and fire risk to the adjacent landowners and developing the areas will reduce these risks.

The sites are currently infested with alien vegetation and there has been some illegal dumping on the property. This will be managed should the development proceed, if the sites are not developed, the situation will deteriorate further.

Obviously, should the development not take place, traffic volumes and noise from the area will remain unchanged, this would be a positive impact. However, no new jobs would be created and there is a possibility that a less desirable industrial development could take place on the site.

While the no-development option is not preferred, it forms the baseline against which the project is assessed.

5. DESCRIPTION OF THE RECEIVING ENVIRONMENT

A description of aspects of the receiving environment relevant to the assessment is provided below. Refer to Appendix B for photographs.

5.1 Current land use and zoning

The development falls within an existing industrial area, with all immediately adjacent neighbouring properties developed for industrial purposes.

The area is zoned as light industrial, with the exception of *** which is zoned for agriculture.

5.2 Land ownership and affected properties

5.2.1 Land ownership

The land is owned by Old Trafford Properties. The neighbouring property is owned by the same landowner. Surrounding land is privately owned and developed.

5.2.2 Property names and numbers

The property is Erf 34 Umlaas Road.

5.3 The social/socio-economic environment

A summary of the socio-economic character of the receiving environment is provided below.

5.3.1 Demographics

The uMgungundlovu District is one of the ten district municipalities that make up the KwaZulu-Natal Province. The district is located in the midlands part of the province, approximately 85km west of Durban. The N3, which is the busiest national highway in South Africa, passes through the area. This, coupled with the declaration of Pietermaritzburg as a capital of KwaZulu-Natal, makes the district one of the busiest districts in the Province. It covers an area of approximately 9 189.53 km2 and is divided into seven local municipalities, of which Mkhambathini Municipality is the second smallest, accounting for 917km2.

Mkhambathini has a population of approximately 57 075 people (2016) and consists of seven wards, with a large part of the municipality being rural in nature and underdeveloped. The four Traditional Authorities located in the municipality include Mapumulo Traditional Authority, MaNyavu Traditional Authority, Macala-Gwala Traditional Authority and the Embo-Thimuni Traditional Authority. (SDF June 2019).

The N3 corridor (identified as a Provincial Corridor in the PGDS) that runs through the municipality provides opportunities linked to the Provincial corridor development. Agricultural production centres on vegetables, nuts and sugar cane, and the area features the second highest concentration of poultry producers in the world, as well as pig and beef farming.

Tourism attractions include the Table Mountain, Tala Game Reserve, Gwahumbe Game Reserve, Lion Park Zoo, Raptor Centre, Nagle Dam and Umgeni Valley, while significant portions of the municipality fall within the Valley of a Thousand Hills.

Poverty is a major challenge in the District. It estimated that approximately 63.4% of the population in the District is living below the poverty line. Of this 63.4%, approximately 45.6% has no source of income and about 17.8% earn less than R400 per month.

Based on the 2016 Community Survey, the Umgungundlovu District IDP (2019) notes that the main dwellings within settlement areas in the District are characterised as: 228,768 being formal; 22,387 being informal; 520,244 being traditional; and 19,062 as being other.

5.3.2 Economic sectors

The economic contribution in Umgungundlovu is largely driven by the tertiary sector, which contributes 69% to the District's economy. The main industries in the tertiary sector are community and personal services, followed by trade and accommodation and finance and business services, with lesser contributions from the transport, storage and communications and government services sectors. The secondary sector which makes up 23% of the district economy consists predominantly of manufacturing activities, but also some utilities and construction activity (DRDLR, 2015). The primary sector constitutes 7% of the economy and predominantly comprises agriculture and forestry.

The Mkhambathini 2019 SDF states that *Umlaas Road has access to the rail network and recent private sector developments within the area have unlocked service industrial land, immediately available for investment. It is however important to indicate that the success of both these nodes arguably depends on the dynamic balance in the different types of industrial and logistic development within these two areas. Umlaas Road is envisaged to best cater for packaging, warehousing and logistical operations whilst Cato Ridge could support more manufacturing and engineering related industries.*

5.3.3 Traffic

5.4 Cultural heritage resources

Active Heritage Consultants undertook a specialist study to assess impacts of the project on heritage resources within the study area. Study findings indicate that there are no cultural heritage resources in the project area (refer to Appendix E for the Cultural Heritage Specialist Report).

The Cultural Heritage Report recommended that a desktop palaeontological study should be undertaken. This was completed by Dr G Trower who concluded that it is highly unlikely that any trace fossils would be preserved in the area and that a site visit was not deemed necessary. He recommended that a 'Chance Find' Protocol should be included in the EMPr. This has been undertaken.

5.4.1 Places, buildings, structures and equipment

There are no existing structures on the site.

5.4.2 Landscapes and natural features

There are no notable features or landscapes on the site.

5.5 The biophysical environment

5.5.1 Site gradient

Topographical Information			
Elevation (m AMSL[1])	790	**Topography**	Mildly undulating
Site Drainage	Easterly and south westerly	**General Drainage**	Southerly
Nearest Surface Water Source	South easterly flowing non-perennial tributary (approx. 430m to south of the site) of the Mlazi River		

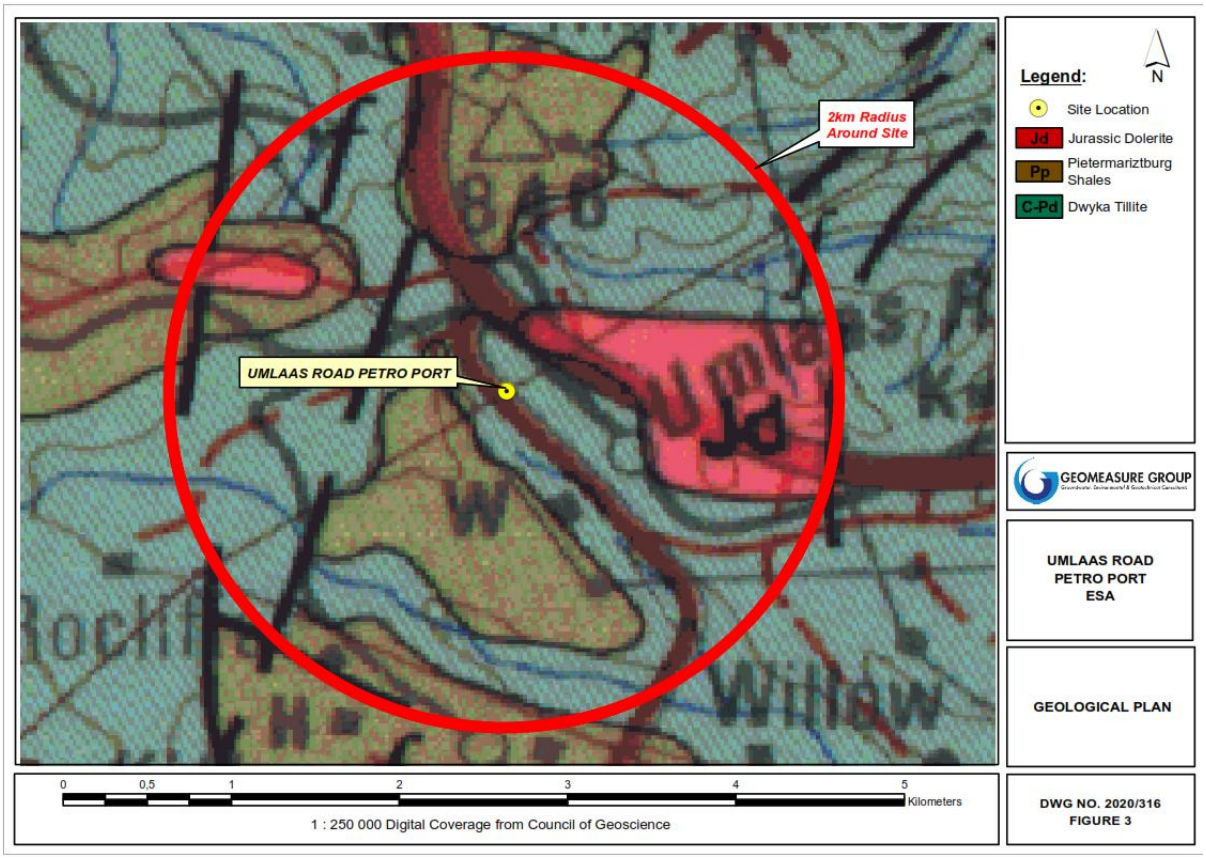
5.5.2 Geological and Hydrogeological conditions

Both a geotechnical assessment and a hydrogeological environmental site assessment have been undertaken for the project (see Appendix **).

The site is underlain by approximately 1m of dark brown clayey loam underlain by orange brown silty clay. A perched aquifer may develop in the summer / wetter season. However, the minimum depth to seepage is unknown.

Geology and Geohydrology			
Rock Type	Dwyka Tillite	**Soils**	Dark brown clayey loam underlain by brown silty clay (>1m)
Aquifer Type	Secondary (weathered and fractured)	**Groundwater Quality**	Typically poor with elevated Na and Cl concentrations
Expected Yields	Poor (> 0.1 l/sec to 0.5 l/sec)	**Minimum Depth to Seepage**	Likely approximately 4.0 m in rainy season
Boreholes (Desktop Hydrocensus)	One (1) located on De Heus property located 300m south of the site. BH is used for washing trucks. Another borehole is also located on Lot 36 across the road from De Heus.		

Figure ** Site Geology



There are two water supply boreholes in the vicinity of the site. One borehole is located on the De Heus property located to the south east of the property (<300 m south east of the site), whilst another borehole is located on Lot 36 across the road from De Heus.

Figure ** Conceptual Groundwater Model

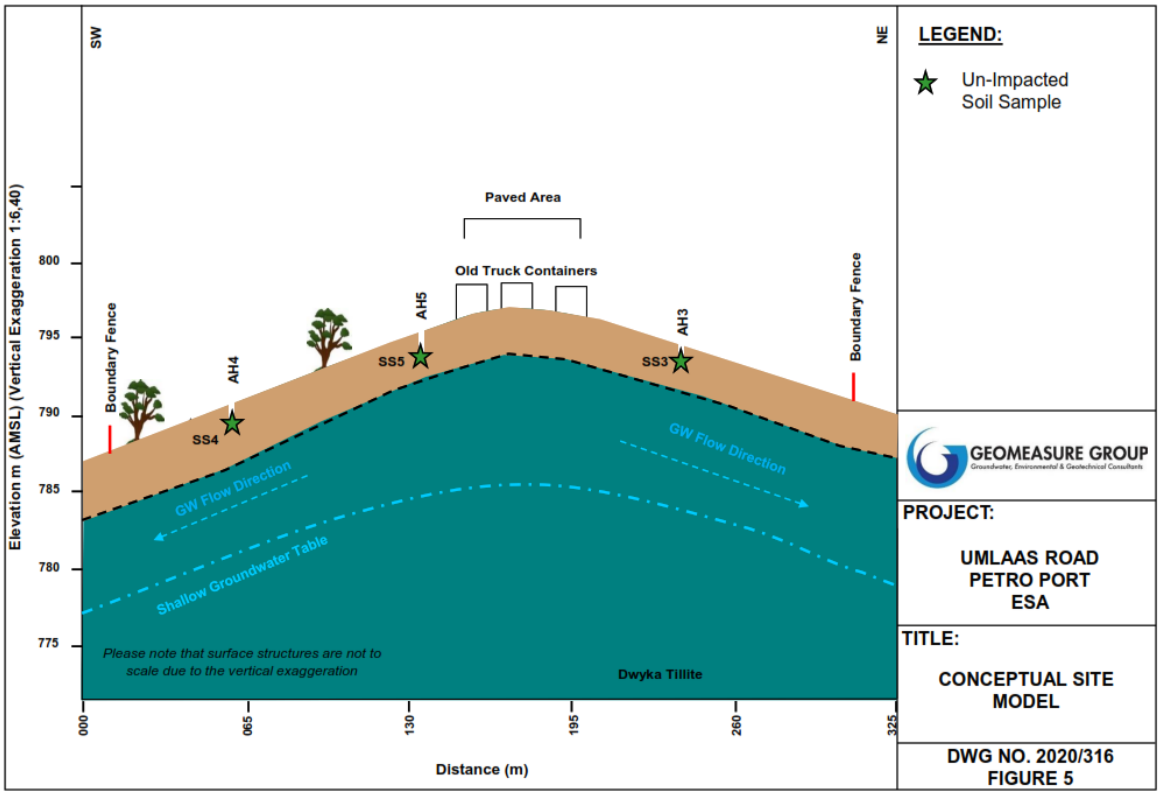
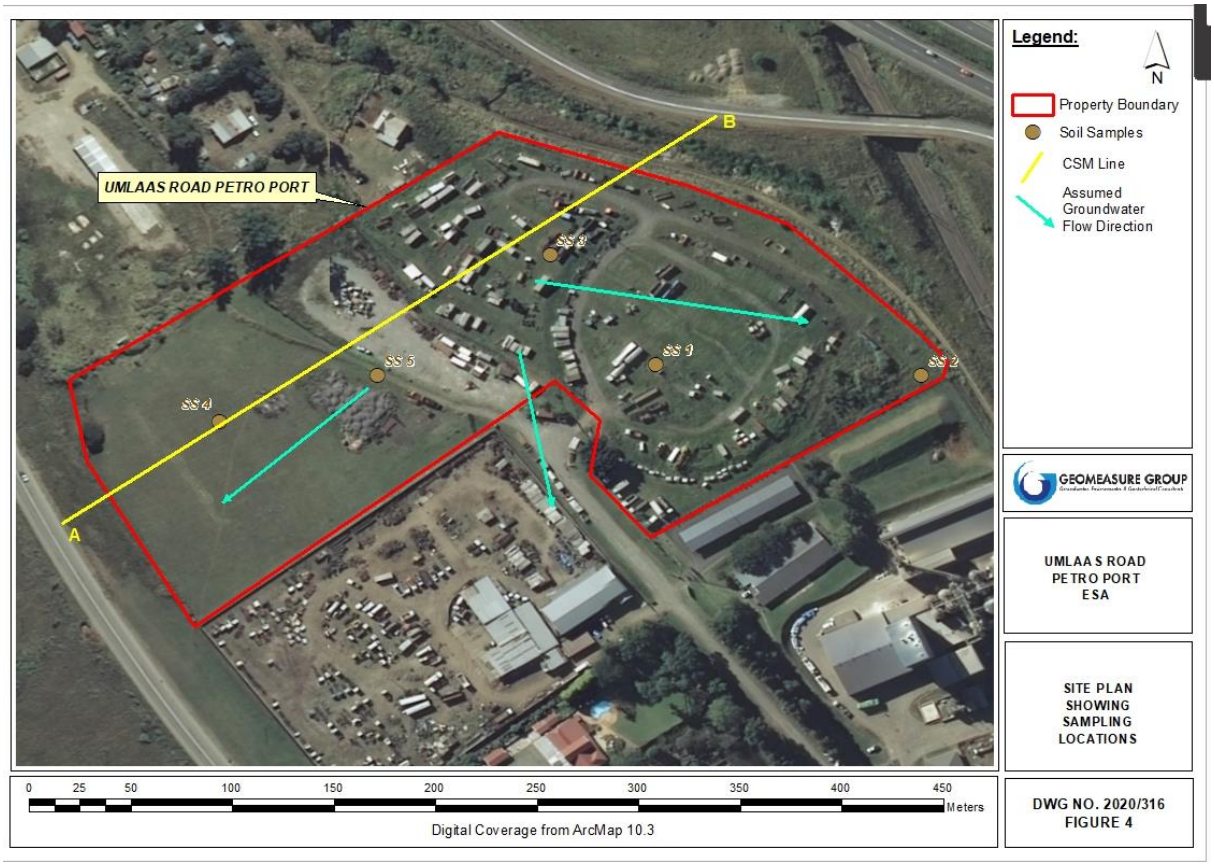


Figure * Groundwater Flow**



The Environmental Site Assessment (ESA) undertaken by Geomeasure in ** found that there was no contamination on the site resulting from the previous activities on the site. There was a small area which required remediation on the adjacent site (Rem of Erf 38), but non on Erf 34.

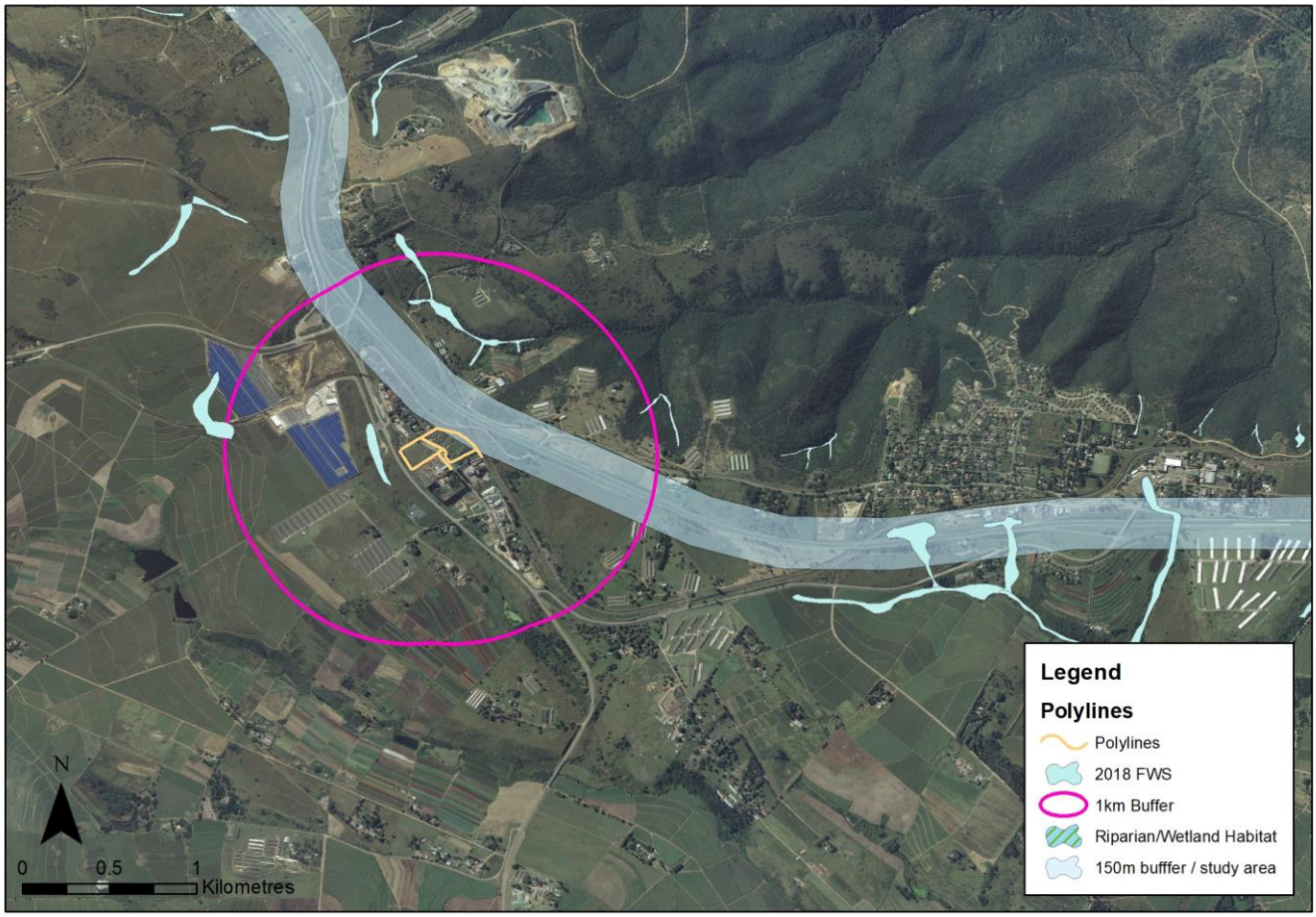
5.5.3 Rivers and wetlands

The rainfall within the catchment is strongly seasonal with more than 80% falling between October and March. The Mean Annual Precipitation across the catchment ranges from 410 to 1450mm between the lowest and highest rainfall areas respectively. Mean Annual Runoff ranges from 72 to 680 mm, with Mean Annual Evaporation from 1 360 to 2 040mm (WRC, 2002).

The nearest surface water source is a south easterly-flowing non-perennial tributary of the uMlazi River, located 430 m to the south of the site. The uMlazi River is approximately 7km to the south east of the site.

The uMlazi catchment feeds Baynesfield and Mapstone dams in the upper catchment. The uMlaziRiver passes mainly through agricultural, forestry and rural areas until it crosses the R603, thereafter the river is severely impacted by urban and peri-urban settlements, including Mpumalanga, Chatsworth and Umlazi township (DWAF, 2002, GroundTruth, 2007).

Figure * Drainage channels in proximity to the site (Taken from GroundTruth ****)**



Only one watercourse was identified within the DWS regulated area for water use consideration (i.e. 500m radius of the development property).

No watercourses or wetlands will be directly affected by the development.

Water Use Licence Requirements
The proposed development is likely to trigger the following water uses as listed in Section 21 of the National Water Act (No 36 of 1998) ('NWA'):

- Section 21(a) – borehole water abstraction.
- Section 21(c) & 21(i) – indirect impacts to watercourses as a result of catchment landcover transformation and land use operations.
- Section 21(g) – underground fuel storage, the operation of septic tank / soakaway systems and operation of the oil/water management system at the workshops.

5.5.4 Natural habitat affected by the project

A specialist vegetation assessment was undertaken by Eco-Pulse Environmental Consulting Services in December 2020. The full report can be found in Appendix***.

The study area falls within the Savanna Biome and the Sub-Escarpment Savanna Bioregion (Mucina & Rutherford, 2006). According to the National vegetation type coverage, the site and study area would naturally be characterised by Ngongoni Veld (SVs 4), which is classified by EKZNW (Ezemvelo KZN Wildlife) as Dry Coast Hinterland Grassland (formerly Ngongoni Veld) and which has a threat status of Vulnerable at the Provincial level.

5.5.5 Provincial Conservation planning

According to the KwaZulu-Natal Terrestrial Systematic Conservation Plan (TSCP) (EKZNW, 2016) areas of CBA: Irreplaceable are present only to the north and north-east of the site, associated with intact valley bushveld and thornveld in the large valley to the north-west (Figure 2). **The site itself is NOT identified as a CBA or ESA.**

Table 1. Description and derivation of conservation categories.

Conservation Category	Description	Development Process
Critical Biodiversity Area: Irreplaceable	Areas considered critical for meeting biodiversity targets and thresholds, and which are required to ensure the persistence of viable populations of species and the functionality of ecosystems.	The coverage was created by merging the following datasets: • 2010 MINSET – Irreplaceable and highly irreplaceable categories. • National Threatened Ecosystems – Critically endangered category • KZN Threatened Ecosystem – Critically Endangered and Endangered category. • Landscape Corridor critical linkages - Corridor type
Critical Biodiversity Area: Optimal	Areas that represent an optimised solution to meet the required biodiversity conservation targets while avoiding high cost areas as much as possible.	The coverage was created by merging the following datasets: • 2010 MINSET – Optimal categories. • Local Knowledge – aquatic and terrestrial optimal categories.
Ecological Support Area	ESA are functional but not necessarily entirely natural terrestrial or aquatic areas that are required to ensure the persistence and maintenance of biodiversity patterns and ecological processes within the CBAs.	The coverage was created by merging the following datasets: • Local Knowledge – aquatic and terrestrial ESA categories. • Local corridor • Landscape corridor

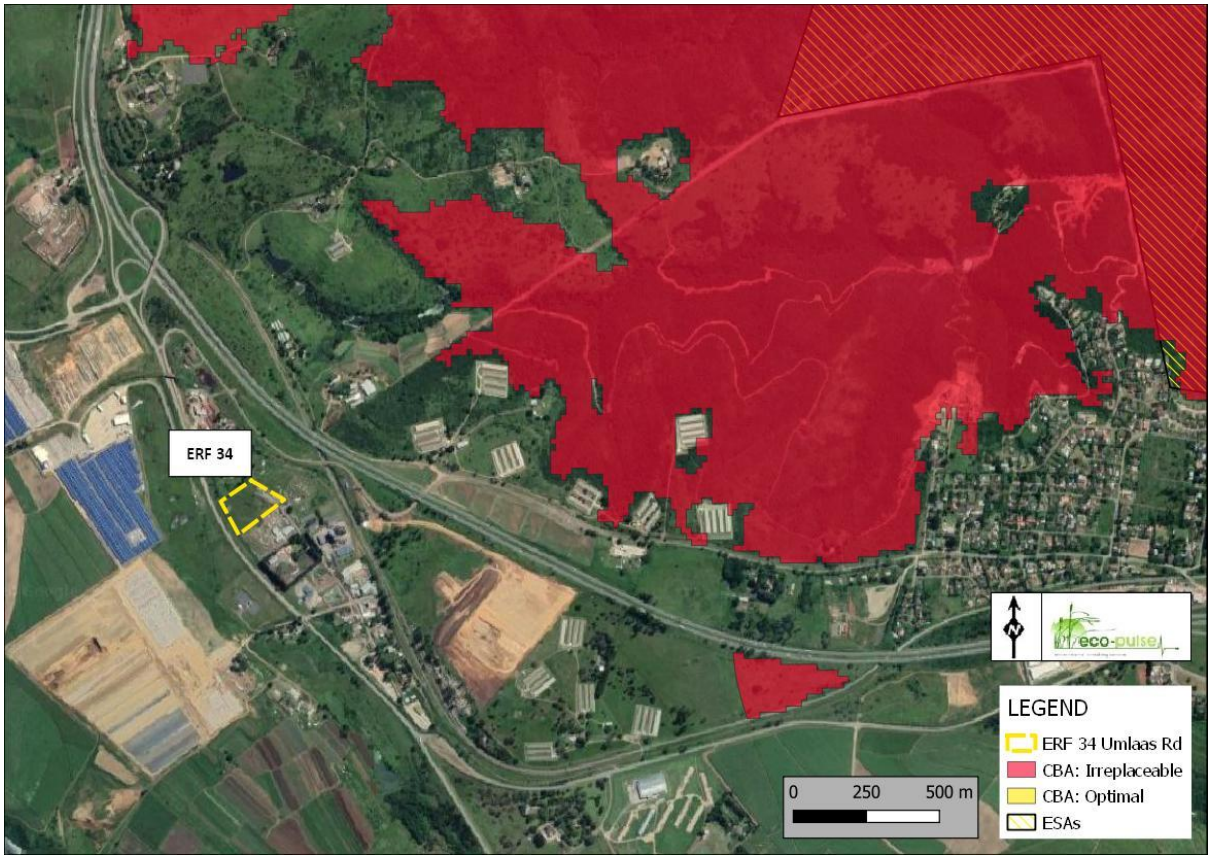


Figure ** Map showing the location and extent of the CBA: Irreplaceable according to EKZNW (2016), in relation to the study site at ERF 34 Umlaas Road.

5.5.6 Vegetation types

The earliest historical aerial imagery for the site taken in 1954 shows the site under what appears to be pristine/natural open grassland vegetation. Google EarthTM imagery dating back to 2002 reveals a disturbance regime that includes:

- 2006: Fire, vegetation mowing and clearing, truck and container storage.
- 2009: As above.
- 2010: Earthworks, ploughing and truck and container storage.
- 2012: Removal of some of the containers, continued mowing of grassland.
- 2014: As above.
- 2018: Further removal of containers and vehicles, some vegetation recovery, dumping of solid waste/rubble.
- 2020: Further dumping of solid waste/rubble, vegetation recovery to secondary grassland with weeds and alien plants (present day scenario).

Two relatively broad but distinct terrestrial vegetation communities were identified and described for the property assessed, based on the interpretation of species composition and vegetation structure, including:

1. **Degraded Secondary Grassland** (poor to very poor condition)

2. **Dense Alien Bushland** (very poor condition)

Degraded secondary grassland covers the majority of the site, with small patches of alien bushland to the north and west (see vegetation map in Figure 4, below).

Note that transformed areas (existing dump sites, dirt roads, grass tracks, gravel fill) were specifically excluded from the vegetation assessment and are shown mapped in Figure 4 as 'Transformed' and hatched in 'black'.

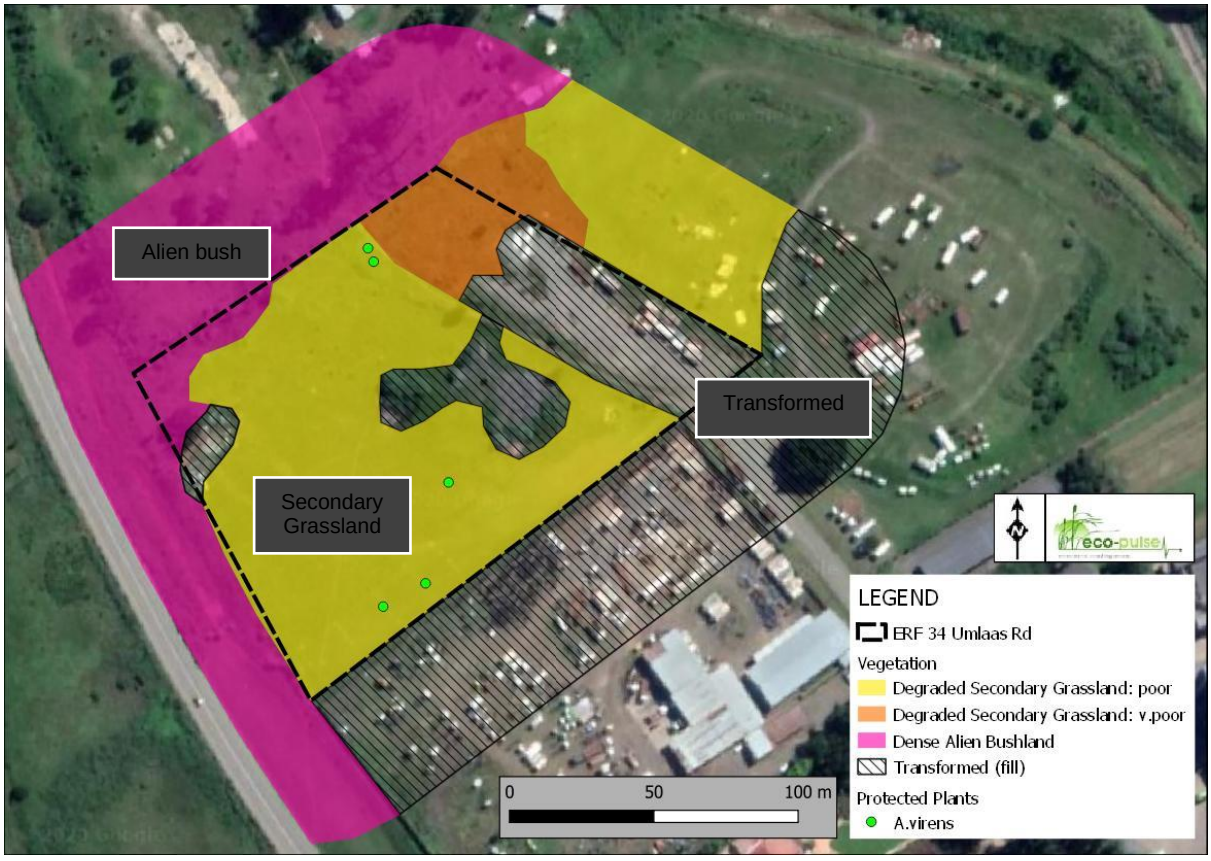


Figure ** Spatial distribution of identified vegetation communities on the property and within a 50m buffer from the perimeter boundary of ERF 34 Umlaas Road.

Community 1: Degraded Secondary Grassland

This grassland community was observed occurring on the majority of the property and can be described as a degraded secondary grassland, given that species composition and structure differs significantly from the reference Ngongoni Veld (dry hinterland grassland) type, with only common grass species that are typical increaser species generally occurring in overgrazed and disturbed veld. This is further substantiated by the disturbance history of the site, with vegetation clearing, mowing and infilling as well as container storage being key impacts that have resulted in the transformation of primary grassland to a secondary grassland type.

Natural successional processes have been active for a number of years since activities at the site have been abandoned, with the veld having recovered somewhat and now resembling a late pioneer / subclimax secondary grassland community dominated by two to three species, principally *Sporobolus africanus, Sporobolus fimbriatus* and *Cynodon dactylon.* These grass species are characteristic of disturbed veld and grassland that is in the process of recovery following disturbance. Other sub-dominant indigenous grasses identified within this community included *Chloris gayana, Eragrostis curvula* and very low levels of the tufted grass, *Aristida junciformis subsp. junciformis* (Ngongoni grass). Clearly, the species composition differs largely from the perceived reference vegetation type (Ngongoni grassland, which would have been dominated by *Aristida junciformis*). The grassland was found to have a dimimished and appreciably low forb diversity, which suggests fairly poor condition. The most common forbs identified were *Helichrysum nudifolium, Nemesia denticulate* and

Xysmalobium undulatum. There were also a large number of scattered exotic species identified (see plant species list below).

The vegetation condition was assessed as 'poor' and this was largely due to the secondary nature of the vegetation type, moderate to high abundance of pioneer plants with low forb diversity and presence of several disturbance-tolerant species, weeds and alien vegetation.

Plant species list:

All indigenous species are of 'Least Concern'
*alien/exotic species in 'red' text

Sporobolus africanus
Sporobolus fimbriatus
Sporobolus pyramidalis
Aristida junciformis
Chloris gayana
Eragrostis plana
Eragrostis curvula
Cynodon dactylon
Asclepias physocarpa
Centella asiatica
Leucas martinicensis
Oxalis semiloba
Panicum maximum
Gerbera piloselloides
Helichrysum nudifolium
Helichrysum ruderale
Spermacoce natalensis
Laggera 25ilosa25l
Nemesia 25ilosa25late
Ipomoea cairica
Kyllinga alba
Cyperus esculentus
Hypoxis hemerocallidea
Hypoxis colchicifolia
Albuca virens / Ornithogalum tenuifolium
Protected
Xysmalobium undulatum
Urochloa mosambicensis
*Verbena bonariensis**
*Tephrosia capensis**
*Pennisetum clandestinum**
*Conyza albida**
*Conyza canadensis**
*Tagetes minuta**
*Solanum mauritianum**
*Lantana camara**
*Ageratum houstonianum**
*Bidens 25ilosa**
*Senna didymobotrya**
*Acacia mearnsii**
*Melia azedarach**
*Morus alba**
*Eucalyptus grandis**
*Rubus cuneifolius**
*Solanum nigrum**
*Paspalum dilatatum**
*Ipomoea purpurea**
*Stellaria media**
*Cirsium vulgare**
*Pinus patula**

Community 2: Dense Alien Bushland

This alien/exotic plant dominated community was found to comprise the smallest portion of the non-transformed areas of the property and persists largely along the western and northern boundaries of the site (shown shaded in 'purple' on the map in Figure 4). As the name suggests, this community was found to be overgrown with invasive alien vegetation, with a mix of woody and herbaceous plant species recorded. Although some indigenous vegetation (ground cover) was present, this comprised a low diversity of common pioneer and disturbance tolerant grasses such as *Cynodon dactylon* and *Panicum maximum.* The bushland community had a characteristic structure comprising a mix of medium-tall exotic trees, shrubs and understorey cover comprised of grasses and forbs. Medium-tall trees and shrubs recorded included *Acacia mearnsii* and *Melia azedarach* as dominant species as well as *Morus Alba and Solanum mauritianum*.

The species composition of this community no longer resembles natural Ngongoni Grassland (Dry Hinterland Grassland) due to current and previous disturbance regime (clearing of vegetation and infilling) and was assessed as irreversibly modified. Given the degraded and exotic nature of the vegetation, this community was considered to be in a 'very poor' ecological condition with very low indigenous plant diversity. No rare, threatened or protected plant species were recorded in the alien dominated vegetation community with any remaining indigenous species being common, ruderal weeds and species of 'Least Concern'.

5.5.7 Plants of Conservation Importance

Despite the secondary nature and poor condition of the grassland community, one species of protected plant species was identified (locations of individual plants shown on the map in Figure 4):

Albuca virens / Ornithogalum tenuifolium (Common Chinchirenchee)

Albuca virens is 'Specially Protected Indigenous Plants' in KwaZulu-Natal in terms of Schedule 12 of the Natal Conservation Ordinance No. 15 of 1974 (all Chinchirenchee's are included in Schedule 12).

Note that Hypoxis hemerocallidea (African potato), a small colony of which was identified on the property, was previously listed as a Red Data species by SANBI (threat status: Declining) due to overharvesting of this plant species for medicinal purposes (traditional medical plant). However, the plant threat status has more recently (in 2019) been downgraded to 'Least Threatened' and the plant is now no longer red-listed as the "…species is naturally widespread and abundant, and in spite of extensive volumes of wild harvesting, is still considered common across most of its range" (SANBI, 2019).

Ecological Importance Assessment

The results of the site ecological importance assessment are contained in Table 2.

Community 1: Degraded Secondary Grassland

Resilient community with secondary growth and lacking sensitive/intolerant species but with some rehabilitation potential. Considered to be of **'Low' SEI** (Site Ecological Importance).

Community 2: Dense Alien Bushland

Highly resilient community with no natural habitat remaining and lacking sensitive/intolerant species. Considered to be of **'Very Low' SEI** (Site Ecological Importance).

Table 2. *Summary* of terrestrial vegetation communities ecological importance ratings.

	Community 1: Degraded Secondary Grassland	Community 2: Dense Alien Bushland
CONSERVATION IMPORTANCE	**Low** <50% of receptor contains natural habitat with limited potential to support SCC (Species of Conservation Concern).	**Very Low** No natural habitat remaining highly unlikely that populations of SCC occur.
FUNCTIONAL INTEGRITY	**Low-Medium** Although secondary in nature, the community could potentially be restored to some level of diversity over time through rehabilitation active efforts.	**Low** Highly reduced integrity and limited rehabilitation potential.
BIODIVERSITY IMPORTANCE	**Low**	**Very Low**
RECEPTOR RESILIENCE	**High** Given that this grassland community has been subject to significant past disturbance, the site now comprises secondary growth that has recovered somewhat since the site has been abandoned but is unlikely to harbour Red Data listed, sensitive or intolerant species. Without active intervention, the grassland is unlikely to recover to a higher functional state/diversity and given the location within a developed area, burning to manage this grassland to a better state will not be practically possible.	**Very High** Dense Invasive Alien Plants that are well adapted to anthropogenic disturbance.
SITE ECOLOGICAL IMPORTANCE RATING (SEI)	**Low**	**Very Low**

6. PUBLIC PARTICIPATION PROCESS

6.1 Objectives

The public participation process for the proposed project was designed to comply with the requirements of the EIA Regulations and NEMA (Table 2). The objectives of public participation are to provide sufficient and accessible information to I&APs in an objective manner to assist them to:

- Identify issues of concern, and provide suggestions for enhanced benefits and alternatives.
- Contribute local knowledge and experience.
- Verify that their issues have been considered.
- Comment on the findings of the assessment, including the measures that have been proposed to enhance positive impacts and reduce or avoid negative ones.

6.2 Stakeholder/I&AP profile

Table 12 lists the stakeholder profile registered on the database (Appendix D) and Table 13 lists the organs of state who have been identified as key stakeholders.

Table 12 Sectors of society represented by I&APs on the direct mailing list

Government (National, Provincial and Local)
Non-Governmental Organisations/Community Based Organisations
Private and institutional adjacent landowners
Local residents and businesses
Conservation Authorities
Business and Industry

Table 13 Authorities and organs of state identified as key stakeholders

Authority/Organ of State	Contact person	Tel No	Fax No	e-mail	Postal address
Umgungundlovu District Municipality					
Umgingundlovu environmental Health Department					
Mkhambathini Local Municipality	Elaine Donaldson				
Department of Water & Sanitation	Ms Rene Pillay			PillayR@dws.gov.za	P O Box 1018 Durban, 4000
Department of Water and Sanitation	Ms Hassina Aboobaker			AboobakerH@dws.gov.za	P O Box 1018 Durban 4000
KZN Department of Transport	Mrs Judy Reddy	033 355 8600	033 342 3962	Judy.Reddy@kzntransport.gov.za	224 Prince Alfred Street Private Bag X9043 Pietermaritzburg, 3200
KZN Department of Economic Development, Tourism and Environmental Affairs	Ms Natasha Brijlal	031 366 7317	031 302 2824	Natasha.brijlal@kznedtea.gov.za	Private Bag X54321 Durban, 4000
DAFF- KZN Forestry Regulations & Support	Wiseman Rozani, Thembalakhe Sibozana, Nandipha Sontangane	033 392 7721	033 342 8783	WisemanR@daff.gov.za ThembalakheS@daff.gov.za NandiphaS@daff.gov.za / NandiphaS@nda.agric.za	Private Bag X9029 Pietermaritzburg, 3200
AMAFA Heritage KwaZulu Natal	Ms Bernadette Pawandiwa	033 394 6543			PO Box 268, Pietermaritzburg, 3200
Ezemvelo KZN Wildlife	Mr D Wieners	033 845 1999		Dominic.Wieners@kznwildlife.com	P O Box 13053, Pietermaritzburg, 3232
DMR					

Eskom					
Umgeni Water					
Transnet					

6.3 Project notification and invitation to participate

Notification of the project and the opportunity to participate in the Basic Assessment process was announced during January 2021. Notifications to I&APs were made available in two local languages, English and isiZulu. The process undertaken is described below. All relevant documentation associated with the public participation is contained in Appendix E.

- Compilation of a **database of I&APs** (Appendix D) identified as being potentially interested and/or affected, including authorities, municipalities, organs of state, councillors, conservation bodies, non-government organisations, landowners, local residents, etc.
- **Electronic mail and letter drop, including a Background Information Document** (Appendix D) containing relevant details of the project and environmental application process were sent out to all I&APs on this database. A letter drop was undertaken (on the 26th January) to all properties in the vicinity of the development, this included the service station and industries in the area. A comment sheet was provided for I&APs to update their contact details, register themselves on the database, to record issues and to send back by fax or email. Contact telephone numbers of the project public participation team were provided to enable direct telephonic liaison with the project team, if required.
- **Advertisements** (Appendix D, and Table 14) were placed in two local newspapers at the end of January, providing project details and contact details of where to register and obtain further information:
  - The Witness (English).
  - The Isolezwe (Zulu).
- **Public notices** Site notices in English and Zulu were placed in selected areas adjacent to the access points of the relevant developments (see Appendix D).
- Receipt of comments from I&APs and acknowledgement of comments has been ongoing since project announcement in January. Responses to these comments are in the **Comments and Responses Report** (Appendix D).

6.4 Summary of Issues Raised by I&APs

Table 15 provides a summary of issues raised by I&APs and the responses provided by the EAP. A full Comments and Responses Report is provided in Appendix D.

Table 14 Summary of adverts and project notifications to the public and key stakeholders

Publication/event	Type	Placement date
The Witness	English Advert	27 January 2021
Isolezwe	Zulu Advert	27 January 2021
A2 On Site Notices	4 English 4 Zulu	26 January 2021
Letter drop to neighbouring residences	Background Information Document and comment sheet	26 January 2021
Email to database	Background Information Document and comment sheet	Emailed 26 January 2021

Table 15 Summary of issues raised by interested and affected parties

Summary of main issues raised by I&APs	Summary of response from EAP

6.5 Circulation of draft BAR for public review (still to be undertaken)

- Stakeholders on the project database (registered stakeholders) were notified of the availability of the draft BAR & EMPr for comment, for a period of 30 days (all I&APs including authorities). Notification was done by post and email.
- The documents were made available on the Metamorphosis website.
- Hard copies of the draft BAR and EMPr were made available at the Camperdown Library.
- Hard copies and/or CDs of the draft BAR & EMPr were provided to key municipalities and organs of state (District and Local Municipality, KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs, Department of Environment, Forestry and Fisheries, and the Department of Human Settlements, Water and Sanitation).
- Electronic/hard copies of the documents were made available to key stakeholders affected by the project such as ward councillors, and other landowners on request.

7. ASSESSMENT METHODOLOGY

7.1 Identification and assessment of significance of key issues and impacts

Issues and potential impacts of the project on the environment (and *vice versa*) were identified by way of field investigations, desktop studies and interaction with I&APs. Key issues and

impacts requiring further investigation were addressed by specialist studies (Appendix E) and/or further detailed input from the environmental and technical teams. Specialist studies were guided by Terms of Reference to ensure that issues and associated impacts were correctly identified, understood and addressed, thereby enabling an integrated assessment of the development proposal. Mitigation measures were identified with inputs from I&APs, the specialists, the design engineers and the EAP team. Information was collated, evaluated and integrated. Thereafter, the significance of each impact was assessed using the assessment conventions outlined in Table 16 (in line with the requirements of the EIA Regulations). It should be noted that the significance of an impact is a function of all the attributes outlined in Table 16, and the relationships between them.

The assessment conventions are applied qualitatively by the EAP, based on an understanding of the receiving environment, the proposed project components and activities, and the information gathered from different sources, including specialists and the public.

Table 16 Conventions applied to the impact assessment

Criteria	Rating Scales	Definition
Nature	Positive	This is an evaluation of the overall impact of the construction, operation and management that the proposed developments would have on the affected environment (social, biophysical and economic)
	Negative	
	Neutral	
Spatial extent	Low	Site-specific, affects only the development footprint
	Medium	Local (< 2 km from site)
	High	Regional (within 30 km of site) to national
Duration	Very low	Temporary (less than 1 year, i.e. duration of construction phase)
	Low	Short term (1-4 years)
	Medium	Medium term (5-10 years)
	High	Long term (impact will only cease after the operational life of the activity) to permanent
Intensity	Low	Negligible alteration of natural systems, patterns or processes
	Medium	Noticeable alteration of natural systems, patterns or processes
	High	Severe alteration of natural systems, patterns or processes
Irreplaceability of resource caused by impacts	Low	No irreplaceable resources will be impacted (the affected resource is easy to replace/rehabilitate)
	Medium	Resources that will be impacted can be replaced, with effort
	High	Project will destroy unique resources that cannot be replaced
Reversibility of impacts	Low	Low reversibility to non-reversible
	Medium	Moderate reversibility of impacts
	High	High reversibility of impacts
Consequence (a combination of spatial extent, duration, intensity and irreplaceability of impact on resources).	Low	A combination of any of the following: - Intensity, duration, extent and impact on irreplaceable resources are all rated low - Intensity is low and up to two of the other criteria are rated medium - Intensity is medium and all three other criteria are rated low
	Medium	Intensity is medium and at least two of the other criteria are rated medium
	High	Intensity and impact on irreplaceable resources are rated high, with any combination of extent and duration Intensity is rated high, with all of the other criteria being rated medium or high
Probability (the likelihood of the impact occurring)	Low	It is highly unlikely or there is a less than 50% chance that an impact will occur
	Medium	It is between 50 and 75% certain that the impact will occur

Criteria	Rating Scales	Definition
	High	It is more than 75% certain that the impact will occur or it is definite that the impact will occur
Significance (all impacts including potential cumulative impacts)	Low	Low consequence and low probability Low consequence and medium probability Low consequence and high probability
	Medium	Medium consequence and low probability Medium consequence and medium probability Medium consequence and high probability High consequence and low probability
	High	High consequence and medium probability High consequence and high probability

7.2 Assumptions, limitations and gaps in knowledge

7.2.1 General assumptions, limitations and gaps in knowledge

- It is assumed that technical data supplied by the applicant and its appointed engineers are correct and valid at the time of compilation of the BAR.
- It is assumed that data supplied by external institutions (for example, eKZNW, Municipality etc) were correct and valid at the time of compilation of the specialist reports and the BAR.
- While every effort was made to directly contact all affected landowners and adjacent landowners, there were cases where it was not possible to leave the Background Document at the premises. However, it is assumed that the widespread advertising and public notices would serve to notify the public at large.

7.2.2 Specialist assumptions, limitations and gaps in knowledge

The assumptions, limitations and gaps in knowledge stated in the specialist reports are listed below.

Cultural Heritage Resources Impact Assessment

Assumptions

- The description of the proposed project, provided by the client, is accurate.

Limitations

- The palaeontological survey was limited to a desktop survey – no site visit was deemed to be necessary.

Vegetation and Ecology Impact Assessments

Assumptions and Limitations

- The study focused on 'terrestrial' or dryland vegetation occurring within the study area. Wetland/aquatic vegetation and habitats were not identified at the site or immediate surrounds.
- The location of floral species of conservation concern was recorded using a Garmin MonterraTM Global Positioning System (GPS). GPS accuracy was limited to 3 – 5m.
- The field assessment was undertaken in November 2020, within the recommended sampling season for the summer rainfall region as prescribed in both the guidelines for the implementation of the Terrestrial Flora (3c) & Terrestrial Fauna (3d) Species Protocols" compiled by SANBI (2020) as well as the provincial EKZNW guidelines (EKZNW, 2013).
- Information on the threat status of plants species was informed largely by the SANBI Threatened Species Online database, which was assumed to be up to date and accurate

at the time of compiling this report. Any changes made to the online SANBI database after the compilation of the report are therefore not covered.

- The classification of vegetation outside the proposed development property was based largely on desktop interpretation of aerial imagery for the site with limited infield sampling undertaken.
- Additional information used to inform the assessment was limited to data and GIS coverage's available for the province and district municipality at the time of the assessment.
- No formal faunal sampling or surveys were undertaken and this report does not serve as a substitute for detailed and taxon-specific specialist reports required for faunal species flagged as being of very high – medium sensitivity and where these are likely to occur at the site. In this instance, since the development will be restricted to transformed and secondary vegetation and outside of primary grassland areas identified in the local area, the potential occurrence of conservation important species can most probably be regarded as low.
- The assessment of impacts and recommendation of mitigation measures was informed by the site-specific ecological concerns arising from the vegetation field surveys and based on the assessor's working knowledge and experience with similar development projects.
- It is assumed that these limitations will be clearly communicated by the EAP to the CA in charge of reviewing the BA.

8. INTEGRATED DESCRIPTION OF ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

The key issues identified and assessed during this Basic Assessment were formulated as eight questions:

- What economic and socio-economic benefits will result from the proposed development at a local, regional and national scale?
- What effects will the proposed development have on adjacent properties, infrastructure and services, and *vice versa*?
- What potential health, safety, security and other nuisance impacts may be experienced as a result of the proposed development during construction?
- What negative impacts will the proposed development have on the social environment during operation?
- What effects will the proposed development have on cultural heritage resources?
- What effects will the proposed development have on the biodiversity, and other natural habitat (terrestrial/riparian), and water quality?
- What potential cumulative impacts can result from the proposed development?
- What are the impacts of the No Development Alternative?

Potentially significant impacts associated with each of the above issues (including cumulative impacts) are discussed in the sections below. The assignment of significance ratings to impacts (where applicable), according to the assessment conventions (Table 16), is provided in Chapter 9 (Tables 17 – 22).

8.1 What economic and socio-economic benefits will result from the proposed development, at a local, regional and national scale?

A summary of impacts (incorporating a summary of specialist findings as applicable) is provided below, including recommended measures for management/mitigation of impacts. According to the assessment, these positive impacts are considered to be of low significance, without management. With management, the impacts are considered to be of medium significance (Table 17 in Chapter 9).

8.1.1 Employment creation and capacity building

During the planning, design and construction phases, economic and socio-economic benefits will accrue locally through project spend, estimated to be in the region of R20 Million. There will be increased opportunities for temporary employment and capacity building for individuals, local contractors, SMMEs, service providers and retailers.

Approximately 140 new jobs will be created during construction (skilled and unskilled) and about 50 direct employment opportunities during operation.

8.1.2 Potential positive economic and socio-economic impacts and recommended measures for management (enhancement)

Pre-construction and construction

- Increased employment creation/opportunities for local contractors and SMMEs (all project phases):
  - Ensure that, wherever possible, labour is sourced locally.
  - Sub-contractors, SMMEs and service providers should be sourced locally where the requisite skills exist.
  - Conduct procurement in accordance with the Preferential Procurement Policy Framework Act, specifically Section 10, pre-qualification criteria for preferential procurement, which stipulates that a required value of the contract must go to Exempted Micro Enterprises and Qualifying Small Business Enterprises which, as a minimum, are Black owned. These criteria are likely to enhance the potential positive impacts for local contractors and SMMEs. This will be addressed via the Contract Participation Goals in the contract documents which assist the Targeted Enterprises.

Operation

- In conjunction with the Mkhambathini Municipality, develop a database of all locally based service providers.

8.2 What effects will the proposed development have on adjacent properties, infrastructure and services and *vice versa*?

A summary of impacts is provided below, including recommended measures for management/mitigation of impacts. According to the assessment, the impacts on adjacent properties, infrastructure and services are of low to medium significance without management. With management, the impacts are considered to remain low and medium significance (Table 18 in Chapter 9).

8.2.1 Increased potential for crime as a result of construction activities

It is possible that the presence of construction workers and job seekers etc in the area will increase the crime rate in the neighbouring areas.

8.2.2 Effect on property values

It is likely that, once complete, the development will have a positive effect on surrounding property values due to the development of currently unoccupied and unmanaged land.

8.2.3 Damage to/disruption of adjacent roads

During construction, there is the potential for incurring damage to access roads in the area due to the heavy vehicles accessing the site. The increased traffic volume may be noticed in taylor Way West. The traffic reports indicate that the long term 'operational' traffic should not cause significant impacts.

8.2.4 Dust, Noise and Visual Impact

Construction activities will have impacts on adjacent landowners, particularly if mitigation measures are not adequately implemented. Construction activities, in particular the large amount of earthworks required on the site, will cause large amounts of noise and dust in the neighbourhood.

8.2.5 Potential impacts to adjacent properties, infrastructure and services, and recommended measures for mitigation/ management

Planning and design

- Increased interaction with adjacent landowners.
  - Maintain good communication with affected landowners throughout the project lifecycle.

Pre-construction and construction

- Increased Crime.
  - Contractor to ensure that job seekers are discouraged and that staff are not permitted to leave the working areas during working hours. Site camps will be fenced and security provided to ensure that criminals are not attracted to the area.
- Property Values.
  - Working areas will be kept as small as possible and rehabilitation and landscaping undertaken as soon as possible after disturbance.
- Damage to and disruption of local roads.
  - Contractors are to maintain roads/repair damages caused by construction vehicles. This must be budgeted for in the contract documents.
  - Contract vehicles to access and leave the sites outside rush hour times.
- Dust, Noise and Visual Impact.
  - Working areas will be kept as small as possible and rehabilitation and landscaping undertaken as soon as possible after disturbance.
  - Noise to be kept to a minimum by educating workforce and ensuring that vehicles are in good condition.
  - Construction work to be undertaken only during normal working hours and no earthworks to be undertaken in highly windy conditions.

8.3 What potential health, safety, security and other nuisance impacts may be experienced as a result of the proposed development during construction?

A summary of impacts is provided below, including recommended measures for management/mitigation of impacts. According to the assessment, the potential health, safety, security and other nuisance impacts on adjacent properties, infrastructure and services are of low, medium and high significance, without management. With management, the impacts are considered to be of low and medium significance (see Table 19 in Chapter 9).

8.3.1 Disruption of traffic and increased road safety risks

The construction phase of the development may have a negative impact on road users in the vicinity of the site.

8.3.2 Increased noise from construction activities

Construction activities will involve the use of heavy plant and equipment which will generate noise. Construction noise will vary in intensity, depending on the equipment being used at the time. Generally, noise levels will have the greatest negative impact on receivers up to 300 m distance from the construction activities. Construction noise cannot be avoided and will negatively affect people situated in close proximity to the source. Construction noise will be managed by the contractor, with the aim of keeping noise nuisance to a minimum.

8.3.3 Health and safety risks to those in close proximity to construction activities

Construction activities in close proximity may expose nearby residents to danger and injury, large excavations must be fenced and access to the construction site discouraged.

8.3.4 Increased crime and security risks to those in close proximity to construction activities

The presence of construction teams, site camps, etc increases the risk for opportunistic crime and, thus, may increase security risks to neighbours.

8.3.5 Increased spread of disease

Health and social well-being may be negatively affected due to increased spread of disease. Any development which causes the migration of people has the potential to lead to the spread of disease.

8.3.6 Other temporary nuisance impacts

Construction activities may result in increased dust particularly in the drier months and during windy periods.

Construction equipment, materials and activities and exposed soils will detract from the aesthetics of the area.

8.3.7 Potential health, safety, security and nuisance impacts and recommended measures for mitigation/management

Planning and Design

- Management of waste.
  - A materials management plan should be developed to ensure that the location and size of stockpile areas and waste management areas are appropriate.

- Landfill sites should be contacted prior to construction, to ensure that anticipated volumes can be accepted.

Pre-construction and construction

- Increased need for public liaison
  - Key to management of all traffic, health, safety and other impacts will be timeous and regular communication by the developer and contractors, with affected road users, pedestrians and residents over the entire duration of the construction period.
- Disruptions to traffic and increased road safety risks.
  - The traffic management recommendations must be adhered to, as contained in the EMPr (Appendix F).
  - Signage for pedestrians must be erected, where applicable.
  - All staff and visitors on site are to wear suitable PPE at all times.
  - Avoid access by heavy vehicles during peak hours.
- Increased noise during construction.
  - Avoid undertaking construction activities after daylight hours.
  - Management of noise during construction is the responsibility of the contractor, who will be obliged to adhere to the noise management recommendations in the EMPr.
- Health and safety risks on and adjacent to site.
  - Health and safety risks during construction are to be managed by the contractor in accordance with the Construction Regulations under the Occupational Health and Safety Act,1993 (Act 85 of 1993) as well as relevant specifications in the EMPr (Appendix F).
  - Erect barriers around the construction areas where excavations and localised machinery movements will be considered a danger to the public.
  - The contractor is to implement and abide by the specifications of the traffic management recommendations in the EMPr.
- Increased crime and security risks on and adjacent to site.
  - Construction teams should be clearly identified by wearing uniforms and/or wearing identification cards that should be exhibited in a visible place on the body.
  - Dismiss and prosecute any staff caught in criminal activities of any kind.
  - Inform local law enforcement agencies of the possibilities of increased criminal activity in the area.
  - Continual vigilance for one's own person and property is key to avoiding incidences of crime.
- Increased spread of disease.
  - The contractor is to ensure that all construction staff go through an HIV and AIDS education awareness programme as part of induction.
  - The contractor must make education material regarding general hygiene, COVID protocols, HIV & AIDS and sexually transmitted diseases, readily available to staff.
  - Condoms should be made readily available to staff.
- Increased dust.
  - Suitable dust suppression techniques should be implemented, such as the use of water carts and shade cloth screens in areas where activities are taking place which will generate excessive dust.
  - Conduct regular monitoring to ensure that dust levels remain at an acceptable level.
- Negative visual/aesthetic impacts.
  - Ensure that 'good housekeeping' is practiced on the construction site at all times.

8.4 What negative impacts will the proposed development have on the social environment during operation?

A summary of impacts is provided below, including recommended measures for management/mitigation of impacts. According to the assessment, the potential negative impacts on the social and socio-economic environment during operation are of low to high significance without management. With management, the impacts are considered to be of low to medium significance (see Table 20 in Chapter 9).

8.4.1 Increased noise once the development is complete and occupied.

It is not possible to eliminate noise from industrial areas. Property owners will be required to comply with the bylaws relating to noise and nuisance.

8.4.2 Possible stormwater damage to neighbouring properties due to the hard surfacing of the development

8.4.3 Increased traffic in the vicinity of the development

Once the development is complete and fully operational, there will be more traffic accessing the properties than prior to development. However the traffic assessment states that this will not be significant, but management recommendations must still be complied with.

8.4.4 Potential negative social impacts during operation and recommended measures for mitigation/management

Planning and design

- Risk of damage from stormwater runoff.
  - Ensure drainage design prevents damaging stormwater runoff on adjacent properties.

Operation and maintenance

- Increased noise.
  - Compliance with bylaws must be ensured.
- Increased traffic.
  - Compliance with the traffic management recommendations in the EMPr must be complied with.

8.5 What effects will the proposed development have on cultural heritage?

No heritage resources were identified on the sites and therefor there will be no impact as a result of the construction or operation of the development.

8.5.1 Potential impacts on cultural heritage and recommended mitigation/management actions

Design, pre-construction and construction

- General protection of Cultural Heritage.
  - Should any other cultural heritage resources be encountered during the course of construction, work in the affected area must be immediately be halted, the area cordoned off and the heritage authority contacted for advice on further action.

8.6 What effects will the proposed development have on the biodiversity, other natural habitat (terrestrial and aquatic) and water quality?

A summary of impacts (incorporating a summary of specialist findings) is provided below, including recommended measures for management/mitigation of impacts. For further detail, please refer to the Vegetation specialist report (Appendix E). According to the assessment, the potential negative impacts on biodiversity and natural habitat/water quality during construction, operation and rehabilitation are of high and medium significance, without management. With management, the impacts are considered to be of low and medium significance (see Table 21 in Chapter 9).

8.6.1 Loss/degradation of soils and substrates

The project will entail significant excavation work with heavy machinery, including cuts and fills.. These activities will potentially result in increased soil erosion, increased loss of topsoil, increased safety risk due to unstable banks or rockfall, and could also result in high sediment loads entering drains and nearby water courses.

8.6.1.1Potential impacts on soils and substrates and recommended measures for mitigation/management

Preconstruction and construction

- Increased soil erosion and increased slope instability.
  - Topsoil is to be removed separately to subsoil and be safely stockpiled for use in rehabilitation.
  - Exposed soils, and cut and filled surfaces are to be adequately safeguarded as per recommendations of the geotechnical report (Appendix E) and other applicable mitigation measures provided in the EMPr (Appendix F).
  - Specialist geotechnical advice must be followed to ensure all new fill embankments are constructed to rule out the potential for large-scale instability and the associated negative environmental implications.
  - Soil erosion on site must be controlled in accordance with the relevant specifications in the EMPr (Appendix F).
  - Large sediment loads must be prevented from entering drains and watercourses.
  - The impacts on soils and substrates must be monitored during the construction phase as part of environmental management of the contract.

8.6.2 Loss/degradation of terrestrial vegetation and natural habitat

The project will require clearance of vegetation over the entire development and cut/fill areas. The project will, therefore, result in the permanent loss of vegetation. Degradation of habitat and loss of biodiversity could also potentially occur due to:

- Loss of protected species.
- Increased collection of medicinal plants, firewood, building wood and other plant material from adjacent areas.
- The production of a large amount spoil which could be dumped in a manner that degrades vegetation or hinders rehabilitation of cleared areas.

Despite the secondary nature and poor condition of the grassland community, one protected plant species was identified: ***Albuca virens / Ornithogalum tenuifolium*** (Common Chinchirenchee)

Albuca virens is 'Specially Protected Indigenous Plants' in KwaZulu-Natal in terms of Schedule 12 of the Natal Conservation Ordinance No. 15 of 1974 and an ordinary permit is required from Ezemvelo KZN Wildlife to destroy, damage or translocate this plant species.

8.6.2.1 Potential impacts on terrestrial vegetation and natural habitat and recommended measures for mitigation/management

Planning and design

- Loss/degradation of habitat and loss of biodiversity.
  - Ensure during project planning and tender processes that sufficient budget is allowed for plant rescue prior to vegetation clearance and rehabilitation post construction,.
  - Ensure sufficient funding will be available for an effective alien plant control programme.

Pre-construction and construction

- Loss/degradation of habitat and loss of biodiversity.
  - A plant 'rescue' operation must be undertaken under the direction of an ecologist/botanist prior to construction, where plants of high conservation value will be impacted by any part of the development (construction or operation phase). The contractor is to conduct plant rescue according to the EMPr.
  - The construction footprint is to be kept to a minimum. No works are to occur outside of the negotiated servitude/working area and the working area is to be clearly demarcated.
  - Alien invasive plants around any excavated areas/work areas and within the road reserve must be kept under control during both construction and operation.
  - Where construction may impact on plants designated as 'specially protected' under the Natal Nature Conservation Ordinance (Act No. 15 of 1974), an application must be submitted to EKZNW to clear or translocate these plants as part of the plant rescue operation.
  - Relevant general recommendations in the EMPr are to be followed. These include specifications relating to:
    - Vegetation clearance.
    - Site access and working areas.
    - Pollution prevention.
    - Rules for construction teams.
    - Control of alien invasive plants.
    - Site rehabilitation.
    - Dealing with excess spoil.

Operation

- Spread of alien invasive plants.
  - Alien invasive plants around any excavated areas/ fill areas must be kept under control during operation. Additional effort (follow ups) will be required in sensitive areas and additional funding will need to be made available.

8.6.3 Degradation of riparian areas and impacts on water quality

It should be noted that there are no wetlands on or in proximity to the site.

The planned development is to be located outside of the delineated riparian habitat of the seasonal and ephemeral streams downstream of the site. Planned infrastructure which could affect the streams however, will include:

- Hardened surfaces associated with the development;
- Parking and road infrastructure;
- Storm water management infrastructure comprising outfalls to the downstream environment;
- Underground fuel tanks; and
- Septic tanks and soakaways;

Impact risks related specifically to construction associated with the riparian areas may include the following:

- The introduction of foreign and hazardous materials to the habitat which may result in pollution, such as fuel, cement, explosives and other building materials.
- Erosion, and the sedimentation of watercourses and aquatic habitat.
- Risk of erosion forming if infilling is not adequately compacted.
- Vegetation disturbance leading to increased encroachment by alien invasive or ruderal plant species.
- The production of a large amount of spoil which could be dumped in a manner that degrades watercourses.
- Impacts of discharge of large volumes of stormwater into the riparian areas.

8.6.3.1 Potential impacts on riparian areas and recommended measures for mitigation/management

Planning and design

- Potential problems due to generation of large volumes spoil material.
  - The developer must ensure that the construction contracts that go out to tender are clear about re-use and/or disposal of material.
  - Design of stormwater management systems to reduce water resource impacts.
  - Design of underground fuel storage tanks, oil separators and sewage disposal system to reduce risk of leakage and optimise effectiveness of monitoring systems.

Pre-construction, construction

- Increased soil erosion, sedimentation and instability due to earthworks.
  - On steep slopes draining towards the identified freshwater ecosystems, small-scale diversion berms should be constructed, to reduce the risk of the earthworks becoming a preferred surface flow path leading to erosion. Where space is insufficient, suitable road fill embankment protection must be designed.
  - During earthworks, the top 50 cm of the topsoil must be removed and stockpiled, to be replaced once activities have been completed. This is to maintain the existing seed bed and soil profiles as best as possible.
- Increased soil compaction due to access and working areas.
  - Each construction working area must be clearly demarcated. Vehicle and personnel traffic must be minimised and must be restricted to within designated working areas.
  - Disturbance to steep slopes must be kept to an absolute minimum.
  - The activity must cover as small a working area as is feasible, to minimise the areas disturbed on site at any one time.
- Degradation of vegetation, and faunal habitat.
  - The activity must cover as small a working area as is feasible to minimise the area disturbed at any one time.

- Where protected or otherwise important fauna and flora are encountered and require removal, the ECO should be consulted and the individuals transferred to a nearby 'safe', similar habitat.
- Where clearing is required outside of earthwork/construction areas, vegetation should be brush-cut rather than cleared to speed re-establishment following site closure.
- No project workers are permitted to catch, trap, poison, kill or disturb any animals present in the project areas.
- No disturbance of nesting or feeding sites and fauna habitat is allowed. Advice from the ECO should be sought if such sites are encountered.

- Increased risk of damage due to erosion and stormwater runoff.
  - Erosion that takes place during rainfall events must be rehabilitated immediately. A stock of suitable materials (e.g. sub- and top soil stock piles from excavated areas) for this purpose must be kept in a secure facility.
  - Stormwater control measures must be implemented with all stormwater generated within disturbed earthwork areas channelled to temporarily constructed settling ponds which allow the water to naturally filter back to the environment after settling.
  - Storm water retention and other constructed settling ponds must be suitably sited or protected so that river channel high flows will not cause flooding of the ponds. Siting of such ponds must be undertaken by a suitably qualified specialist (e.g. agricultural/wetland engineer) who must also provide advice as to the size and maintenance of the ponds.
- Increased risk of pollution.
  - Fuel and hazardous material storage, handling and refuelling areas must not fall within the 1:100 year flood line of riparian / wetland habitat and buffer zones. Such storage areas must be located far (100m (horizontal distance) from riparian zones and any other sensitive environments.
  - All spills of foreign or hazardous materials or fluids must be cleaned up immediately, with all spills larger than 20 litres being reported to the ECO immediately.
  - A record must be kept of all spills and the corrective action taken.
  - Drip trays are to be provided under all standing vehicles to minimise hydrocarbon spills.
  - Appropriate provision must be made for ablutions during construction. If chemical toilets are used, they must be well serviced, and must be placed on level surfaces well away from any water courses, drainage lines or seeps, and any areas which may be subject to flooding. No spillage must occur during servicing and contents must be correctly removed from site.
  - Construction of the fuel tanks, oil separator, septic tansk etc must be undertaken in a manner to ensure that no pollution is generated during operation.
  -
- Increased risk from demolition rubble and rock material.
  - No rock/soil from earthworks may be temporarily stockpiled or dumped within 32 m of the river channels and wetlands.

Post construction and Operation

- Site rehabilitation following construction (construction and post construction).
  - All disturbed areas are to be rehabilitated to near-natural conditions. This must be implemented immediately following completion of construction activity.
  - Re-vegetation and rehabilitation must take place at worked sections immediately following completion so that vegetation can re-establish as quickly as possible.

- Progress of vegetation establishment must be monitored regularly, with slow recovery requiring intervention to ensure site recovery and integrity, as well as physical stability.
- Vehicle access tracks, footpaths and other areas of soil compaction and vegetation denudation as a result of the construction activities must be appropriately contoured, scarified and re-vegetated where required.
- Any soil stockpile sites and sites of excavation must also be rehabilitated in the same fashion. Rehabilitation of such sites must be monitored and the results reported to the ECO.
- All excess soil stockpile not taken off site or used to fix erosion issues, must be spread evenly over the disturbed areas, and capped with topsoil, prior to rehabilitation and re-vegetation.
- Areas subject to concentrated water flows during rainfall or high flow events must receive particular attention during rehabilitation and re-vegetation. Where possible, these must be identified prior to commencement of construction activities. Where required, erosion protection structures may need to be designed and installed.
- Artificial embankments, depressions and holes created by the construction activity must be contoured/rehabilitated to minimise risk to, and death of, all fauna types, from large mammals to small invertebrates.
- Management and monitoring of the fuel tanks, oil separator, septic tansk etc must be undertaken in a manner to ensure that no pollution is generated during operation.

8.6.4 Faunal mortalities and negative effects on local faunal populations due to disturbance, loss of habitat and poaching

All disturbance to natural habitat (whether degraded or not) will impact negatively on the fauna that uses this habitat. Various types of fauna including reptiles, rodents, spiders and various other invertebrates will be disturbed and exposed during the works. Some may be injured and/or killed due to physical impact from machinery. Those that are exposed and displaced will be vulnerable to harm from other predators and from human beings. The project will result in a loss of habitat when the development occurs.

8.6.4.1 Potential impacts on fauna and recommended measures for mitigation/management

Construction

- Increased animal mortalities (including poaching)
  - Mortalities of various types of animals are inevitable due to the earthworks and movement of heavy machinery. This should be minimised by keeping the construction footprint to a minimum and by using existing access roads and disturbed areas for vehicle access and for stockpiling.
  - If snakes are encountered, they are not to be killed. There are several snake experts who can be contacted to remove and relocate snakes e.g. Zane Barnard: Pmb and surrounds, cell: 082 850 7713.
  - Where possible, exposed vulnerable animals should be removed from the work area along with some of the soil/substrate they were found in (if applicable) and placed carefully in similar but safe habitat adjacent to/up or downstream of the works. The ECO must be notified and consulted in this regard.
  - No project workers are permitted to catch, trap, poison, kill or disturb any animals present in the project areas.
  - No disturbance of nesting or feeding sites and fauna habitat is allowed. Advice from the ECO should be sought if such sites are encountered in the work areas.

- Monitoring of impacts on fauna must be included in environmental compliance monitoring.

8.7 What potential cumulative impacts can result from the proposed development?

A cumulative impact is an incremental impact on the environment that results from the impact of a proposed action when added to existing and reasonably foreseeable future actions. Cumulative effects can be both positive and negative. Also, the nature of cumulative impacts can be both temporary in nature (i.e. impacts that are restricted to the construction phase) and permanent (i.e. impacts that occur in both the construction and operation phases).

To enhance the positive impacts of the proposed development and, thus, enhance positive cumulative effects, the project should be implemented efficiently according to best environmental practise and the infrastructure should be well maintained.

To minimise negative impacts of the proposed development and, thus, its negative contributions towards cumulative effects on the environment, the project should be implemented with the recommended mitigation measures.

Potential cumulative impacts from the proposed development to the environment, as related to the key identified issues and impacts, are described below. Where relevant and applicable, significance ratings are assigned to impacts, according to the assessment conventions (Table 16) in the relevant impact tables (Chapter 9).

8.7.1 Cumulative national, regional and local economic and social benefits arising from the development.

This project, will increase the rates base in the municipality, as well as increasing employment opportunities, particularly during construction.

The cumulative contribution of the project to the local economy is considered to be of low (+) significance.

8.7.2 Cumulative impacts on adjacent properties infrastructure and services

The area around the proposed developments is either zoned industrial or already developed, there is very little opportunity for other development in the area. The cumulative contribution of the project on adjacent properties and infrastructure is therefore considered to be of low (-) significance with or without mitigation (see Table 18 in Chapter 9).

8.7.3 Cumulative health, safety, security and other nuisance impacts

All or most of the health, safety, security and other nuisance impacts discussed in Section 8.3 have the potential to be compounded if other developments in close proximity occur simultaneously in the area. Activities that place additional pressure on traffic flow could be particularly problematic. However, as previously mentioned, there is unlikely to be significant additional development occurring in the area. The cumulative impact of the additional traffic on the state of Taylor Way West is potentially problematic.

These potential cumulative impacts are considered to be of medium (-) significance without mitigation and of low (-) significance with mitigation (see Table 19 in Chapter 9).

8.7.4 Cumulative impacts on the social and socio-economic environment during operation

The cumulative impact of noise, stormwater disposal, sewage disposal and traffic with the other developments around the properties could present a significant cumulative impact, particularly on Municipal infrastructure.

These potential cumulative impacts are considered to be of medium (-) significance without mitigation and of low (-) significance with mitigation.

8.7.5 Cumulative impacts on natural habitat

Along with other pressures on the natural environment, the proposed project will contribute cumulatively to the loss of natural habitat in the study area and may accelerate degradation of adjacent areas through soil erosion, edge effects, spread of alien invasive plants, etc. The cumulative impact of the project on natural habitat is considered to be of low (-) significance with or without mitigation due to the degraded nature of the site. (see Table 21 in Chapter 9).

8.8 What are the impacts of the No Development Alternative?

The No Development Alternative would result in the continued degradation of the natural environment in the area, with increasing encroachment of alien invasive plants, as well as the human interference occurring in the area.

The development will result in the creation of jobs in the area.

Currently the vacant property poses a security and fire risk to the adjacent landowners and developing the areas will reduce these risks.

The site are currently infested with alien vegetation and this will be managed should the development proceed, if the site is not developed, the situation will deteriorate further.

Obviously, should the development not take place, traffic volumes and noise from the area will remain unchanged, this would be a positive impact. However, no new jobs would be created and the site will continue to deteriorate.

According to the assessment, the predicted impacts of the No Development Alternative are considered to be of medium (-) significance. Mitigation measures are not applicable in this case (see Table 22 in Chapter 9).

For the above reasons, the No Development Alternative is not recommended.

9. ASSESSMENT OF THE SIGNIFICANCE OF POTENTIAL IMPACTS

9.1 Assessment

This Chapter deals with the assessment of the significance of the potential impacts, both with and without management measures (mitigation). Impact tables, **where applicable** to the key issues discussed in this report, are provided in Tables 17-22.

Table 17	What economic and socio-economic benefits will result from the proposed development, at a local, regional and national scale?
Table 18	What effects will the development have on adjacent properties, infrastructure and services, and *vice versa*?
Table 19	What potential health, safety, security and other nuisance impacts may be experienced as a result of the proposed development during construction?
Table 20	What negative impacts will the proposed development have on the social environment during operation?
Table 21	What effects will the proposed development have on the biophysical environment (soils, riparian, wetland and terrestrial natural habitat, fauna, water quality) during construction, operation and rehabilitation?
Table 22	What are the impacts of the No Development Alternative?

Table 17 Assessment of potential beneficial economic and socio-economic impacts resulting from the proposed development, at a local, regional and national scale, during planning, construction, operation and rehabilitation (with and without mitigation)

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Employment creation and capacity building	Unmanaged	Positive	Medium	Medium	Low	Low	Low	Low	Medium	Low
	Managed	Positive	Medium	Medium	Medium	Low	Low	Medium	Medium	Medium
Opportunities for local contractors and SMMEs	Unmanaged	Positive	Medium	Medium	Low	Low	Low	Low	Medium	Low
	Managed	Positive	Medium	Medium	Medium	Low	Low	Medium	Medium	Medium

Table 18 Assessment of potential impacts of the proposed development on adjacent properties, infrastructure and services, and *vice versa*, during planning, construction, operation and rehabilitation (with and without mitigation)

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Increased potential for crime	Unmitigated	Negative	Medium	Very Low	Medium	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
Effect on property values	Unmanaged	Negative	Medium	Medium	Low	Low	Medium	Medium	Low	Low
	Managed	Negative	Medium	Medium	Low	Low	Medium	Medium	Low	Low
Damage to/disruption of roads	Unmitigated	Negative	Medium	Medium	Medium	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	Medium	Medium	Low	High	Medium	Low	Low
Dust, noise and Visual Impact	Unmitigated	Negative	Medium	Medium	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Medium	Low	Low	High	Low	Medium	Low
Cumulative impacts on adjacent properties, services and infrastructure	Unmitigated	Negative	Medium	Medium	Low	Low	Medium	Low	Medium	Low
	Mitigated	Negative	Medium	Medium	Low	Low	Medium	Low	Medium	Low

Table 19 Assessment of potential health, safety, security and other nuisance impacts resulting during construction of the proposed development (with and without mitigation)

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Disruption to vehicle traffic and access	Unmitigated	Negative	Medium	Very Low	Medium	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
The effect of increased noise on surrounding receivers during construction	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
Health and safety risks to those in close proximity to construction activities	Unmitigated	Negative	Low	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Low	Very Low	Low	Low	High	Low	Medium	Low
Increased crime (increased security risk)	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
Increased dust	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
Increased spread of disease	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
Degraded aesthetics	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Cumulative health, safety, security and other nuisance impacts	Unmitigated	Negative	Medium	Very Low	Medium	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	Very Low	Medium	Low	High	Low	Medium	Low

Table 20 Assessment of potential negative impacts of the proposed development on the social and socio-economic environment during operation (with and without mitigation)

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Increased noise	Unmitigated	Negative	Medium	High	Medium	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	High	Low	Low	High	Low	Low	Low
Increased traffic and impacts on state of roads	Unmitigated	Negative	Medium	High	Low	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	High	Low	Low	High	Low	Medium	Low
Damage to adjacent properties due to pollution	Unmitigated	Negative	Medium	High	Medium	Medium	Medium	Medium	Low	Medium
	Mitigated	Negative	Medium	High	Low	Low	High	Low	Low	Low

Table 21 Assessment of potential impacts of the proposed development on the biophysical environment (soils, riparian, water, air quality terrestrial natural habitat and fauna) during construction, operation and rehabilitation (with and without mitigation)

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Impacts on topsoil	Unmitigated	Negative	Medium	High	High	Medium	Low	Medium	Medium	Medium
	Mitigated	Negative	Low	Low	Low	Medium	Low	Medium	Low	Low
Loss/degradation of terrestrial vegetation and natural habitat	Unmitigated	Negative	Medium	High	Medium	High	Low	Medium	High	Medium
	Mitigated	Negative	Low	Low	Medium	High	Low	Medium	Medium	Medium
Soil erosion	Unmitigated	Negative	Low	Low	Low	Medium	Medium	Medium	Medium	Medium
	Mitigated	Negative	Low	Low	Low	Medium	Medium	Medium	Low	Low
Air Quality impacts	Unmitigated	Negative	Medium	High	Low	Low	High	Medium	Low	Low
	Mitigated	Negative	Medium	High	Low	Low	High	Medium	Low	Low
Water Quality impacts	Unmitigated	Negative	Medium	High	Medium	Medium	Low	Medium	Medium	Medium
	Mitigated	Negative	Medium	Low	Medium	Medium	Low	Low	Low	Low
Stormwater impacts	Unmitigated	Negative	Medium	High	Low	Medium	High	Medium	Medium	Low
	Mitigated	Negative	Medium	High	Low	Medium	High	Medium	Low	Low
Faunal impacts due to disturbance, loss of habitat and poaching	Unmitigated	Negative	Medium	Medium	Low	Low	Medium	Low	Medium	Medium
	Mitigated	Negative	Medium	Medium	Low	Low	High	Low	Low	Low
Cumulative impacts on natural habitat	Unmitigated	Negative	Medium	High	Medium	Medium	Medium	Medium	High	Medium
	Mitigated	Negative	Medium	High	Low	Low	High	Low	High	Low

Table 22 Assessment of potential impacts of the No Development Alternative

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Deferment/avoidance of the negative impacts of construction (social disruption, noise and nuisance, and destruction/disturbance of natural habitat)	Unmitigated	Positive	High	High	Medium	N/a	N/a	Medium	High	Medium
	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Disadvantages to the local, regional and national economy	Unmitigated	Negative	Medium	High	Medium	High	Low	Medium	High	Medium
	Mitigated	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

10. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, a summary of the environmental impacts of the proposed activity (after mitigation) is provided below.

Effects of the project on the social environment and *vice versa*
The impacts on the social environment are both positive and negative. However, the long term impacts are, in general positive, together with the short term creation of more jobs during construction.

The majority of the negative social impacts are relatively low significance, related to the loss of habitat and ongoing increase in traffic. However the site is in an industrial area and therefore the impacts are reduced.

With efficient and proper project management and implementation, as well as the application of the mitigation measures recommended in this report (carried over into the EMPr), **the negative social impacts during construction, will be of low-medium significance, with no negative social impacts of high significance.**

The positive impacts of the project on the social environment during operation will be of medium significance (with mitigation).

During the construction period, it is definite that some **positive economic/socio-economic impacts of medium significance will accrue to the local community** due to the provision of temporary jobs for semi skilled and unskilled workers, the increased opportunities for local contractors and SMMEs.

There are potentially **low to medium significance negative impacts during operation** (relating to traffic, noise and stormwater).

Effects of the project on cultural heritage resources and *vice versa*
There will be no impacts on cultural heritage resources either during construction or operation.

Effects of the project on the biophysical environment and *vice versa*

Effects of the No Development Alternative
While the No Development Alternative would defer the negative impacts of construction on the social and biophysical environment, as described above, this would be of short term benefit only. In the longer term, the No Development Alternative will result in increasing degradation of the vegetation on site with further encroachment of alien vegetation, and continued risks of vagrants on the property.**The negative impacts of the No Development Alternative have been assessed as being of medium negative significance. For these reasons, this alternative is not recommended.**

11. RECOMMENDATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

It is the opinion of the EAP that the information contained in this report and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for.

It is the opinion of the EAP that the proposed activity can be authorised, based on the findings of the assessment process and conditional on the following:

- Compliance with the site specific EMPr.
- Financial provision must be made for environmental management of the contract in accordance with the specifications of the Environmental Management Programme and associated subsidiary plans. This includes provision for:
  - Alien plant control.
  - Plant rescue and site-specific rehabilitation of specified sensitive areas.
- The developer is to compile a detailed plan for the disposal of excess spoil, and the relevant specifications included in the contract documents.

12. CONCLUDING REMARKS

This draft BAR has been submitted to the competent authority, EDTEA, and made available for public review and will be finalised after consideration of comments submitted. Thereafter, the final report will be submitted to EDTEA along with the application form. Registered I&APs will be kept informed of all further submissions and EDTEA's decision making with respect to the issuing of an Environmental Authorisation (EA), as well as the appeal procedure which should be followed should a member of the public wish to appeal the EA.

VC King

_____

NAME OF EAP:

_____ _____

SIGNATURE OF EAP DATE

13. REFERENCES

eThekwini Spatial Development Framework 2018-2019.

eThekwini IDP, 2011/2012. eThekwini Municipality, Integrated Development Plan 5 Year Plan: 2011 to 2016

Mucina, L. & Rutherford, M. (eds). 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19.

Scott-Shaw, C.R and Escott, B.J. (Eds), 2011. KwaZulu-Natal Provincial Pre-Transformation Vegetation Type Map – 2011. Unpublished GIS Coverage [kznveg05v2_1_11_wll.zip], Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife, P. O. Box 13053, Cascades, Pietermaritzburg, 3202.

Statistics South Africa, 2012. Census 2011 municipal report, KwaZulu-Natal.

APPENDIX A: APPLICATION FORM, EAP DECLARATION ETC

- ❑ A1 Minutes of Pre-application meeting
- ❑ A2 EDTEA Application Form
- ❑ A3 EAP declaration
- ❑ A4 EAP CV.
- ❑

APPENDIX B: SITE PHOTOGRAPHS

APPENDIX C: ZONATION

- Land Use and Zonation.

APPENDIX D: PUBLIC PARTICIPATION DOCUMENTATION & CORRESPONDENCE

- ❑ D1 Adverts
- ❑ D2 Background Information Document
- ❑ D3 Site Notices.
- ❑ D4 Email to I&Aps
- ❑ D5 List of Registered I&APs.
- ❑ D6 Comments and Responses Report.
- ❑ D7 Stakeholder responses to BID
- ❑ D8 Authorities Correspondence and Meetings.
  - Minutes of Meeting eThekwini EPCPD (06.06.18).

APPENDIX E: SPECIALIST STUDIES

- ❑ E1 Heritage Impact Assessment Phase 1
- ❑ E2 Palaeontological Assessment
- ❑ E3 Geotechnical Report.
- ❑ E4 Riparian & Wetland Assessment
- ❑ E5 Vegetation Assessment.
- ❑ E6 Faunal Assessment
- ❑ E7 Traffic Assessment

APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME (DRAFT)

- ❑ Environmental Management Programme

APPENDIX G: SCREENING REPORTS

- G1 Erf 2954
- G2 Erf 2955
- G2 Erf 2956