24G Rectification Process for the operation of a Fuel Depot on portion 279 of the farm Kromdraai 292-JS, Emalahleni Local Municipality, Mpumalanga Province

Draft Section 24G Report

19 July 2022

CORE Environmental Services	
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EXECUTIVE SUMMARY

Mr. Mishack Nkadimeng is applying for Environmental Authorisation by means of a Section 24G application process, for commencing with the construction of a fuel depot which will be exceeding 80 000 litres storage capacity, prior to obtaining Environmental Authorisation (EA) from the DARDLEA. As the construction of the fuel depot already commenced without obtaining the required approval from the DARDLEA, a Section 24G Environmental Authorisation Application is being applied for in accordance with the National Environmental Management Act 107, 1998, to obtain approval for the storage of 158 000 cubic metres of dangerous goods.

Mr. Mishack Nkadimeng subsequently appointed Core Environmental Services to apply for the EA by means of conducting a Section 24G Environmental Authorisation Process

The operation of the fuel depot is likely to result in environmental and socio-economic impacts. The identified impact areas are listed below and discussed thereafter:

- *Impact on biodiversity*
- *Impact on soil;*
- *Impact on water resources;*
- *Socio-economic*

The table below summarises the impacts identified and assessed for the operational of the project:

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Operational Impacts		
Biodiversity Impact	Low	Very Low
Erosion	Low	Very Low
Soil Pollution	Medium	Low
Water resource Use	Medium	Low
Surrounding Land use	Low	Very Low
Traffic	Medium	Low
Socio-economic impact	High (+)	High (+)

The assessment of the possible impacts associated with the establishment and operational activities, concluded that the impact on the surrounding environment is of **medium to low significance**. Recommendations have however been made to address the impacts which could affect the biophysical and socio-economic environment. It is recommended that pro-active measures are taken to minimise the spread of alien invasive vegetation. Recommendations for the mitigation of impact are included within Section 6 and also the Draft Environmental Management Plan attached.

It is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation included as the conditions of the authorisation

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ABBREVIATIONS

BAR	Basic Assessment Report
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association South Africa
I&AP	Interested and Affected Party
MDARDLEA	Mpumalanga Department of Agriculture, Rural Development, Land and Administration
MTPA	Mpumalanga Tourism and Parks Agency
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
PPP	Public Participation Process
SACNASP	South African Council for Natural Scientific Professions

1. OVERVIEW OF THE PROJECT

1.1 Introduction

Mr. Mishack Nkadimeng is applying for Environmental Authorisation by means of a Section 24G application process, for commencing with the construction of a fuel depot which will be exceeding 80 000 litres storage capacity, prior to obtaining Environmental Authorisation (EA) from the DARDLEA. As the construction of the fuel depot already commenced without obtaining the required approval from the DARDLEA, a Section 24G Environmental Authorisation Application is being applied for in accordance with the National Environmental Management Act 107, 1998, to obtain approval for the storage of 158000 cubic metres of dangerous goods.

Mr. Mishack Nkadimeng subsequently appointed Core Environmental Services to apply for the EA by means of conducting a Section 24G Environmental Authorisation Process.

1.2 Location

The site is located on portion 297, a portion of portion 132 of the farm Kromdraai 292-JS, near Emalahleni, Mpumalanga Province.

Coordinates:
25°49'05.64"S
29°19'03.03"E

Surveyor General Code: T0JS00000000029200297

Please refer to the locality map below, Figure 1.

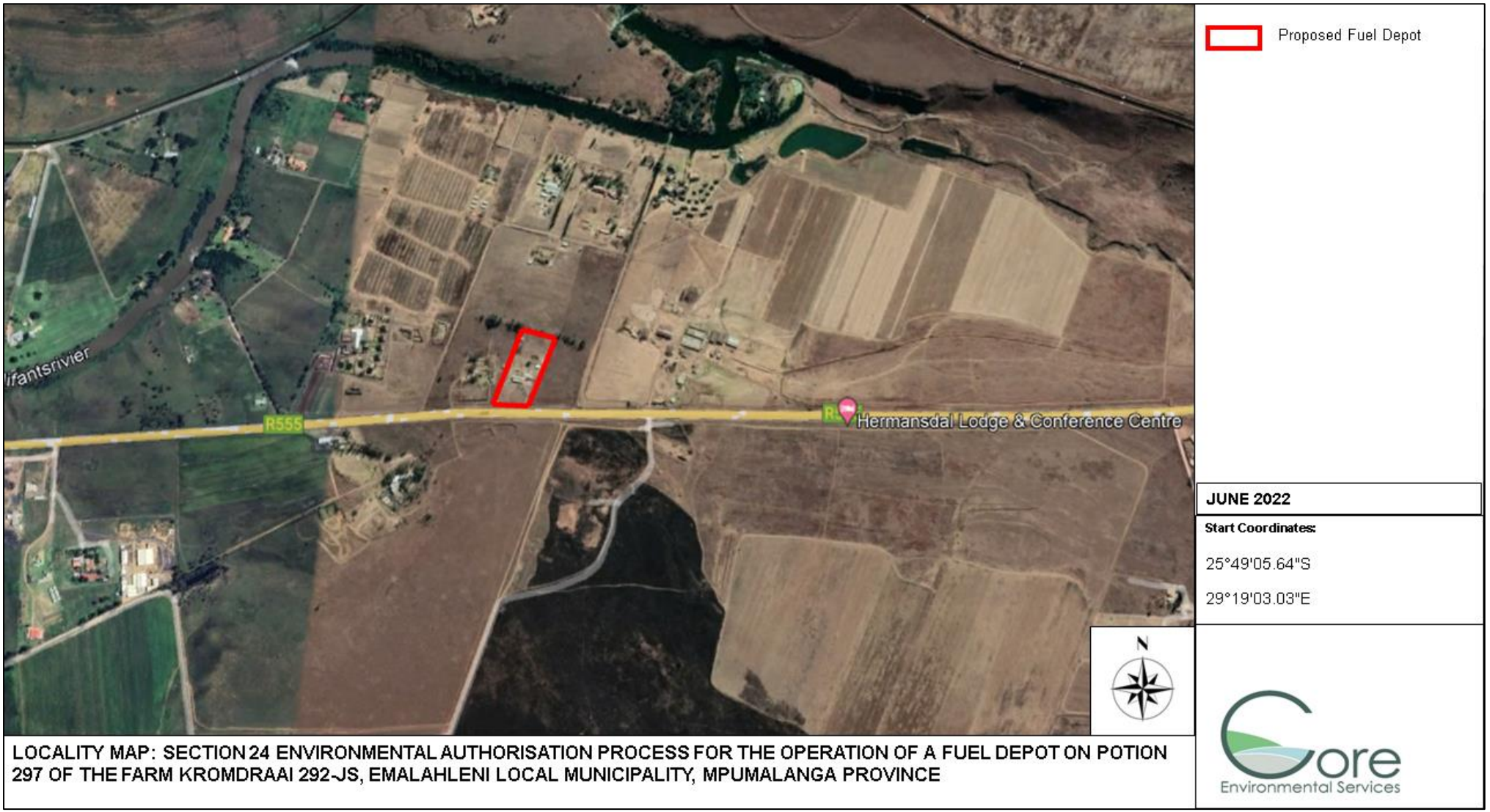

FIGURE 1: LOCALITY MAP –FUEL DEPOT ON PORTION 297, A PORTION OF PORTION 132 OF THE FARM KROMDRAAI 292-JS

1.3 Details of the EAP

Ms. Anne-Mari White, is an Environmental Specialist, who started her studies at the North-West University (NWU) and completed her Bachelor of Science: Environmental Management at the University of South Africa (UNISA) in 2007. Ms. White is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA Reg No: 2020/602) as well as the South African Council for Natural Scientific Professionals as a Certificated Natural Scientist (Reg. No 300067/15). In addition to her qualification, she completed short courses in soil classification and wetland delineations (Terrasoil Science), Geographic Information Systems (University of KwaZulu-Natal), and Environmental Impact Assessments (NWU).

Ms. Edmari Lewis, is an Environmental Consultant, who holds a BSc. Honours Degree in Environmental Science, specialising in Geography and Environmental Management from the North-West University. She completed various courses with specific focus on the National Environmental Management Act, Waste Act, Water Act, Air Quality, Environmental Audit, and ISO14001. Ms. Lewis is registered with the Environmental Assessment Practitioners Association of South Africa as a Candidate (EAPASA Reg No: 2021/3452).

1.3 Policy Legal and Administrative Framework

1.4.1 National Environmental Management Act 107, 1998

In accordance with the National Environmental Management Act 107, 1998, GNR983, 2014 (as amended in 2017), the following listed activities applies for the project and therefore requires Environmental Authorisation.

GNR983, 2014 (as amended in 2017), Activity 14:

The development and related operation of facilities or infrastructure, for the storage, or 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.

As the above activity has already commenced, Environmental Authorisation is applied for by means of conducting a Section 24G Environmental Authorisation application process in accordance with GNR982, of 2014 (as amended).

Other national, provincial or local legislation applicable to the proposed project, is indicated in Table 1, below.

TABLE 1: LEGISLATION APPLICABLE TO THE PROJECT

Applicable legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments considered	Project application and type (permit / licence / authorisation / comment)
The Constitution of South Africa, Act No. 108 of 1996	Mr. Mishack Nkadimeng will be required to adhere to the Environmental Management Programme (EMPr) requirements to ensure that social and environmental management considerations are considered and implemented. As per Section 25 the Constitution, a public participation process (PPP) was and will continue to be undertaken, as this is considered to be an essential mechanism for informing stakeholders of their rights and obligations in terms of the project.
National Environmental Management Act, 1998 (Act No. 107 of 1998)	Environmental Authorisation was however not applied for prior to the construction of a bunded area to store fuel which will exceed 80 000 litres carrying capacity and therefore a Section 24G rectification process is undertaken to obtain Environmental Authorisation for the above listed activity.
National Water Act, 1998 (Act No. 36 of 1998)	Water resources must subsequently be managed in accordance with the National Water Act 36 of 1998.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	The Act provides for the control over the utilisation of the natural agricultural resources of the Republic in order to promote the conservation of soil, water, and vegetation and the combatting of weeds and invader plant species. Mr. Mishack Nkadimeng must comply with the regulations included within the CARA 43 of 1983, to ensure the preservation of soil, water resources, and vegetation and prevent the spreading of invader plant species.
National Heritage Resources Act, 1999 (Act No 25 of 1999)	This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations.
Hazardous Substances Act, 1973 (Act No 15 of 1973)	This legislation provides for the control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of hazardous substances. Mr. Nkadimeng must comply with the regulations included within this regulation.

Mpumalanga Spatial Development Framework (MSDF) Draft (2013)	The MSDF has a vision to provide: *"a sustainable urban and rural spatial development pattern focussed on a modern, ecologically sustainable economy, supported by a suitably skilled labour force and providing for quality of living* [emphasis added]*."* The underlined portions of the Vision address those aspects which are applicable to this project: ● Mr. Mishack Nkadimeng will provide permanent job opportunities to employees. ● The implementation of the Environmental Management Programme (EMPr) associated with this application will ensure that the quality of the environment directly and indirectly affected by the operations of the farming activities does not deteriorate or is limited as far as reasonably possible.
Emalahleni Local Municipality Integrated Development Plan (IDP) (2022/2023 – 2026/2027)	The primary objective of the Emalahleni Economic Growth and Development Path is to foster economic growth that creates jobs and reduce poverty and inequality in the province. Investors and business sectors are called upon within the IDP of 2022/ 2023- 2026/ 2027, to assist with regards to creating opportunities for economic growth and development within the municipality. Job opportunities will be created by the establishment of the fuel depot The livelihood of the individuals is therefore impacted positively.

1.5 Description of the project

Core Environmental Services was appointed by the applicant Mr. Mishack Nkadimeng as the independent Environmental Assessment Practitioner (EAP) to undertake the required environmental assessment and associated stakeholder engagement process for the unlawful commencement of construction of a fuel depot**.** The client is proposing to finalise the construction of a fuel depot which will be able to accommodate 158 000 litres of fuel.

The following fuel tanks have been established on site:

- Two x 40 000 litre tanks;
- Three x 23 000 litre tanks; and

- One x 9 000 litre tank

The fuel depot is currently operational; however, they are currently operating with a capacity which is below the threshold (78 000 litres). The infrastructure constructed is for the operation of the full 158 000 litre carrying capacity which includes the construction of the bunded wall and the establishment of all the required fuel tanks.

For this reason, an environmental assessment is done in terms of Section 24G of the National Environmental Management Act 107 of 1998 (NEMA), to recertify and undertake the listed activities in terms of Government Notice Regulation (GNR) 983: activity 14 of the Environmental Impact Assessment (EIA) regulations. The EAP was appointed to facilitate the NEMA S24G rectification application for the unlawful commencement of this activity**.**

1.6 Need and Desirability

With the respective mines operating within the Nkangala District, there are numerous trucks travelling along the R555 Provincial Road on a daily basis. With this in mind, there is a huge demand for fuel/diesel for these trucks travelling along this route on a daily basis and for this reason, the applicant constructed the facility to meet the current demand within the area.

At present, the fuel depot currently provides 24 job opportunities which implies that 24 families are being supported by this operation.

Job opportunities were provided to local residents and has therefore positively impacted the employed families within the surrounding area.

2. PUBLIC PARTICIPATION PROCESS

The purpose of this chapter is to provide an outline of the public participation process (PPP) to date and the way forward with respect to the Section 24G Environmental process.

Consultation with the public forms an integral component of the EA process. This process enables Interested and Affected Parties (I&APs) (e.g. directly affected landowners, national-, provincial- and local authorities, and local communities etc.) to raise their issues and concerns regarding the proposed activities, which they feel should be addressed in the BA process. The PPP has thus been structured such as to provide I&APs with an opportunity to gain more knowledge about the proposed project, to provide input through the review of documents/reports, and to voice any issues or concerns at various stages throughout the BA process.

I&APs were identified during the public participation phase of the project. All the parties identified as an I&AP (surrounding landowners, relevant departments, stakeholders, local and district authorities) have automatically been registered in the I&APs database for the project. The registered I&AP list is attached as **Annexure C.1.**

In effort to engage potential stakeholders, different communication methods were used to inform them about the project and how to get involved in the BA process. These methods include:

- Distributing English Background Information Documents (BIDs) to all registered I&APs, proof of which is attached in **Annexure C.2**;
- Placement of media advert in a local newspaper (The Middelburg Observer) on **17 June 2022** (see **Annexure C.3**).
- Placing of a notice at the proposed site took place on **14 June 2022** (see **Annexure C.4**);

The draft Section 24G Report will be made available for public review during July and August 2022.

To date, no comments have been received from identified and registered I&AP's.

3. CONSIDERATION OF ALTERNATIVES

The EIA process requires the developer to identify and investigate/assess feasible and reasonable alternatives. The project alternatives range from the location where the activity is proposed, type of activity to be undertaken, design the of activity, technology to be used in the activity to the option of not implementing the activity (No-Go Alternative).

The assessment of the alternatives is a complicated and multi-faceted issue, which is essential to the success of this application and ultimately to the proper, responsible and sustainable operation of the proposed project.

3.1 Alternative Selection

3.1.1 Location alternatives

No other locality alternatives could be investigated as the application is for a S24G rectification for the unlawful commencement of this activity.

3.1.2 No-Go alternative

The no-go alternative would be to not authorise the application for increasing the current storage capacity of the fuel depot. Should this alternative be favourable, the increase in storage capacity will not take place, and the current impacts will remain. The impacts associated with the proposed increase in storage capacity were not found to be so severe for the no-go alternative to be further investigated.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The description of the affected environment below draws on existing knowledge from published data, previous studies, specialist investigations, and site visits to the area.

4.1 Topography

The topography of Mpumalanga region is a varied one, comprising of the Highveld (high lying) and the Lowveld (low lying) regions. Mpumalanga is mainly situated on the high plateau grassland known as Highveld. The Highveld stretches for hundreds of kilometres eastwards, until it rises towards mountain peaks and deep valleys of the Escarpment in the north-east. From the escarpment, it plunges hundreds of meters down to the low-lying area known as the Lowveld. The Lowveld region is mostly flat with some rocky outcrops.

The topography of the of the area where the fuel depot is located is relatively flat and approximately 1449m above mean sea level and slopes from north to south.

4.2 Climate

Mpumalanga has a sub-tropical climate characterised by hot summers and mild to cool winters shifting to cold and frosty conditions in the Highveld regions. World Climate Data presented in the province's Vulnerability Assessment Report shows that the current mean annual temperatures are highest in the north-west and northeast regions of the province, while mean annual precipitation tends to increase towards the eastern regions of the province. The province is characterised by summer rainfall and thunderstorms, except the escarpment area which receives fair levels of precipitation throughout the year (MCCVA, 2015). Mpumalanga has an average temperature of 20˚C. Middelburg, in the heart of the Highveld, experiences summer rain and has a summer (October to February) to winter (April to August) range of around 19ºC with average temperatures in the contrasting seasons, of 26ºC and 8ºC. Figure 3 below shows that the average temperature for the Nkomazi Local Municipality is between 22.1 ºC and 23.7 ºC.

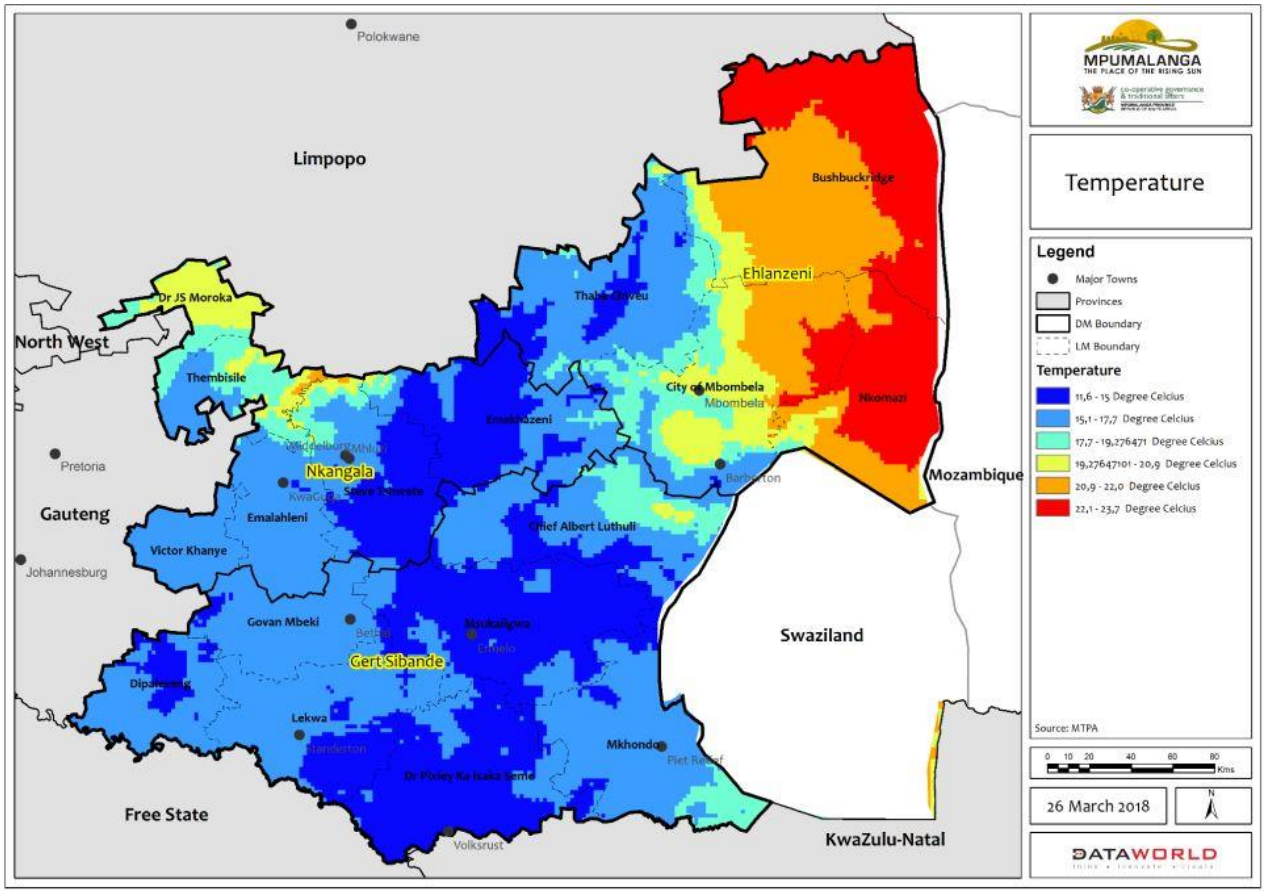

FIGURE 2: TEMPERATURE IN MPUMALANGA (MPUMALANGA DEVELOPMENT SPATIAL FRAMEWORK, 2018)

The region experiences a summer-rainfall area separated by the escarpment into two, namely, (a) the Highveld, which is characterised by cold frosty winters and moderate summers, and the (b) Lowveld which is characterised by mild winters and subtropical climate. During winter the Highveld and Escarpment sometimes experience snow. The annual rainfall occurs mainly during summer in the form of heavy thunderstorms. Given its location between the Drakensberg Escarpment and Vaal River traversing through Mpumalanga, the diverse climate in the region makes the production of a wide variety of crops possible. The Lowveld is subtropical and due to its latitude and proximity to the warm Indian Ocean, it is also renowned for citrus and subtropical fruits. The Highveld is comparatively much cooler, due to its altitude, produces much of the summer grains, such as maize and grain sorghum. Exotic trees, plantations such as gum and wattles cover most of the hills on the Escarpment as it receives the most precipitation, with all other areas being moderately hydrated by mostly thunderstorms. Figure 5 below shows that the mean annual rainfall in Malelane is between 593.1mm and 748mm.

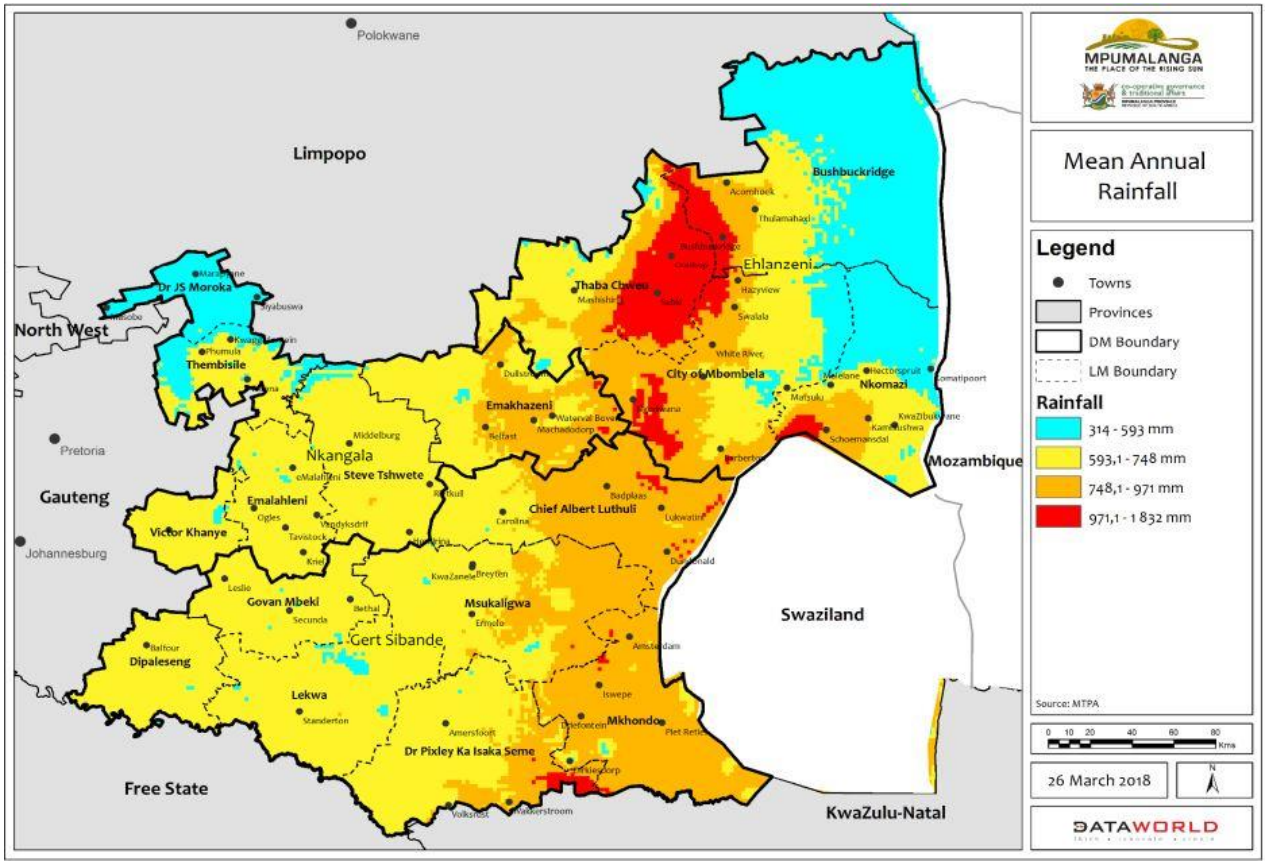

FIGURE 3: MEAN ANNUAL RAINFALL IN MPUMALANGA (MPUMALANGA DEVELOPMENT SPATIAL FRAMEWORK, 2018)

4.3 Terrestrial Ecology

On a national level, the larger study area can be classified as Lowveld (A10), according to Acocks (1988) and Sour Lowveld Bushveld according to Low & Rebelo (1998). Classified on a regional scale and according to a more detailed system the study area comprises several distinct vegetation units (Mucina & Rutherford, 2006):

The project area falls within the Grasland Biome. The Grassland Biome is found chiefly on the high central plateau of South Africa, and the inland areas of KwaZulu-Natal and the Eastern Cape. The topography is mainly flat and rolling but includes the escarpment itself. Altitude varies from near sea level to 2080 meters above sea level. Grasslands are dominated by a single layer of grasses. The amount of cover depends on rainfall and the degree of grazing. Trees are absent, except in a few localized habitats.

Rand Highveld Grassland is found mainly in Gauteng, North-West, Free State and Mpumalanga Provinces: In areas between rocky ridges from Pretoria to Emalahleni, extending onto ridges in the Stoffberg and Roossenekal regions as well as west of Krugersdorp centered in the vicinity of Derby and Potchefstroom, extending southwards and northwards from there.

The topography consists of highly variable landscapes with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains. The vegetation is species rich, wiry, sour grassland alternating with low sour shrubland on rocky outcrops and steeper slopes. Most

common grasses on the plains belong to the genera *Themeda, Eragrostis, Heteropogon* and *Elionurus.* High diversity of herbs, many of wich belong to the *Asteraceae,* is also a typical feature. Rocky hills and ridges carry sparse woodlands with *Protea caffra subsp. Caffra, P. welwitschia, Acacia caffra* and *Celtis africana,* accompanied by a rich suit of shrubs among which the genus Rhus is most prominent.

According to the Mpumalanga Biodiversity Sector Plan of 2014, the site cleared of vegetation falls is classified as, *Other Natural Areas.* And heavily modified

Other Natural Areas: According to the MBSP, Other Natural Areas (ONAs) are not required to meet biodiversity targets, and are not identified as a priority in the MBSP. They do however retain much of their natural character. The biodiversity in these non-priority landscapes may still be of value and contribute to the maintenance of viable species populations and natural ecosystem functioning and Other Natural Areas may provide essential ecological infrastructure and ecosystem services. ONAs offer the greatest flexibility in terms of management objectives and permissible land-uses, and are generally recommended (along with Modified Areas) as the sites for higher-impact land uses. An overall management objective should be to minimize habitat and species loss and ensure ecosystem functionality through strategic landscape planning.

Moderately / Heavily modified - *The* MTPA objectives for these areas are quoted as offering the most flexibility regarding potential land-uses, but these should be managed in a biodiversity-sensitive manner, aiming to maximize ecological functionality. Authorization is still required for high impact land uses.

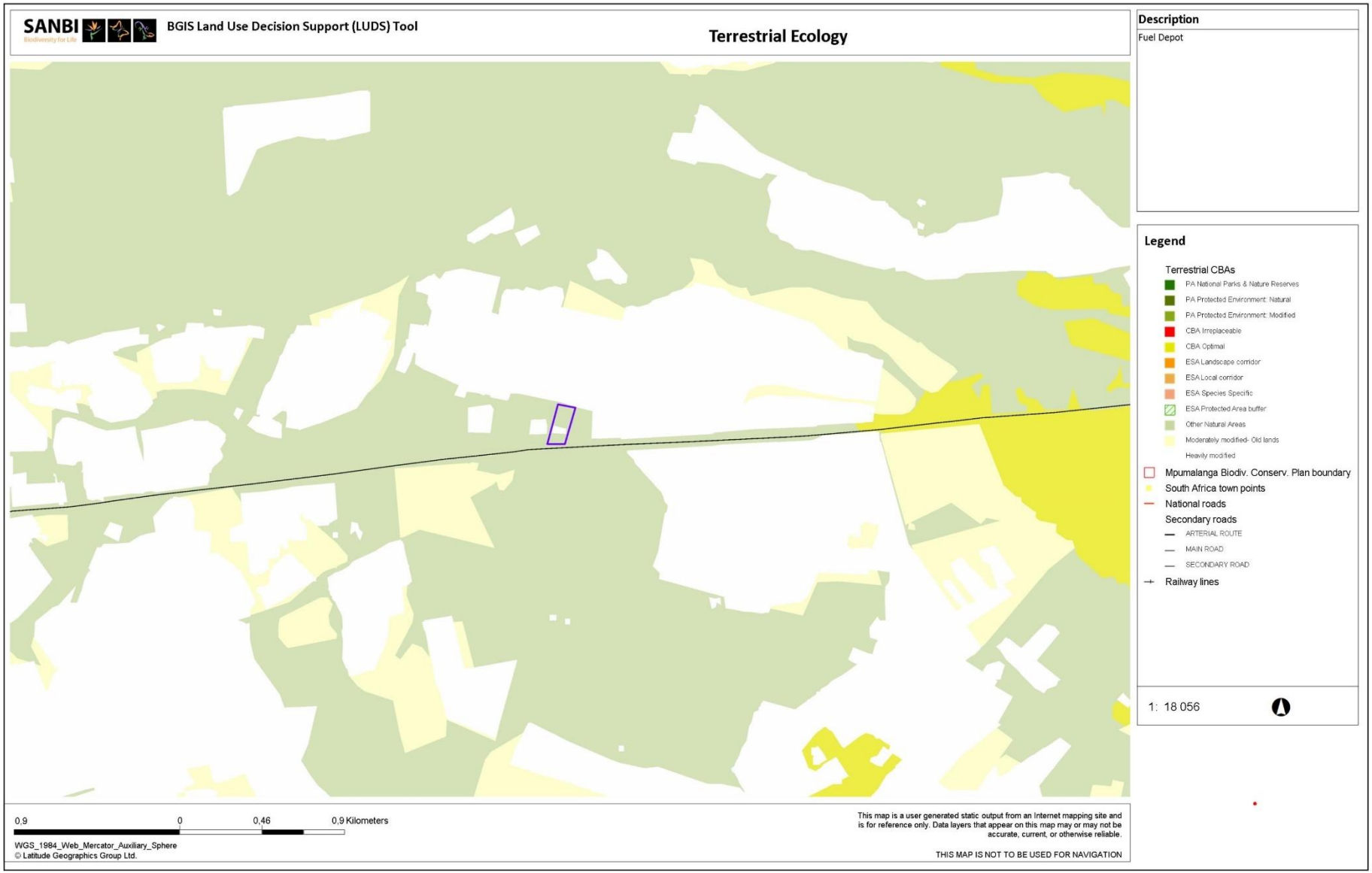

FIGURE 4: ECOLOGICAL SENSITIVITY ACCORDING TO THE MPUMALANGA BIODIVERSITY SECTOR PLAN, 2014

4.4 Surface and Groundwater

According to the Mpumalanga Biodiversity Sector Plan, 2014 the proposed site is classified as other natural areas. Other Natural Areas (ONAs) are not required to meet biodiversity targets, and are not identified as a priority in the MBSP. They do however retain much of their natural character.

No wetlands or drainage lines were identified within the project area. However, special care must be taken to ensure that hazardous substances have no impact on the adjacent ground and surface water resources.

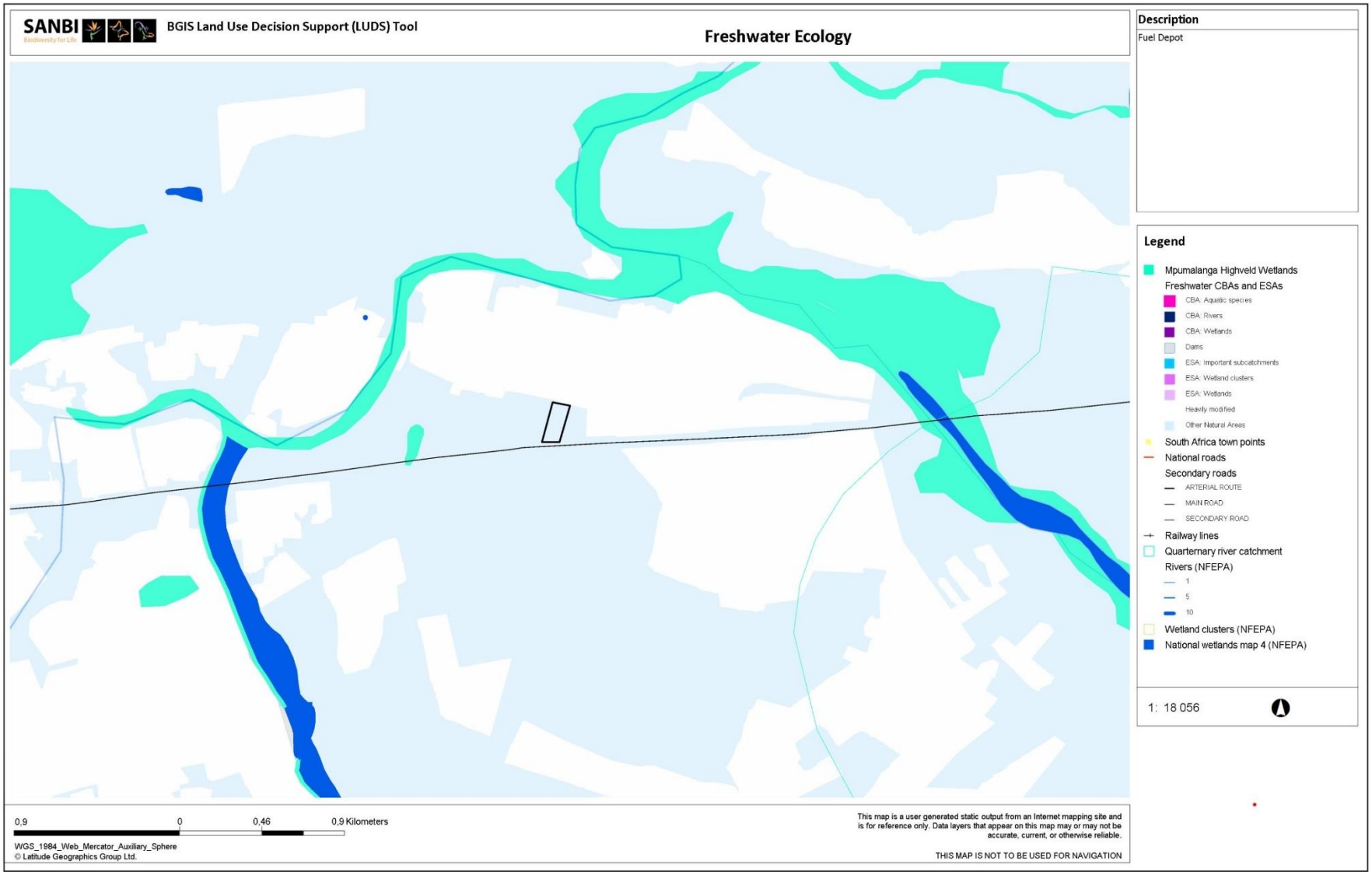

FIGURE 5: FRESHWATER SENSITIVITY ACCORDING TO THE MPUMALANGA BIODIVERSITY SECTOR PLAN, 2014

4.5 Land use

The proposed site is under the administration of Emalahleni Local Municipality, Nkangala District Municipality, in Mpumalanga province. The project area has already been transformed and surrounding land uses comprise of farm dwellings and plots. The project area is located east of the town of Emalahleni on the R555. The project area is surrounded by commercial and agricultural holdings.

4.6 Geology and Soils

The geology comprises of Quartzite ridges of the Witwatersrand Supergroup and the Pretoria Group as well as the Selons River Formation of the Rooiberg Group (last two are of the Transvaal Supergroup), supporting soils of various quality (shallow Glenrosa and Mispah forms especially on rocky ridges), typically of Ba, Bc, Bb and lb land tyes.

4.7 Heritage

As the area was previously cultivated, (approximately 10 to 15 years ago), it is very unlikely that any artefact of archaeological or historical value was impacted during the recent clearance activities

4.8 Socio-Economic Environment

According to Statistics South Africa (Community Survey 2016), Emalahleni's population has increased from 395 466 people recorded in the Census of 2011 to 455 228 people recorded in 2016.

Emalahleni LM has an unemployment rate of 33.3% in 2020. 6% of the population has no schooling, 31% have Grade 12 and only 14% have higher education. The socio-economic context of the surrounding environment can therefore be described as a community with a low percentage of education and high unemployment rate.

The purpose of Emalahleni Local Municipality's Local Economic Development (LED) is to build up the economic capacity of a local area to improve its economic future and the quality of life for all. It is a process by which public, business and non-governmental sector partners work collectively to create better conditions for economic growth, employment generation and advocating for poverty alleviation.

Job opportunities will be created by the establishment of the fuel depot of which all jobs will be accrued to previously disadvantaged individuals.

The livelihood of the individuals is therefore impacted positively

5. METHODOLOGY OF ASSESSING THE SIGNIFICANCE OF IMPACTS

This section outlines the method used for assessing the significance of the potential environmental impacts.

For each impact, the EXTENT (spatial scale), MAGNITUDE and DURATION (time scale) would be described, as shown in **Table 2**. These criteria are then used to determine the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The mitigation described in the Report represents the full range of plausible and pragmatic measures but does not necessarily imply that they would be implemented.

The following tables show the scale used to assess these variables and defines each of the rating categories.

TABLE 2: ASSESSMENT CRITERIA FOR THE EVALUATION OF IMPACTS

Criteria	Category	Description
Extent or spatial influence of impact	**Regional**	Beyond a 30km radius of the candidate site.
	Local	Within a 30km radius of the candidate site.
	Site-specific	On site or within 100 m of the candidate site.
Magnitude of impact (at the indicated spatial scale)	**High**	Natural and/ or social functions and/ or processes are *severely* altered
	Medium	Natural and/ or social functions and/ or processes are *notably* altered
	Low	Natural and/ or social functions and/ or processes are *slightly* altered
	Very low	Natural and/ or social functions and/ or processes are *negligibly* altered
	Zero	Natural and/ or social functions and/ or processes remain *unaltered*
Duration of impact	**Long-term**	More than 10 years after construction
	Medium-term	Up to 5 years after construction
	Construction-term	Up to 3 years

The SIGNIFICANCE of an impact is derived by taking into account magnitude, duration and extent of each impact. The criteria employed in arriving at the different significance ratings is shown in Table 3.

TABLE 3: DEFINITION OF SIGNIFICANCE RATINGS

Significance ratings	Level of criteria required
High	• High magnitude with a regional extent and long-term duration • High magnitude with either a regional extent and medium-term duration or a local extent and long-term duration • Medium magnitude with a regional extent and long-term duration
Medium	• High magnitude with a local extent and medium-term duration • High magnitude with a regional extent and construction period or a site-specific extent and long-term duration • High magnitude with either a local extent and construction period duration or a site-specific extent and medium-term duration • Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Low magnitude with a regional extent and long-term duration
Low	• High magnitude with a site-specific extent and construction period duration • Medium magnitude with a site-specific extent and construction period duration • Low magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Very low magnitude with a regional extent and long-term duration
Very low	• Low magnitude with a site-specific extent and construction period duration • Very low magnitude with any combination of extent and duration except regional and long term
Neutral	• Zero magnitude with any combination of extent and duration

Once the significance of an impact has been determined, the **PROBABILITY** and **CONFIDENCE** of this impact are determined using the rating systems outlined in **Table 4** and **Table** 5**.** The significance of an impact should always be considered in concert with the probability of that impact occurring. Lastly, the **REVERSIBILITY** of the impact is estimated using the rating system outlined in **Table 6.**

TABLE 4: DEFINITION OF PROBABILITY RATINGS

Probability ratings	Criteria
Definite	Estimated greater than 95 % chance of the impact occurring.
Probable	Estimated 5 to 95 % chance of the impact occurring.
Unlikely	Estimated less than 5 % chance of the impact occurring.

TABLE 5: DEFINITION OF CONFIDENCE RATINGS

Confidence ratings	Criteria
Certain	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
Sure	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
Unsure	Limited useful information on and understanding of the environmental factors potentially influencing this impact.

TABLE 6: DEFINITION OF REVERSIBILITY RATINGS

Reversibility ratings	Criteria
Irreversible	The activity will lead to an impact that is in all practical terms permanent.
Reversible	The impact is reversible within 2 years after the cause of the impact is removed.

6. OPERATIONAL AND DECOMMISSIONING PHASE IMPACTS

Seeing that the construction and establishment of the fuel depot has already taken place, operational impacts are the only impacts to be assessed and mitigated.

6.1 Operational Phase Impacts

During operation, the activities associated with the fuel depot are likely to result in the following environmental and socio-economic impacts:

- *Impact on biodiversity*
- *Impact on soil;*
- *Impact on water resources;*
- *Impact on surrounding land uses;*
- *Impact on traffic: and*
- *Socio-economic*

6.2.1. Biodiversity Impact (Fauna and Flora)

Description of the potential impact

During operation, vegetation will be permanently lost and fragmented. As noted within the Mpumalanga Biodiversity Sector Plan (MBSP, 2014), the project area falls within an area classified as “Other Natural Areas” as well as “Heavily Modified Areas”. These areas are therefore of very low ecological significance.

The spread of alien invasive species must be managed and mitigated. Invasive plant species within the perimeter will impact the biodiversity of the surrounding areas.

Significance of the impacts

Invasion of alien invasive species and use of pesticides and herbicides:

When natural vegetation is removed and activities are undertaken, the opportunity for invasive plant species within the perimeter of the site will increase and will be problematic if not adequately removed or managed. Alien vegetation is normally removed mechanically or chemically. Using harmful chemicals would kill all pest and alien vegetation but also affect other insects and mammals which must be protected. Mechanical removal or removal of alien vegetation by hand is therefore preferred above the chemical treatment thereof. Biological pest control is therefore also preferred above chemical pest control.

The impact of alien vegetation and the control thereof is therefore of medium significance prior to the implementation of mitigation measures.

TABLE 7: SIGNIFICANCE OF BIODIVERSITY IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Alien Invasive Species and use of pesticides and herbicides	**Medium**	**Probable**	**Sure**	**Reversible**	**Low**	**Very Low**

Mitigation measures

- Movement of machinery and equipment must be restricted to current access roads which have already been cleared;
- An Invasive Species Management Programme must be compiled and complied with during the operational phase of the project;
- Stipulations of the Environmental Management Program (EMPr) should be adhered to during the establishment and operational phases of the project.

6.2.2 Impact on soil

Description of the potential impact

During operation,fuel spillages mays occur. Soil become contaminated when fuel accumulate in soils, which can alter microbial processes and are toxic to soil organisms.

Significance of the impact

During operation, soil could be impacted by the following:

- Erosion; and
- Contamination by means of fuel spillages.

The topography of the site is relitively flat and therefore, the magnitude of erosion is of low significance, while the impact would be of local extent and medium duration. For this reason, the impact is classified to be of low significance prior to the implementation of mitigation measures.

Another factor impacting soil would be the spillage of fuel which could accumulate in soil, altering the microbial process. This impact is however of medium magnitude, local extent and long duration and for this reason the impact is of medium significance prior to the implementation of mitigation measures.

TABLE 8: IMPACT ON SOIL

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Erosion	**Medium**	**Probable**	**Sure**	**Reversible**	**Low**	**Very Low**
Soil pollution	**Medium**	**Probable**	**Sure**	**Reversible**	**Medium**	**Low**

Should the project not be approved, and the area is successfully rehabilitated, the site would not be impacted by erosion. However, if the site is not successfully rehabilitated, and not managed, the impact of erosion would be significant.

Mitigation measures

- Permanent measures must be taken on areas prone to erosion. These measures can include gabions or revegetation with indigenous plant species.
- All surface spillages must be cleaned immediately. Contaminated soil must be removed and contained in a separate container to be disposed of by an approved hazardous waste disposal contractor

6.2.3 Impact on water resources

Description of the potential impact.

Although no activities are planned within any watercourse or wetland area, water resources could be impacted by the following:

- Pollution of water resources if fuel spills accumulate in soil contaminating groundwater resources.

Significance of the impacts

Fuel and oil spillages could enter storm water pipes or drains or sewage pipelines/manholes. This could lead to surface and ground water being polluted if not mitigated properly. For this reason, the impact is of medium significance prior to the implementation of mitigation measures.

TABLE 9: IMPACT ON SURFACE AND GROUNDWATER

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Water resource use **[NEGATIVE]**	**High**	**definite**	**Sure**	**Reversible**	**Medium**	**Low**

Mitigation measures

- Stipulations of the Environmental Management Program (EMPr) should be adhered to during the operational phase of the project.
- No fuels or oils may discharge directly into storm water pipes or drains or sewage pipelines/manholes
- All surface spillages must be cleaned immediately. Contaminated soil must be removed and contained in a separate container to be disposed of by an approved hazardous waste disposal contractor
- All waste oils, grease, fuels, and chemicals must be collected and disposed of in an appropriate manner off site. These substances may not be emptied or dumped to the surrounding area

6.2.4 Impact on surrounding land uses

Description of the potential impact.

The surrounding properties consist mainly of farm steads and small holdings and is residential and agricultural in nature. The fuel depot will result in the movement of trucks to and from the property and the land use will therefore deviate from the surrounding land uses.

Significance of the impacts

The entrance to the fuel depot is located along the R555 provincial road which is currently being used by numerous heavy vehicles travelling between Middelburg and Emalahleni. The operation of the diesel depot will not affect the surrounding land uses as access to the fuel depot is gained directly from the R555. The operation is also quiet in nature and will therefore not have any impact on the surrounding land uses.

Due to the factors provided above, the impact is rated to be of low significance prior to the implementation of mitigation measures.

TABLE 10: IMPACT ON SURROUNDING LAND USE

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Surrounding land use **[NEGATIVE]**	**Low**	**Definite**	**Sure**	**Reversible**	**Low**	**Very Low**

Mitigation Measures

Measures must be taken to ensure that surrounding property owners are respected and not impacted by the operational activities of the fuel depot. Possible noise generation could impact surrounding land uses and therefore noise must be kept to a minimum.

6.2.5 Impact on traffic

Description of the potential impact.

The entrance to the fuel depot is currently located along the R555 provincial road which is currently being used by numerous vehciles and heavy vehicles for avoid the toll fee along the N4 highway. Although this fuel depot will not add to the current traffic flow along the R555, special care will have to be taken at the entrace to the fuel depot as the road is normally very busy access to the fuel dpot might be a safety risk.

Significance of the impacts

Although the fuel depot will not add to the current traffic flow along the R555 provincial road, there is a road safety risk when considering the current access to the fuel depot. There is currently no turning lane towards the fuel depot and travelling speed along this route where the access is located, has not been reduced. The impact is therefore rated to be of medium significance prior to the implementation of mitigation measures.

TABLE 11: IMPACT ON TRAFFIC

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Traffic impact and safety **[NEGATIVE]**	**High**	**Definite**	**Sure**	**Reversible**	**Medium**	**Low**

Mitigation Measures

Measures must be taken to improve the safety of the access to the fuel depot by means of having discussions with the provincial roads authority to implement the following:

- Supplying a turning lane to access the fuel depot;
- Reducing the speed of vehicles travelling within this section to 80km/h.

6.2.6 Socio-economic Impact

Description of the potential impact

The fuel depot is currently providing 24 job opportunities to previously disadvantaged individuals within the area. Thus, 24 local families are currently benefitting from the operation of the fuel depot.

Significance of the impacts

Based on the methodology detailed in **Section 5**, the following ratings have been assigned to the 'employment opportunities' impact before and after mitigation. The impact is of high (+) significance if employment remains with the local residents.

TABLE 12: SIGNIFICANT IMPACT OF THE 'EMPLOYMENT OPPORTUNITIES' IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Significance	Probability	Confidence	Reversibility	Impact Rating	Impact Rating
Job opportunities **[POSITIVE]**	**Medium**	**Definite**	**Sure**	**Reversible**	**High (+)**	**High (+)**

Mitigation measures

Creating jobs and business opportunities for the local community will have a positive impact. No mitigation measures would be required to further enhance this impact; however, the applicant must ensure that local residents receive preference for job opportunities.

6.3 Environmental Impact Statement

The table below summarises the impacts identified and assessed for the operational phases of the project:

TABLE 11: ENVIRONMENTAL IMPACT STATEMENT

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Operational Impacts		
Biodiversity Impact	Low	Very Low
Erosion	Low	Very Low
Soil Pollution	Medium	Low
Water resource Use	Medium	Low
Surrounding Land use	Low	Very Low
Traffic	Medium	Low
Socio-economic impact	High (+)	High (+)

7. CONCLUSION AND WAY FORWARD

7.1 Assumptions and Limitations

In undertaking this investigation and compiling the Section 24G Report, the following has been assumed:

- The information provided by the proponent is accurate and unbiased, and that no information that could change the outcome of the Environmental Authorisation process has been withheld.
- As the area has already been cleared and impacted, no specialist investigation was conducted.
- The scope of this investigation is limited to assessing the environmental impacts associated with the operational phases of the project.
- The conclusion and recommendations proposed are based solely on the information, scope of works as agreed with the proponent.

7.2 Conclusion

The essence of all environmental assessment processes is aimed at ensuring informed decision-making and environmental accountability. Furthermore, it assists in achieving environmentally sound and sustainable development. The impact assessment for this project has been undertaken in line with the requirements prescribed in the NEMA regulations.

The assessment of the possible impacts associated with the establishment and operational activities, concluded that the impact on the surrounding environment is of **medium to low significance**. Recommendations have however been made to address the impacts which could affect the biophysical and socio-economic environment, especially the impacts associated with traffic to and from the project site. Recommendations for the mitigation of impacts are included within Section 6 and also the Draft Environmental Management Plan attached.

The significance of the potential environmental (biophysical and social) impacts associated with the proposed project are discussed in detail under **Section 6**

It is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation included as the conditions of the authorisation.

7.2 Way Forward

The next steps of the Section 24G process will be to distribute the Draft Section 24G Report and make it available to the public (including the registered I&APs) for 30 days to comment, during which the competent authority will also provide comments on the report. After the 30-day comment period, all comments will be addressed by the EAP and incorporated within the Final Section 24G Report to be submitted to the MDARDLEA for decision making. All registered I&APs will be notified of the decision and will be given an opportunity to appeal as per the NEMA requirements.

8. REFERENCES

National Environmental Management Act 107 of 1998 (NEMA 107, 1998)

General Notice Regulation 982, 983, 984 and 985 of 2014 (as amended in 2017)

Mpumalanga Biodiversity Conservation Plan, 2014

Mpumalanga Conservation Biodiversity Handbook (MCBH) (Tony A, Ferrar and Mervyn C. Lotter).