

BASIC ASSESSMENT REPORT IN TERMS OF NEMA

**PROPOSED DEVELOPMENT FOR BUSINESS
PURPOSES INCLUDING FILLING STATION ON
PORTION 62 (A PORTION OF PORTION 27) OF FARM
RIETSPRUIT 152IR, MIDVAAL LOCAL
MUNICIPALITY, SEDIBENG DISTRICT
MUNICIPALITY, GAUTENG.**

GAUT 002/21-22/E3115

MARCH 2022

(DRAFT)



Address: P.O. Box 1322, Ruimsig, 1732

Tel: 082 850 5482

Fax: 086 692 8820

paulette@hydroscience.co.za

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Appendix A: EAP

- Company profile: HydroScience
- Curriculum vitae (Environmental Assessment Practitioner): Ms Paulette Jacobs
- Qualification: Ms Paulette Jacobs
- Professional affiliations: Ms Paulette Jacobs (SACNASP, EAPASA WISA, IAIAsa)
- NEMA project list

Appendix B: Applicant and property

- CIPC: Dabi Investments (Pty) Ltd, 2014/156940/07
- Title deed T65131/2018 owner Dabi Investments (Pty) Ltd
- Applicant representative ID: Alberto Das Fontes

Appendix C: Photographs & layout

- Photographs from site visit (2 March 2022)
- Access (DRW001 & DRW002)
- Site Development Plan (SDP) – Abdullah Abass Architects

Appendix D: Specialist studies

- Biodiversity: The Biodiversity Company, 2022. The terrestrial ecology compliance statement for Portion 62 (a portion of portion 27) of farm Rietspruit 152IR, Midvaal Local Municipality, Sedibeng District Municipality, Gauteng. February 2022
- Cultural Heritage: Archaetnos Culture & Cultural Resource Consultants, 2022. Letter for HIA exemption request: Proposed development for business purposes including filling station on Portion 62 (a portion of portion 27) of farm Rietspruit 152IR, Midvaal Local Municipality, Sedibeng District Municipality, Gauteng Province, 2 March 2022.
- Electrical: Selatile Moloi Consulting Engineers, 2021. Rietspruit farm 152IR development. Electrical Bulk Services Report. Rev 1. December 2021.
- Water and Sanitation: Selatile Moloi Consulting Engineers, 2022. Rietspruit farm 152IR development. Water and Sanitation Bulk Services Report. Rev 1. January 2022.
- Traffic: MEB Consulting Engineers & Project Managers, 2021. Provision of Consulting Engineering Services for: Proposed retail centre, filling station, and taxi rank on Portion 62 of the farm Rietspruit 152-IR, Midvaal Local Municipality, Gauteng Province. Traffic Impact Assessment. 17 December 2021.

Appendix E: Public participation

- GDARD approval of PPP and PPP submission
- Newspaper notice (Sedibeng Ster)
- Email notification
- Hand-delivered notification
- Contact details of Interested and Affected Parties (confidential)
- Comments received from Interested and Affected Parties
- Comments received from Interested and Affected Parties on draft BAR

Appendix F: Other

- Proof of municipal waste removal – municipal invoice

LIST OF ACRONYMS AND ABBREVIATIONS AND DEFINITIONS

AST	Above-ground Storage Tanks
AIS	Alien and Invasive Species Regulations (2014)
Biodiversity	Diversity of genes, species and ecosystems on earth, and the ecological and evolutionary processes that maintain this diversity.
BPG	Best Practice Guidelines
CAPEX	Capital Expenditure
CARA	Conservation of Agriculture Resources Act, 1983 (Act 43 of 1983)
CBA	Critical Biodiversity Area (terrestrial and aquatic areas required to meet biodiversity targets for ecosystems, species or ecological processes, as identified in a systematic biodiversity plan)
CBD	Central Business District (centre of a town/city)
CRSA	Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) – Section 24 relates to environment
CSIR	Council for Scientific and Industrial Research
DEFF	Department of Environment, Forestry & Fisheries (national authority responsible for environmental protection and implementation of NEMA)
DMR	Department of Mineral Resources
DOL	Department of Labour
DTI	Department of Trade and Industry
DWS	Department of Water and Sanitation (national authority responsible for water protection and implementation of NWA, custodian of South Africa's water resources)
EAP	Environmental Assessment Practitioner (independent consultant administering NEMA processes on behalf of applicant)
EAPASA	Environmental Assessment Practitioner Association of South Africa
ECA	Environment Conservation Act, 1989 (Act 73 of 1989) – preceded NEMA
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment (process required in terms of NEMA to obtain authorisation for listed activities)
EMF	Environmental Management Framework
EMP	Environmental Management Programme/Plan
EO	Environmental Officer

ERAP	Emergency Response Action Plan
ESA	Ecological Support Area (terrestrial and aquatic areas that are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of one or more Critical Biodiversity Areas; or in delivering ecosystem services.
GIS	Geographic Information System
GNR	Government Notice Regulation (notices published in Government Gazette in terms of already promulgated laws, legislated by government)
GNR 324	Amendment of GNR 985 - Listing 3 deals with activities requiring environmental authorisation due to sensitive locations
GNR 325	Amendment of GNR 984 - Listing 2 deals with activities requiring environmental authorisation due to expected higher environmental impact – requires full EIA (scoping and EIA)
GNR 326	Amendment of GNR 982 - EIA regulations – procedures / requirements
GNR 327	Amendment of GNR 983 - Listing 1 deals with activities requiring environmental authorisation due to expected lower environmental impact – requires Basic Assessment only
GPDR	Gauteng Province Department of Roads and Transport
GPS	Global Positioning System
GVA	Gross Value Added
HC	Hydrocarbons
HCS	Hazardous Chemical Substance
HIA	Heritage Impact Assessment
IAIA	International Association of Impact Assessment
IBA	Important Bird (and Biodiversity) Area – of international significance for conservation of birds as identified by BirdLife International.
I&APs	Interested and Affected Parties (as identified during the Public Participation Process)
IDP	Integrated Development Plan
IRP	Integrated Resource Plan
mamsl	Metres Above Mean Sea Level
Listed Activities	Activities identified in terms of NEMA Sections 24 and 24D, which require environmental authorisation prior to commencement due to their potential environmental impacts. See GNR 324, 325, 326, 327
MAE	Mean Annual Evaporation

MAP	Mean Annual Precipitation
MLM	Midvaal Local Municipality
MSDS	Material Safety Data Sheets
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998) – overarching environmental legislation in South Africa
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
NEM:PAA	National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act 59 of 2008)
NFEPA	National Freshwater Ecosystems Priority Area
NHRA	National Heritage Resources Act, 1999 (Act 25 of 1999)
NWA	National Water Act, 1998 (Act 36 of 1998)
OHSA	Occupational Health and Safety Act, 1993 (Act 85 of 1993)
OPEX	Operational Expenditure
PHRAG	Provincial Heritage Resources Agency Gauteng
PPE	Personal Protective Equipment
PPP	Public Participation Process
PRECIS	National Herbarium Pretoria (PRE) Computerised Information System
QDGC	Quarter Degree Grid Cell
SACNASP	South African Council for Natural Scientific Professions (body for the registration of professional natural scientists)
SAHRA	South African Heritage Resources Agency (authority responsible for implementation of NHRA)
SAHRIS	South African Heritage Resources Information System (electronic system onto which reports are loaded for comments from SAHRA)
SANBI	South African National Biodiversity Institute
SANRAL	South African National Roads Agency
SABS	South African Bureau of Standards
SANS	South African National Standards
SCC	Species of Conservation Concern
SDF	Spatial Development Framework

SDM	Sedibeng District Municipality
SDP	Site Development Plan
SHEQ	Safety, Health, Environment & Quality
SoE	State of the Environment Report
UST	Underground Storage Tanks
WCMR	Waste classification and Management Regulations
WISA	Water Institute of Southern Africa
WUL	Water Use License

1 ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

1.1 Details

Company:	HydroScience CC
Registration Number:	2008/056910/23 14 March 2008
Postal address:	P.O. Box 1322 Ruimsig 1732
Email address:	paulette@hydroscience.co.za
Telephone number:	+ 27 (0) 82 850 5482
Fax number:	+ 27 (0) 86 692 8820
Contact person:	Ms Paulette Jacobs I.D. 680526 0104 08 4
Professional registration (Paulette Jacobs):	South African Council for Natural Scientific Professions (SACNASP): 400005/07 Environmental Assessment Practitioner Association of South Africa (EAPASA): 2020/357
Membership (Paulette Jacobs):	Water Institute of Southern Africa (WISA): 24906 International Association of Impact Assessment South Africa (IAIASa): 5266

1.2 Experience and expertise

HydroScience CC was established in 2008 after Ms Paulette Jacobs acted as an independent consultant (sole proprietor) since 2000. HydroScience is an environmental, water and waste management solutions provider. Refer to Appendix A for a company profile.

Ms Paulette Jacobs obtained her qualifications from the Rand Afrikaans University in Johannesburg in 1990 and has been in the water, waste and environmental field for the last 30 years, first in research for seven (7) years at the Council for Scientific and Industrial Research (CSIR) and since then in consulting (Pulles, Howard and De Lange Water Quality Management Consultants, SRK Consulting, sole proprietor, HydroScience). Refer to Appendix A for Curriculum Vitae of Ms Paulette Jacobs. Ms Paulette Jacobs assisted Department of Water Affairs and Forestry (now Department of Water and Sanitation, DWS) to compile the Best Practice Guidelines (BPG) for water resource protection in the mining industry and has successfully completed many Water Use Licence (WUL) Applications in terms of the National Water Act (NWA), 1998 (Act 36 of 1998) as well as Environmental Impact Assessments (EIA) in terms of the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) as amended for the industrial, retail, commercial/business and residential sectors to obtain environmental authorisations, Atmospheric Emissions Licenses (AEL) and Waste

Management Licenses (WML) over the last 20 years. Refer to Appendix A for a project list of applications for environmental authorisation.

1.3 Supporting information

Appendix A contains:

- Company profile: HydroScience
- Curriculum vitae (Environmental Assessment Practitioner): Ms Paulette Jacobs
- Qualification: Ms Paulette Jacobs
- Professional affiliations: Ms Paulette Jacobs (SACNASP, EAPASA, WISA, IAIAsa)
- NEMA project list

1.4 Assumptions, limitations, disclaimer and copyright

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information at the time of compilation (February - March 2022). The report is based on survey and assessment techniques which are limited by time (one day on site) and budgetary constraints relevant to the type and level of investigation undertaken (Basic Assessment Process) and HydroScience and its staff / representatives reserve the right to modify aspects of the report if and when new information may become available from changes in legislation, on-going research or further work in this field, or pertaining to this investigation.

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Project description information contained in this report is based on information supplied by the client or client appointed sources. It has been assumed that the information provided to HydroScience is correct. Environmental data contained in this report is based on information supplied by specialists in their respective fields, as well as existing available information from official sources pertaining to the area in question (maps and reports published by the relevant government departments and agencies). It has been assumed that the information from these specialists or official sources is correct. HydroScience has therefore not checked or verified historical/existing information provided for correctness. HydroScience accepts no responsibility for incomplete or inaccurate data supplied by others (the client and external sources). Where gaps or obvious errors have been identified, these are noted for consideration by the applicant and/or authority.

Dabi Investments (Pty) Ltd is responsible for the implementation of recommendations and HydroScience cannot and will not take responsibility for its actions or lack thereof.

1.5 Declaration of independence

I, **Paulette Jacobs**, declare that –

- I act as an independent environmental, water and waste consultant in this investigation;
- I have expertise in water, waste and environmental management, including knowledge of the relevant Acts, Regulations and any guidelines that have relevance to the investigation;
- I have performed the work relating to this investigation in an objective manner, even if this results in views and findings that are not favourable to any party involved;
- I have included the specialist studies provided to me in Appendices as well as summarised findings and recommendations in this report;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential to influence this investigation, unless access to that information is protected by law, in which case it will be indicated that such information exists;
- I do not have any vested interest (either business, financial, personal or other) in the investigation other than fair remuneration for work performed; and
- I will provide the parties with access to all information at my disposal regarding the investigation, whether such information is favourable or not.



Signature: Paulette Jacobs

2 APPLICANT / PROPONENT

2.1 Details

Applicant:	Dabi Investments (Pty) Ltd
Registration Number:	2014/156940/07
Postal address:	P.O. Box 42486 Fordsburg 2033
Physical address:	Paul Kruger Street Springs 1560
Email address:	market@mweb.co.za
Representative:	Alberto Das Fontes I.D. 770115 5200 08 8

2.2 Supporting information

Appendix B contains:

- Dabi Investments (Pty) Ltd, 2014/156940/07 details
- Title deed T65131/2018
- ID copy for Alberto Das Fontes

3 PROPERTY

3.1 Details

Province:	Gauteng
District Municipality:	Sedibeng District Municipality (SDM)
Local Municipality:	<p>Midvaal Local Municipality (MLM) P.O. Box 9 Meyerton 1960 Tel: 016 360 7400</p> <p><u>Physical address:</u> Corner of Mitchel & Junious Street, Meyerton</p> <p><u>Contact person:</u> Jako Verster Cellular number: 016 360 5860 Email: jakov@midvaal.gov.za</p>
Ward:	<p>12 Ms Mariana Catherine Kruger Cell: 083 585 6928 Email: marianackruger@gmail.com</p>
Ownership:	Title deed: T65131/2018 (12 September 2018) Dabi Investments (Pty) Ltd, 2014/156940/07
Land use:	<p>Zoning: Agriculture Use: New Sky City with wholesale market, Kingsley, Big Save Rezoning: Business 2 & Transportation</p>
Surrounding land uses:	<p>Residential (north and east) Agriculture (south and west) Kliep Abattoir: 1.5km south south east Water course: 1.8km south and 1km east Suikerbosrand Nature Reserve: 2.3km south east</p>
Farm & portions:	Portion 62 (a portion of portion 27) of the farm Rietspruit 152IR
SG number:	TOIR00000000015200062
Size:	9.0388ha
GPS locations: Centre point	<p>26° 25' 27.78" South 28° 08' 31.15" East</p> <p>26.424045° South 28.142099° East</p>

Surrounding towns:	10km North of site: Alberton Central Business District (CBD) 2.2km North of site: Palm Ridge (Ekurhuleni) 1.8km East of site: Tsietsi Phase 5, Katlehong
Roads & access:	Access from R550 (K154) – Heidelberg Road on northern boundary of site Class 2 Provincial K-route Two lanes (one in each direction)
Services: Electrical	Supplier: Eskom Structure: Overhead line and pole mounted transformer arrangement. Existing Capacity: 50kVA
Services: Water	Klipwater Tower has a capacity of 200m ³ and is 2km away. If spare capacity is available, the cost for bulk infrastructure would be high. Recommended: Borehole water supply Future: Municipal water supply network when available.
Services: Sewage	No municipal infrastructure.

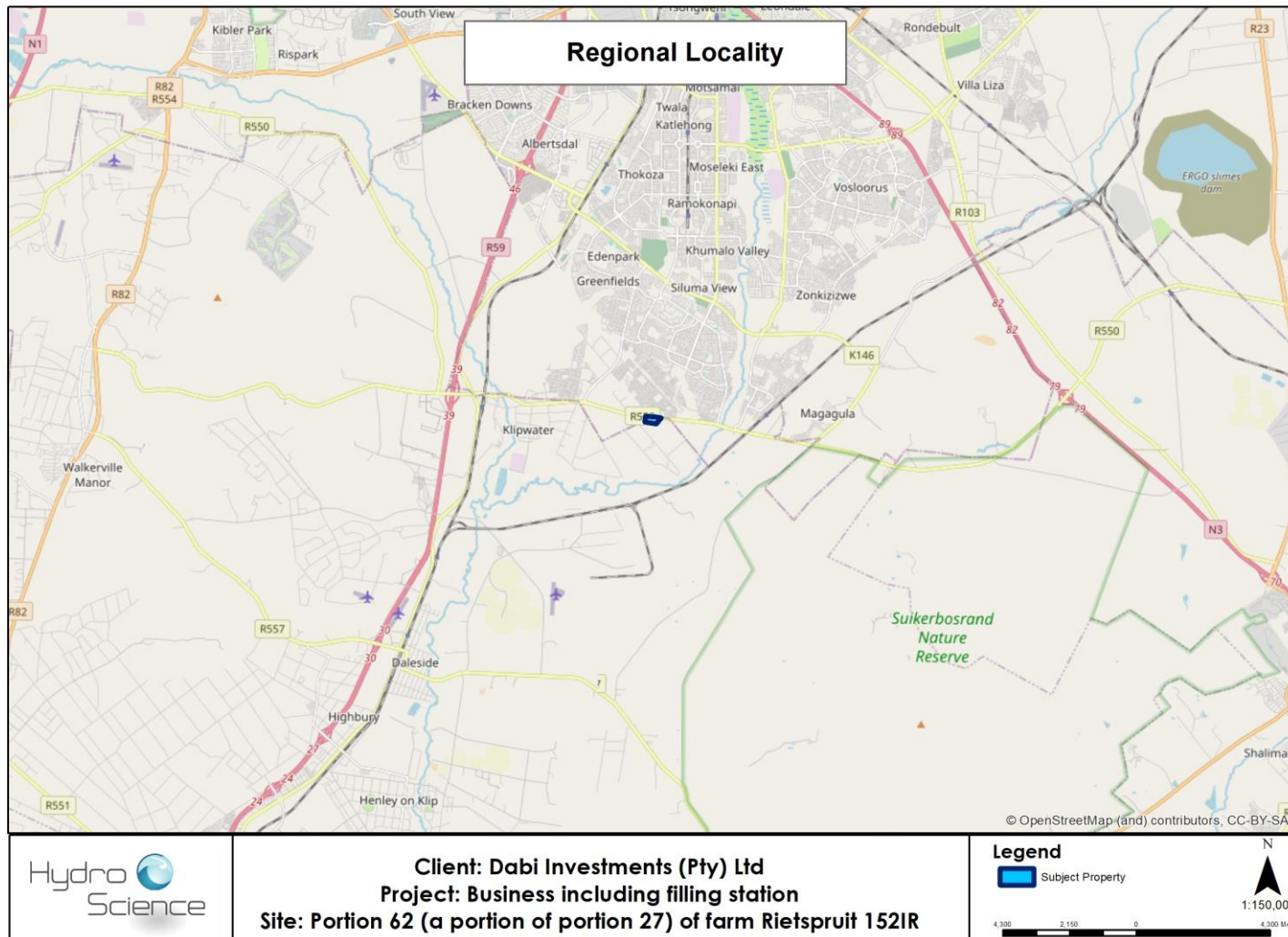


Figure 3-1: Property Regional locality

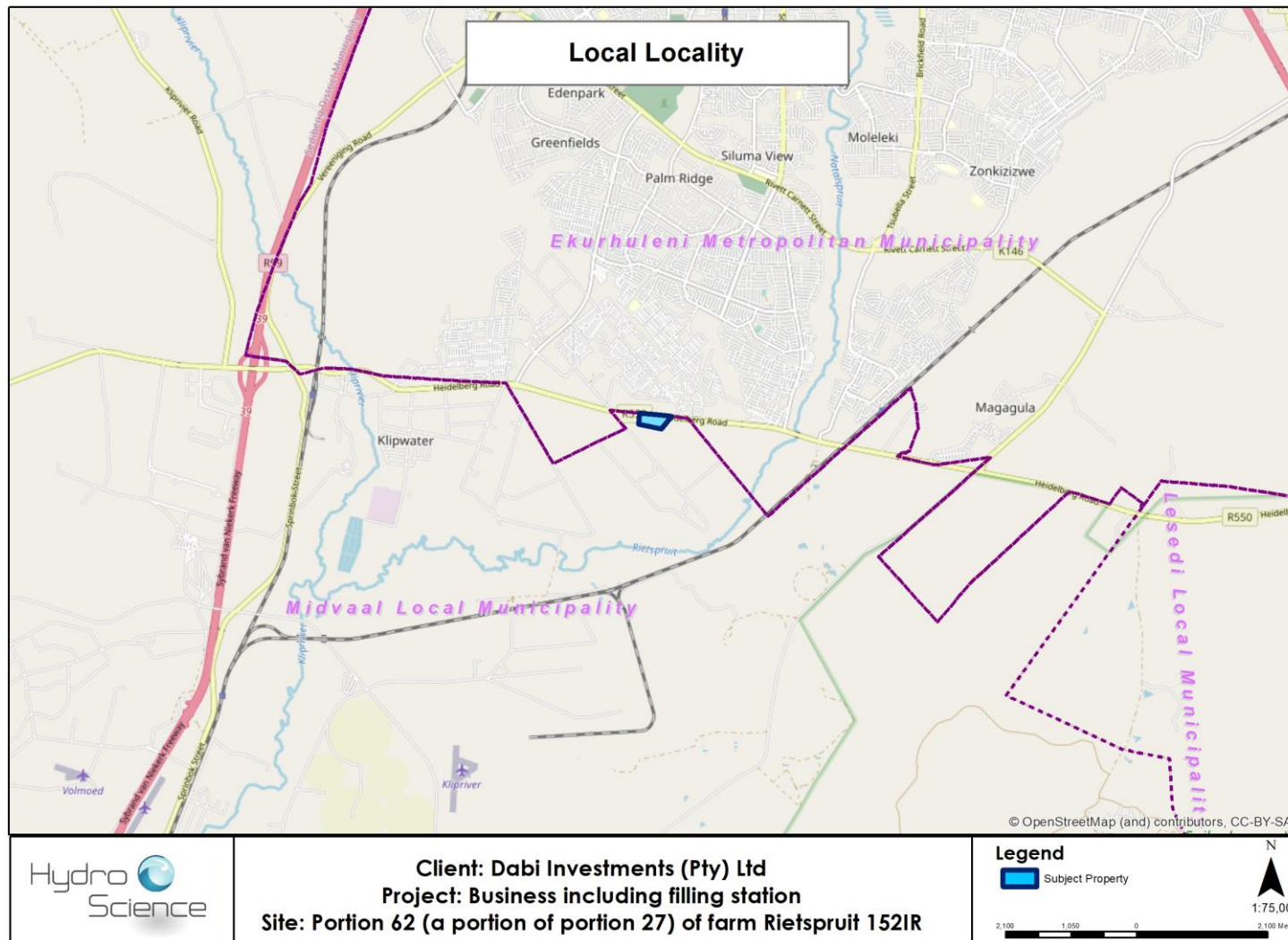


Figure 3-2: Property Local Locality

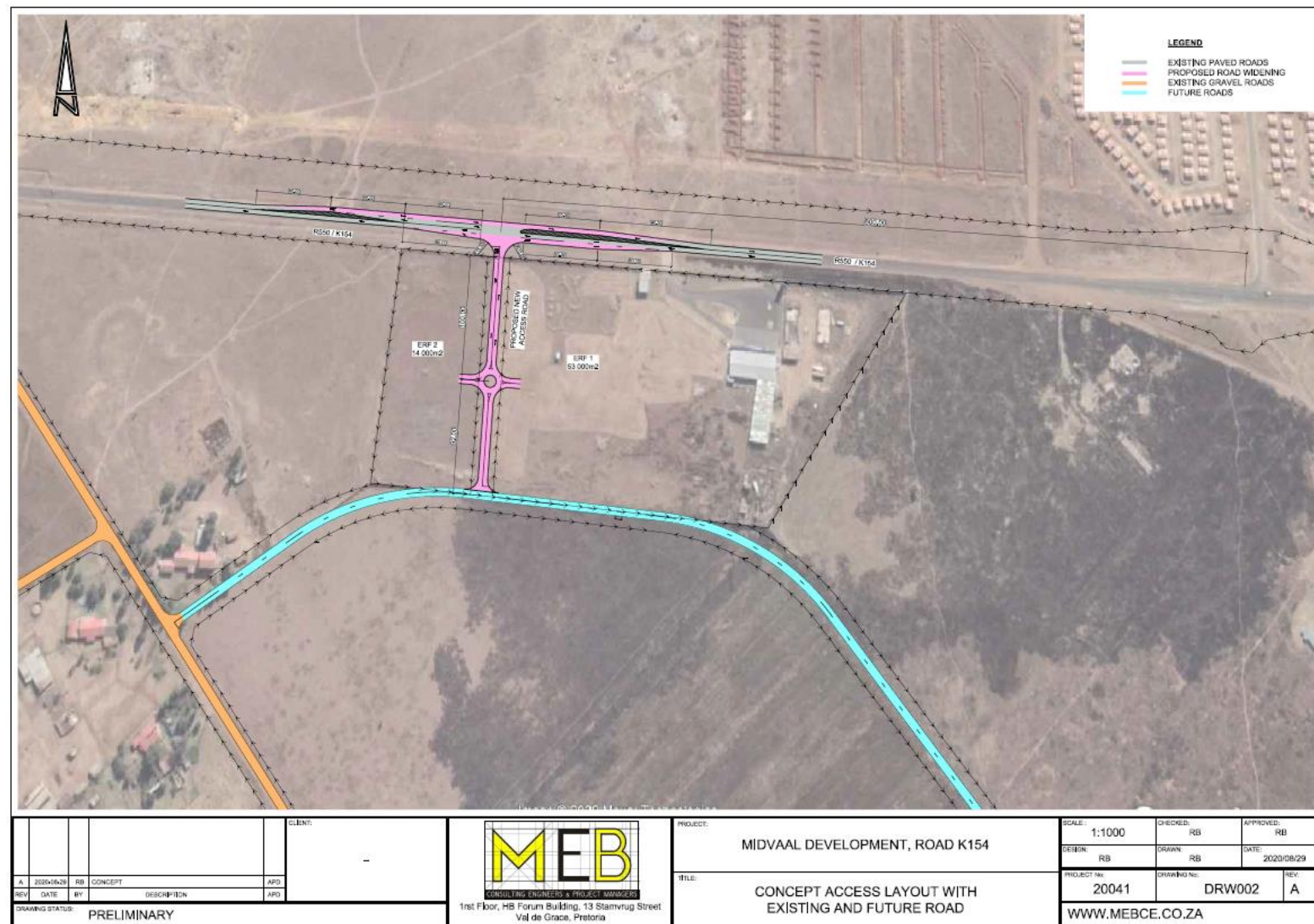


Figure 3-3: Access (MEB, 2020)

4 PROJECT

4.1 Project Description

Reference number:	GAUT002/21-22/E3115
Type:	Mixed use development – business 2 with transportation
Title:	Proposed development for business purposes including filling station on Portion 62 (a portion of portion 27) of farm Rietspruit 152IR, Midvaal Local Municipality, Sedibeng District Municipality, Gauteng.
Detailed description:	<p>The site of 9.0388ha is indicated as being located in Gauteng Environmental Management Framework (EMF) zone 1 and critically endangered ecosystem (screening tool). The site will be developed for business purposes – including a taxi rank, retail, medical rooms and filling station (GNR 327 Activity 14 - storage and handling of dangerous goods).</p> <p><u>Existing (New Sky Wholesale Market):</u></p> <ul style="list-style-type: none"> • Soft drinks distribution depot (Coca Cola Kliprivier Depot) • Big Save Wholesalers • Old unused buildings <p><u>Site clearance:</u></p> <p>For the business development, vegetation will have to be cleared to allow space for the establishment of structures and infrastructure. The site is located in a critically endangered ecosystem (screening tool) and 9.0388ha in size. The site is also located in the Gauteng EMF zone 1 for urban development.</p> <p><u>Business development:</u></p> <p>The business development will include the following:</p> <ul style="list-style-type: none"> • Erf 1 (53 000m²) - Medical rooms & Retail <ul style="list-style-type: none"> ○ Retail centre of 12 430m² ○ Drive through restaurant A of 400m² ○ Drive through restaurant B of 400m² ○ Parking (795 spaces) • Erf 2 (14 00m²) - Filling station <ul style="list-style-type: none"> ○ Filling station of 766m² ○ Tyre centre 225m² ○ Diesel wholesale of 225m² ○ Taxi rank of 800m² (± 80 taxis)

	<p><u>Underground Storage Tanks (UST) for hydrocarbon storage and handling:</u></p> <p>The proposed filling station will consist of three (3) underground tanks, each with a volume of 43m³. One tank will house 95 octane petrol, one tank will house 93 octane petrol and one tank will house diesel. The combined volume of all three tanks at the filling stations will be no larger than 130m³.</p>
Location:	<p>26° 25' 27.78" South 28° 08' 31.15" East</p>
Investment:	<p>R25 million</p>
Roads & access:	<p><u>Current:</u> Direct access from R550 (K154) – Heidelberg Road on northern boundary of site. Class 2 Provincial K-route Two lanes (one in each direction)</p> <p><u>Intersections and legal requirements:</u> Site is situated between the D64 Class 3 road to the west and the Class 3 Sontonga road to the east. The distance between these two existing intersections is 1.365 km. Therefore, a new intersection can be introduced between these two existing intersections and still maintain a distance of 600m or more along the K154.</p> <p><u>New access:</u> Existing access will be closed. Proposed T-Intersection can operate as a stop-priority controlled intersection with priority given to traffic on Heidelberg Road. See Road B intersection below.</p> <p><u>Upgrades required:</u> None. Heidelberg Road (R550) / Sontonga Road – minimal impact; can accommodate development traffic.</p> <p><u>New Access Road B and its intersection with R550:</u> Road B will provide future access to the site. The proposed Heidelberg Road (R550) - Road B intersection (at least 600m from Sontonga Road) should have lanes as follows:</p> <ul style="list-style-type: none"> • South Leg (Stop controlled) <ul style="list-style-type: none"> ○ Full length right turning lane ○ 50 m long left turning lane ○ Single exit lane • East Leg (Priority Leg) <ul style="list-style-type: none"> ○ Full length straight through lane ○ 60 m left turning lane ○ Single exit lane • West Leg (Priority Leg) <ul style="list-style-type: none"> ○ Full length straight through lane

	<ul style="list-style-type: none"> ○ 60 m right turning lane (yield) ○ Single exit lane <p>Paved walkways for pedestrian safety.</p> <p>Public transport laybys on Heidelberg Road.</p>
Services: Electrical	<p>Supplier: Eskom</p> <p>Structure: Overhead line and pole mounted transformer arrangement.</p> <p>Existing Capacity: 50kVA</p> <p>Demand: 1 756.5kVA rounded to 2 000kVA</p> <p>Preferred option due to time constraints: Strengthen existing powerline from Germiston Sewerage Substation (11kVA)</p>
Services: Water	<p>Gross annual average water demand: 28.38m³/day</p> <p>Klipwater Tower has a capacity of 200m³ and is 2km away. If spare capacity is available, the cost for bulk infrastructure would be high.</p> <p>Though borehole water supply was recommended, the client wants to establish municipal water supply if possible.</p> <p>Infrastructure:</p> <ul style="list-style-type: none"> • Ground reservoir with a capacity of 417m³ over 48 hours • Elevated water tank with a capacity of 19m³ over 4 hours • Internal water reticulation • Internal fire reticulation of 110mm diameter uPVC pipe
Services: Sewage	<p>Peak wet sewage discharge: 64.73m³/d</p> <p>Infrastructure:</p> <ul style="list-style-type: none"> • Internal sewer reticulation of 160mm diameter uPVC pipe • Sewage outfall of 160mm diameter uPVC pipe • 65 m³/d Waste Water Treatment Package Plant <p>Treated effluent to conform to the Special Standards of the Department of Water and Sanitation (DWS). The treated effluent will supply a storage facility that will be used for irrigation purposes within the proposed site.</p> <p>Client will prefer and is still investigating connection with municipal infrastructure.</p>

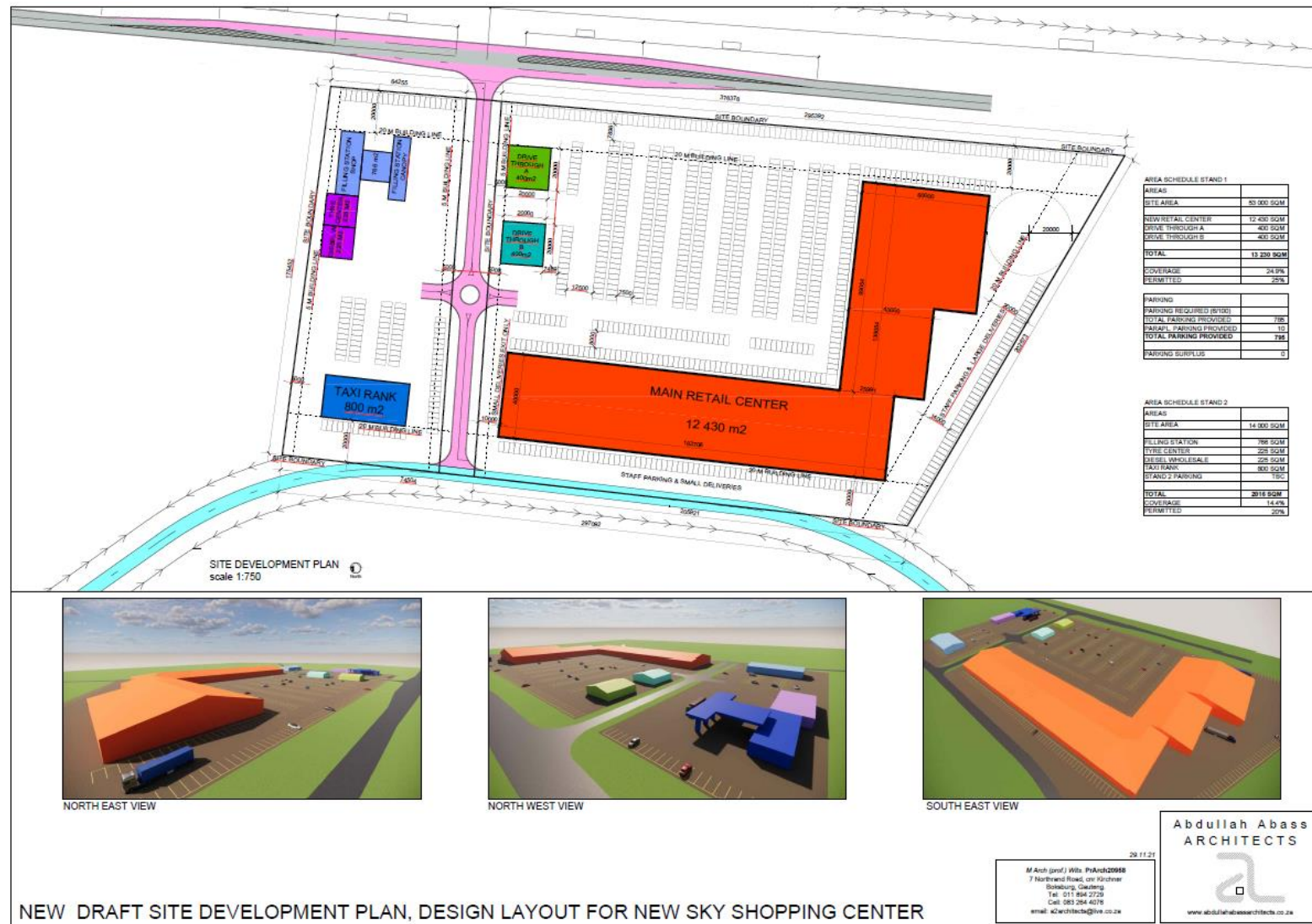


Figure 4-1: Site Development Plan (SDP) - Abdullah Abass Architects

4.2 Screening

The Department of Forestry, Fisheries and the Environment (DFFE) screening tool was used and a screening report generated. The following came from the report:

Aspect:	Sensitivity:	Requirement from other recent studies conducted on the site:
Environmental Management Framework (EMF)		Gauteng EMF Zone 1 for urban development
Agricultural	High	Land capability 09. Moderate-High/10. Moderate-High Land capability 06. Low-Moderate/07. Low-Moderate/08. Moderate Site visit: No agricultural activities, site is disturbed with buildings and existing businesses (New Sky Wholesale Market).
Animal	Medium	Medium to high Animal Species Theme Sensitivity is disputed as no faunal species or signs of any were recorded in the project area, with the exception of avifaunal species (TBC, 2022).
Aquatic biodiversity	Low	No concern, no impact.
Archaeological and Cultural Heritage	Low	Refer to Archaeos Culture & Cultural Resource Consultants, 2022 (Appendix D). No sites of cultural heritage significance.
Civil aviation	High	No concern, no impact based on planned project.
Defence	Low	No concern, no impact.
Palaeontology	Low	No concern, no impact.
Plant	Medium to Low	Medium to low Plant Species Theme Sensitivity is confirmed by specialist (TBC, 2022).
Terrestrial biodiversity	Very High	Critically Endangered Ecosystem High Terrestrial Biodiversity Theme Sensitivity is disputed. The vegetation structure and species composition of the two (2) habitats identified have been completely altered as such, has a very low conservation value and ecological sensitivity from both a faunal and floral perspective (TBC, 2022).

4.3 Need and desirability

Addressing need and desirability is a way of ensuring sustainable development. Therefore, the project must be ecologically sustainable and socially and economically justifiable.

Economic investment by applicant:	R25 million
Capital value upon completion:	R55 million
Expected annual income:	R350 million
Job creation:	R5.5 million will be invested in construction labour. 200 new jobs will be created.
Need & desirability:	<p>Nearby residential township (Palm Ridge) being developed.</p> <p><u>Trips (new, passer-by & diverted):</u> 309 vehicles/hour during weekday AM 794 vehicles/hour during weekday PM 983 vehicles/hour during Saturday peak hours</p> <p><u>New trips:</u> 263 vehicles/hour during weekday AM 536 vehicles/hour during weekday PM 641 vehicles/hour during Saturday peak hours</p> <p><u>Growth:</u> 3% per annum</p> <p><u>Design year:</u> 2026</p>
Fatal flaws:	No fatal flaws were identified and if the project is managed according to the Environmental Management Programme (EMPr), the impact on the environment will be moderate to low.
Market:	The market includes passer-by traffic on the R550 (Heidelberg Road) as well as residents north of the R550 in Palm Ridge extensions of Ekurhuleni (economic, population and household growth).
Market gap:	The Palm Ridge extensions to the north of the R550 (Heidelberg Road) in Ekurhuleni will make use of the facility. The development in this area is existing and currently expanding (visual observation on 2022-03-02)
Other filling stations:	<p>Two (2) other filling station are located within 5km of the proposed site but these do not have direct access from the R550.</p> <ul style="list-style-type: none"> Engen at Sky City Kliprivier Motors (BFS Gas Station)

Viability:	The future growth in population (Palm Ridge extensions) and traffic must be considered since it can be expected that fuel sales will increase with the growth in bypassing traffic and taxi rank. However, if a filling station is viable from its opening, it follows that the viability will only improve given no other changes. A 3% growth/annum is expected for the future (MEB Consulting Engineers, 2021).
Spatial Development Framework (SDF) for MLM:	<p>The R59, R82 and R550 have been identified as Development Corridors, selected to catalyse economic growth and development.</p> <p>The project is situated along the R550 which also feeds directly into the R59.</p>
Integrated Development Plan (IDP) for MLM:	<p>The IDP theme for 2021/2022: Growth and Employment with specific focus on the following key sectors for growth: Agriculture, Construction, Tourism and Commercial (Retail).</p> <p>The establishment of the filling station and the associated businesses would certainly contribute to the IDP's goals and stimulation of the economy.</p> <p>Employment opportunities will be provided during both the construction and operational phases of the project. The large supply of labour in the area will be beneficial for local recruitment, ensuring upliftment of the local communities.</p>
Ekurhuleni SDF & IDP:	The Palm Ridge area, situated just north of the proposed development, falls within Ekurhuleni Metropolitan Municipality's Region F. The Regional SDF for this area, as well as the City of Ekurhuleni IDP, indicate that there are various developments planned including residential housing and schools. The filling station and associated businesses will be able to provide much needed services for this growing community.

5 LEGAL FRAMEWORK

5.1 Constitution of the Republic of South Africa (CRSA)

The Constitution of the Republic of South Africa (CRSA), 1996 (Act 108 of 1996) places a duty on the State to protect the environment. Section 24 states that:

“Everyone has the right

- a. to an environment that is not harmful to their health or well-being; and
- b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
 - i. prevent pollution and ecological degradation;
 - ii. promote conservation; and
 - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

The right in the CRSA is given effect in several articles of national legislation including the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) as amended.

5.2 National Environmental Management Act (NEMA)

The National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) as amended is the overarching environmental legislation in South Africa.

5.2.1 Sustainable development

The principle of Sustainable Development has been established in the CRSA and given effect by the NEMA. Section 1(29) of NEMA states that sustainable development means the integration of social, economic and environmental factors into the planning, implementation and decision-making process so as to ensure that development serves present and future generations. Thus, Sustainable Development requires that:

- The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied.
- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied.
- That the disturbance of landscapes and sites that constitute the nation’s cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied.
- That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions.
- Negative impacts on the environment, on people’s environmental rights be anticipated; and, prevented, and where they cannot altogether be prevented, are minimised and remedied.

Duty of care is addressed in Section 28 of the NEMA.

In terms of sustainable development:

- ***The disturbance of ecosystems, loss of biological diversity and the disturbance of landscapes and sites that constitute the nation’s cultural heritage are avoided through the development of an already largely disturbed site.***

- ***Waste cannot be avoided but general waste will be disposed of as part of the municipal system, hazardous waste will be taken to a registered site and any other waste will be handled of as per the Environmental Management Programme (EMPr).***
- ***Other potential negative impacts identified will also be managed through the EMPr.***

5.2.2 NEMA regulations

Government Notice Regulation (GNR) 982, 983, 984 and 985 of 4 December 2014 contain the latest regulations pertaining to Environmental Impact Assessment (EIA) under sections 24(5), 24M and 44 of the NEMA. These were amended / updated on 7 April 2017 under GNR 324, 325, 326 & 327.

GNR 982 as amended / updated in GNR 326 stipulate requirements in terms of processes to be followed and information to be included in documentation.

GNR 984 as amended / updated in GNR 325 was considered and no applicable activities were identified.

GNR 985 as amended / updated in GNR 324 was considered and no applicable activities were identified.

GNR 983 as amended / updated in GNR 327 was considered and applicable activities were identified as detailed below.

5.2.3 Listed activities applicable

The following listed activities require environmental authorisation:

GNR & Date	Activity Number and Description	Project Description
GNR 983 as amended / updated in GNR 327 of 7 April 2017	<u>Activity 14:</u> The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic meters or more but not exceeding 500 cubic meters.	The development includes a filling station. The proposed filling station will consist of three (3) underground tanks, each with a volume of 43m ³ . One tank will house 95 octane petrol, one tank will house 93 octane petrol and one tank will house Diesel. The combined volume of all three tanks at the filling stations will be no larger than 130m ³ .
	<u>Activity 27:</u> The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.	For the business development, vegetation will have to be cleared to allow space for the establishment of structures and infrastructure. The site is located in a critically endangered ecosystem (screening tool, disputed) and 9.0388ha in size. The site is also located in the Gauteng EMF zone 1 for urban development.
	<u>Activity 28:</u> Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for	The property is located outside an urban area and has not been fully developed yet and will be developed. The property is larger than 1 hectare, it is 9.0388ha hectares in extent. The

GNR & Date	Activity Number and Description	Project Description
	agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998, and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	property will be developed for business and transportation purposes. Though the property is not used for agricultural purposes, it is still zoned agriculture and will be rezoned for business 2 and transportation (mixed).

5.3 National Environmental Management: Biodiversity Act (NEMBA)

5.3.1 Commitment to biodiversity conservation

Although South Africa became a signatory to the Convention of Biological Diversity in 1998, the subsequent enactment of national legislation has affirmed our country's commitment to biodiversity and conservation as required in the CRSA. The National Environmental Management: Biodiversity Act (NEMBA), 2004 (Act 10 of 2004) has been promulgated by the South African President and was published in the Government Gazette in June 2004 (Volume 467; No. 26426). One of the objectives of this Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and to ensure the sustainable use of indigenous biological resources.

The Act, in protecting biodiversity, deals with:

- the protection of threatened ecosystems and species;
- the control of alien invasive species;
- the control of genetically modified organisms; and
- regulates bioprospecting.

As with NEMA, NEMBA incorporates and gives effect to international agreements relating to biodiversity.

5.3.2 Protection of threatened ecosystems and species

Ecosystems that are Critically Endangered, Endangered or Vulnerable can be listed in terms of Section 52 of the Act as threatened ecosystems at both national and provincial level. For example, Critically Endangered ecosystems are defined in the Act as being 'ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation'. Importantly, any land-use change application occurring within an ecosystem listed as Critically Endangered or Endangered will automatically require environmental authorisation.

The site is located in a critically endangered ecosystem according to the screening tool but this is disputed. The terrestrial biodiversity study indicates the habitat in the project area is typical of a peri-urban setting and includes built-up areas (industrial,

commercial and for human settlement), degraded areas that support a high abundance of invasive alien plant species, and some patches of natural grassland (TBC, 2022).

Threatened or Protected Species Regulations of 2013 (GNR388 of 2013): Part 2 of NEMBA provides for listing of species that are threatened or in need of protection to ensure their survival in the wild, while regulating the activities, including trade, which may involve such listed threatened or protected species and activities which may have a potential impact on their long-term survival. In February 2007, the Minister of Environmental Affairs and Tourism published a list of Critically Rare, Endangered, Vulnerable and Protected Species, according to Section 56(1) of the Act, which was updated again in 2013.

No threatened or protected species were identified during the terrestrial biodiversity study (TBC, 2022).

5.3.3 Control of alien invasive species

The list of alien and invasive species is intended to provide a legal framework to manage and control alien species that are considered invasive and that have the potential to threaten biodiversity, water resources and agricultural potential. NEMBA has identified all species that should be considered as alien or invasive species, as well as the restricted activities relating to each species. It is required by law (from 1 October 2014), for landowners to investigate the type and extent of alien invasive species growing on their property and to implement an effective control and eradication management plan.

Refer to Alien and Invasive Species Regulations, 2014 (GNR598). An alien invasive eradication programme must be compiled in order to control alien and invasive vegetation on site during construction and operation.

Alien and invasive species were found on the property (TBC, 2022).

NEMA Category 1b:

- ***Datura ferox (Large Thorn Apple)***
- ***Flaveria bidentis***
- ***Melia azedarach (Syringa)***
- ***Opuntia ficus-indica (Prickly Pear)***
- ***Pyracantha angustifolia (Yellow Firethorn)***
- ***Solanum mauritianum (Bugweed)***
- ***Verbena bonariensis (Wild Verbena)***

NEMBA Category 3:

- ***Ipomoea purpurea (Common Morning Glory)***

5.4 National Environmental Management: Waste Act (NEMWA)

In terms of the National Environmental Management: Waste Act (NEMWA), 2008 (Act 59 of 2008), the following is relevant to this project:

- GNR 926 of 29 November 2013. National Norms and Standards for the Storage of Waste.

The storage of waste material on the site before off-site recycling and disposal has to comply with these Norms and Standards.

5.5 National Water Act (NWA)

5.5.1 Water uses

The National Water Act (NWA), 1998 (Act 36 of 1998) Section 21 defines water use as:

- (a) taking water from a water resource.
- (b) storing water.
- (c) impeding or diverting the flow of water in a watercourse.
- (d) engaging in a stream flow reduction activity contemplated in section 36.
- (e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1).
- (f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.
- (g) disposing of waste in a manner which may detrimentally impact on a water resource.
- (h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
- (i) altering the bed, banks, course or characteristics of a watercourse.
- (j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.
- (k) using water for recreational purposes.

Although municipal water is planned to be used for the development, it is still important to remain cognisant of the legislation required for abstraction from groundwater sources as this was recommended (Selatile Moloi Consulting Engineers, 2022).

5.5.2 Legal requirements

The NWA states in Section 22 (1) that a person may only use water –

- (a) without a licence –
 - (i) if that water use is permissible under Schedule 1;
 - (ii) if that water use is permissible as a continuation of an existing lawful use; or
 - (iii) if that water use is permissible in terms of a general authorisation issued under section 39;
- (b) if the water use is authorised by a licence under this Act; or
- (c) if the responsible authority has dispensed with a licence requirement under subsection (3).

If the applicant cannot secure a municipal water supply connection and borehole water will have to be used, an application for a water use license (WUL) will be required.

5.6 Conservation of Agricultural Resources Act (CARA)

Conservation of agricultural potential:

The aim of the Conservation of Agricultural Resources Act (CARA), 1983 (Act 43 of 1983) is to provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.

To achieve this aim, the following objectives are included:

- To provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land;
- The combating and prevention of erosion and weakening or destruction of the water sources, and
- The protection of the vegetation and the combating of weeds and invader plants.

In terms of the amendments to the regulations under the CARA, landowners are legally responsible for the control of alien invasive vegetation species on their properties. An alien invasive eradication programme must be compiled in order to control alien and invasive vegetation on site during construction and operation.

5.7 National Heritage Resources Act (NHRA)

5.7.1 Legislation

The National Heritage Resources Act (NHRA), 1999 (Act 25 of 1999) requires protection of the following cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years;
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography;
- c. Objects of decorative and visual arts;
- d. Military objects, structures and sites older than 75 years;
- e. Historical objects, structures and sites older than 60 years;
- f. Proclaimed heritage sites;
- g. Grave yards and graves older than 60 years;
- h. Meteorites and fossils; and
- i. Objects, structures and sites of scientific or technological value.

The national estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance;
- b. Places to which oral traditions are attached or which are associated with living heritage;
- c. Historical settlements and townscapes;
- d. Landscapes and features of cultural significance;
- e. Geological sites of scientific or cultural importance;
- f. Archaeological and paleontological importance;
- g. Graves and burial grounds;
- h. Sites of significance relating to the history of slavery; and
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.).

No archaeological artefacts or graves were found on site.

5.8 Other documents

The following documents were also considered:

- Department of Environmental Affairs (DEA), 2017. Integrated Environmental Management Guideline. Guideline on need and desirability. ISBN 978-0-9802694-4-4.
- DEA, 2017. Public participation guideline in terms of NEMA, 1998 EIA regulations. ISBN 978-0-9802694-2-0.
- Midvaal Local Municipality Final 2021/2022 Integrated Development Plan
- Midvaal Local Municipality Final 2021/2022 Spatial Development Framework
- Midvaal Local Municipality Nodal Policy Review, 2021

6 ENVIRONMENTAL SETTING

6.1 Socio-economic Environment

Province:	Gauteng
District Municipality:	Sedibeng District Municipality (SDM)
Local Municipality:	<p>Midvaal Local Municipality (MLM)</p> <p><u>Size:</u> 1722km²</p> <p><u>Population:</u> 111 612 people with 3.6% growth rate per annum. Predominantly rural with extensive farming constituting about 50% of the total area. High population density around R59. Major employment sectors: Manufacturing, Financial and Business Services and Trade.</p> <p>Major transport routes include the N1, N3, R82 and the R59 (major development corridor).</p>
Roads:	<p>The R59 comes off the N12 in the area of Alberton.</p> <p>The R59 is located 6km west of the site and Heidelberg Road (R550) exits from the R59.</p> <p>Site is directly south of R550 – Heidelberg Road.</p>
Surrounding land use:	<p>North: Road (R550 Heidelberg Road); Residential (Palm Ridge and other extensions of Ekurhuleni).</p> <p>South & west: Agricultural (Long Farm Sheep & Goats); Kliep Abattoir & Butchery; Church (Blessed Jerusalem); Retail (Sky City); Residential</p>
Zoning of property:	<p><u>Current:</u> Agriculture</p> <p><u>Planned:</u> Business 2 & Transportation</p>
Integrated Development Plan (IDP):	<p><u>Structuring elements:</u> Strong regional linkages to major economic cores (Johannesburg, Ekurhuleni, Vereeniging-Vanderbijlpark complex) which include routes R59 and R82, and the Vereeniging-Germiston railway line. Mainly agricultural and rural/township land with important natural structures and conservation areas (Suikerbosrand Nature Reserve and the Vaal River). R59 Development Corridor offering transport and distribution opportunities.</p> <p><u>Settlements:</u> 58 Townships (30 996 Stands), 85 Farms (3 415 Portions) and 34 other Settlements (4 334 small / agricultural holdings). The greatest number of informal settlements are situated towards the east and centre of the municipality.</p> <p><u>Economic activities:</u> Manufacturing (22,37%), General government (18,13%), Transport, storage & communication (18,05%), Trade (12,49%), Finance (7.87%).</p> <p>The IDP theme for 2021/2022: Growth and Employment with specific focus on the following key sectors for growth: Agriculture, Construction, Tourism and Commercial (Retail).</p>

	<p>The establishment of the filling station and the associated businesses would certainly contribute to the IDP's goals and stimulation of the economy.</p> <p>Employment opportunities will be provided during both the construction and operational phases of the project. The large supply of labour in the area will be beneficial for local recruitment, ensuring upliftment of the local communities.</p>
Spatial Development Framework (SDF):	<p>2021/2022:</p> <ul style="list-style-type: none"> • Implementation of an urban development boundary to protect sensitive biodiversity/agricultural areas; • Social facilities and services at specific nodal points; • Spatial targeting – priority areas for urban development; • Incremental upgrading and expansion; • Precinct Plans for priority nodes and the R59 Development Corridor for future Business, Commercial and Industrial development; • Future Agri-Hub development (to provide more residents access to the formal economy), and all high potential agricultural land is reserved for exclusive agricultural use; • Several strategically located areas for enhanced tourism development. <p>The R59, R82 and R550 have been identified as Development Corridors, selected to catalyse economic growth and development. The project is situated along the R550 which also feeds directly into the R59.</p> <p>Another focal point of the SDF is the development of a diverse range of industrial, commercial and mining activities through partnerships with the private sector, with specific focus along the R59 Corridor and at the designated nodal points.</p> <p>The proposed development is situated very close to the Waterval Neighbourhood Node, as defined in the Waterval Precinct Plan. The Waterval settlement area is expected to undergo significant growth in future, emanating from the R59 Development Corridor and the K154/R550 link road which serves a number of strategic economic activities in this region.</p>
Growth areas:	<p>The bulk of the municipal population are concentrated in the north-western parts of the MLM, specifically along the R82 and R59 freeways, the precinct in between the two freeways, and in and around Meyerton.</p> <p>Residential growth/urbanisation mainly around Meyerton, Golf Park, Randvaal, Risiville and nearby agricultural holdings.</p> <p>Growth in Ekurhuleni also support this development.</p>
Economy:	R144 993 658 for MLM.

	<p>The total GVA (Gross Value Added) for Sedibeng was R49 billion in 2018, of which Midvaal contributed R7 billion. Midvaal had the second highest GVA growth rate of 2.79% between 2001 and 2018.</p> <p>Economic structure:</p> <ul style="list-style-type: none"> • Primary (6.59%) <ul style="list-style-type: none"> ○ Agriculture, forestry and fishing (1.65%) ○ Mining and quarrying (4.94%) • Secondary (31.13%) <ul style="list-style-type: none"> ○ Manufacturing (22.37%) ○ Utilities (3.82%) ○ Construction (4.94%) • Tertiary (62.29%) <ul style="list-style-type: none"> ○ Trade (12.49%) ○ Transport, storage and communication (18.05%) ○ General government (18.13%) ○ Finance (7.87%) ○ Community, social and personal services (5.75%) <p><u>Economic growth (2001 – 2018):</u> Midvaal's strongest sectors included Mining and Quarrying (6.88%), Construction (5.31%) and Transport and logistics (4.43%) Average annual = 2.79%</p>
Employment:	<p>High level of economically active population (70.4%) and therefore a large supply of labour.</p> <p>Of the economically active population, 81.2% are employed and 18.8% are unemployed.</p> <p>69.84% of potential labour force participate in the local economy.</p> <ul style="list-style-type: none"> • 73.2% in the formal sector • 10.11% in the informal sector • 16.68% in private households
Demographics:	<p><u>Population size:</u> 46 068 (15 - 64 years)</p> <p>69.84% active in labour market (labour force of 32 176 people). Largest contribution to the municipal economy (53.5%) is along the R59 Development Corridor.</p> <p><u>Population growth:</u> 3.6% average per annum.</p> <p><u>Households:</u> 38 984 Growth: 3% average per annum. Majority of households earn between R 21 350 - R 42 698 per annum.</p>

	<p><u>Gender:</u> 52% male 48% female</p> <p><u>Race:</u></p> <ul style="list-style-type: none"> • 58.5% African Black • 39.1% White • 1.6% Coloured • 0.8% Indian/Asian <p><u>Education:</u></p> <ul style="list-style-type: none"> • 4% degree • 7% diploma/certificate • 55% secondary education <p><u>Age profile:</u></p> <ul style="list-style-type: none"> • 6.2% (65 years and older) • 13.4% (50 – 64 years) • 21.4% (35 - 49 years) • 27.7% (20 – 34 years) • 8.0% (15 – 19 years) <p><u>Economically active:</u></p> <ul style="list-style-type: none"> • 70.4% of population • 81.2% are employed • Average annual income of R189 524 (R15 794/month) • A significant portion of the population in the market area earns no income at all (13.9%) • 68% in skilled occupations (>R19 600/month) • 19% in semi-skilled occupations (<R19 600/month) • 3% in low-skilled occupations (<R4 800/month)
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6.2 Biophysical Environment

Topography:	Site falls from northwest (1 530mamsl) towards southeast (1 524mamsl). 6m fall over a distance of 420m.
Water Management Area (WMA):	5 Vaal
Quaternary catchment:	C22E
Closest water course:	Rietspruit: 1.8km south and 1km east
Climate:	<p>Gauteng Highveld climatic zone Subtropical highland climate (Cwb) according to the Köppen-Geiger Climate classification. Summer (October – April): Sunny and warm with occasional late afternoon downpours. Winter (May – September): Sunny and dry with cool days and cold nights. Regular cold fronts.</p> <p><u>Temperature:</u> Average midday: 18°C in June to 28°C in January. Coldest during July when it drops to 0.1°C on average during the night.</p> <p><u>Rainfall:</u> Mean annual rainfall for the area is 813 mm. The highest rainfall occurs in January (128.4 mm) and December (145 mm). Lowest rainfall in July (4mm).</p>
Water demand for project:	28.38m ³ /day or 10 358.7m ³ /annum
Water users in area:	Municipal and borehole water supply. Domestic, garden, industrial, watering of livestock and irrigation purposes.
Water supply:	No municipal water supply currently but investigated.
Geology:	Tholeiitic basalt.
Ecosystem (TBC, 2022):	<p>Threat status: Least Concern Protection status: Poorly protected Minor pockets of a “critically endangered” vegetation unit, Klipriver Highveld Grassland.</p>
Biome (TBC, 2022):	Grassland
Vegetation type (TBC, 2022):	<p>Carletonville Dolomite Grassland (Gh15) Vulnerable National target for conservation: 24%</p>
Field assessment (TBC, 2022): 16 February 2022 Alien invasive species	<p>NEMA Category 1b:</p> <ul style="list-style-type: none"> • <i>Datura ferox</i> (Large Thorn Apple) • <i>Flaveria bidentis</i>

	<ul style="list-style-type: none"> • <i>Melia azedarach</i> (Syringa) • <i>Opuntia ficus-indica</i> (Prickly Pear) • <i>Pyracantha angustifolia</i> (Yellow Firethorn) • <i>Solanum mauritianum</i> (Bugweed) • <i>Verbena bonariensis</i> (Wild Verbena) <p>NEMBA Category 3:</p> <ul style="list-style-type: none"> • <i>Ipomoea purpurea</i> (Common Morning Glory)
Field assessment (TBC, 2022): 16 February 2022	<p><u>Flora species:</u> Identified 68 woody, graminoid, shrub and herbaceous plant species</p> <p><u>Birds:</u> Identified 19 bird species. Avian diversity recorded was not considered unique and is typical of what occurs across large areas of the Grassland Biome.</p> <p><u>Reptiles & amphibians:</u> No reptile or amphibian species due to lack of suitable habitat.</p> <p><u>Mammals:</u> No mammal species due to lack of suitable habitat as well as ecological risk from past or current land-use as well as edge effects from human settlement resulting in the project area being in a degraded state.</p> <p><u>Habitat:</u> The habitat in the project area is typical of a peri-urban setting and includes built-up areas (industrial, commercial and for human settlement), degraded areas that support a high abundance of invasive alien plant species, and some patches of natural grassland.</p> <p>Floral habitat units identified:</p> <ul style="list-style-type: none"> • Transformed Habitat: <ul style="list-style-type: none"> ○ Cleared of natural vegetation for a number of reasons. ○ Floral communities are of low importance and significance as little to no vegetation remains. ○ Not regarded as sensitive and does not provide an ecologically important function. • Degraded Grassland Habitat: <ul style="list-style-type: none"> ○ Degraded bushveld which is at various stages of succession and degradation. ○ Vegetation is dominated by secondary successional grasses and alien invasive plant species. ○ The majority of habitat around the proposed project area has also been transformed although remnant patches remain in small areas.

6.2.1 Biodiversity overview

The following is just a summary overview of the Biodiversity Assessment (TBC, 2022) and further details can be viewed in the report in Appendix D.

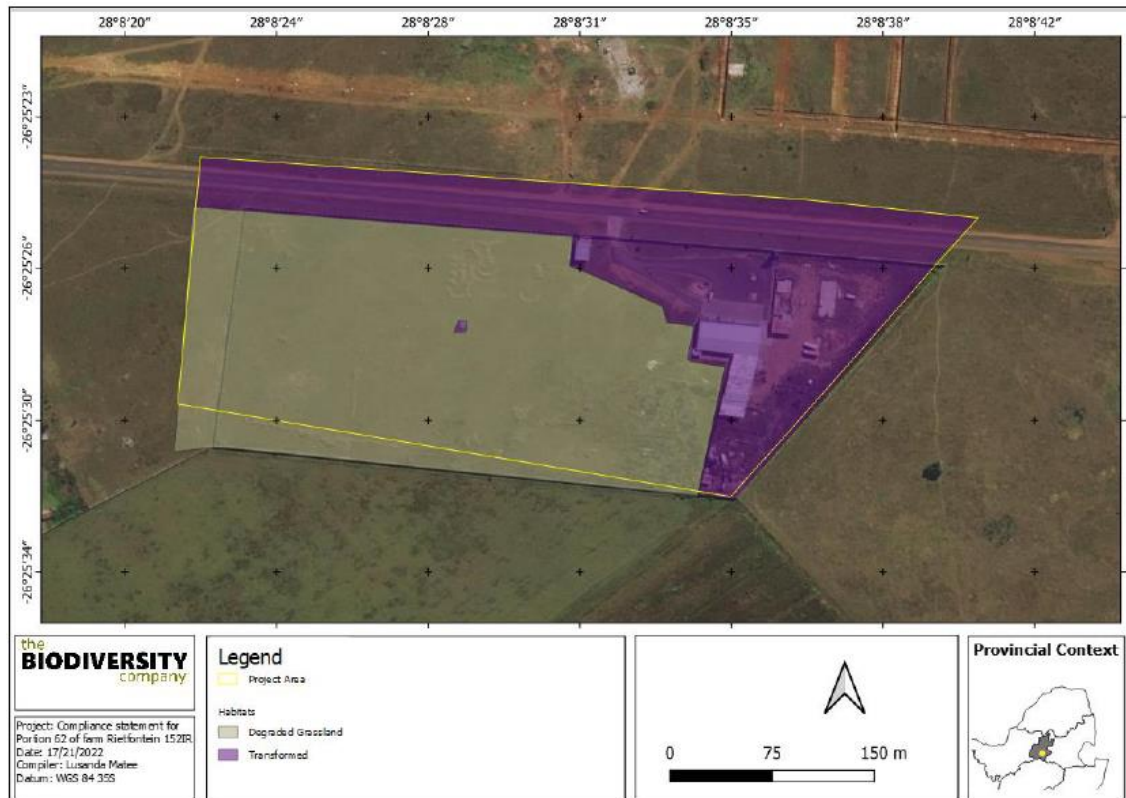


Figure 6-1: Habitat units identified (TBC, 2022)



Figure 6-2: Site sensitivity (TBC, 2022)

6.2.2 Heritage Overview

A heritage impact assessment exemption letter was compiled (ArchaeTnos, 2022) due to the low sensitivity and disturbance of the site and further details can be viewed in the report in Appendix D.

6.3 Services

6.3.1 Electricity

The following information is extracted from the Electrical report by Selatile Moloi Consulting Engineers (Appendix D):

- Supplier: Eskom
- Structure: Overhead line and pole mounted transformer arrangement.
- Existing capacity: 50kVA
- Demand: 1 756.5kVA rounded to 2 000kVA
- Option 1 (preferred option due to time constraints): Strengthen existing powerline from Germiston Sewerage Substation (11kVA)
- Option 2: Build a new powerline from the Zonkizizwe substation (22kVA)

6.3.2 Water

The following is extracted from the Water and Sanitation report by Selatile Moloi Consulting Engineers (Appendix D):

- Gross annual average water demand: 28.38m³/day

- Klipwater Tower has a capacity of 200m³ and is 2km away. If spare capacity is available, the cost for bulk infrastructure would be high.
- Recommended: Borehole water supply – will require a WUL.
- Future: Municipal water supply network when available.
- Infrastructure required:
 - Ground reservoir with a capacity of 417m³ over 48 hours
 - Elevated water tank with a capacity of 19m³ over 4 hours
 - Internal water reticulation
 - Internal fire reticulation of 110mm diameter uPVC pipe

6.3.3 Sanitation

The following is extracted from the Water and Sanitation report by Selatile Moloi Consulting Engineers (Appendix D):

- Peak wet sewage discharge: 64.73m³/d
- Infrastructure required:
 - Internal sewer reticulation of 160mm diameter uPVC pipe
 - Sewage outfall of 160mm diameter uPVC pipe
 - 65 m³/d Waste Water Treatment Package Plant
- Treated effluent to conform to the Special Standards of the DWS.
- The treated effluent will supply a storage facility that will be used for irrigation purposes within the proposed site.

Note: This suggestion will require a WUL.

6.4 Supporting information

Appendix D contains copies of the specialist studies.

7 ALTERNATIVES CONSIDERED

7.1 Land use alternative

7.1.1 Agricultural activities

Though the site is zoned agriculture, there are no agricultural activities taking place or planned and the site is partly developed with buildings from which businesses are operating. It could not be established when last the property was used for agricultural purposes.

7.1.2 Existing

Existing activities on the site include business as planned (New Sky Wholesale Market). The site is however, currently, underutilised (only 30% utilised).

7.1.3 Planned

The planned development will utilise the property to full capacity.

No land use alternatives were therefore assessed.

7.2 Alternative layout

The layout was determined by the access from the R550 (Heidelberg Road).

No alternative layout was therefore assessed.

7.3 No-go alternative

The no-go alternative would be to refuse the project. This will result in:

- Property vulnerable for illegal settlements and dumping of waste.
- Underutilisation of property of 9.0388ha with only about 30% being utilised.
- Loss of job opportunities associated both with the construction and operational phases.

7.4 Services

7.4.1 Electrical Option 1: Preferred

Strengthen existing powerline from Germiston Sewerage Substation (11kVA).

Advantages:

- Upgrade of an existing powerline (less work, less cost, less issues).
- No need for servitude applications and / or land acquisition processes.
- No land issues (no community involvement).
- Save time.

Disadvantages:

- Limited capacity (11kVA).
- Uncertainty if there is capacity available (to be established).

Cost: R3.105 million

7.4.2 Electrical Option 2

Build a new powerline from the Zonkizizwe substation (22kVA).

Advantages:

- Provides greater capacity (22kVA).
- Allows for future expansions.

Disadvantages:

- Building a new powerline (work, cost, processes, potential issues).
- Secure servitudes and / or acquiring privately-held land.
- Community consultation.
- Another EIA application.
- Time required.

Cost: R3.45 million

This option / alternative was not assessed since it would require another EIA.

7.4.3 Water Option 1: Municipal

Klipwater Tower has a capacity of 200m³ and is 2km away.

Advantages:

- Option for the future when municipal network has been expanded.

Disadvantages:

- Uncertainty if there is capacity available (to be established).
- High cost for bulk infrastructure.

7.4.4 Water Option 2: Borehole

Advantages:

- No reliance on service provider.

Disadvantages:

- Geohydrological study required (sustainability, impact on other water users etc.).
- Water Use License Application in terms of the NWA required from DWS.

This option / alternative was not assessed since it would require a geohydrological study to quantify impacts as well as a WUL application.

8 PUBLIC PARTICIPATION PROCESS

8.1 Summary

Table 8-1: Summary of the public notices and notification process

Newspaper notice:	Newspaper: Sedibeng Ster Date: 2022-02-23 – 2022-03-01 Page: 5 Refer to Appendix E for tear sheet.
Site notices:	Date placed: 2 March 2022 Size of notices: 800 X 600 mm Number of notices placed: 3 Wording and Location: Refer to Figures 8-1 - 8-3.
Interested and Affected Parties (I&APs):	<p>Number of I&APs notified by hand-delivery: 5 Number of I&APs notified by email: 30 Number of I&APs notified by registered mail: 0</p> <p>34 I&APs registered including:</p> <ul style="list-style-type: none"> • 7 neighbours (6 people) • 2 existing filling stations in area (BFS Klipriver Motors; Engen at Sky City) • 2 businesses currently on site • MLM (7 people) • Ward councillor (Ward 12) • SDM (4 people) • Ekurhuleni (neighbouring metro) • GDARD (1 person) • GPDRT (2 people) • DALRRD (1 person) • DWS (2 people) • SAHRA & PHRAG (SAHRIS) • Eskom (1 person) • 1 conservation organisation (Kliprivier-Suikerboschrand Conservancy) • 1 development consultant <p>Refer to Table 8-1.</p>
Comments received:	Yes
Comments relate to:	At this stage the comments received are related to the availability and reviewing of the Draft BAR. Comments received on the Draft BAR will be included when submitting the final report to the Authorities.

8.2 Introduction

The Public Participation Process (PPP) aims to provide all Interested and Affected Parties (I&APs) with clear, accurate and comprehensible information about the project for the proposed development for business purposes including filling station on Portion 62 (a portion of portion 27) of farm Rietspruit 152IR, Midvaal Local Municipality, Sedibeng District Municipality, Gauteng. In addition, the process seeks to provide I&APs with the opportunity to indicate their viewpoints on issues and concerns about the proposed project.

This process, therefore, enhances transparency and accountability in decision-making, as it allows all I&APs to suggest ways of avoiding, reducing or mitigating potential negative impacts, as well as enhance positive impacts of the proposed project. All inputs from the I&APs are considered in the planning process. Consequently, clear recording of all issues and concerns raised have been maintained in a comments and response register. This register has been updated when new issues or concerns were raised.

This section provides a methodical description of the PPP followed. It also contains a complete record of public notices, details of all registered I&APs and all communications to and from I&APs pertaining to the application.

8.3 Approach

The aim of the PPP is not only to adhere to the required legislation, but also to give as many stakeholders and I&APs as possible, an opportunity to be actively involved in this process.

The PPP has been carried out in accordance with Chapter 6 of the NEMA and in support of the EIA Regulations of 2014 as amended. Based on these Regulations, published in terms of Sections 39 to 44 of GNR 982 amended in GNR 326 of NEMA, the following steps were undertaken:

- Potential I&APs were identified through identification of neighbouring properties and property owners, windeed searches, conducting a site visit to the area on 2 March 2022, conducting interviews (telephonically and in person), through notices placed on the site (Figures 8-1 – 8-3) as well as through placing a notice in a local newspaper, the Sedibeng Ster;
- A stakeholder register was compiled in terms of Regulation 42 that includes national, provincial and local authorities, government departments, organisations, as well as landowners that may have an interest;
- I&APs were given more than 30 days to register and raise concerns (2 March – 30 April 2022) which included the 30 days legislative requirement to review the draft BAR (1 – 30 April 2022). A copy of the draft BAR was made available through an electronic channel (wetransfer) upon request. Any concerns that have been raised by I&APs were acknowledged, noted and addressed (Table 8-2) by the EAP where possible;
- A recorded summary of concerns raised by I&APs, as well as the responses from the EAP, were kept throughout the entire process.

8.4 Public awareness

8.4.1 Site Notices

Site notices, measuring 800 mm x 600 mm (white correx boards with black text) were placed at the site on 2 March 2022 at the following positions:

- North-western corner of the site against the site palisade fence facing the R550 (Heidelberg Road); 26° 25' 25.00" South, 28° 08' 23.80" East.
- West of current entrance road to the site from the R550 (Heidelberg Road) against the site palisade fence facing the R550 (Heidelberg Road); 26° 25' 25.60" South, 28° 08' 31.90" East.
- East of current entrance road to the site from the R550 (Heidelberg Road) against the site palisade fence facing the R550 (Heidelberg Road); 26° 25' 25.70" South, 28° 08' 32.40" East.

Each notice contained details regarding the applicant (Dabi Investments (Pty) Ltd), the nature of the activity (Proposed development for business purposes including filling station), the locality (Portion 62 (a portion of portion 27) of farm Rietspruit 152IR, Midvaal Local Municipality, Sedibeng District Municipality, Gauteng), and the contact details of the EAP (see Figure 8-1). The placement of the site notices was recorded by taking photographs of the placed notices on site, as well as by recording the GPS coordinates of these positions. See Figures 8-2 – 8-3. These notices remained on the site for the duration of the process (March - May 2022).

8.4.2 Newspaper Notice

A detailed newspaper notice was placed in the Sedibeng Ster Newspaper, published on 4 March 2022 (see Appendix E). Distribution areas of the newspaper are as follows:

- Mavangu
- Lakeside Proper
- Evaton North
- Lakeside Estate
- Lakeside North
- Graceland
- Golden Gardens
- West Side Park / Sebokeng X 21
- Beverly Hills
- Boitumelo
- Johandeo
- Polokong
- Palm Springs / Stretford X 1 & Stretford Proper
- Evaton West
- Dadaville
- Roshnee
- Rust-ter-vaal
- Sigelo
- Orange Farms
- Sebokeng
- Debonair Park
- Ironsyde
- Sharpville

- Tshepiso SP
- Bedworth Park
- Boipatong
- Boanne

The aim of placing a notice in the local newspaper was to create a greater awareness of the project and to invite a broader spectrum of I&APs to register and be part of the process.

91 000 copies of the newspaper are distributed weekly, free of charge. It reaches 364 000 readers.

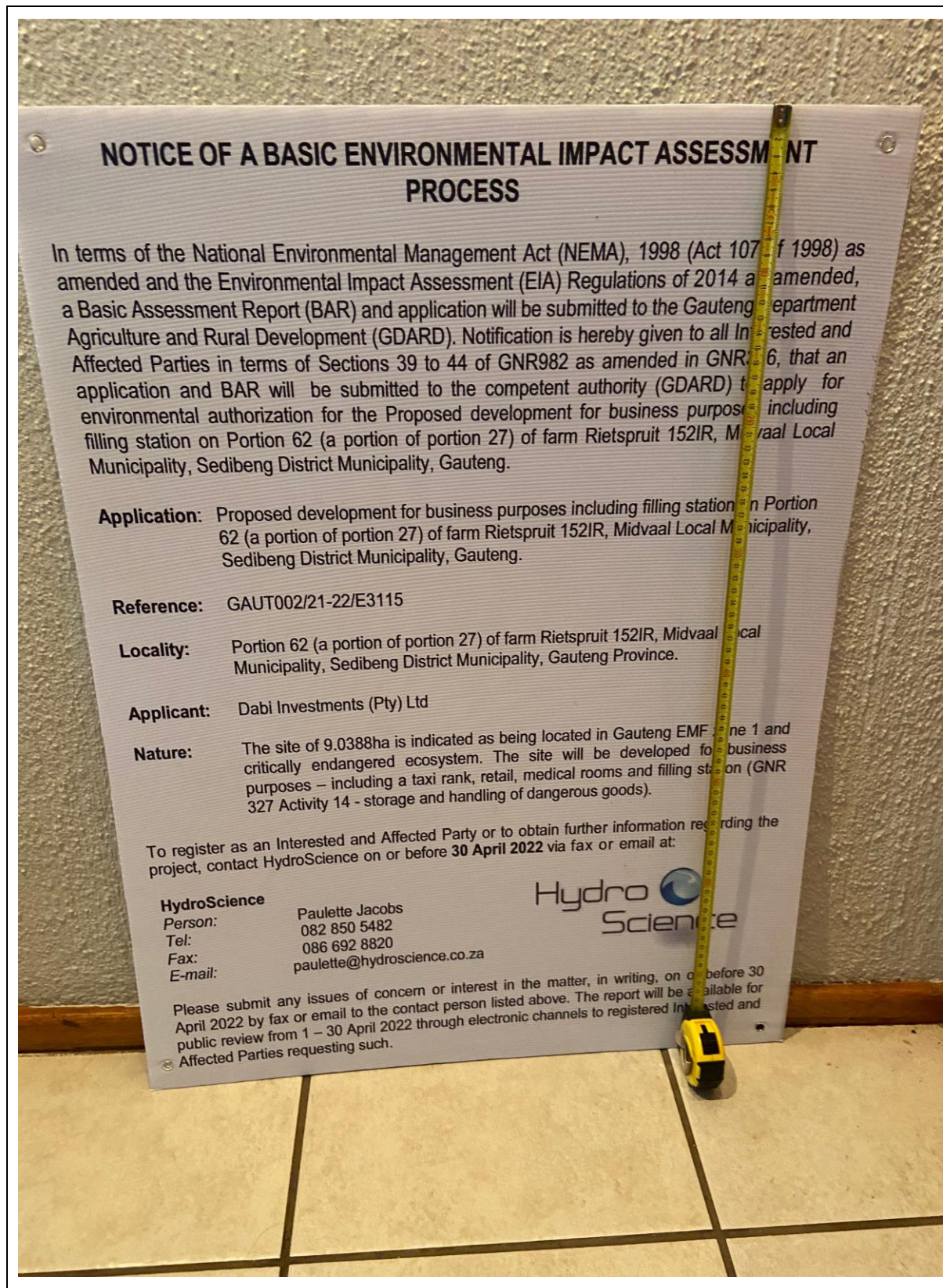
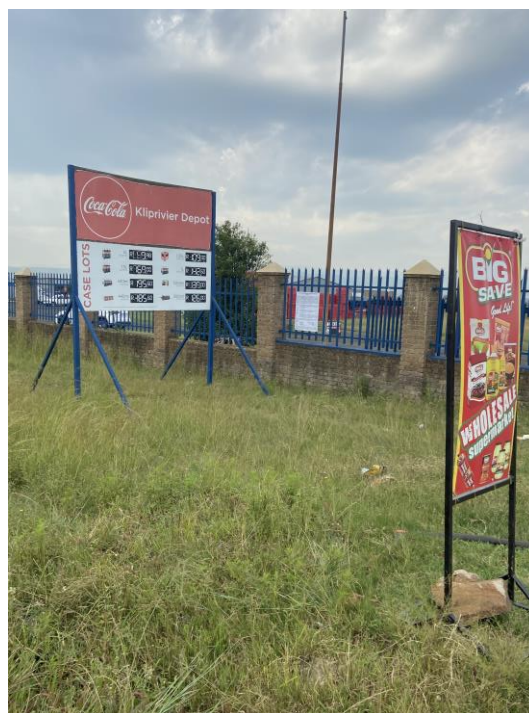


Figure 8-1: Wording and size of notices placed



North-western corner of the site against the site palisade fence facing the R550 (Heidelberg Road);
26° 25' 25.00" South, 28° 08' 23.80" East



West of current entrance road to the site from the R550 (Heidelberg Road) against the site palisade fence facing the R550 (Heidelberg Road);
26° 25' 25.60" South, 28° 08' 31.90" East.



East of current entrance road to the site from the R550 (Heidelberg Road) against the site palisade fence facing the R550 (Heidelberg Road);
26° 25' 25.70" South, 28° 08' 32.40" East.

Figure 8-2: Locality of notices placed

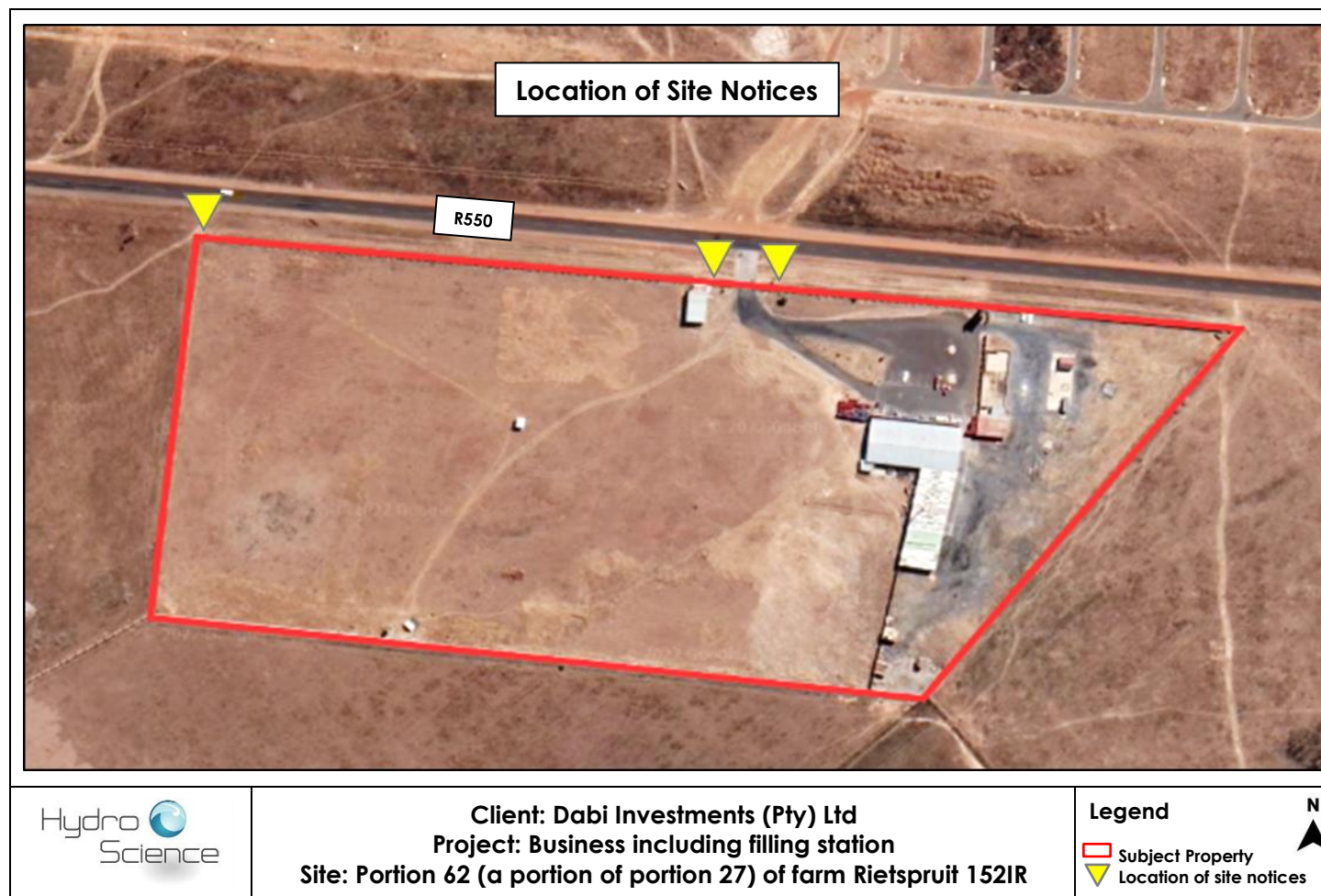


Figure 8-3: Aerial view of location of site notices

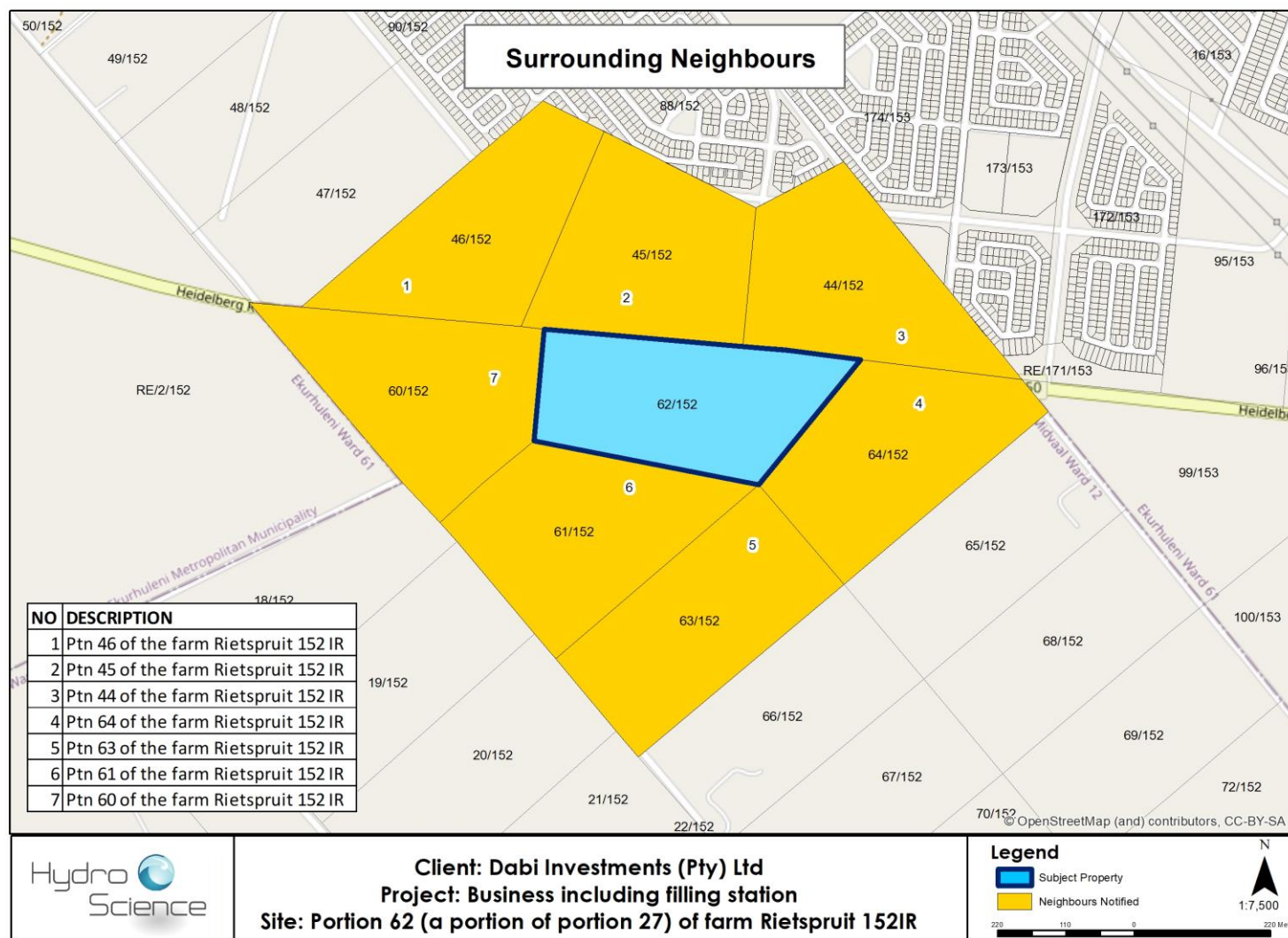


Figure 8-4: Neighbouring properties

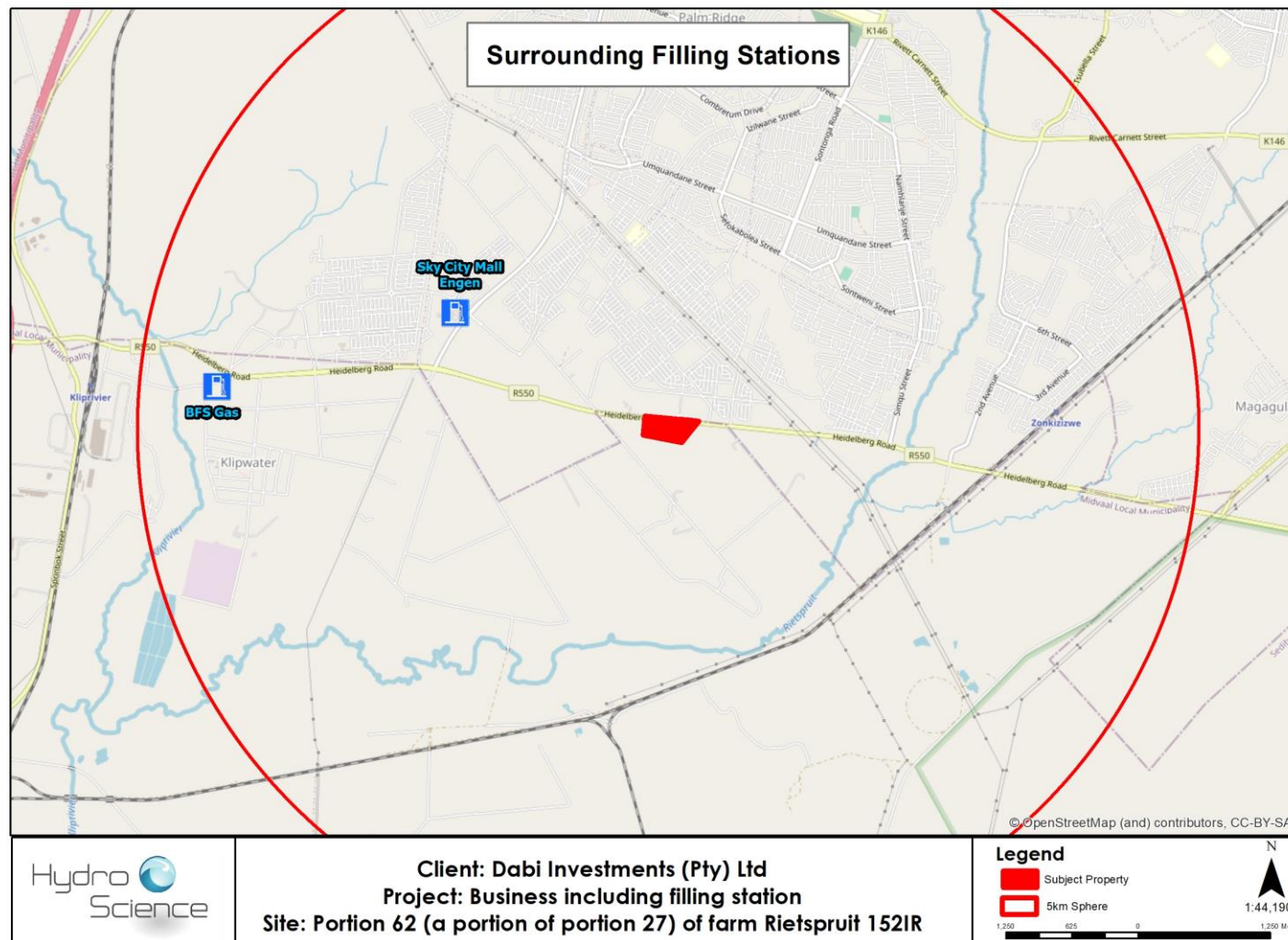


Figure 8-5: Other filling stations within a 5km radius

8.5 Comments and Response Register

Any concerns that were raised by I&APs during the process were recorded and addressed by the EAP where possible (see Table 8-3). All proof of communication can be seen in Appendix E.

Furthermore, all registered I&APs were given an opportunity to comment in writing (1 – 30 April 2022), on the draft BAR before its submission to the competent authority, GDARD, in May 2022.

8.6 BAR Submission

The draft BAR was made available through an electronic channel (wetransfer) upon request from 1 – 30 April 2022. All I&APs have therefore been given an opportunity to comment on this document. Once the period for comments lapsed, all comments made were included in the comments and response register.

After submission of the draft BAR to the authorities, during the public review period, the authorities listed below, were also afforded an opportunity to submit their comments to be addressed in the final BAR.

The final BAR (including all supporting documentation) will be submitted to GDARD for consideration. A decision will be provided by GDARD in terms of their considerations and findings and if authorised, conditions of the authorisation will be provided.

Table 8-2: Register of I&APs

Neighbouring landowners, residents and businesses		
Portion of farm Rietspruit 152IR:	Owner:	Interaction:
44, 45, 46	Greenfields Gardens (Pty) Ltd	2022-03-11 Email
60	Mthundholovhani Family Trust	No details available. Nobody on the property. Left notice in gate (see photograph)
61	Jose Gomes Vieira & Maria Vieira	2022-03-04 Email
63 & 66	House of Moss Laboratories CC	2022-03-04 Email
64	Sivajee Naidoo	2022-03-11 Email
On-site:	New Sky Wholesaler	2022-03-02 Hand-delivered
	Big Save Sky City	2022-03-02 Hand-delivered
Other filling stations within 5km:	Engen Sky City	2022-03-02 Hand-delivered
	Kliprivier Motors – BFS Gas Station	2022-03-02 Hand-delivered Objected 2022-03-29 Link to draft BAR

Authorities and other stakeholders:		
Authority / organisation / entity:	Section / Department:	Interaction:
Local authority: MLM	Integrated Environmental Management	Email: 2022-03-04 Draft report: 2022-04-01
	Development Planning	Email: 2022-03-04
	Roads and Transport	Email: 2022-03-04
	Waste Management	Email: 2022-03-04

Authorities and other stakeholders:		
Authority / organisation / entity:	Section / Department:	Interaction:
	Land Use	Email: 2022-03-04
	Ward 12 Councillor	Email: 2022-03-04
	Municipal Manager	Email: 2022-03-04
	Emergency Services: Fire Department	Email: 2022-03-04
District authority: SDM	Development Planning & Human Settlements	Email: 2022-03-04
	Transport & Infrastructure	Email: 2022-03-04
	Local Economic Development	Email: 2022-03-04
	Municipal Manager	Email: 2022-03-04
City of Ekurhuleni	Environmental Resource and Waste Management	Email: 2022-03-04
Provincial authority: GDARD	EIA Administration	Email: 2022-03-04 Draft report: 2022-04-01
Gauteng Province Department of Roads and Transport (GPDRT) – R550	Transport Infrastructure Planning	Email: 2022-03-04
Eskom	Land Development and Management	Email: 2022-03-04
National authority: DALRRD	Land Use and Soil Management	Email: 2022-03-04
Department of Water and Sanitation (DWS)	Institutional Establishment (Upper Vaal Catchment Management Area)	Email: 2022-03-04
South African Heritage Resources Agency (SAHRA)	Built Environment Unit	Email: 2022-03-04
	Archaeology, Palaeontology & Meteorites	Email: 2022-03-04
Provincial Heritage Resources Agency Gauteng (PHRAG)	HIA Applications	Email: 2022-03-04
	Built Environment Applications	Email: 2022-03-04

Authorities and other stakeholders:		
Authority / organisation / entity:	Section / Department:	Interaction:
	Heritage Officer	Email: 2022-03-04 Draft report: 2022-03-29 on SAHRIS
Klipriver-Suikerboschrand Conservancy	Chairperson	Email: 2022-03-04
Dr. Eugene Gouws INDEX (Pty) Ltd	Integrated Rural & Urban Development Consultants	Email: 2022-03-14

Table 8-3: Comments and responses

Comments & Responses Report		
I&AP:	I&AP Comment	EAP Response
Kliprivier Motors – BFS Gas Station 2022-03-03	Objects to the development. With the Engen opening last year, their sales volumes dropped from 200 m ³ to 80 m ³ and resulted in job losses (3).	Objection noted. Awaiting detailed objection as indicated. Supplied electronic link to draft BAR: 2022-03-29
GDRT 2022-03-07	Gauteng Strategic Transportation Network: provincial road K154 is affected. Application to be lodged with GDRT.	From town planner / project manager, Mr Sifiso Mhlono from Ibalazwe: The town planning application will be circulated to Gautrans. Started engagement with the department on access to site. Access was provisionally granted on condition a formal application be submitted with all relevant traffic studies.
Klipriver-Suikerboschrand Conservancy 2022-03-09	Requested to be registered. Requested the Draft BAR.	Registered. Draft BAR provided via courier (2022-04-01)
Dr. Eugene Gouws INDEX (Pty) Ltd 2022-03-14	Requested to be registered. Requested the Draft BAR.	Registered. Supplied electronic link to draft BAR: 2022-03-29

9 IMPACT ASSESSMENT

9.1 Methodology

The significance of the adverse environmental impacts identified were assessed in terms of their:

- Duration;
- Extent;
- Probability; and
- Severity.

The above was used to determine the significance of an impact without any mitigation, as well as with mitigation.

Nature of an impact: An impact's nature can be positive (+) or negative (-).

Consequence: Considers duration, extent and severity

Consequence = duration + extent + severity

Table 9-1: Environmental risk and impact assessment criteria

DURATION (D)		
Immediate	Less than 1 month	1
Short-term	2 - 24 months	2
Life of project	Operational phase	3
Post-closure	Time of rehabilitation and for re-establishment of natural systems	4
Residual	A permanent impact (100 years or more)	5
EXTENT (E)		
Site specific	Site of the proposed work (property)	1
Local	Site and immediate surroundings	2
Regional	Municipal area	3
Provincial	Provincial area	4
National	Republic of South Africa	5
PROBABILITY (P)		
Rare	<5% probability of occurrence – may occur in exceptional circumstances	1
Unlikely	15% - 6% probability of occurrence – could potentially occur at some time	2
Possible	45% - 16% chance of occurrence – might occur at some time	3
Likely	65% - 46% probability of occurrence – will probably occur in most circumstances	4
Almost Certain	90% - 66% probability of occurrence – is expected to occur	5
Definite	100%- will occur	6
SEVERITY (S)		
Catastrophic (critical)	Total change in area of direct impact, relocation not an option, death, toxic release off-site with detrimental effects, irreversible loss, huge financial loss	6

Significant (High)	> 70% change in area of direct impact due to loss of significant aspect, extensive injuries, long term loss in capabilities, off-site release to high extent, major financial implications	5
Serious	50 – 70% long-term loss, extensive rehabilitation / restoration / treatment required, high financial impact, still restricted in extent	4
Moderate (medium)	20 – 49% change, medium term loss in capabilities, rehabilitation / restoration / treatment required, on-site release with outside assistance, medium financial impact	3
Minor	10 – 19% change, short term impact that can be absorbed, on-site release, immediate containment, low financial implications	2
Insignificant (low)	< 10 % change in the area of impact, no financial implications, localised impact, a small percentage of population	1

[Duration (D) + Extent (E) + Severity (S)] x Probability (P) = Impact Significance (IS)

IMPACT SIGNIFICANCE (IS)		
Impact Significance	IS score range	Description
Low (L)	<15	The impact is minor or insubstantial; it is of little importance to any stakeholder and can easily be rectified.
Moderate Low (ML)	16 - 45	The impact is limited in extent, even if the intensity is major; the probability will only be likely, the impact will not have a significant impact considered in relation to the bigger picture; no major material effect on decisions and will require only small-scale management intervention bearing moderate costs.
Moderate High (MH)	46 - 70	The impact is significant to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.
High (H)	71 <	The impact could render options controversial or the entire project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in project decision-making.

9.2 Impact Assessment Ratings

The impacts and associated significance ratings for the project were assessed (Tables 9.2 and 9.3). The no-go option would not meet the project objective.

The planning phase activities are considered to be of a negligible impact significance as these typically involve desktop assessments and site inspections. A very low temporary impact may be experienced due to the increased presence of humans and vehicles / machinery.

Table 9-2: Preferred Option - Impacts and Significance for the proposed business and filling station development

Aspect and Description		Impact Rating (before mitigation)							Impact Rating (after mitigation)						
Aspect	Description	Nature of Impact (Positive/ Negative)	Spatial Scope/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)	Nature of Impact (Positive/Negative)	Spatial Scope/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)
FLORA - Damage or loss of habitat due to construction activities	Weeds and alien species will be introduced and seeds will spread due to disturbance.	N	2	4	4	1 0	6	60	N	2	4	4	10	3	30
	Vegetation will be removed in order to establish the site, access and excavations to install the tanks.	N	2	5	3	1 0	6	60	N	2	5	3	10	2	20
	Destruction, further loss and fragmentation of vegetation in already degraded grassland.	N	3	4	4	1 1	5	55	N	3	4	4	11	2	22
	Staff members / Contractors might create new pathways across the natural vegetation.	N	2	5	3	1 0	5	50	N	2	5	3	10	3	30
	Dumping of waste outside the designated area.	N	2	4	3	9 5	5	45	N	2	4	3	9	1	9
	Burning of vegetation on site.	N	2	4	3	9 5	5	45	N	2	4	3	9	1	9
	Storing of construction material and soil stockpiles outside the designated areas	N	2	4	3	9 3	3	27	N	2	4	3	9	1	9
FAUNA - Loss of species due to construction activities	Removal of plant species providing potential habitat	N	2	4	4	1 0	5	50	N	2	4	4	10	3	30
	Injury / death to fauna / avifauna due to poaching	N	3	4	4	1 1	3	33	N	3	4	4	11	1	11

	Dumping of waste and construction material outside the designated area	N	2	4	4	0	3	30	N	2	4	4	10	2	20
	Fires killing animals	N	2	4	4	0	5	50	N	2	4	4	10	1	10
	Reduced dispersal/migration of avifauna	N	3	4	4	1	3	33	N	3	4	4	11	2	22
	Disruption/alteration of ecological life cycles (breeding, migration, feeding) due to noise	N	3	4	3	0	5	50	N	3	4	3	10	2	20
	Disruption/alteration of ecological life cycles (breeding, migration, feeding) due to dust	N	3	4	3	0	5	50	N	3	4	3	10	2	20
	Disruption due to movement of construction vehicles in order to access the site but also while working on site	N	2	4	4	0	3	30	N	2	4	4	10	2	20
	Spillage/leaks of hydrocarbon or other hazardous material	N	2	4	4	0	4	40	N	2	4	4	10	2	20
SURFACE WATER - Pollution of surface water during construction and operation	Spillage of fuel / oil from construction vehicles or containers	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Spillage of chemicals	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Spillage of cement	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Mixing of cement on soil surface	N	1	2	3	6	6	36	N	1	2	3	6	2	12
	Maintenance or fixing of vehicles / machinery on site	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Washing of vehicles / machinery on site	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Compaction of the soil due to construction activities and movement of vehicles / machinery will increase the runoff	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Siltation and Erosion	N	1	2	3	6	6	36	N	1	2	3	6	2	12

	Washing up (bathing, hand washing a washing of dishes / containers or clothes)	N	2	2	3	7	6	42	N	2	2	3	7	1	7
GROUNDWATER - Pollution of the ground water system during the construction and operational phase	Spillage of fuel / oil from construction vehicles or containers	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Spillage of chemicals	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Spillage of cement	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Mixing of cement on soil surface	N	1	2	3	6	6	36	N	1	2	3	6	2	12
	Maintenance or fixing of vehicles / machinery on site	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Washing of vehicles / machinery on site	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Compaction of the soil due to construction activities and movement of vehicles / machinery	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Ablution facilities risk leakage	N	1	2	3	6	6	36	N	1	2	3	6	2	12
	Washing up (bathing, hand washing a washing of dishes / containers)	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Removal of vegetation	N	2	2	3	7	6	42	N	2	2	3	7	3	21
SOIL - Pollution and Compaction	Spillage of fuel / oil from construction vehicles or containers	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Spillage of chemicals	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Spillage of cement	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Mixing of cement on soil surface	N	1	2	3	6	6	36	N	1	2	3	6	2	12
	Maintenance or fixing of vehicles / machinery on site	N	1	2	3	6	5	30	N	1	2	3	6	1	6
	Washing of vehicles / machinery on site	N	2	2	3	7	5	35	N	2	2	3	7	1	7
	Erosion of soil	N	2	2	3	7	6	42	N	2	2	3	7	2	14

	Unnecessary loss of soils due to site preparation	N	1	2	3	6	6	36	N	1	2	3	6	1	6
	Compaction of the soil due to construction activities and movement of vehicles / machinery	N	2	2	3	7	6	42	N	2	2	3	7	3	21
	Washing away of soil from stockpiles	N	1	2	3	6	6	36	N	1	2	3	6	2	12
AIR QUALITY - Polluting or decreasing the quality of the air	Fires on site	N	2	2	4	8	5	40	N	2	2	4	8	1	8
	Emissions from construction vehicles	N	2	2	3	7	5	35	N	2	2	3	7	2	14
	Waste being airborne	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Cement bags / particles blown around	N	2	2	3	7	6	42	N	2	2	3	7	1	7
	Particulate matter and dust flying off moving vehicles	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Particulate matter may be lifted from the site and pose a health threat	N	2	2	3	7	5	35	N	2	2	3	7	2	14
VISUAL IMPACT - Change in the sense of place or decreasing the aesthetic value	Site clearance / removal of vegetation	N	2	2	4	8	6	48	N	2	2	2	6	2	12
	Dust created during the construction activities	N	2	2	3	7	6	42	N	2	2	2	6	2	12
	Waste on site	N	2	2	3	7	6	42	N	2	2	2	6	2	12
HEALTH - Spreading of diseases/ degradation in health	Using the veld for ablution instead of toilets	N	1	2	2	5	6	30	N	1	2	2	5	3	15
	Dust created during construction	N	2	2	2	6	6	36	N	2	2	2	6	3	18
	Dumping of waste on site	N	1	2	2	5	6	30	N	1	2	2	5	2	10
	Workers not using / wearing PPE	N	1	2	5	8	5	40	N	1	2	5	8	1	8
	Burning of material / hazardous waste on site	N	2	2	5	9	5	45	N	2	2	5	9	1	9
	Spreading of diseases	N	3	2	5	0	5	50	N	3	2	5	10	2	20
	Dehydration due to a lack of drinking water	N	1	2	5	8	5	40	N	1	2	5	8	1	8

NOISE	Noise from construction related activities	N	2	2	4	8	6	48	N	2	2	4	8	4	32
TRAFFIC - disturbance to the flow of traffic during construction	Increase in construction vehicles	N	2	2	3	7	6	42	N	2	2	2	6	3	18
	Traffic congestions due to the construction activities	N	2	2	3	7	6	42	N	2	2	2	6	3	18
SAFETY & SECURITY	Theft of construction material and equipment	N	1	2	4	7	5	35	N	1	2	4	7	2	14
	The site is unsafe for locals, especially kids playing on construction site or residents passing through the site	N	2	2	4	8	5	40	N	2	2	4	8	2	16
	Home owner security at risk due to influx of workers into area	N	2	2	4	8	5	40	N	2	2	4	8	2	16
	Construction vehicles at risk of theft or vandalism	N	1	2	4	7	5	35	N	1	2	4	7	2	14
	Unfair treatment of staff members can lead to dispute or strikes	N	1	2	3	6	5	30	N	1	2	3	6	2	12
	Safety risk when crossing busy roads to get to work / construction site	N	1	2	4	7	5	35	N	1	2	4	7	2	14
	Using inappropriate working methods or equipment	N	1	2	4	7	5	35	N	1	2	4	7	1	7
	Workers not wearing the correct PPE	N	1	2	4	7	5	35	N	1	2	4	7	1	7
SOCIO-ECONOMIC	Impact on other filling station businesses	N	2	3	3	8	6	48	N	2	3	2	7	5	35
	Disruption arising during the construction	N	1	1	2	4	2	8	N	1	1	1	3	1	3
	Decommissioning the filling station will sterilise future land-use options	N	2	5	2	9	2	18	N	2	4	1	7	1	7
	Maintenance and house-keeping	N	2	5	2	9	3	27	N	2	5	1	8	2	16

Table 9-3: No-go Impacts and Significance

Aspect and Description		Impact Rating (before mitigation)							Impact Rating (after mitigation)						
Aspect	Description	Nature of Impact (Positive/ Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)	Nature of Impact (Positive/Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)
FLORA - Damage or loss of existing vegetation	Maintenance of the property or no maintenance at all could result in the spread of weeds and alien species.	N	2	4	3	9	5	45	N	2	2	2	6	3	18
	Vacant sections of the property being used for illegal dumping.	N	2	4	3	9	5	45	N	2	2	2	6	1	6
	Vacant sections of the property being used for illegal settlements (shacks).	N	2	4	4	10	5	50	N	2	2	2	6	1	6
FAUNA - Loss in species due to neglect	Dumping of waste, illegal settlers and no maintenance at the property can result in the invasion of pests.	N	2	4	3	9	5	45	N	2	4	3	9	2	18
SURFACE WATER - Pollution/ Contamination of surface water (storm water/ runoff)	Ablution in the vacant areas. Ablution facilities risk leakage if not properly maintained and secured.	N	2	2	4	8	6	48	N	2	2	4	8	1	8

Aspect and Description		Impact Rating (before mitigation)							Impact Rating (after mitigation)						
Aspect	Description	Nature of Impact (Positive/ Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)	Nature of Impact (Positive/Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)
SOIL - Pollution/ Contamination of Soil	Leaching from illegal waste dumping.	N	1	2	4	7	6	42	N	2	2	4	8	1	8
	Compaction of soil due to illegal settlers occupying the property.	N	1	2	4	7	6	42	N	2	2	4	8	1	8
	Soil erosion due to the removal of vegetation associated with informal settlements.	N	1	2	4	7	6	42	N	2	2	4	8	1	8
	Ablution facilities risk leakage if not properly maintained and secured.	N	1	2	4	7	6	42	N	2	2	4	8	1	8
VISUAL IMPACT - Change in the sense of place or decreasing the aesthetic value	Property and buildings being neglected or vandalised.	N	2	4	2	8	6	48	N	2	4	2	8	1	8
	Illegal settlers occupying the property	N	2	4	2	8	6	48	N	2	4	2	8	1	8
	Waste/illegal dumping on site	N	2	4	2	8	6	48	N	2	4	2	8	1	8
HEALTH - Spreading of deceases/ degradation in health	Dumping of waste on site or vandalising the buildings could result in pests, such as rats, being introduced.	N	2	2	3	7	6	42	N	2	2	3	7	2	14
	Increase in pests	N	2	2	3	7	5	35	N	2	2	3	7	2	14
SAFETY & SECURITY	Theft of material or vandalism of the buildings on site	N	1	2	4	7	5	35	N	1	2	4	7	2	14

Aspect and Description		Impact Rating (before mitigation)							Impact Rating (after mitigation)						
Aspect	Description	Nature of Impact (Positive/ Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)	Nature of Impact (Positive/Negative)	Spatial Scape/ Extent (6)	Duration (6)	Severity (6)	Consequence	Probability (6)	Significance (108)
	Property neglected and vandalised could become a hotspot for criminal activities such as drugs.	N	3	4	4	11	5	55	N	3	4	4	11	2	22
SOCIO-ECONOMIC	Drop in market value for the property but also surrounding properties if the site is vandalised, illegal dumping occurs or illegal settlers start occupying the property.	N	2	4	3	9	3	27	N	2	4	1	7	1	7
	Lack of access to needed services as well as the associated loss of income from these businesses.	N	2	4	5	11	5	55	N	2	4	1	7	1	7
	Loss of job opportunities associated with development during both the construction and operational phase.	N	2	3	5	10	5	50	N	2	3	1	6	1	6

10 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

10.1 Alterations to the EMPr

As EMPrs should remain dynamic and flexible, certain conditions may require the EMPr to be revised. These conditions may include the following:

- Changes in legislation;
- Published/gazetted norms and standards;
- Occurrence of unanticipated impacts or impacts of greater significance, intensity and extent than anticipated;
- Conditions in environmental authorisation or other authorisations which do not form part of the EMPr;
- Inadequate mitigation measures, i.e. where the level of an environmental parameter is not conforming to the required level despite the implementation of the mitigation measure; and
- Secondary impacts which occur as a result of the mitigation measures.

10.2 Responsibility

The Applicant, DAbi Investments (Pty) Ltd, will be responsible for the implementation of all mitigation and management measures as well as the compliance with this EMPr and any license and authorisation conditions.

The applicant will delegate its responsibilities to an Environmental Control Officer (ECO) during the construction phase.

Each contractor involved in the project will comply with the EMPr.

The ECO will be suitably qualified to perform the necessary tasks and will be appointed at a level such that he/she can interact effectively with site contractors, labourers and the public.

The ECO will be required to perform the following tasks:

- Monitoring and execution of the EMPr by being on site regularly (weekly);
- Inspect the site as required to ensure adherence to the management actions of the EMPr and authorisations/licences (compliance assessments/audits);
- Complete Site Inspection Forms on a weekly basis;
- Provide inputs to or compile the environmental compliance assessment report;
- Liaise with contractors on issues relating to implementation of, and compliance with, the EMPr and authorisations/licences;
- Maintain a record of environmental incidents (spills, impacts, legal transgressions etc.) as well as corrective and preventive actions taken; and
- Maintain a public-complaints register in which all complaints are recorded.

The conditions of the authorisation/licences and EMPr will be brought to the attention of all persons (employees, workers, consultants, contractors etc.) associated with the undertaking of these activities and the applicant will take such measures that are necessary to bind such persons to the conditions thereof (contracts with penalties for non-compliances).

The applicant can further enforce this by running workshops in order to raise environmental awareness. These workshops should cover aspects such as fire prevention, strict use of ablution facilities and

general duty of care. A pamphlet can be handed out on socially acceptable and environmentally responsible conduct such as water conservation, waste management etc.

Entity:	Responsible Person:	Contact details:
Applicant	Alberto Das Fontes	Unknown
Environmental Control Officer	To be appointed by the Applicant	

10.3 Activities causing potential impacts

The following activities could cause potential impacts if not managed properly or if no mitigation measure is implemented:

- Removal of vegetation during construction;
- Establishment of the construction camp site / office;
- Access roads and movement of machinery/heavy vehicles/equipment on site during construction;
- Disturbances creating conditions for alien invasive species to spread;
- Hydrocarbon spills / leakages during construction and operational phase;
- Poor waste management and littering during construction and operational phase;
- Dumping of material/waste;
- Stockpiling of soil and material during construction;
- Poor management of water (storm water & potable water);
- Poor management of ablution facilities and sewage;
- Random events such as fire;
- Poaching or removal of fauna species.

10.4 Potential Impacts

10.4.1 Negative Impacts

- Destruction, further loss and fragmentation of the remaining grassland;
- Displacement of avifaunal community due to habitat loss, direct mortalities and disturbance (noise, dust and vibration);
- Infringement by humans into adjacent natural grassland areas, with associated impacts such as poaching, litter as well as introduction of pests, diseases and feral species;
- Erosion due to clearance of vegetation, compaction of soil or poor management of stockpiling areas;
- Pollution/contamination of soil, surface water and groundwater due to leakages or spillages of fuel, oil and hazardous substances;
- Pollution/contamination caused by littering or dumping of building waste (rubble);
- Dust and noise.

10.4.2 Positive impacts

- The property will be fully utilized and will therefore not form a potential site for illegal settlements and / or dumping;
- The provision of needed services (taxi rank, retail, medical rooms and filling station) for the surrounding community (Palm Ridge extensions and passer-by traffic);

- Employment opportunities associated with both the construction and operational phases.

10.4.3 No-go Option impacts

- Underutilisation of the property;
- Risk of illegal settlers using the property;
- Risk of illegal dumping;
- Deterioration of property and buildings due to lack of maintenance and disuse;
- Deterioration of property values; and
- Risk that the property will be invaded by alien and invasive species.

10.5 Management measures

Dedicated measures have been identified to manage the impacts identified above (Table 9.2). The purpose of the EMPr is to ensure that undue or reasonably avoidable adverse impacts of the project are prevented; that impacts which cannot be prevented are managed to reduce their significance; and that the positive benefits of the project are enhanced. The applicant is responsible for the implementation of recommendations and mitigation/management measures and HydroScience cannot and will not take responsibility for the actions of the applicant or lack thereof.

Table 10-1: Identified potential impacts and proposed mitigation / management measures

1. Environmental Awareness Training

Management Outcome: All on-site staff are aware of and understands the individual responsibilities in terms of this EMPr.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> All staff must receive environmental awareness training; All new staff coming onto site must receive environmental awareness training; All staff are aware of the conditions and controls linked to the Environmental Authorisation and within the EMPr; The responsible operator of vehicle / equipment / machinery must have the required training to make use of the spill kit in emergency situations; All staff are made aware of their individual roles and responsibilities in achieving compliance with the environmental authorisation and EMPr; The Contractor must erect and maintain information posters at key locations on site; Environmental awareness training should include the following: <ol style="list-style-type: none"> Description of significant environmental impacts, actual or potential, related to their work activities; Mitigation measures to be implemented when carrying out specific activities; Emergency preparedness and response procedures; Procedures to be followed when working near or within potentially sensitive areas; Water usage and conservation; Solid waste management procedures; Sanitation procedures; 	Contractor	Presentations should be as visual as possible - it can include posters, power point presentations, videos or any other material that will assist in the training.	<p>Environmental awareness training must be done before construction starts and as soon as new staff members start on site and continue throughout the operational phase.</p> <p>Environmental posters must be on site at all times and must be visible / legible.</p>	ECO	During the weekly or bi-weekly inspection.	Photos Attendance Register Training material

<p>viii. Dangers of open and/or unattended fires.</p> <ul style="list-style-type: none"> • A record of all environmental awareness training courses undertaken as part of the EMPr must be available; • An attendance register of all staff that received environmental awareness training must be kept; • Course material must be available and presented in all appropriate languages; • Environmental training and topics can form part of the daily Toolbox Talks. 						
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2. Site Establishment

Management Outcome: Impacts on the environment are minimised when establishing new infrastructure and the development footprints are kept to a minimum and within demarcated site establishment area.

Potential Impacts:

- Loss of vegetation and avifaunal habitat
- Activities may lead to displeasing aesthetics, such as the storage of materials, excavation activities and the use and storage of machinery / vehicles / equipment
- Pollution of soil and groundwater due to spills on site

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • A Method Statement must be provided by the contractor prior to any on-site activity that includes: <ul style="list-style-type: none"> ○ overnight vehicle / machinery parking areas; ○ stockpile and lay down areas; ○ the batching area; ○ equipment storage and cleaning areas; ○ eating and ablution facilities; ○ waste management; ○ access route. • Location of the site camp must be within an approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment; • Sites should be located where possible on previously disturbed areas; • If possible, the existing buildings should be used as offices; • No staff to be accommodated overnight on the property; • Signs (safety) must be erected at the entrance to the working site; • All storage areas should be marked as "Laydown" areas, should be barricaded and kept neat and tidy at all times. • Housekeeping should be done daily. 	Contractor	Area can be identified during a site visit.	Before site establishment and throughout the construction phase.	ECO	Before site establishment and during all site visits	Photos

3. Access Roads

Management Outcome: Minimise impact to the environment through the planned and restricted movement of vehicles to/on site.

Potential Impacts:

- Loss of habitat through the damage of vegetation
- Loss of biodiversity through the damage of vegetation or killing of avifauna
- Compaction of soil
- Erosion

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • During site planning, all access roads must be identified and assessed to ensure that the best route is chosen; • Access to the site must fall within the assessed area; • Preferably use the existing or planned access road; • Maximum use of existing roads must be made. 	Project Manager Project Engineer Contractor	Site walk-about before site establishment.	During planning and site establishment and construction.	ECO	During all site visits	Photos

4. Fencing where required / applicable

Management Outcome: To minimise impact to the environment and ensure safe and controlled access to the site through the erection of a fence and gates where required.

Potential Impacts:

- Loss of habitat through the damage of vegetation
- Loss of biodiversity through the damage of vegetation or killing of avifauna
- Compaction of soil
- Erosion
- Security breaches

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Use existing gates to gain access to all parts of the site; • All gates must be fitted with locks and be kept locked after working hours; • All demarcation fencing and barriers must be maintained in good working order for the duration of the site establishment period; • The existing wall and fence must be maintained; • On completion of the project, all temporary fences are to be removed and where possible re-used by the contractor at new project sites; • The contractor will ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely. 	Contractor	The site is already fenced and walled.	Before site establishment	ECO	During all site visits	Photos

5. Water Management

Management Outcome: Undertake responsible water usage and prevent pollution of water.

Potential Impacts: Although the Rietspruit is just less than 2km from the site, there may be various runoff channels which could carry contaminants to the watercourse.

- Pollution of groundwater (other borehole users on neighbouring properties)
- Pollution of surface water (through accumulation and run-off)

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • All reasonable measures to limit pollution or sedimentation of water, with specific focus on runoff from site. • Ensure water conservation and responsible use by: <ul style="list-style-type: none"> – Sourcing construction water from responsible and legal sources; – Minimising water use during cleaning of equipment; – Undertaking regular audits of water systems; – Discuss water usage and conservation during environmental awareness training and toolbox talks. <p>Note: Client plans to use municipal water (still under investigation). If groundwater from borehole is being used, a WUL will be required.</p>	Contractor		During construction and operation	ECO	During all site visits	Photos

6. Storm and Waste Water Management

Management Outcome: An effective system of storm water run-off control is implemented, where required and impacts to the environment caused by storm water and wastewater discharges during activities are avoided.

Potential Impacts:

- Pollution of storm water
- Pollution of soil
- Erosion and siltation

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Construction should preferably take place in the dry season (winter) as natural runoff is minimal then; • Additional storm water concentration must be contained (attenuated) before discharge; • Appropriate pollution control necessary to prevent discharge of water containing polluting matter or visible suspended solids (hydrocarbon, litter & silt trap); • Runoff from the batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location legally approved to accept the wastewater (keep safe disposal certificate); • All spillages of hydrocarbons onto surfaces must be cleaned by the use of an approved absorbent material and the used absorbent material disposed of at an appropriately licensed waste disposal facility (keep safe disposal certificate); • Any stockpiled soil and rock should have storm water management measures implemented around it; • The large roof structures to be built and sealed (concrete / tar / brick) surfaces will increase storm water volumes that need to be managed; • A storm water plan must be available and used during all the phases. This must include siltation / attenuation ponds handling storm water concentrations. 	Contractor		Measures implemented before site establishment starts and checked during construction and operational phases.	ECO	During all site visits	Photos

<p><u>During Operation, the following will be required:</u></p> <ul style="list-style-type: none"> • Storm water originating from the filling station surface area must be treated as dirty water; • Clean water and dirty water systems must be separated; • Clean storm water must be directed away and around the filling station site to allow larger volumes stormwater to remain clean and suitable for discharge; • Leak detection systems must be implemented in all fuel storage and transmission lines and tanks; • Air monitoring systems must be implemented around the storage tanks; • The spillage of fuels, chemicals and / or sewerage water must be reported immediately to the designated Departments; • An emergency accidental spillage plan must be in place and workers must be trained to handle such accidents; • No uncontrolled discharges, resulting in pollution of the receiving environment, shall be permitted; • Chemical storage areas should be sufficiently contained (bunded), and the use of chemicals should be controlled; • Water pumped from any sump or temporary dewatering pit should be pumped into a dirty water system and should not be allowed to enter any clean water system or natural drainage line. • All water retention structures, including storm water dams, retention ponds etc. should be constructed to have adequate freeboard to be able to contain water from 1:50 year rain events. 	The Applicant			The Applicant's Environmental Officer	On a regular basis, as agreed by the Applicant	
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7. Solid Waste Management

Management Outcome: Wastes are appropriately stored, handled and safely disposed of at a licensed waste facility.

Potential Impacts:

- Loss of habitat through the damage of vegetation
- Compaction of soil
- Pollution of soil due to spillages associated with dumping of solid waste
- Establishment of Alien Invasive Plant Species

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<p><u>General:</u></p> <ul style="list-style-type: none"> • All measures regarding waste management must be undertaken using an integrated waste management approach considering the waste management hierarchy; and • A suitable position must be found and clearly demarcated for waste collection and storage. <p><u>Prevention of waste:</u></p> <ul style="list-style-type: none"> • Material storage areas should be safe, secure and weather-proof to prevent damage to material (resulting in waste generation) and theft. Area with impermeable base or in sealed containers. • Due to the additional movement of people, there will be increased litter production and higher probability of littering. Therefore, there should be on-site signs raising the awareness of the impacts of littering on the natural environment and weekly litter patrols to collect litter. • Train staff/contractors to operate in an environmentally responsible manner (closing of taps for water conservation, reporting spills, no littering etc.). • No planned maintenance or servicing of vehicles / machinery / equipment on site. If emergency maintenance is required to on-site vehicles, machinery and/or equipment, drip trays and / or absorbent mats will be placed underneath the vehicles / 	Contractor		Measures must be implemented before site establishment starts and must be controlled during construction and operational activities.	ECO	During all site visits	Photos Documents – safe disposal certificates

<p>machinery / equipment where maintenance work is conducted to prevent grease/oil spillages impacting the environment or generating waste (contaminated soil).</p> <p><u>Reduction / minimisation of waste:</u></p> <ul style="list-style-type: none"> • Reduce waste quantities and disposal costs through a reduction in the materials ordered. • “Take-back” schemes – setting up schemes with suppliers to take back surplus materials. • Engage with the supply chain to supply products and materials that use minimal packaging. <p><u>Reuse / recycling of waste:</u></p> <ul style="list-style-type: none"> • Separate / sort / segregate waste for collection and recycling - make arrangements with recycling contractors to provide clearly marked bins for material separation / sorting. Make sure that contractors are aware of the placement of the bins and their responsibility to separate / sort materials. • Though no special disposal methods are required for non-hazardous waste, non-biodegradable refuse such as glass bottles, plastic bags, etc., must be stored in suitable containers to allow for recycling and emptied on an as-required basis for recycling purposes during the working phase. • Segregate packaging for reuse. <p><u>Waste handling on site:</u></p> <ul style="list-style-type: none"> • Separate / segregate / sort waste into different containers. • Collect waste in suitable containers (drums / skips / bins on site). • Waste containers should be marked, or colour coded to indicate which types of waste can be disposed to it. Staff to be trained in this regard to segregate waste. • Ensure sufficient containers are available for storage of waste prior to removal off site to prevent overflow and littering on the site and surroundings. • Ensure no litter, refuse, waste and rubble generated on the premises will be placed, dumped or deposited on this site, adjacent or surrounding properties during the working phase. • The waste collection and storage site must be maintained in a clean and orderly fashion. 						
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<ul style="list-style-type: none"> Waste must be disposed, as soon as possible to a municipal transfer station, skip or on a licensed landfill site. Waste must not be allowed to stand on site to decay, resulting in malodours and attracting pests. Empty containers regularly and waste should not be stored on site in excess of 30 days. Waste collection bins with secure covers (scavenger and weatherproof) must be provided to prevent fauna entering the container. Waste containers must not to be left standing without a cover as this may attract fauna to inspect the skip and possibly cause death or injury to the fauna. Waste may not be burnt or buried on site. Hazardous waste must be stored separately from general waste on an impermeable surface within a bund wall and disposed of at a licensed hazardous waste site if not recycled. <p><u>Waste removal & disposal:</u></p> <ul style="list-style-type: none"> Companies that transport the waste must be registered / licenced to do so. Site must be easily accessible for trucks picking up or dropping off the skips. Remove waste from site for recycling or disposal to the local licensed municipal landfill / waste management facility on a regular basis (at least weekly or when container is full). No burning or burying of waste. Any hazardous waste will be stored and handled according to the relevant legislation and only disposed to licensed disposal facilities. <p><u>Documentation:</u></p> <ul style="list-style-type: none"> Report on the quantities of different waste streams managed (landfill, reuse, recycling, energy recovery). Ensure copies of all waste manifests (safe disposal certificates) are kept, showing responsible handling, transport and disposal by a reputable waste handler. Include measure in contract that will ensure contractors are required to clean their work area after construction. 						
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8. Vegetation Clearing

Management Outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed project and must be done in phases according to the development phases.

Potential Impacts:

- Loss of habitat through the damage of vegetation
- Loss in biodiversity
- Compaction of soil
- Establishment of Alien Invasive Plant Species

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • During vegetation clearance, methods should be employed to minimize potential harm to fauna species. Clearing has to take place in a phased and slow manner, to maximize potential and time for any mobile species to move to adjacent areas; • All vegetation removed during the site establishment period must be disposed of at a registered “green” landfill site or composting site or in an appropriate manner as agreed by the ECO unless it is indigenous vegetation which could be used during rehabilitation; • If herbicides / pesticides are used, only a registered control operator must carry this out or it must be carried out under the supervision of a registered control operator, or someone who is appropriately trained and a daily register must be kept of any usage; • Trees, shrubs, grass, natural features and topsoil which are not removed during vegetation clearance shall be protected from damage during construction; • When removing trees, maintain indigenous trees that will not hamper development; • Removal and disposal of alien invasive plant species must be done in an appropriate manner as required by law - Alien Invasive Species Regulations 2014 (NEMBA Act 10 of 2004). 	Contractor and ECO	Site survey or walkabout	Before site establishment and during activities	ECO	During all site visits	Photos

9. Protection of Fauna

Management Outcome: Minimise the disturbance to fauna/avifauna.

Potential Impacts: Although there were only avifaunal species recorded within the project area (TBC, 2022), other faunal species occurring on neighbouring properties could also be impacted on.

- Loss of habitat through the damage of vegetation
- Loss in biodiversity due to catching and killing
- Establishment of Alien Invasive Plant Species

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • No poaching must be tolerated under any circumstances; • No trapping or poisoning of animals; • No feeding of animals on site or the adjacent properties; • Any noisy point-sources utilised on site should be enclosed, and all equipment / machinery fitted with silencers where applicable; • All equipment / machinery will be serviced and maintained within operating specifications to prevent excessive noise. • Facility lighting during construction & operation should be kept to a minimum and should make use of the latest technology to ensure that light disturbance is minimised. This will also reduce the attraction of insects (and in turn insectivorous birds) to the facility. • Outside lighting should be designed and limited to minimize impacts on fauna. All outside lighting should be directed away from sensitive areas. Fluorescent and mercury vapour lighting should be avoided, and sodium vapour (green/red) lights should be used wherever possible. 	Contractor The Applicant	Site survey or walkabout	Before site establishment and during activities During operational phase	ECO	During all site visits	Photos Record of site survey/ walkabout

10. Protection of Heritage Resources

Management Outcome: Minimise the disturbance to heritage resources.

No heritage resources were found on site and this section addresses the process should something be found during construction.

Potential Impacts:

- Loss of heritage resources
- Damage to heritage resources

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • A method statement should be compiled to provide the process to be followed during a chance find. • All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported as per the information below or to the nearest museum, archaeologist / palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. • Reporting of the findings must be done as follows: <u>Archaeological sites or remains, fossils or other categories of heritage resources</u> - SAHRA APM Unit (Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. <u>Unmarked human burials</u> - SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase / Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA • If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. • If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 	Contractor		During construction activities	ECO	During all site visits	Photos

<p>rescue operation may be required subject to permits issued by SAHRA.</p> <ul style="list-style-type: none"> Sufficient time should be allowed to remove/collect such material before work recommences. 						
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11. Safety of the Public

Management Outcome: All precautions are taken where possible to minimise the risk of injury, harm or complaints.

Potential Impacts:

- Damage to property
- Injuries
- Vehicle accidents
- Traffic congestions – nuisance / frustration

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Demarcate and restrict public access to the working area; • Ensure that there is signage all over the site that warns the public of activities; • Ensure that there are sufficient road signs so that the public is aware of vehicles moving around; • Points men/women must be appointed to direct traffic or warn motorists of any danger on the roads; • All unattended open excavations must be adequately fenced or demarcated; • Adequate protective measures must be implemented to prevent unauthorised access to areas and climbing of structures; • Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 	Contractor		Proper planning must be done before establishment and implemented during construction and operational activities	ECO	During all site visits	Photos

12. Sanitation

Management Outcome: Clean and well-maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to the environment.

Potential Impacts:

- Risk of diseases
- Spillages / overflows could occur
- Odour

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • If possible, use the ablution facilities in the existing buildings during construction; • Keep all ablution facilities clean; • If the existing facilities can't be used, mobile dry chemical toilets must be installed on-site for use during construction; • Ablution facilities and / or mobile toilets must be used at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under any circumstances; • Proper hand washing facilities, including soap, must be provided for the ablution facilities and the chemical toilets; • Where mobile chemical toilets are required, the following must be ensured: <ul style="list-style-type: none"> ○ If possible, toilets must not be located close to any storm water runoff channels; ○ Toilets are secured to the ground to prevent them from blowing over; ○ No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMPr for waste and wastewater disposal; ○ Toilets are emptied before long weekends and workers holidays, and must be locked after working hours; ○ Toilets are serviced regularly and the ECO or SHEQ must inspect toilets to ensure compliance to health standards; 	Contractor	Records of disposal certificates.	Portable chemical toilets must be provided before site establishment starts and removed once rehabilitation is completed. Formal water-borne flush facilities for the operational phase will discharge to a municipal system (client still investigating).	ECO	During all site visits	Photos Documents Certificates of removal and safe disposal

<ul style="list-style-type: none"> ○ A copy of the safe waste disposal certificates must be maintained. • During the operational phase, the same will apply but flushing toilets discharging to a municipal sewer line will be installed and used. <p>Note: If a municipal connection is not possible, a package sewage treatment plan (STP) or conservancy tanks will need to be used. Conservancy tanks will be emptied by honeysucker on a regular basis. Sewage will be discharged to a licensed wastewater treatment facility with adequate capacity to handle the volumes. A WUL will be required for sewage management if not linked to a formal municipal sewer line.</p>						
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13. Emergency Procedures

Management Outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental and other emergencies.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; • The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; • All staff must be made aware of emergency procedures as part of environmental awareness training; • The relevant local authority's fire department must be made aware of a fire as soon as it starts; • In the event of emergency mitigation measures being necessary to contain the spill or leak, it must be implemented as per the section below - Hazardous Substances. 	Contractor	Notice boards. Toolbox talks to include it as a topic.	Must be done before site establishment starts and implemented during construction and operational activities.	ECO	During all site visits	Photos Documentation

14. Hazardous Substances

Management Outcome: Safe storage, handling, use and disposal of hazardous substances.

Potential Impacts:

- Contamination of soil, groundwater or storm water due to leaks/ spills

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> The use and storage of hazardous substances to be minimised and substituted with non-hazardous and non-toxic alternatives where possible; All hazardous substances will be stored in suitable containers as defined in the legislation and Material Safety Data Sheet; Containers will be clearly marked to indicate contents, quantities and safety requirements; All storage areas will be bunded. The bunded area will be of sufficient capacity to contain a spill / leak from the stored containers (110% of container capacity); An Alphabetical Hazardous Chemical Substance (HCS) control sheet will be drawn up and kept up to date on a continuous basis; All hazardous chemicals that will be used on site will have Material Safety Data Sheets (MSDS); All employees working with HCS will be trained in the safe use of the substance and according to the safety data sheet; Employees handling hazardous substances / materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment (PPE) must be made available; The Contractor must ensure that hydrocarbons are stored in appropriate storage tanks or in bowzers; The tanks / bowzers must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and 	Contractor	Training and awareness. Inspections	Planning done prior to site establishment and implemented during construction and operational activities.	ECO	During all site visits	Photos

<p>the volume inside the bund must be 130% of the total capacity of all the storage tanks / bowsters (110% statutory requirement plus an allowance for rainfall);</p> <ul style="list-style-type: none"> • The floor of the bund must be sloped, draining to a separator; • Provision must be made for re-fuelling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; • All empty dirty drums must be stored on a drip tray or within a bunded area; • No unauthorised access into the hazardous substances' storage areas shall be permitted; • No smoking must be allowed within the vicinity of the hazardous storage areas and around the filling station; • Adequate fire-fighting equipment must be made available at all hazardous storage areas and at the filling station; • An appropriately sized spill kit kept on-site relevant to the scale of the activity involving the use of hazardous substance must be available at all times; • The responsible operator must have the required training to make use of the spill kit in emergency situations; • In the event of a spill, contaminated soil / material used to absorb spill must be collected in containers and stored in a central location according to the Norms and Standards for Waste Storage (GNR 926 of 29 November 2013) and disposed of according to the National Environmental Management: Waste Act (Act 59 of 2008). • Location and position of underground fuel storage tanks, consider (South African National Standards, 2004): <ul style="list-style-type: none"> ○ Before installation, inspection by qualified engineer - comply with South African Bureau of Standards (SABS). ○ Inlet and outlet pipes to be provided with a shut-off valve; in the case where a pump is used to pump the fluid into the tank, a non-return valve should be provided. ○ In the case where storage tanks are automatically filled, an overflow pipe, which drains in the source tank, must be fitted. 						
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15. Batching Area

Management Outcome: To control concrete and cement batching activities in order to minimise spillages and contamination of soil, surface water and groundwater.

Potential Impacts:

- Contamination / pollution of watercourse or soils

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Concrete mixing must be carried out on an impermeable surface (such as boards and/or within a bunded area with an impermeable surface or wheelbarrow, if batches are small) or make a hard surface and remove when done; • Bagged cement must be stored in an appropriate facility and at least 10 m away from any runoff channel, gullies and drains; • A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; • Hardened concrete from the washout facility can either be reused or disposed of at an appropriate licenced disposal facility; • Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; • Sand and aggregates containing cement must be kept damp to prevent the generation of dust; • Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility. 	Contractor		During construction activities.	ECO	During all site visits	Photos

16. Dust & Emissions

Management Outcome: Dust prevention measures are applied to minimise the generation of dust.

Potential Impacts:

- Nuisance for neighbouring residents or people at work
- Health risk

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Take all reasonable measures to minimise the generation of dust. • Removal of vegetation must be limited to the working area/ footprint. • During high wind conditions, the ECO will evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level. • Appropriate dust suppression measures must be used when dust generation is unavoidable, e.g. dampening with water; particularly during prolonged periods of dry weather. Such measures must also include the use of temporary stabilising measures (e.g., chemical soil binders, straw, brush packs, chipping). • Maintenance on construction vehicles must be done to avoid the release of excessive emissions. • All vehicles and machinery / equipment used on, or entering the site, must be maintained and serviced regularly to ensure that they do not emit smoke or fumes. • The contractor's representative must ensure that all on-site vehicles comply with the old SABS 0181 standards (now SANS 10181:2003 in conjunction with SANS 10282:2003). • Limit idling time of vehicles / equipment. • Avoid overloading of construction vehicles. 	Contractor		During construction activities.	ECO	During all site visits	Photos

<ul style="list-style-type: none"> Any solvent-based finishes such as paints, varnishes, sealants, and polishes will contain minimal levels of Volatile Organic Compounds (VOC) and no Chloro-Fluoro Carbons (CFC), which may harm the atmosphere. Water-based paints are to be used where possible and plant-based stains and sealants must be considered as these are more environmentally friendly. Workers in high dust areas to wear dust masks. 						
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17. Noise

Management Outcome: To prevent unnecessary noise to the environment and surrounding community by ensuring that noise from activities is mitigated.

Potential Impacts:

- Nuisance for residents or people at work
- Health risk

Impact Management Actions

Implementation

Monitoring

Responsible person

Method of Implementation

Timeframe for Implementation

Responsible person

Frequency

Evidence of Compliance

- Construction hours must be adhered to, weekdays from 07:00 – 17:00;
- If possible, construction activities must be limited to the week and should activities take place over a weekend, the I&APs and landowners must be consulted with.
- The contractor is to abide by the by-laws of the local municipality relating to noise control.
- Ear plugs are to be worn by construction workers as and when required (areas of high noise levels, operators of machinery etc).
- Reducing the noise produced through silencers, lubrication and maintenance, vibration damping i.e. placing a layer of damping material (rubber, neoprene, cork or plastic) beneath the vibrating machine.
- Reduce noise from vehicles by:
 - turning off engines when they are not in use;
 - checking the brakes are properly adjusted and don't squeal;
 - no revving the engine unnecessarily;
 - only using the horn in emergencies; and
 - replacing exhaust systems as soon as they become noisy.

Contractor

During construction activities.

ECO

During all site visits

Photos
Documents
Emails

18. Fire prevention

Management Outcome: Prevention of uncontrollable fires.

Potential Impacts:

- Possible injuries
- Air pollution due to smoke
- The smoke can be a health risk
- Loss of habitat
- Damage to property

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • Designated smoking areas must be allocated; • No smoking around the filling station; • Bins must be provided for cigarette buds at the designated smoking area; • Firefighting equipment must be available on all vehicles located on site; • The local Fire Department must be informed of activities; • Contact numbers for the Fire Department and emergency services must be communicated in environmental awareness training, toolbox talks and displayed at a central location on site. 	Contractor		During operational activities.	ECO	During all site visits	Photos

19. Stockpile and Stockpiling Areas

Management Outcome: To reduce erosion and sedimentation as a result of stockpiling.

Potential Impacts:

- Soil erosion and siltation

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • All material that is excavated during the activities (earthworks) must be stored appropriately on site; • All stockpiled material must be maintained and kept clear of weeds and alien invasive species by undertaking regular weeding and control methods; • Stockpiles must not exceed 2 m in height; • During periods of strong winds and heavy rain, the stockpiles should be covered with appropriate material (e.g., cloth, tarpaulin etc.); • Where possible, sandbags (or similar) should be placed at the bases of the stockpiled material in order to prevent erosion of the material and sediment in runoff. 	Contractor		During construction activities.	ECO	During all site visits	Photos

20. Landscaping and Rehabilitation / Remediation

Management Outcome: No environmental degradation occurs as a result of the project.

Potential Impacts:

- Soil erosion
- Infestation of weeds and alien invasive species

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> • All spoil and waste will be disposed to a licensed waste disposal site and certificates of safe disposal provided; • Stockpiled topsoil must be used for rehabilitation; • Stockpiled topsoil will be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; • Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; • Subsoil must be ripped before topsoil is placed; • Sections that will not be paved or that could rather be landscaped should be landscaped according to a landscape plan or planting plan; • Trees that were left on site must be maintained and included as part of the landscape plan; • If possible, the project must be timed so that rehabilitation/ landscaping can take place at the optimal time for vegetation establishment; • After site rehabilitation / landscaping the sites must be monitored in order to ensure that rehabilitation is successful. During the monitoring period, all alien invasive plant species must be eradicated according to an Alien Invasive Eradication Plan. 	Contractor		After construction or if possible, during the last phases of construction.	ECO	During all site visits	Photos

21. Communication

Management Outcome: Proper communication with landowners, neighbours and the public						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of Implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of Compliance
<ul style="list-style-type: none"> Notify landowners, neighbours and councillors at least 7 days before activities start of the intention to commence with the construction. This should be done as the project progresses from one area to the following. Keep a complaints register on site. A notice board should be visible with the contact information of the Project Manager, Contractor, Emergency Contact and ECO. In addition to the contact information there should also be a timeframe of when work will commence and when it will be completed. 	Project Manager / Contractor	Telephone calls Emails Notifications/ Posters	Before construction starts and during construction.	ECO	During all site visits	Photos Emails Signed register Complaints register

10.6 Monitoring programme

All records will be kept for at least five (5) years.

The following aspects need to be monitored and audited:

- a) Compliance with EMPr, environmental authorisation any other licenses' conditions
 - Appoint an Environmental Control Officer (ECO)
- b) Noise, Nuisance and Disturbance Monitoring
 - A record of complaints must be kept as well as the measures taken to address these complaints.
- c) OHSa Compliance
 - Register to indicate that all the employees and contractors have been informed as to their rights under the Act; and
 - Accident records as per the Act - reported to the Department of Trade and Industry (DTI) and the Department of Labour (DOL).
- d) Groundwater monitoring (for pollution from filling station)
 - The existing borehole on site will be sampled and analysed bi-annually (wet and dry seasons) to check for early signs and possible off-site movement of hydrocarbon contamination from the underground fuel storage tanks.
 - Sampling parameters: pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), Chloride (Cl), Sulphate (SO₄), Nitrate (NO₃), Ammonium (NH₄), ortho-Phosphate (o-PO₄), Fluoride (F), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Aluminium (Al), Iron (Fe), Manganese (Mn), E.coli, Total Coliforms, Total Hardness, Alkalinity, Total Petroleum Hydrocarbons (TPH), BTEXN (Benzene Toluene Ethylbenzene Xylenes and Naphthalene)

Note: If the borehole is used as water supply source, more frequent monitoring as well as water level monitoring will be required to ensure water is safe for human consumption and over-abstraction is not impacting the groundwater table and affecting other groundwater users adversely.

10.7 Record keeping and reporting

10.6.1 Compliance recording and reporting

Accurate and up-to-date records will be kept by the ECO of all system malfunctions resulting in non-compliance with the EMPr, environmental authorisation and licenses.

10.6.2 Incident recording and reporting

The applicant will also, within 24 hours, ensure that the relevant authorities are notified of the occurrence or detection of any incident which has the potential to cause, or has caused pollution of the environment, health or safety risks or which is a contravention of any EMPr, environmental authorisation or license condition. The applicant is then to submit an action plan indicating measures, which will be taken to:

- Correct the impacts resulting from the incident;
- Prevent the incident from causing any further impact; and
- Prevent a recurrence of a similar incident.

10.6.3 Complaints recording and reporting

A complaints register will be kept and all complaints from the public / community will be noted therein as well as measures taken to rectify the situation as described above.

10.7 Environmental awareness plan

10.7.1 Objectives

The objectives of an environmental awareness plan are to:

- Inform employees, landowners, contractors and visitors of any environmental risk which may result from their presence, work or activities, and
- Inform employees, landowners, contractors and visitors of the manner in which the identified possible risks must be dealt with in order to avoid pollution or degradation of the environment and health and safety hazards.

In general, the purpose of implementing an environmental awareness plan is to optimise the awareness of those on the property and partaking in the activities, which have the potential to impact negatively on the environment, and in doing so, promote the goal of sustainable development.

10.7.2 Communication

Both objectives of the environmental awareness plan indicate that employees, landowners, contractors and visitors must be informed of environmental matters. Information sharing is only possible through effective communication channels.

The goal for proficient communication is to provide structures for effective communication, participation and consultation that relate to the occupational health and safety hazards, environmental hazards and the Safety, Health, Environment and Quality (SHEQ) management system.

The objective of the communication procedure is to ensure effective communication flow, involvement of all levels of employees in the communication chain and to comply with the requirements in terms of ISO 9001:2008 clause 5.5.3 and ISO 14001:2004 clause 4.4.3.

10.7.3 Communication responsibility

It will be the responsibility of the Safety, Health, Environment and Quality (SHEQ) officer to communicate the environmental awareness plan with employees, landowners, contractors and visitors. Should the SHEQ officer struggle with information or should there be a query regarding certain environmental issues it can be discussed with the appointed ECO.

The communication can be done in the following way:

- As part of toolbox talks;
- Posters or information sheets on the notice board, within the ablution facility or at specific spots such as at the drinking water point or waste bins;
- Visitors entering the site could be given an induction or a brochure of the main environmental risks;
- Environmental awareness training for the contractors and their staff members as well as the applicant's representative that will be working on site. This should be done before the construction commences.

10.7.4 Aspects covered

The following Environmental Risks/ Aspects should be covered as part of the Environmental Awareness Plan:

- Water saving / conservation;
- Waste management / Recycling;
- Importance of PPE;
- What are sensitive areas;
- Erosion;
- Alien Invasive Species;
- Risk of spillages (fuel, oil, cement and hazardous material);
- Dust
- Noise
- Importance of nature and why we protect it.

11 CONCLUSIONS & RECOMMENDATIONS

Based on the impact assessment (Section 9), it is clear that the construction activities and operation of the filling stations can potentially have a negative impact on the environment. The significance of the impact can, however, be mitigated / managed to a low to moderate low significance.

11.1 EAP Opinion

It is the opinion of the EAP that the project may continue from an environmental perspective based on the following:

- **Location:** The site is located along a major movement route (R550 – Heidelberg Road) and therefore ideally located in terms of accessibility, convenience and visibility with an existing passer-by traffic flow past the site. It can serve local (Palm Ridge/Gathdale) and transient traffic / customers. The taxi rank will also bring customers from further afield.
- **Access and road infrastructure:** The impact of the development on the current, surrounding road network is expected to be minimal such that no capacity road upgrades are required except the minimum functional upgrades that are needed to support the development (MEB, 2021).
- **Size of property:** The property is currently under-utilised and is large enough to provide efficient access and safe / appropriate circulation for fuel tankers and delivery vehicles etc. Adequate space is available for parking and a taxi rank.
- **Cultural heritage:** No sites of archaeological or cultural heritage significance were found or will be impacted (Archaeos, 2022).
- **Terrestrial biodiversity:** The high Terrestrial Biodiversity Theme Sensitivity, indicated by the DFFE screening tool, is disputed, based on conditions found on-site during field work by an ecologist. The vegetation structure and species composition of the two (2) habitats identified (transformed habitat and degraded grassland habitat) have been completely altered and as such, the site has a very low conservation value and ecological sensitivity from both a faunal and floral perspective (TBC, 2022).
- **Water supply:** Municipal water supply network when available (Selatile Moloi Consulting Engineers, 2022). Still under investigation.
- **Electricity:** The development is feasible, from an electrical bulk services perspective, subject to the strengthening of the existing powerline from Germiston Sewerage Substation (11kVA) (Selatile Moloi Consulting Engineers, 2022) - preferred option due to time constraints.
- **Socio-economic:** The project will result in a major financial investment in the area (R25 million) and create jobs. It will add value to the area (capital value upon completion) and generate an annual income to contribute to the tax base. The establishment of the filling station and the associated businesses would certainly contribute to the MLM IDP's goals and stimulation of the economy. The R59, R82 and R550 have been identified as Development Corridors, selected to catalyse economic growth and development.
- **Fatal flaws:** No fatal flaws from an environmental perspective.
- **Other filling stations:** The other two (2) filling stations do not have direct access from the R550.
- **Need and desirability:** The market includes passer-by traffic on the R550 (Heidelberg Road) as well as residents north of the R550 in Palm Ridge extensions of Ekurhuleni (economic, population and household growth). There are no direct access facilities along the R550 within a 5km radius. The filling station and associated businesses will be able to provide much needed services (taxi rank, medical, shopping) for the growing community to the north, in Ekurhuleni.

11.2 Conditions

The project can be authorised under the following conditions:

- Safe access from R550 as planned is approved by roads authority, GDRT.
- Compliance with EMPr.
- Proper implementation of the specialists' recommendations.
- Municipal water supply and sewage connection are secured. Alternatively, a geohydrological investigation will be required, to assess impacts on the groundwater environment and other groundwater users, and a WUL from DWS as custodian of South Africa's water resources.

12 REFERENCES

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Legislation:

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- Constitution of the Republic of South Africa (CRSA), 1996 (Act 108 of 1996)
- National Environmental Management Act (NEMA), 1998 (Act 107 of 1998)
- National Environmental Management: Biodiversity Act (NEM:BA), 2004 (Act 10 of 2004)
- National Environmental Management: Protected Areas Act (NEM:PAA), 2003 (Act 57 of 2003)
- National Environmental Management: Waste Act (NEM:WA), 2008 (Act 59 of 2008)
- National Heritage Resources Act (NHRA), 1999 (Act 25 of 1999)
- National Water Act (NWA), 1998 (Act 36 of 1998)