

## ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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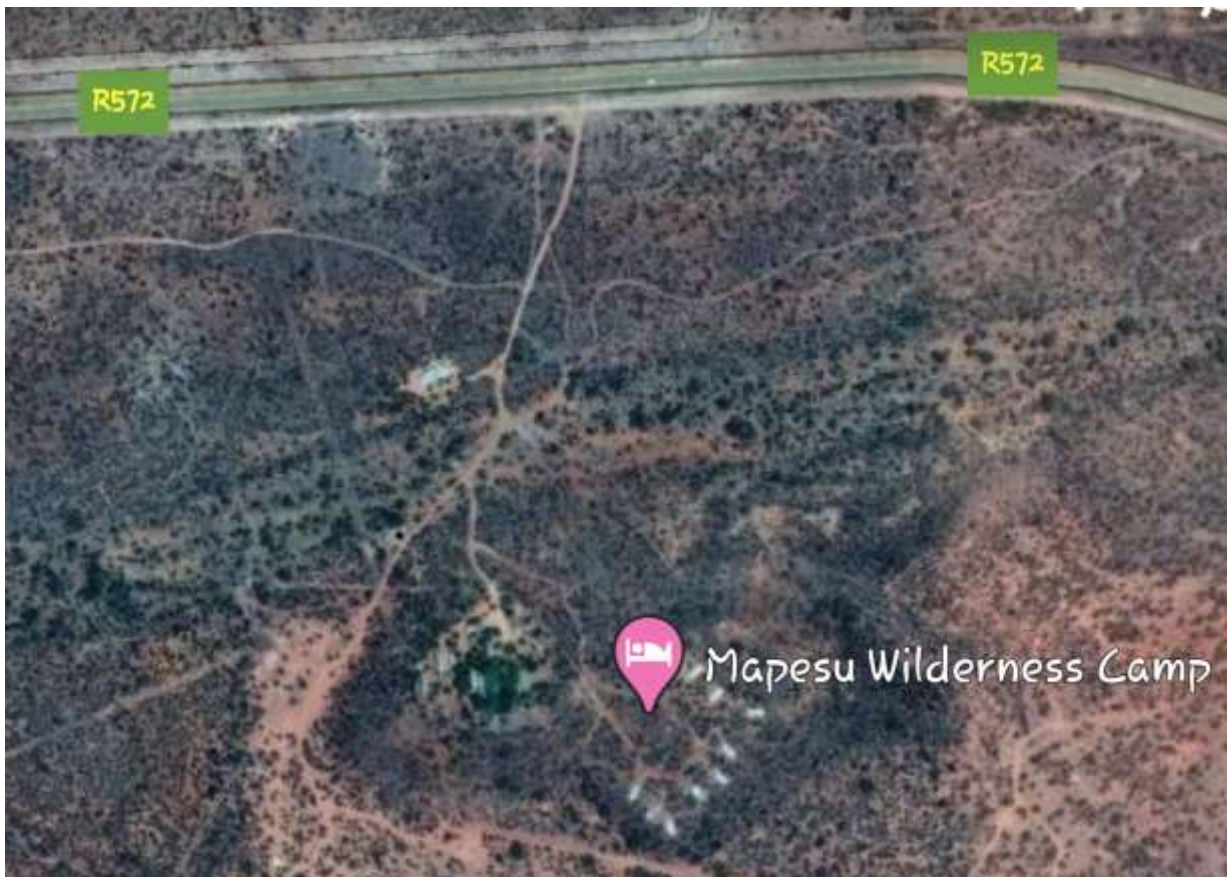
PROPOSED FILLING STATION DEVELOPMENT

ON A PORTION OF FARM NIKEL 45 MS, MUSINA LOCAL MUNICIPALITY, LIMPOPO PROVINCE



JUNE 2021

REFERENCE NUMBER: 1138790



## **Summary**

Envirosana has been appointed to undertake environmental impact assessment for the proposed Filling Station and associated infrastructure on a Portion of Farm Nikel 45MS, Musina Local Municipality, Limpopo Province. As part of assessment a basic assessment process is being undertaken in accordance with regulation R982 of 04 December 2014, as amended (07 April 2017) in terms of chapter 5 of the National Environmental Management (Act 107 Of 1998).

The National Environmental Management Act (Act 107 of 1998) Section 24(5) stipulates that "listed activities" require environmental authorization by way of an Environmental Impact Assessment. The proposed development is identified in terms of the National Environmental Management Act no.107 of 1998 Listed on Government Notice R983 of 2014, under activity number 14 (as amended).

The Environmental Management Programme (EMP) was compiled according to Regulation 34 in Government Notice no. R982, 2014. Environmental issues were identified, impacts identified and mitigation measures proposed.

The development must not commence until the Department of Economic Development, Environment and Tourism has approved the EMP and issued an environmental authorization.

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## **1. INTRODUCTION AND BACKGROUND**

Envirosana has been appointed to undertake environmental impact assessment for the proposed Filling Station and associated infrastructure on a Portion of Farm Nickel 45MS, Musina, Musina Local Municipality, Limpopo Province. As part of assessment a basic assessment process is being undertaken in accordance with regulation R982 of 04 December 2014, as amended (07 April 2017) in terms of chapter 5 of the National Environmental Management (Act 107 Of 1998).

## **2. DETAILED DESCRIPTION OF THE PROPOSED PROJECT**

The proposed filling station on a Portion of Farm Nickel 45MS, Musina, Musina Local Municipality, Limpopo Province.

The proposed development will involve the following activities:

- Convenient shop with parking;
- 1 X 46 000 litres of underground storage tanks for 93 ULP;
- 2 X 46 000 litres of underground storage tanks for 95 ULP; and
- 1 X 46 000 litres of underground storage tanks for diesel (50 ppm).

The development footprint is 1.3 hectares and the total capacity of underground tanks to be installed is 184 000 litres. The development triggers activity 14 of GNR 983 of EIA regulation of 2014 (Amended as GNR 327 of 2017) and activity 27 of GNR 983 of EIA regulation of 2014 (Amended as GNR 327 of 2017).

## **3. OBJECTIVES OF THIS DOCUMENT**

The EMP aims are to document the mitigation measures that were identified during the EIA into a single working document that must be used to manage the impacts of the construction and operation phases of the activity. This mitigation plan has been compiled in a manner that addresses environmental impacts that could be encountered on the site for the proposed development of a filling station and associated infrastructure. The EMP focuses on management of the negative impacts such as biodiversity loss; it also outlines measures to be followed in order to reduce the social impacts of the project on local residents and adjacent land owners.

The aim is to prevent, reduce or mitigate the negative social and environmental impacts, while enhancing the beneficial aspects of the project. This document specifies environmental management activities for the different parties responsible for various mitigation tasks during all phases of the project. It therefore forms a key component of the construction contracts, and the specifications laid down in this EMP will be enforceable under the general conditions of the contracts. Any mitigation measures in this document that do not specifically refer to a section of the site are applicable for the protection of the site's environmental integrity, and it will thus be the responsibility of the Contractor(s) who directly impacts on this aspect of the environment. The stated objectives of the plan are to ensure that all project activities are managed in a manner that reduces or avoids negative social and environmental impacts, while enhancing positive impacts.

## 4. PHASES OF THE PROJECT

This EMPr deals with the following phases as detailed below:

### 4.1 THE PLANNING PHASE

This EMPr offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development. Pro-active environmental measures minimize the chance of impacts taking place during the construction and operational phase. There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. this EMPr) during the planning phase, the necessary corrective action can be taken to further limit potential impacts.

### 4.2 THE CONSTRUCTION PHASE

The bulk of the impacts during this phase will have immediate effects (e.g. noise, dust and water pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts can then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from the developer.

### 4.3 THE OPERATIONAL PHASE

By taking pro-active measures during the planning and construction phases, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

## 5. LIST OF APPLICABLE LEGISLATION

**South African Constitution (No 108 of 1996) Chapter 2 - Bill of Rights** makes provisions for Environmental rights - Section 24, Rights in property – Section 25, Administrative justice - Section 32 and Access to Information – Section 33.

**National Environmental Management Act (NEMA) (Act 107 of 1998)** is a “Principles-based Act” and is an overarching statute regulating various aspects of natural resource use, integrated environmental management and pollution control. The Act provides for the right to an environment that is not harmful to the health and well-being of the South African people.

Sustainable development, environmental protection, equitable distribution of natural resources; and the formulation of environmental management frameworks are also fundamental. The definition of the environment includes the land and water of the earth, micro-organisms, plant and animal life or a combination of those things, and the inter relationships among them.

The Act aims to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state. Section 24 Provides for the prohibition, restriction and control of activities which are likely to have a detrimental effect on the environment.

**National Water Act (No 36 of 1998)** makes provisions for the protection of surface water and groundwater resources and their sustainable management for the prevention and remediation of the

effects of pollution, and for the control of emergency occurrences. The primary purpose of this Act is to manage and control South Africa's water resources by:

- Meeting the basic human needs of present and future generations.
- Promoting the efficient, sustainable and beneficial use of water in the public interest.
- Facilitating social and economic development.
- Providing for growing demands for water use.
- Protecting aquatic and associated ecosystems and their biological diversity.
- Reducing and preventing pollution and degradation of water resources; and meeting international obligations.
- Landowners and users have an obligation not to pollute water, and prescribe certain measures to prevent pollution.
- When a bed, bank, course or characteristics of a watercourse is altered, the Act implies that a license has to be obtained.

The institutional roles of DWA and the Catchment Management Agencies (CMAs), which are bodies charged with enforcing some aspects of this Act. The CMA may take measures it considers necessary to remedy a harmful situation and may recover all costs incurred.

**Conservation of Agricultural Resources Act (No 43 of 1983).** The main focus of this act is upon agricultural resources but it has an indirect implication of rivers and provides for the protection of agricultural land while regulations provides for the implementation of control measures for alien and invasive plant species.

**National Environmental Management: Air Quality Act (No 39 of 2004)** which provides for the control of dust, noise and offensive odours.

**Occupational Health and Safety Act (No 85 of 1993)** makes provisions in regulations Section 8 for the general duties of employers to their employees. Section 9 of the Regulations make provisions for general duties of employers and self-employed persons to persons other than their employees.

**Protected Areas Act (No 57 of 2003)** aims to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity, natural landscapes and seascapes.

**National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) (NEMBA),** makes provisions for achieving the objectives of the United Nation's Convention on Biological Diversity, to which South Africa is a signatory. The Bill promotes management, conservation and sustainable use of indigenous biological resources. The management and conservation of biological diversity within the Republic. The use of indigenous biological resources in a sustainable manner; and the fair and equitable sharing of benefits arising from the commercialization through bio-prospecting of traditional uses and knowledge of generic resources.

The Bill gives effect to international agreements relating to biodiversity which are binding on the Republic and provides for co-operative governance in biodiversity management and conservation, and provides for a National Biodiversity Institute to assist in achieving the above objectives. The Act gives wide powers to a National Biodiversity Institute to *inter alia* protect animals and microorganisms in appropriate enclosures, the collection of information, undertaking and promotion of research on indigenous biodiversity and the sustainable use of indigenous biological resources, the prevention, control or eradication of listed invasive species, biodiversity planning and other functions.

**Waste Act (Act 59 of 2008)**, reforms the law regulating waste management in order to protect health and the environment providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

**Minerals and Petroleum Resources Development Act (Act 28 of 2002)** makes provision for the equitable access to and sustainable development of the Nation's mineral and petroleum resources; and to provide for matters connected therewith.

**Limpopo Environmental Management Act (Act No 7 of 2003)** LEMA (Act No 7 of 2003) sees to provide for the management and protection of the environment in the Limpopo Province; to secure ecologically sustainable development and responsible use of natural resources in the Province; and to contribute to the progressive realization of the fundamental rights contained in Section 24 of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996).

## **6. DESCRIPTION OF THE RECEIVING ENVIRONMENT**

### **6.1 MEAN ANNUAL PRECIPITATION**

**Mean Annual Precipitation (mm):**

648

#### **Description:**

Bulk of the rainfall is received during summer months, least amount of rainfall in July and the most in November. Frost does not occur regularly in this area.

### **6.2 MEAN ANNUAL RUNOFF**

**Mean Annual Runoff (million m<sup>3</sup>) Per Quaternary Catchment:**

30 - 70

#### **Description:**

Medium

### **6.3 VEGETATION**

**Vegetation:**

Musina Mopane Bushveld vegetation units of the Savanna Biome

#### **Description:**

It's a rolling grassland clustered with shrubs, mopani trees and isolated bushveld trees. There is enough rainfall on savanna to support forest. It occurs in a wide band on either side of the equator on the edges

of tropical rainforest. Low concentration of rural human settlements is found and high concentration of remote tourism facilities.

## 6.4 BUILT-UP AREAS

### Description:

Built up area (LOW)

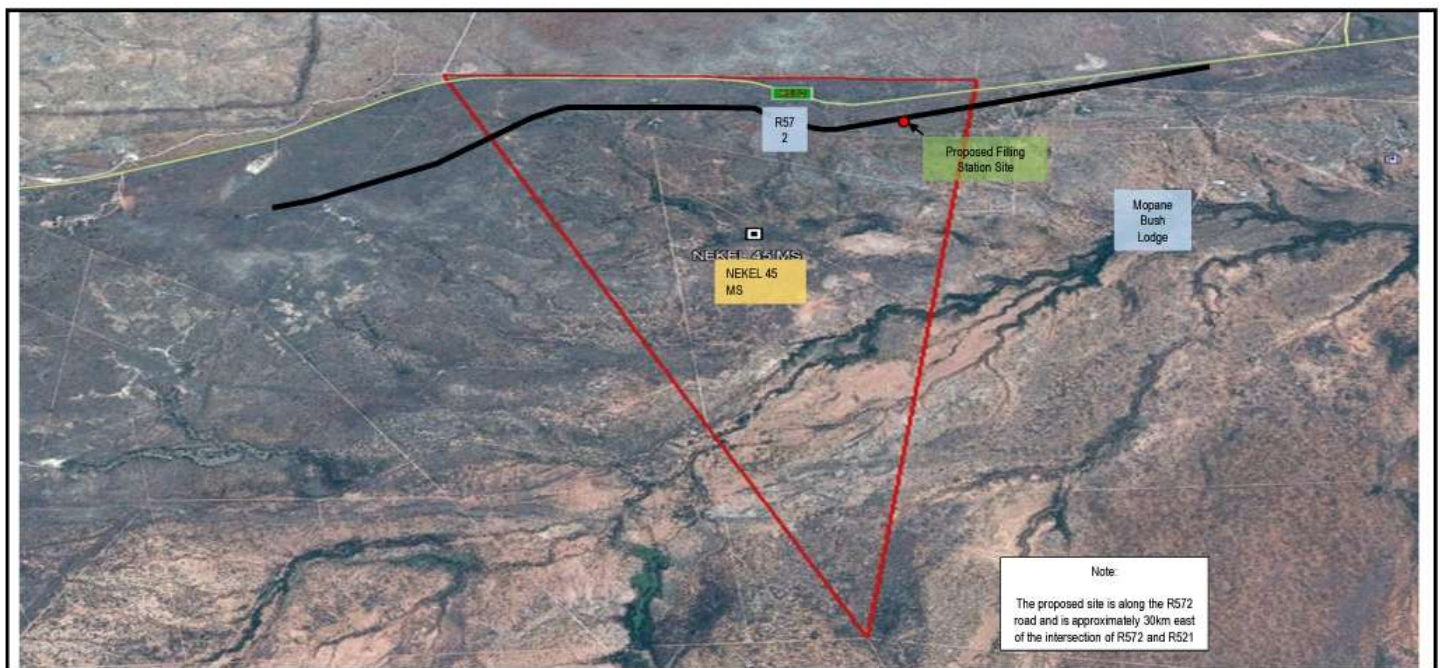
### Guideline:



Due to its nature and/or proximity to urban structures, this area has been classified as a low built up area for the purposes of environmental impact management. This should be taken into consideration when decisions are made.

## 7. LOCATION

The study area is located on a Portion of Farm Nikel 45MS, Musina Local Municipality, Limpopo Province. The centre point of the study area is located at the following GPS coordinates: Latitude: 22°14'09" S and Longitude: 29°27'08" E.

### 7.1 LOCALITY MAP



	<p>PROPOSED FILLING STATION ALONG THE ON A PORTION OF THE FARM NIKEL 45 MS LOCATED ALONG THE R572 ROAD</p>	<p>PROPOSED SITES</p> 
	<p>LOCALITY PLAN</p>	<p>FIG. 3</p>



## **8. ROLES AND RESPONSIBILITIES**

### **8.1 DEVELOPER**

The developer remains ultimately responsible for ensuring that the development is implemented according to the requirements of this EMPr. Although the developer appoints specific role players to perform functions on his/her behalf, this responsibility is delegated. The developer is responsible for ensuring that sufficient resources (time, financial, human, equipment, etc.) are available to the other role players (e.g. the ECO, ELO and Contractor) to efficiently perform their tasks in terms of the EMPr. The developer is liable for restoring the environment in the event of negligence leading to damage to the environment.

The developer must ensure that the EMPr is included in the tender documentation so that the contractor who is appointed is bound to the conditions of the EMPr.

The developer must appoint an independent Environmental Control Officer (ECO) during the construction phase to oversee all the environmental aspects relating to the development.

### **8.2 CONTRACTOR**

The contractor, as the developer's agent on site, is bound to the EMPr conditions through his/her contract with the developer, and is responsible for ensuring that he/she adheres to all the conditions of the EMPr. The contractor must thoroughly familiarise him/herself with the EMPr requirements before construction begins and must request clarification on any aspect of these documents, should they be unclear. The contractor must ensure that he/she has provided sufficient budget for complying with all EMPr conditions at the tender stage.

The contractor must comply with all orders (whether verbal or written) given by the ECO, project manager or site engineer in terms of the EMPr.

### **8.3 RESIDENT ENGINEER (RE)**

The Resident Engineer (RE) will be appointed by the "Consultant" and will be required to oversee the construction programme and construction activities performed by the Contractor. The RE is expected to liaise with the Contractor and ECO on environmental matters, as well as any pertinent engineering matters where these may have environmental consequences. He/she will oversee the general compliance of the Contractor with the EMPr and other pertinent site specifications. The RE will also be required to be familiar with the EMPr specifications and further monitor the Contractor's compliance with the Environmental Specifications on a daily basis, through the Site Diary, and enforce compliance.

### **8.4 ENVIRONMENTAL CONTROL OFFICER (ECO)**

The Environmental Control Officer (ECO) will be appointed by the developer as an independent monitor of the implementation of the EMPr. He/she must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. The ECO must attend relevant project meetings, conduct inspections to assess compliance with the EMPr and be responsible for providing feedback on potential environmental problems associated with the development. In addition, the ECO is responsible for:

- Liaison with relevant authorities;
- Liaison with contractors regarding environmental management; and
- Undertaking routine monitoring and appointing a competent person/institution to be responsible for specialist monitoring, if necessary.

The ECO has the right to enter the site and do monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the site (e.g. wearing of safety boots and protective head gear).

#### **(a) Liaison with Authorities**

The ECO will be responsible for liaising with LEDET and other environmental authorities. The ECO must submit environmental audit reports to the authorities should they be required for the project. These audit reports must contain information on the contractor and developer's levels of compliance with the EMPr. The audit report must also include a description of the general state of the site, with specific reference to sensitive areas and areas of non-conformance. The ECO must indicate suggested corrective action measures to eliminate the cause of the non-conformance incidents. In order to keep a record of any impacts, an Environmental Log Sheet is to be kept and updated on a continual basis.

#### **(b) Liaison with Contractors**

The ECO is responsible for informing the contractors of any decisions that are taken concerning environmental management during the construction phase. This would also include informing the contractors of the necessary corrective actions to be taken.

### **8.5 ENVIRONMENTAL LIAISON OFFICER (ELO)**

The contractor must appoint an Environmental Liaison Officer (ELO) to assist with day-to-day monitoring of the construction activities. Any issues raised by the ECO will be routed to the ELO for the contractors' attention. The ELO shall be permanently on site during the construction phase to ensure daily environmental compliance with the EMPr and should ideally also be a senior and respected member of the construction crew. Past experience has revealed that ELO's that can relate to the work force are the most effective for information transfer and ensuring compliance with the EMPr. All the responsible parties mentioned in this section are responsible for ensuring the implementation of the EMPr and WMP procedures outlined in the Tables overleaf for the duration of the project.

### **8.6 TRAFFIC SAFETY OFFICER (TSO)**

The Contractor must appoint knowledgeable members of staff on site who shall be the responsible persons for the arrangement and maintenance of all traffic accommodation measures required for the duration of the contract. The Traffic Safety Officer shall liaise with the ELO and/or ECO in order to ensure adequate and appropriate traffic arrangements during the transportation of construction material.

## **9. RECORDKEEPING**

The ELO and/or ECO and the engineer will continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The ECO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report. These reports shall be made available to LEDET when requested.

The Contractor shall ensure that an electronic filing system identifying all documentation related to the EMPr is established.

A list of reports likely to be generated during all phases of the development of filling station is provided below, and all applicable documentation must be included in the environmental filing system catalogue or document retrieval index.

- Basic Assessment Report.
- Environmental Management Programme.
- Final design documents and diagrams issued to and by the Contractor.
- All communications detailing changes of design/scope that may have Environmental implications.
- Daily, weekly and monthly site monitoring reports.
- Complaints register.
- Medical reports.
- Training manual.
- Training attendance registers.
- Incident and accident reports.
- Emergency preparedness and response plans.
- Copies of all relevant Environmental legislation.
- Permits and legal documents, including letters authorising specific personnel of their duties as part of emergency preparedness teams e.g. fire teams, etc.
- Crisis communication manual.
- Disciplinary procedures.
- Monthly site meeting minutes during construction.
- All relevant permits.
- Environmental Authorisation on the BAR from LEDET.
- All method statements from the Contractor for all phases of the project.

## **10. DOCUMENT CONTROL**

The Contractor and resident engineer shall be responsible for establishing a procedure for electronic document control. The document control procedure should comply with the following requirements:

- Documents must be identifiable by organisation, division, function, activity and contact person.
- Every document should identify the personnel and their positions, which drafted and compiled the document, who reviewed and recommended approval, and who finally approved the document for distribution.
- All documents should be dated, provided with a revision number and reference number, filed systematically, and retained for a period of five year, but thirty years period for medical related documents.

The Contractor shall ensure that documents are periodically reviewed and revised, where necessary, and that current versions are available at all locations where operations essential to the functioning of the EMPr are performed. All documents shall be made available to the independent external auditor.

## **11. EMERGENCY PREPAREDNESS**

The Contractor shall compile and maintain Environmental emergency procedures to ensure that there will be an appropriate response to unexpected or accidental actions or incidents that will cause environmental impacts, throughout the life cycle of the project. Such activities may include, inter alia:

- Accidental discharges to water and land.
- Accidental exposure of employees to hazardous substances.
- Accidental veld or forest fires.
- Accidental spillage of hazardous substances.

- Specific environmental and ecosystem effects from accidental releases or incidents.

**These plans include:**

- Emergency organisation (manpower) and responsibilities, accountability and liability.
- A list of key personnel.
- Details of emergency services applicable to the various areas along the route that construction material will need to be transported and for the site itself (e.g. the fire department, spill clean-up services, etc.).
- Internal and external communication plans, including prescribed reporting procedures where required by legislation.
- Actions to be taken in the event of different types of emergencies.
- Incident recording, progress reporting and remediation measures required to be implemented.
- Information on hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.
- Training plans, testing exercises and schedules for effectiveness.

The Contractor shall comply with the emergency preparedness and incident and accident-reporting requirements, as required by the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), the National Environmental Management Act, 1998 (Act No 107 of 1998), the National Water Act, 1998 (Act No 36 of 1998) and the National Veld and Forest Fire Act, 1998 (Act No 101 of 1998) as amended and/or any other relevant legislation.

**12. POTENTIAL ENVIRONMENTAL IMPACTS**

Provided in Table below, is a summary of the potentially significant Environmental impacts that may occur as a result of the proposed development of filling station based on the detailed specialist study undertaken in the Basic Assessment Process. It is important that the Contractor develop Method Statements to minimise potentially significant negative Environmental impacts and to enhance positive impacts. It is also advisable that the reader refers to the BAR and the specialist report for this project in order to obtain a more exhaustive list of the potential environmental impacts associated with the proposed project, irrespective of their ranking, as these will need to be considered and the mitigation or management measures associated with these impacts, implemented.

Impact	Significance			
	Without Mitigation		With Mitigation	
		NO-GO		NO-GO
<b>CONSTRUCTION PHASE</b>				
Impact 1: intrusion of visible construction activity on sensitive viewers	Medium -	N/A	Low -	N/A
Impact 2: Noise during the Construction phase	Medium -	N/A	Low -	N/A
Impact 3: Loss of bird habitat through vegetation clearing/habitat destruction	Low -	N/A	Low -	N/A
Impact 4: Introduction of alien plant species	Medium -	High -	Medium +	Low -

Impact 5: Loss of faunal biodiversity	High -	High -	Low -	Low -
Impact 6: Loss of fauna species of special concern	High -	High -	Low -	N/A
Impact 7: Soil erosion due to construction activities	Low -	High +	N/A	N/A
Impact 8: Soil pollution due to construction activities	High -	Medium -	Low -	N/A
Impact 9: Pollution of surface and ground water due to construction activities	High -	Medium -	Low -	N/A
Impact 10: Heritage impact	High -	High +	Low -	N/A
Impact 11: Traffic impact	Medium -	N/A	Low -	N/A
Impact 12: Reduced air quality and health	Medium -	N/A	Low -	N/A
<b>OPERATIONAL PAHSE</b>				
Impact 1: Intrusion of visible operation activity on sensitive viewers	Medium -	N/A	Low -	N/A
Impact 2: Noise during the operation phase	Medium -	N/A	Low -	N/A
Impact 3: Spreading of alien plant species during operation	Medium -	High -	Low -	Low -
Impact 4: Loss of faunal biodiversity	Low -	Low -	Low -	Low -
Impact 5: Soil erosion during operation	High -	Medium -	Medium -	N/A
Impact 6: Soil pollution due to operation of the activity	High -	Medium -	Low -	N/A
Impact 7: Pollution of surface and groundwater due to operation activities	High -	Medium -	Low -	N/A
Impact 8: Heritage impact	High -	High +	Low -	N/A
Impact 9: Traffic impact	Medium -	N/A	Low -	N/A
Impact 10: Reduced air quality and health	Medium -	N/A	Low -	N/A

**Table 1: Summary of impacts associated with the proposed development of filling station and associated infrastructure.**

### **13. ENVIRONMENTAL MANAGEMENT PROGRAMME**

This section of the report serves to prescribe mitigation measures to reduce, limit, eliminate or compensate for impacts, to acceptable/insignificant levels. In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised. The stipulations of this report should be conveyed to contractors prior to the commencement of construction.

#### **13.1 PLANNING AND DESIGN PHASE**

There are no direct impacts expected to occur during planning and design phase of the proposed development. However, prior to construction, there are impacts which were identified to during the site inspection that may occur a number of preparations should be made to ensure minimal impacts to the Environment. The following should be completed before construction.

- All employees that will be on site are to receive training in order to achieve the following:
  - Understand roles and responsibilities of all employees on site with respect to the knowledge and implementation of the Environmental Management Programme measures
  - Explain the potential Environmental Impacts of construction activities
  - Describe mitigation measures stipulated in the EMPr
  - Communicate the penalties in place of potential non-compliance of Environmental Management Programme measures
  - Provide an explanation of monitoring tasks and reporting channels
  
- A source of water for construction purposes, particularly for the mixing of concrete and compaction of materials for the construction of the road network, needs to be determined.

#### **13.2 SITE PREPARATIONS AND MANAGEMENT**

The development footprint must be clearly demarcated prior to construction activities in order to ensure that construction activities do not encroach on surrounding operation. And site should be used for proper carrying out of the works under the contract.

The construction site must also have clearly demarcated areas for the storage and management of construction materials, tools, machinery, and for temporary building or structures including offices, workshops and ablution facilities must be erected within predetermined zones as per the approved site plan or in areas where environmental impacts are minimised.

Ensure that essential services including sanitation and drinking water facilities are provided for all contract staff. And maintain essential services in a functional state.

13.3 Construction Phase				
Activity	Potential Impact	Recommended Mitigation	Schedule	Responsible
<p>Levelling the ground for construction of foundation including clearing all available shrubs and grasses will lead to potential increase in soil erosion. Construction will also expose sections of bare soil and increase runoff and the probability of erosion during high rainfall seasons.</p>	Dust, Erosion and sediments trapping	<p><b>Mitigations:</b></p> <ul style="list-style-type: none"> <li>Exposed topsoil must be stabilised or dampened and be suppressed with water to avoid dust and cleared area for foundation must be occupied by building material.</li> <li>Clearing must be strictly supervised and restricted to demarcated construction area to ensure the minimum Environmental Impacts.</li> <li>Adequate provision should be made to prevent accelerated erosion due to clearing of grasses, like clearing should be limited to platform site only.</li> </ul>	During Planning and Construction Phases	ECO/Contractor
<p>Movement of construction vehicles and thus accumulation of fuel, oils</p>	Impacts on water quality, water may be polluted by	<p><b>Mitigations:</b></p> <ul style="list-style-type: none"> <li>Construction solid waste must be</li> </ul>	During Construction Phase	ECO/Contractor

<p>and hydro-carbon into artificial surfaces. Storage of building material with chemicals. Solid and liquid waste disposal. Utilisation and presence of chemical toilets for employees. Poor storm water management during construction.</p>	<p>disposal of hazardous waste and sanitation seepage. Contamination of storm water</p>	<p>disposed of at the registered landfill site</p> <ul style="list-style-type: none"> <li>• Wash bay for construction vehicles must be installed with sand and grease trap</li> <li>• Storm water must be controlled and managed onsite</li> <li>• Toilets must be disposed for the duration of construction and must be maintained and emptied frequently (weekly). All employees must be informed that natural environment must not be used in place of toilet facilities</li> <li>• Waste solids and liquids produced during construction must be contained and disposed by appropriate service provider</li> </ul>		
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		<ul style="list-style-type: none"> <li>• Rubbish bins (labelled) must be provided on site in order to ensure that appropriate management of waste.</li> <li>• Sanitation should be designed with the emphasis to protect the ground water sources from any contamination.</li> </ul>		
	Risk of spillage from construction equipment	<b>Mitigations:</b> <ul style="list-style-type: none"> <li>• Any construction equipment that may leak oil must be placed on drip tray, so that any oil leaks must be attended to over a drip tray.</li> <li>• All equipment must be in good working order to reduce the likelihood of oil leaks reoccurring.</li> </ul>	During Construction	Contractor
Use of heavy machines and construction vehicles may result in noise pollution to the surrounding area.	Noise	<b>Mitigations:</b> <ul style="list-style-type: none"> <li>• Vehicles must be well serviced so that they do not produce excessive dust and noise, speed of the</li> </ul>	During the Construction Phase	Contractor and Applicant

		<p>vehicles should be kept as low as possible (40 km/h within the construction site and on gravel roads) to reduce the generation of dust and noise.</p> <ul style="list-style-type: none"> <li>• Constructor should only take place during the hours between sunrise and sunset (07h00 to 17h00) on weekdays and Saturdays (07h00 to 15h00); contractors must comply with the provincial noise regulations. Construction machinery must be fitted with noise mufflers and be maintained properly.</li> </ul>		
Concrete mixing may risk soil contamination hence contaminate ground water.	Soil contamination	<p><b>Mitigation:</b> Cement mixing must take place on a hard surface or cement mixing tray must be used. Cement mixing is not permitted to occur where</p>	During Construction Phase	ECO

		run-off can enter storm water drains.		
Actual construction or building of the Infrastructure for the proposed filling station.	Socio- Economic Impact	<p><b>Objective:</b> to ensure that the community benefits from the development.</p> <p><b>Mitigations:</b> Local employees must be sourced within the vicinity where the proposed project is situated.</p>	During Construction and Operational Phases	Contractor and Applicant
Poor Building material can collapse the building during construction. Collapsed stockpiled material like stones, bricks, sands, gravel and trenches due to poor foundation. Collapse due to geotechnical constrains	Injuries to employees due collapse of walls as a results of poor building material.	<p><b>Mitigations:</b></p> <ul style="list-style-type: none"> <li>• Building material must be of good quality.</li> <li>• Specialised foundations designs are required.</li> <li>• Deep excavation should be shored to prevent collapsing trenches.</li> <li>• Material must be stock piled in a way that it cannot fall or cause damage and stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain.</li> </ul>	During Construction	Contractor

Excavating (foundation and landscaping)	Injuries to employees due to noise, dust, erosion and sediments trapping	<b>Mitigations:</b> <ul style="list-style-type: none"> <li>• Building material must be in good quality</li> <li>• Specialised foundation designs are required</li> <li>• Deep excavation should be shored to prevent collapsing trenches</li> <li>• Material must be stock piled in a way that it cannot fall or cause damage and stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain.</li> <li>• No blasting is anticipated as the site does not present the difficulty of excavation to the depth of at least 1.5m.</li> <li>• Excavations will be conducted in accordance with the</li> </ul>	During Construction	contractor
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		<p>specifications of the engineer.</p> <ul style="list-style-type: none"> <li>• Competent person (engineer) should inspect foundation, landscaping and service excavations at the time of servicing the site and construction.</li> </ul>		
Any construction activities like digging have the potential on unveiling or unearthing archaeological material hidden underground.	Archaeological/Heritage Impact	<p><b>Mitigations:</b> In the event that archaeological materials are unearthed, all construction within a radius of at least 10m of such indicator should cease and the area be demarcated by a danger tape. In the meantime, it is the responsibility of the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains,</p>	During Construction	Contractor/Applicant

		whether of recent origin or not, without the endorsement by LIHRA.		
Increased level of traffic on road due to heavy vehicles that will be carrying construction material to the site and by construction workers and specialist that will be involved in the building of the proposed development.	Traffic Impact	<b>Mitigations:</b> <ul style="list-style-type: none"> <li>• Construction vehicles must transport material to the site, at certain times, early in the morning (before 07h00) or late at evening (after 17h00).</li> <li>• Construction vehicle may only park on specific demarcated area.</li> </ul>	During Construction	Contractor
Health and safety	sanitation	<b>Mitigations:</b> <ul style="list-style-type: none"> <li>• Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 15 workers).</li> <li>• The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</li> </ul>	During Construction	Contractor
Safety	Fire	<b>Mitigations:</b>	During Construction	Contractor and ECO

		<ul style="list-style-type: none"> <li>• The contractor must ensure that any grass left in a natural state during construction should be cut in order to prevent veld fires, especially during the dry months.</li> <li>• No open fires shall be allowed on site under any circumstance (The Forest Act, No 122 of 1984). All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires.</li> <li>• Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment</li> </ul>		
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		process. It may be required to increase the level of protection.		
Contamination of water due to Septic tank (closed system)	Water contamination	<b>Mitigations:</b> The septic tank (closed system) will be designed (lined and bonded) in such a way that it does not contaminate any water resource. The septic tank (closed system) will be drained regularly by a qualified and experienced service provider.	During Construction Phase	Contractor

#### 13.4 Operational Phase

Activity	Potential impact	Mitigation measures	Responsibility	Schedule	Verification
use of water and electricity	Shortage of water and electricity as a result of increased demand due to the operation of this filling station.	<b>Objective:</b> to minimise and manage impact of increased water and electricity demand  <b>Mitigations:</b> <ul style="list-style-type: none"> <li>Eskom will supply the required electricity for normal household activities.</li> </ul>	Eskom and Applicant	During Operation	Applicant



		<ul style="list-style-type: none"> <li>Water efficient systems such as dual-flush toilets and water-efficient tap should be used, as well as energy efficiency should be encouraged.</li> </ul>			
storm water, run-off and sedimentation	Paved surfaces of the private open space may increase storm water run-off	<p><b>Objective:</b> to minimise and manage impacts of storm water on the surrounding environment.</p> <p><b>Mitigations:</b></p> <ul style="list-style-type: none"> <li>Paved surfaces can be designed in such a way for the rainwater to be diverted to water storage tanks where the water can be reused in the gardens. Discharge points must be inspected for blockages of</li> </ul>	Contractor	During Operation	Applicant

		<p>any kind; these must be removed timeously to ensure the efficient operation of the storm water management system. This will minimise storm water run-off and the added pressure on municipal water supply</p> <ul style="list-style-type: none"> <li>• All culverts and drains should be kept free from debris.</li> </ul>			
Waste solids and fluids	Impact of litters, solid waste and effluent on the surrounding environment.	<p><b>Objective:</b> to ensure that waste produced on site is effectively managed to avoid any negative impacts in the surrounding environment.</p> <p><b>Mechanism:</b></p> <ul style="list-style-type: none"> <li>• Waste bins will be divided into three groups to distinguish</li> </ul>	Municipality and residents	During Operational Phase (full lifetime)	applicant

		<p>between plastics, paper and organic waste to help with recycling.</p> <ul style="list-style-type: none"> <li>• Appropriate animal proof refuse disposal facilities shall be provided at the proposed construction site.</li> <li>• Waste is to be removed from site at least once a week. Applicant will liaise with the Municipality for the effluent management service with the proposed development.</li> </ul>			
The community in general is the primary affected area due to change of sense of place.	social impact	<b>Objective:</b> to ensure the people in the area benefit from the development.	Applicant	During Operational Phase (full lifetime)	Applicant

The communities' expectation is that local employees will be sourced within the vicinity of the proposed filling station.		<b>Mitigation:</b> first preference should be given to the people staying within the vicinity, which will be achieved by the open and sincere negotiations process which has to be initiated by the Applicant.			
Contamination of water due to Septic tank (closed system).	Water contamination	<b>Mitigation:</b> The septic tank (closed system) will be drained regularly by a qualified and experienced service provider.	Applicant and ECO	During operation	Applicant
Health and safety	Maintenance	<b>Mitigation:</b> <ul style="list-style-type: none"> <li>• All applicable standards, legislation, policies and procedures must be adhered to.</li> <li>• Regular ground inspection of the pipeline must take place to monitor the</li> </ul>	Applicant	During Operational Phase (full lifetime)	Applicant

		<p>status of the filling station.</p> <ul style="list-style-type: none"> <li>• Aerial inspections should also be regularly conducted to monitor the integrity of the filling station.</li> <li>• The leak detection system must be regularly maintained to ensure that the system is working accurately and can pick up any leaks.</li> </ul>			
health and safety	Emergency evacuation plan	<p><b>Mitigation:</b></p> <ul style="list-style-type: none"> <li>• Upon completion of the construction phase, an emergency evacuation plan must be drawn up to ensure the</li> </ul>	Applicant	During Operational Phase (full lifetime)	Applicant

		<p>safety of the staff and surrounding land users in the case of an emergency.</p> <ul style="list-style-type: none"> <li>• All permanent staff must undergo safety training</li> </ul>			
Health and safety	fire safety	<p><b>Mitigation:</b></p> <ul style="list-style-type: none"> <li>• Firefighting equipment in the form of fire hydrants, fire extinguishers and water tanks must be available on the proposed development. These must be regularly maintained by an appropriate company.</li> </ul>	Applicant	During Operational Phase (full lifetime)	Applicant

**STANDARD CONDITIONS FOR FILLING STATION**

The conditions that must be followed during Planning, Construction and Operation of a filling station are as follows:

- An Emergency Response Plan for the proposed filling station must be in place and approved by relevant district/local municipality.
- The applicant must implement water pollution management measures that are aligned with the Department of Water and Sanitation (DWS) Best Practice Guidelines series.

- The installation of the tanks including all secondary containment equipment and the mitigation measures must be done by an experienced professional in accordance with relevant SANS codes.
- The tank pit, which will house the fuel storage tanks, must be lined with impermeable layer.
- A SANS compliant oil/water separator must be installed on site in order to capture surface run-off from all areas of the site, where hydrocarbon spillages may occur.
- The tanks must be fitted with an appropriate over-fill shut off valve to prevent spillage during the filling of the tanks.
- The pumps, separator and associated structures must be maintained according to a maintenance register.
- Any petroleum product from the separator must be placed in a dedicated container for disposal at a registered hazardous landfill site by a qualified service provider; the holder of EA must maintain records of Safe Disposal Certificates for all wastes leaving the site. These records must be made available on request.
- The forecourt must be sealed in accordance with the appropriate SANS codes in order to prevent soil contamination during fuel ling of vehicles. The slope of the area must be in direction of the drainage, which is connected to SANS compliant separator before discharge into sewerage system. No contaminated water and storm water must be discharged into the storm water drain.
- Co-ordination of the Spill Response Procedure must be undertaken by the applicant as well as the site manager. For major spills, an emergency response company must be used to remove and remediate spillage.
- Daily stock reconciliation must be conducted and records must be maintained.
- Annual pressure testing must be undertaken on the tanks installed on site. Pressure testing of all tanks must also be conducted when a leak is suspected.
- Monitoring wells must be installed for the proposed tanks to serve as an avenue for leak detection and leak monitoring must be conducted weekly.
- Groundwater monitoring which must include amongst others, hydrocarbon detection, must take place quarterly during the first year of operation of the filling station and on an annual basis in subsequent years.
- Volatile organic compounds (VOC"s) that may be released during the loading and off-loading of the tanks on site must be monitored on quarterly basis. A comprehensive monitoring plan for the entire site must be submitted to the Department of Economic Development, Environment and Tourism The Department) within thirty (30) day prior to the first monitoring campaign, indicating the scope, methodology and technology to be employed. The results of the monitoring must be assessed against national and international ambient air and occupational health and safety standards.
- An environmental control officer (ECO) must be appointed to ensure that daily inspections are performed during construction for the implementation of mitigation and management measures.
- The appointed ECO must prepare compliance monitoring/ environmental audit reports every six (6) months from the date of commencement. These reports must indicate the applicant's compliance status with regards to the conditions of the Environmental Authorisation and the reasons for non-compliance as well as the proposed remedial steps. These reports must be submitted to the Department within fourteen (14) days after the lapse

of six (6) months. This report must be kept on record and made available to the Department on request. The audit must include but not be limited to the following:

- Monthly fuel volume accepted and consumed, including a discussion on any discrepancies;
- **Confirmation that;**
  - Maintenance of pumps, separator and associated equipment have been undertaken according to a maintenance register;
  - A SANS compliant oil separator has been installed on site;
  - There is conformance of operation to industry standards and SANS codes; and
  - Records of waste and effluent disposed/ removed from the site are being kept by the applicant.
  
- **compliance with:**
  - The conditions of the Environmental Authorisation
  - The requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993); and
  - The EMPr and Emergency Response Plan.
  - Update for emergency procedures and fire drills
  - Proof that an Emergency Response plan was approved by the relevant district/local municipality; and
  - Results of annual and any other pressure testing exercises.
  
- **The first audit report must also verify the following:**
  - Conformance of the installation and the tanks manufacture with the relevant SANS standards. This must include discussion on the pollution prevention measures implemented.
  - The oil/water separator is working correctly and is appropriately maintained;
  - The certificate of tank manufacture issued by the tank manufacturer/supplier; and
  - The personnel have been trained in spills response skills by a representative of the applicant.



### 13.5 DECOMISSINING

Decommissioning of the filling station and associated infrastructure would imply demolishing all foundations of buildings and clearing of all material on site. This would produce dust and waste material like rubbles from foundation materials which would need to be disposed to licenced waste management facility. Appropriate material should be recycled and the land parcel should be fenced and kept clear for invasive plants.

**There will be no decommissioning phase in this project.**

## 14. REHABILITATION OF AFFECTED AREAS

The following method should be used to rehabilitate the affected areas:

- Areas where re-vegetation has not been successful after topsoil has been redistributed shall be hydro seed or hand spread with a seed mixture approved by the Environmental Control Officer. Seeding shall be carried out as soon as practicable during the growing season, after topsoil replacement is complete.
- Flat or gently sloping (1:3) areas to be seeded shall be ripped in lines 300mm Centre to Centre and to a depth of at least 300mm parallel to the contours to alleviate soil compaction and to establish a seedbed suitable for the establishment of growth.
- The Contractor shall work into the soil fertilizers at a rate and depth to be determined by the Environmental Control Officer, based on soil analyse. Fertilizers shall be spread evenly over the area to ensure uniform distribution.
- The areas, which show no vegetation growth nine (9) months after completion of the rehabilitation work, will be ripped, additional topsoil spread and seeded with indigenous grass species at no additional cost to the proponent.
- Grass seeds shall be mixed with chopped straw, sawdust or sand in order to prevent the separation of seeds of different size, weight and shape. Prior to seeding, trials shall be carried out to determine which of these materials is most effective in preventing the separation of seeds. 2:3:2 fertilizers shall also be added to the seed mixture prior to broadcasting.
- After mixing the seed mixture shall be halved. The two halves shall be sown in two successive applications, which follow directly on one another. Seed shall be spread along parallel lines 1.5m apart. The two halves of the mixture shall be sown in directions perpendicular to each other to cover the entire area. Should the total area have been seeded and some seed mixture remains unused, the remaining seed mixture shall be broadcast in the prescribed manner. During seeding, the seed mixture shall be regularly mixed by hand in order to prevent the separation of smaller and larger seeds in the mixture.
- After seeding, the soil surface shall be lightly raked parallel to the contours in order to cover the seed. During raking, care shall be taken to prevent the redistribution or removal of seed from any area.

Before any rehabilitation measures are implemented, it is of vital importance to define goals and objectives for the rehabilitation procedures. These objectives include:

- Defining an end-use for the area in question.
- Ascertain whether the proposed end-use is compatible with the land capability of the area.
- Resources allocated to rehabilitation procedures must be sufficient to ensure effective rehabilitation.
- Contractors entrusted with rehabilitation operations must be suitably qualified and experienced.
- Planning of rehabilitation should ideally be implemented as part of the planning and pre-construction phase of any proposed project.

- Continual record-keeping must be implemented in order to ensure effective and responsible rehabilitation.
- Monitoring and after-care must be implemented in order to ensure efficacy of rehabilitation.

## **15. CONCLUSIONS**

In conclusion it should be noted that the EMPr should be regarded as a living documents and changes should be made to the EMPr as required by project evolution while retaining the underlying principles and objectives on which the document is based.

The compilation of the EMPr has incorporated impacts and mitigation measures from the BAR as well as incorporating principles of best practice in terms of Environmental management. By identifying the impacts, mitigation measure, performance indicators, responsibilities, available resources, potential schedule, and verification responsibility the EMPr has provided a platform on which both the construction phase and the operational phase can be founded. The EMPr has ensured that the individual will be able to incorporate mitigation measures based on the project in its entirety as opposed to phase specific measures.

**16. APPENDIXES**

**16.1 APPENDIX A: PROFORMA: PROTECTION OF THE ENVIRONMENT**

**To be signed by Contractors**

PROFORMA

Employer: .....

Contract No:.....

Contract title: .....

**PROTECTION OF THE ENVIRONMENT**

The contractor will not be given right of access to the site until this form has been signed.

I/We.....contractor records as follows

1. I/We, the undersigned, do hereby declare that I/We am/are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and corresponding requirement by the Employer with regard to this contract, I/We will, in addition to complying with the letter of the terms of the contract dealing with protection of the Environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, material and methods of construction, in so far as I/We have the choice, include in the analysis not only the Technical and Economic (both financial and with regard to time) aspects but also the impact on the Environment of the options. In this regard, I/We recognise and accept the need to abide by the "precautionary principle" which aims to ensure protection of the Environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the Environmental implications of construction.
3. I/We acknowledge and accept the right of ..... to deduct, should they so wish, from any amounts due to me/us, such amounts (hereinafter referred to as fines) as the Resident Engineer and Environmental Site Officer shall certify as being warranted in view of my/our failure to comply with the terms of the contract dealing with protection of the Environment, subject to the following:
  - 3.1 The Resident Engineer and Environmental Officer, in determining the amount of such fine, shall take into account inter alia, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance/non-compliance, the extent of the Contractor's overall compliance with Environmental Protection requirements and, in particular, the extent to which he considers it necessary to impose a sanction in order to eliminate/reduce future occurrences.
  - 3.2 The Resident Engineer and Environmental Officer shall, with respect to any fine imposed, provide me/us with a written statement giving details of the offence, the facts on which the Resident Engineer and Environmental Officer has based his assessment

and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed:.....

Contractor

Date:.....

**16.2 APPENDIX B: COMPLAINT REGISTER**

The following table must be completed for each reported complaint. All complaints received must be investigated and a response (even if pending further investigation) is to be given to the complainant within 7 days. Add pages as necessary.

TIME AND DATE	CONTACT DETAILS OF THE COMPLAINT	NATURE OF COMPLAINT	RESPONSE AND INVESTIGATION UNDERTAKEN	ACTIONS TAKEN & BY WHOME

**16.3 APPENDIX C: ENVIRONMENTAL INCIDENT REPORTING**

All environmental incidents occurring on the site must be recorded in the following table. Add pages as necessary.

TIME AND DATE	LOCATION AND NATURE OF INCIDENT	ACTIONS TAKEN AND BY WHOME

## 17. APPENDIX D: STORMWATER MANAGEMENT

### Why do service stations need this information?

This information for owners and staff of service stations and underground storage tanks aims to help you identify and manage potential stormwater pollution problems at your sites.

The Environment law [National Environmental Management Act (Act 107 of 1998) and National Water Act (Act 36 of 1998) as amended] requires you to ensure that stormwater is protected from pollutants such as general rubbish.

### What is stormwater?

Stormwater is rainwater that flows over outside surfaces into stormwater drains and gutters in the street. This water is not treated and flows directly to our creeks, rivers, ground waters and oceans. Stormwater should only contain clean rainwater and no pollutants.

### Benefits for you and your business

By addressing potential storm water pollution problems at your workplace, you:

- ❖ minimise your potential for environmental fines and prosecutions
- ❖ demonstrate compliance with the Environment Protection Authority's codes of practice
- ❖ improve your business profile
- ❖ make long-term cost savings by increasing efficiency and reducing costs
- ❖ increase customer patronage
- ❖ improve environmental conditions for everyone.

## 17.1 LEGISLATION GOVERNS STORMWATER POLLUTION

The stormwater system is protected by a number of different laws including the National Environmental Management Act (Act 107 of 1998) and National Water Act (Act 36 of 1998) as amended.

The National Water Act offers the most specific protection for the state's waters. It prohibits the pollution of the stormwater system and our natural waters. The National Water Act has general obligations with which every person, business and industry must comply, as well as specific obligations for particular activities. Failure to comply with any of these obligations may result in a fine, Environment Protection Order, and/or prosecution.

The pollutants that relate to service stations and underground storage tanks include:

- ❖ cleaning agents
- ❖ detergents and their by-products
- ❖ engine coolant
- ❖ fuel dispensing area wash water
- ❖ hard waste (for example, vehicles, tyres, batteries, metal parts, piping)
- ❖ motor vehicle servicing or repair waste
- ❖ oil, grease, lubricants, rubbish, and solvents.

## 17.2 IDENTIFYING POTENTIAL POLLUTION PROBLEMS

Service stations pose a significant potential pollution risks to the stormwater system due to the nature of the products used and activities occurring at the location. The varied activities of a service station, including a mechanical workshop, carwash, and refuelling pup, use of petroleum products, oils, grease, solvents and detergents on a daily basis. These pollutants can be easily transported by clean water and discharged into stormwater drains.

Think about the areas where clean water has the potential to mix with pollutants. Is the contaminated water draining directly into the stormwater system or into an approved treatment system? Can you change your work practices to ensure that contaminated water is directed into the stormwater treatment system, and that the system is adequately maintained and operated at its maximum efficiency? Any discharges to the sewer must be in accordance with the requirements of the SA Water Trade Wastes Section.

### 17.3 STORMWATER POLLUTION PREVENTION

- ❖ All stormwater runoff from the uncovered driveways and hard paved areas on the site must be diverted into a stormwater treatment system or device capable of removing litter, sediment and oil products.
- ❖ The stormwater treatment system should include a high flow by-pass system to maintain the quality of the discharged water during periods of high rainfall or first winter rains.
- ❖ Water that has been treated could be discharged to a grassed swale, vegetated site or garden strip within the property boundary, once you ensure the quality of the discharge is suitable. It should be noted that water in the treatment system might contain dissolved hydrocarbons which, if at high concentrations, could result in contamination and should not be used in this way.
- ❖ Confine the washing and cleaning of vehicles to an approved wash bay or contained or bundled (raised edge) area, from where the wastewater is directed to the sewer with a trade waste permit. Discuss alternatives with the Trade Wastes Section of SA Water, who will provide technical advice and options for appropriately collecting, storing and disposing of your liquid wastes.
- ❖ Do not hose the service station forecourt unless all cleaning water is collected and directed through an approved trade waste system. Sweep or vacuum the area or use absorbent materials and solvent on a rag to remove concentrated areas of grime or spillages. Painting the floor with a non-slip paint (as used in aeroplane hangars) to prevent it from absorbing oil will make the floor easier to clean.
- ❖ The petrol refuelling area/covered forecourt must:
  - include or contain within its perimeter the underground fuel storage tank filling points and tanker delivery standing area;
  - be designed so that no vehicle can be refuelled outside of the designated drainage area;
  - be protected from the entry of run-off from the uncovered forecourt area at the roof canopy line by a combination of ground surface grade change and a grated drain system, draining to a blind sump which:
    - Could contain occasional minor fuel spills from the covered forecourt area (Note: a fuel spill contingency plan is required to minimise the potential explosive hazard: see below.)
    - Would contain all cleaning wastes, wash down water and vehicle fluid spillage for treatment before pumped discharge to the sewer or to a septic tank (closed system) (closed system) effluent drainage scheme (STEDS) (Note: the requirements and approval of either the Manager, Industrial Wastes, SA Water or the local council must be sought before discharging to a sewer or STEDS).
- ❖ The law recommends that all storage systems no longer in use should be removed from the ground as soon as reasonably practicable. An appropriately experienced environmental consultant should be engaged to assess any environmental impacts and to recommend remedial action to verify the suitability of the site for the intended use.



## **17.4 SPILL MANAGEMENT**

Any property that contains hazardous and/or potentially polluting material must have an emergency spill response plan to deal with any danger or potential danger that results from the leakage or spillage of those materials. The preparation and on-going maintenance of an emergency spill response plan is necessary to show compliance with the general environmental duty. Premises with activities licensed under the NEMA may be required by a condition of licence to prepare and publish a plan of action to deal with emergencies.

### **In the event of a spill:**

- ❖ quickly and safely stop the spill source and isolate it,
- ❖ contain the spilt material away from the stormwater system and waterways,
- ❖ clean up the spill with reference to the material safety data sheet.

Copies of material safety data sheets should be readily available for all materials on site.

An environmental management system will identify accidental risks and help prevent accidents.

## **17.5 WATER USE**

Water is one of our most valuable natural resources. Water supply organisations in SA has introduced a 'user pays" system to promote water conservation and to better reflect the true cost of water collection, storage and supply services.

Service stations can save money and have a positive impact on the environment by implementing a water efficiency program. This program starts with a water audit to determine how much water your business uses, where there are water leaks, and what systems and equipment could be put in place to reduce your water use.