# APPENDIX F:
# DRAFT ENVIRONMENTAL MANAGEMENT PLAN
# FOR
# Ga-MOLEPO MANKGAILE FILLING STATION

COMPILED BY:

CRYSBOL (PTY) LTD

APPOINTED BY:

MMP PROPERTY (PTY) LTD

## Contents

List of Figures and Tables

# 1 Project Outline

## 1.1 Background

Crysbol (Pty) Ltd was appointed by MMP Property (Pty) Ltd to compile a Basic Assessment Report for the proposed development of the Ga-Molepo Mankgaile Filling Station and its associated activities.

## 1.2 Project description

The activity entails the development of a new filling station and small convenience shopping facility located on a portion of the farm Nooitgedacht 189 within Capricorn District Municipality, Polokwane Local Municipality. The site falls within the Capricorn District Municipality of the Limpopo Province (please refer to the locality map in Appendix A). Applicant is granted to use the proposed site for the development by the tribal authority of Molepo Traditional Council and Department of Rural Development and Land Reform. Crysbol (Pty) Ltd has been appointed by MMP Property (Pty) Ltd to conduct the application process for Environmental Authorization.

Infrastructure for the supply of water and electricity as well as waste water treatment and solid waste collection will be implemented as part of the development. Storm water infrastructure in the form of surface run-off and some sub-surface draining will be implemented on site.

The site is approximately 2 hectares in extent and falls within the jurisdiction of the Polokwane Local Municipality within the Limpopo Province of South Africa.


*Figure 1: Locality Map for Mankgaile Filling Station*

**Timeframe for construction:**

It is expected that construction of the proposed development will commence as soon as authorization from the involved Authorities has been granted. The EMPr will be a binding document for purposes of compliance.

### 1.3 The receiving environment the biophysical environment

Construction phase:

- The biophysical environment will be affected by construction activities that could result in excessive noise and dust. Furthermore, the proposed site for development is located in an Ecological Support Area 1 in terms of the LCPv2. The Polokwane Plateau Bushveld vegetation type is however considered to be least threatened and therefore the development does not pose a severe risk to the endemic vegetation type. It is however important that the development takes place within the provisions of any and all authorizations and that it adheres to any mitigation measures or approved management plans as well as any legislative or policy measures applicable to it.

Operational phase:

- Although it is expected that the area will no longer be fully functional as an ecological support area 1 it is expected that better storm water management will result in reduced erosion. The overall impact of the construction phase after mitigation remains low to medium.

**The socio-economic environment**

Construction phase:

- The proposed development will have a positive impact on the economy due to temporary employment opportunities. It will also have a positive impact on the social environment as there will be visible investment from the private sector within rural areas. It is expected that it will have a negative impact as it may cause nuisance due to dust and noise generation, but this can be mitigated to an acceptable standard.

Operational phase:

- The proposed development will have a positive impact on the socio-economic environment during the operational phase due to permanent employment opportunities and a central location for the local community to do shopping etc.

## 2. EMPr Objectives and Context

### 2.1 Objectives

The objectives of this plan is to:

- Identify the possible environmental impacts of the proposed activity;
- Develop measures to minimize, mitigate and manage these impacts;
- Meet the requirements of the Environmental Authorization (EA) issued by LEDET and requirements of other Authorities; and
- Monitor the project.

### 2.2 EMPr context

This EMPr fits into the overall planning process of the project by carrying out the conditions ofconsent set out by the Limpopo Department of Economic Development, Environment and Tourism (LEDET). In addition, mitigation measures recommended in the Basic Assessment Report are included in the EMPr.

This EMPr addresses the following three phases of the development:

- Pre-construction planning phase;
- Construction phase;
- Operational phase; and
- Decommissioning phase

**3. Monitoring**

In order for this EMPr to be successfully implemented all the role players involved must have a clear understanding of their roles and responsibilities in the project.

These role players may include the Authorities (A), other Authorities (OA), Developer/proponent(D),

Environmental Control Officer (ECO), Project Manager (PM), Contractors (C), Environmental Assessment Practitioner (EAP) and Environmental Site Officer (ESO). Landowners, interested and affected parties (I&APs) and the relevant environmental and project specialists are also important role players.

**3.1 Roles and responsibilities**

**3.1.1 Developer/ Proponent (D)**

Under South African environmental legislation, the applicant (also referred to as the developer/ proponent) is accountable for the impacts of the activities that are undertaken and is responsible for managing these impacts. The developer is therefore ultimately accountable for ensuring compliance with the EMPr and conditions contained in the EA. The developer must appoint an independent Environmental Control Officer (ECO), for the duration of the pre-construction and construction phases, to ensure compliance with the requirements of this EMPr. The developer must ensure that the ECO is integrated as partof the project team.

**3.1.2 Project Manager (PM)**

The Project Manager is responsible for the coordination of various activities and ensures compliance with this EMPr through delegation of the EMPr to the contractors and monitoring ofperformance as per the Environmental Control Officer's monthly reports.

### 3.1.3 Environmental Control Officer (ECO)

An independent Environmental Control Officer (ECO) shall be appointed by MMP Property, for the duration of the pre-construction and construction phase of the Mankgaile Filling Station Development, to ensure compliance with the requirements of this EMPr.

- The Environmental Control Officer shall ensure that the contractor is aware of all the specifications pertaining to the project.
- Any damage to the environment must be repaired as soon as possible after consultation between the Environmental Control Officer, Consulting Engineer and Contractor.
- The Environmental Control Officer shall ensure that the developer's staff and/or contractors are adhering to all stipulations of the EMPr.
- The Environmental Control Officer shall be responsible for monitoring the EMPr throughout the project by means of site visits and meetings. This should be documented as part of the site meeting minutes. The ECO shall compile a monthly report during the construction phase. This report should be submitted to LEDET.
- The Environmental Control Officer shall be responsible for the environmental training program.
- The ECO shall maintain a complaints and incidents register. The register should include a description of how the complaints and incidents were dealt with or mitigated. The complaints and incidents register should include a photographic record of any non-compliance. This register is separate from the incidents and accidents register for the requirements of health and safety and should be kept separate.
- The Environmental Control Officer shall ensure that all clean up and rehabilitation or any remedial action required, are completed prior to final handover.
- A post construction environmental audit is to be conducted to ensure that all conditions in the EMPr have been adhered to.

### 3.1.4 Contractor (C):

The contractor(s) shall be responsible for ensuring that all activities on site are undertaken in accordance with the environmental provisions detailed in this EMPr and that sub-contractor(s) and labourers are duly informed of their roles and responsibilities in this regard.

The contractor will be required, where specified to provide Method Statements setting out in detail how the management actions contained in the EMPr will be implemented.
The contractors will be responsible for the cost of rehabilitation of any environmental damage that may result from non-compliance with the environmental regulations.

### 3.1.5 Environmental Site Officer (ESO):

The ESO is appointed by the developer as his/her environmental representative to monitor, review and verify compliance with the EMPr by the contractor. The ESO is not an independent appointment but must be a member of the contractor's management team.
The ESO must ensure that he/she is involved at all phases of the construction (from site clearance to rehabilitation).

### 3.1.6 Authority (A):

The authorities are the relevant environmental department that has issued the Environmental Authorization. In this case the authority is the Limpopo Department of Economic Development, Environment and Tourism. The authorities are responsible for ensuring that the monitoring of the EMPr and other authorization documentation is carried out by means of reviewing audit reports submitted by the ECO and conducting regular site visits.

### 3.1.7 Other Authorities (OA):

Other authorities are those that may be involved in the approval process of the EMPr.

### 3.1.8 Environmental Assessment Practitioner (EAP):

According to section 1 of NEMA the definition of an environmental assessment practitioner is "the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments through regulations".

The EAP will be an independent environmental consultant appointed by the developer on a needs basis to assist the ESO to monitor and assist in the internal review of this EMPr. The EAP shall be on site on a needs basis.

The EAP's duties will include the following (only on a needs basis and on appointment by the developer):

- Assisting the ESO in ensuring that the necessary authorizations and permits have been obtained.
- Convening and facilitating public meetings if required.
- Monitoring and verifying adherence to the EMPr, at all times, monitoring and verifying that environmental impacts are kept to a minimum.
- Auditing the implementation of the EMPr and compliance thereto.
- Undertaking a review of the EMPr and recommending additions and/or changes to the document.
- Providing training, guidance and assistance to all contractors and workers to ensure environmental compliance.
- The EAP will keep photographic and written record of all activities including non-compliance during the construction phase. This record will be complimented by the complaints and incidents register.

**3.2 Lines of Communication**

The Environmental Control Officer in writing should immediately report any breach of the EMPr to the Project Manager. The Project Manager should then be responsible for rectifying the problem on-site after discussion with the contractor. Should this require additional cost, then the developer should be notified immediately before any additional steps are taken.

**3.3 Reporting Procedures to the Developer**

Any pollution incidents must be reported to the Environmental Control Officer immediately (within12 hours). The Environmental Control Officer shall report to the Developer on a regular basis (site meetings).

**3.4 Site Instruction Entries**

The site instruction book entries will be used for the recording of general site instructions as they relate to the works on site. There should be issuing of stop work order for the purposes of immediately halting any activities of the contractor that may pose environmental risk.

### 3.5 ESO (Environmental Site Officer) Diary Entries

Each of these books must be available in duplicate, with copies for the Engineer and Environmental Site Officer. These books should be available to the authorities for inspection or on request. All spills are to be recorded in the Environmental Site Officer's dairy.

### 3.6 Methods Statements

Methods statements from the contractor will be required for specific sensitive actions on request of the authorities or ECO (Environmental Site Officer). All method statements will form part of the EMPr documentation and are subject to all terms and conditions contained within the EMPr document. For each instance wherein it is requested that the contractor submit a method statement to the satisfaction of ECO, the format should clearly indicate the following:

- What – a brief description of the work to be undertaken
- Who – who will be responsible for executing the work
- How – a detailed description of the process of work, methods and materials
- Where – a description / sketch map of the locality of work; and
- When – the sequencing of actions with due commencement dates and completion date estimates.

The contractor must submit the method statement before any particular construction activity is due to start. Work may not commence until the method statement has been approved by the ECO.

### 3.7 Record Keeping

All records related to the implementation of this management programme (e.g. site instruction book, ESO dairy, methods statements etc.) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for two years and at any time be available for scrutiny by any relevant authorities.

### 3.8 Environmental Compliance

Although each contractor and sub-contractor will be responsible for adhering to the EMPr and applicable legislative requirements the environmental compliance is ultimately the responsibility of the developer. For this reason the developer will appoint an ESO who will be responsible for ensuring that requirements as set out in the EMPr is being met (see

section 3.1 Roles and Responsibilities). The ESO will ensure that all appointed contractors are aware of the EMPr and also have a copy of it to refer to. The developer shall ensure that a certified copy of any authorizations granted is kept at the site office, and the office of the developer together with the EMPr.

All contractors, sub-contractors and other employees shall ensure that they abide by the requirements of any authorizations granted as well as with the EMPr. If any of the contractors, subcontractors and/or its employees is found to be guilty of non-compliance with any of the conditions or requirements they may be ordered to leave the site and/or to pay a fine. It should however be noted that the developer ultimately accepts responsibility for activities undertaken on site and for compliance with the EMPr.

If any serious complaints of non-compliance or of possible environmentally degrading activities are reported to the ECO, the ECO will immediately report such complaint to the developer and if the developer and/ or ESO fails to address the issue the ECO will report it to LEDET. These complaints should also be recorded in the complaints and incidents register as well as the ESO's Diary which should be made available upon request from LEDET or any other authority.

If non-compliance results in any delays, it will be determined who was responsible for the noncompliance and who will be responsible for the costs involved due to the delay. The cost will fall on either developer or the contractor depending on who was at fault. The assessment of such delays should however be reasonable.

The developer may not expect the contractor, sub-contractor or any workers to undertake any activity that may be in breach of the requirements as set out in this EMPr and any authorizations. All employees / contract workers should be aware of this EMPr.

If it is determined that the contractor is guilty of non-compliance the developer will, in writing, give instruction to the contractor to take remedial action. The remedial action will be described in the letter together with the timeframe within which the remedial action should be taken, the penalty due to delay and/or non compliance and that should non-compliance continue the contractor will be suspended.

**3.9 Environmental Awareness Training**

The developer shall ensure that adequate environmental awareness training of personnel takes place and that all personnel/ contract workers receive a presentation on the importance and implications of the EMPr. It is recommended that the ECO/ EAP be appointed for the initial environmental workshop for staff.

As a minimum, training should include:

- Explanation of the importance of complying with the EMPr.
- Discussion of the potential environmental impacts of construction activities.
- The benefits of improved personal performance.
- Staff roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Explanation of the specifics of this EMPr and its specification (no-go areas, etc.)
- Explanation of the management structure and of individuals' responsibilities for matters pertaining to the EMPr.

The developer shall keep records of the environmental training sessions, including names, dates and the information presented.

## 4. Applicable legislation, policies and guidelines

*Table 1: Applicable legislation, policies and guidelines*

| Title of legislation, policy or guideline: | Administering authority: | Date: |
|---|---|---|
| National Environmental Management Act 107 of 1998, Environmental Impact Assessment Regulations 2014 and associated Listing Notices | National, Provincial | 1998<br><br>December 2014 |
| The impact assessment process followed for this study is done in accordance with the National Environmental Management Act 107 of 1998 and the Environmental Impact Assessment Regulations, 2014. The activities triggered by the development was identified in terms of Listing Notices. A listed activity is an activity which may have a significant impact on the environment and therefore needs to undergo an impact assessment process in order to obtain environmental authorization prior to proceeding with the activity. Furthermore, the National Environmental Management Act ensures that an environmental management plan (EMP) is compiled for the sustainable implementation of the project in line with the principles as described in the act.<br><br>Implications for the proposed Mankgaile Development is significant in that it triggers activities listed under Notice R983 (Listing Notice 1) and therefore a Basic Assessment Report will be submitted to the Limpopo Department of Economic Development, Environment and Tourism. | | |
| The National Water Act 36 of 1998 | National, Provincial | 1998 |
| The National Water Act (Act 36 of 1998) gives the Department the tools to gather the information they need for the optimal management of South Africa's water resources.<br><br>The developer should register a water use in the following cases:<br><br>• Diversion of rivers and streams;<br>• Storing water;<br>• Controlled Activities, such as irrigating with waste;<br>• Discharges of waste or water containing waste in terms of section 21 of the National Water Act. This includes the following activities:<br>o Section 21(e) – engaging in a controlled activity defined as such in Section 37(1), with specific reference to irrigation of any land with waste or water containing waste generated through any industrial activity or by a water work.<br>o Section 21(f) – discharging waste or water containing waste into a water resource through a pipe, canal or other conduit.<br>o Section 21(g) – disposing of waste in a manner which may detrimentally<br>o impact on a water resource.<br>o Section 21(h) – disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.<br>o Section 21(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. | | |

The above waste water uses include a number of non-point sources of discharge:

- Disposal of effluent to land or to a facility (such as a tailings dam, irrigated effluent or evaporation ponds treatments);
- Disposal of effluent to land or to a facility (such as a landfill, waste rock dumps, fly ash disposal or solid waste disposal);
- Land use activities such as confined animal facilities or dirty water systems.

Implications for the proposed Mankgaile development is insignificant as the development is subject to flood lines of a perennial Mphogo Dima river and therefore the development will be more than 500 meters from a watercourse.

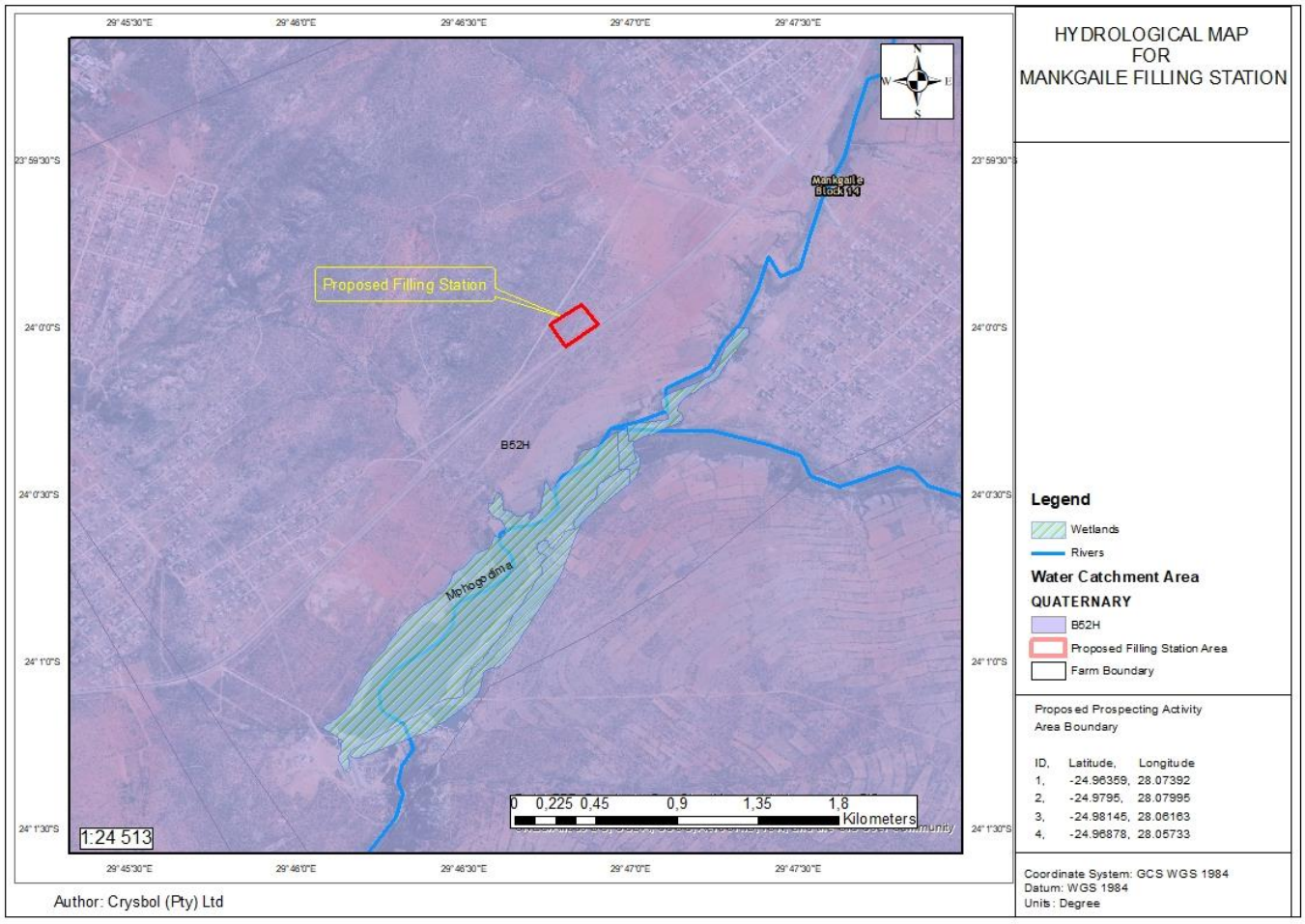



*Figure 2: Hydrological Map for Mankgaile Filling Station*

| | | |
|---|---|---|
| National Environmental Management: Air Quality Act 39 of 2004 | National, Provincial and Municipal | 2004 |

The National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA) forms part of the SEMA suite (Specific Environmental Management Acts) and NEMA functions as the overarching act for all the SEMAs.

The NEM:AQA was developed to improve on the Atmospheric Pollution Prevention Act 45 of 1965 (APPA) and therefore repealed APPA. The objective of the NEM:AQA is to encourage the protection of the environment through measures that enhances air quality, prevent air pollution and ecological degradation and promotes sustainable development. The NEM:AQA aligns with the constitutional environmental right and highlights the importance of the state as custodian of the environment for the people and of justifiable economic and social development. The NEM:AQA is binding on all organs of state as well.

Implications for the proposed development is not expected to be significant. During the construction phase clearing activities can result in dust and noise which could become rather significant for surrounding landowners. If the proposed mitigation measures is followed and successfully implemented it is not expected that the generation of dust or noise will be significant. None of the listed activities as listed in this act has been triggered.

| | | |
|---|---|---|
| National Environmental Management: Waste<br><br>Act 59 of 2008 | National, Provincial and Municipal | 2008 |

The National Environmental Management: Waste Act 59 of 2008 (NEM:WA) is the first real effort to address land pollution on South Africa through waste management. The NEM:WA deals with waste management across South Africa and reflects the principles as set out in the 1999 National Waste Management Strategy (NWMA). The NEM:WA promotes the recycling of waste, reducing the generation of waste and re-using waste where possible. The purpose of the NEM:WA is to promote sustainable development, health and welfare as well as ecological protection through the following measures:

- Minimising consumption of natural resources;
- Preventing pollution and ecological degradation;
- Reducing the generation of waste;
- Reducing, re-using, recycling and recovering waste;
- Ensuring people are aware of the impacts of waste on human and environmental
- health and well-being; and
- Promoting compliance with reasonable measures set out in the NEM:WA and other
- policies.

It is very important to note that the definition of waste is problematic in that the receiving environment plays an important role in how waste affects a certain place. Each site is unique and therefore presents a unique receiving environment. It might be that the receiving environment is less susceptible to pollution than a site located 10 kilometers away. It is therefore important that the environmental assessment of the site consider the expected waste that will be generated by the proposed development.
The NEM:WA defines waste as follows:
*'any substance, whether or not that substance can be reduced, re-used, recycled and recovered –*
*(a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;*
*(b) which the generator has no further use of for the purposes of production;*
*(c) that must be treated or disposed of; or*
*(d) that is identified as a waste by the Minister*
*and includes waste generated from the mining, medical and other sectors'*

| | | |
|---|---|---|
| The implication of the NEM:WA for the proposed development is not expected to be significant as no listed activities as described by the act is triggered by the proposed development. The activity will lead to the generation of domestic waste and have been addressed by the EMPr. It is however important to note that one part of the mitigation measures proposed is the adoption of a waste management plan by the developers to ensure proper waste management on the site. | | |
| National Environmental Management:<br><br>Protected Areas Act 57 of 2003 | National, Provincial and Local | 2003 |
| The objective of the National Environmental Management: Protect Areas Act 57 of 2003 (NEM:PAA) is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity. Furthermore the NEM:PAA provides for the establishment of a national register for all national, provincial and local protected area and for the management of these areas.<br><br>It is not expected that the implications of the NEM:PAA will be significant for the development. | | |
| National Environmental Management:<br><br>Biodiversity Act 10 of 2004 | National, Provincial | 2004 |
| The National Environmental Management: Biodiversity Act 10 of 2004 (NEM:BA) provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA. It furthermore provides for the protection of species and ecosystems that require national protection, the sustainable use of indigenous biological resources, the equitable sharing of benefits for bio prospecting and the establishment of the South African National Biodiversity Institute (SANBI).<br><br>The implications for the development is not expected to be significant as now red-data or orange-data species were recorded during the site visits. Polokwane Plateau Bushveld is regarded as least threatened and therefore it is not expected that this act will have a significant bearing on the development. | | |
| National Heritage Resources Act 25 of 1999 | National, Provincial and municipal | 1999 |
| The National Heritage Resources Act 25 of 1999 (NHRA) was introduced to establish an integrated system for the management of all national heritage resources. The NHRA was established to achieve the following:<br>• To empower society to nurture and conserve heritage resources;<br>• To lay down principles for governing heritage resources throughout South Africa;<br>• To establish the South African Heritage Resources Agency (SAHRA) to manage heritage resources at a national level;<br>• To set norms and standards to manage heritage resources in South Africa;<br>• To control export and import of national heritage resources;<br>• To enable provinces to establish heritage authorities;<br>• To enable local authorities to manage and protect conservation worthy places.<br><br>The NHRA therefore requires a Heritage Impact Assessment for various categories of developments. | | |

The implication of the NHRA is not expected to be significant as it is not expected that any heritage resources will be found on the proposed development site. Should any features of cultural or historical significance however be found during the construction period such finds should immediately be reported to and investigated by a heritage specialist. Should it be determined that the find could have historical importance and application for a permit should be submitted to the relevant authority.

| | | |
|---|---|---|
| Limpopo Conservation Plan Version 2 | LEDET | 2013 |

The Limpopo Conservation Plan Version 2 (LCPV2) was developed to produce a map indicating Critical Biodiversity Areas and its associated land use guidelines in the form of a spatial component of a bioregional plan. Bioregional plans are one of the tools provided for in the NEM:BA to facilitate biodiversity conservation inside priority areas outside the protected area network.

The implication of the LCPV2 for the development is significant as the sight falls within an Ecological Support Area 1 as identified in accordance with the LCPV2 Ecological Support Area 1 is described as a natural, near natural and degraded areas supporting Critical Biodiversity Areas by maintaining ecological processes. The objective of an ESA1 is to maintain ecosystem functionality and connectivity to allow for minimum loss of biodiversity. Urban land uses is described as an incompatible land use that should only be allowed after detailed impact assessments to ensure sustainable development that will maintain overall ecological functioning of these areas.

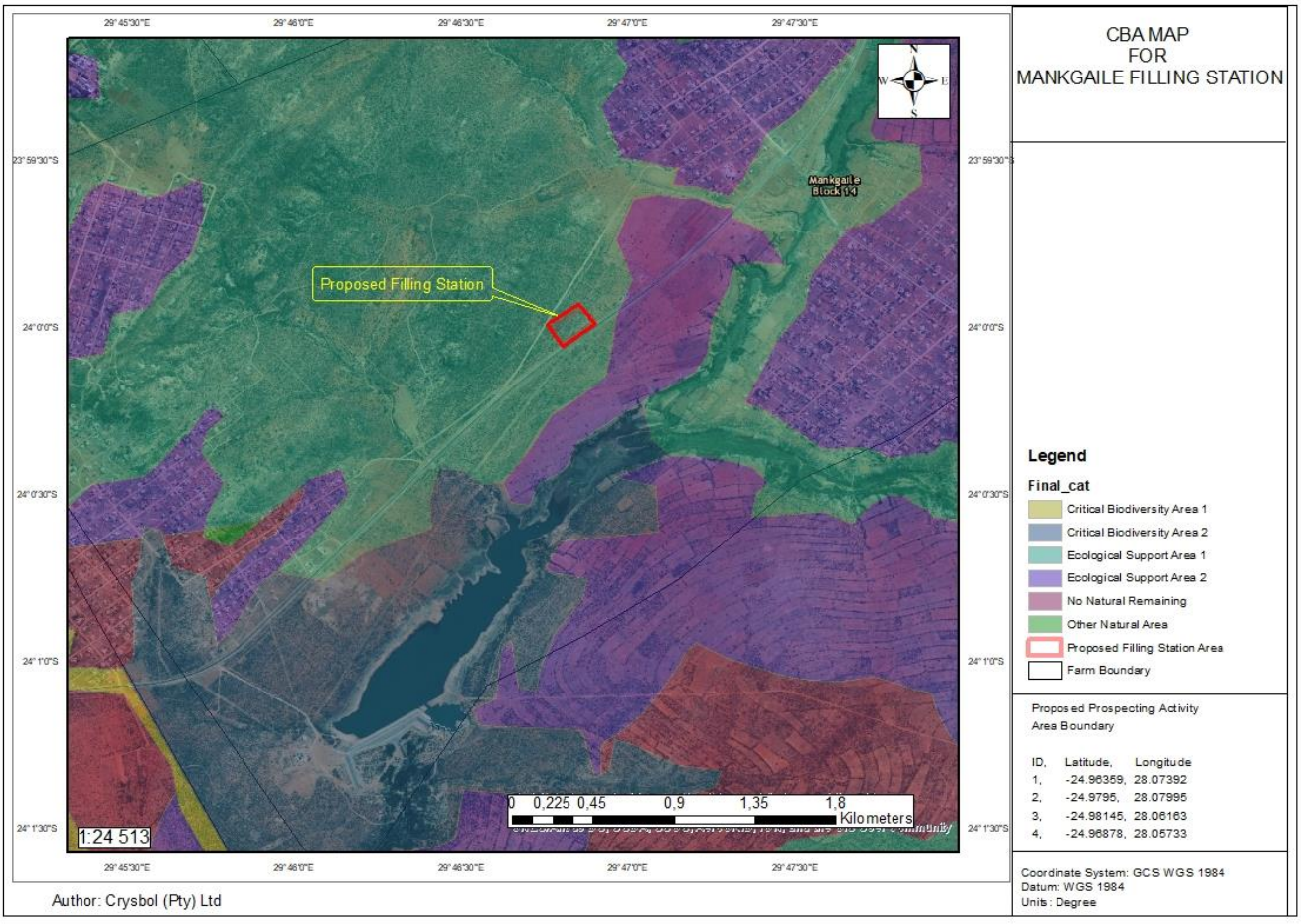



*Figure 3: Critical Biodiversity Area Map for Mankgaile Filling Staion*

| | | |
|---|---|---|
| Limpopo Environmental Management Act 7 of 2003 | Provincial | 2003 |

The Limpopo Environmental Management Act 7 of 2003 (LEMA) was promulgated to achieve the following objectives:

- Manage and protect the environment in the Limpopo Province;
- Secure ecologically sustainable development and responsible use of natural resources;
- Contribute to the realization of fundamental rights as stipulated in the Constitution of the Republic of South Africa Act 108 of 1996;
- Give effect to international agreements effecting environmental management which are binding on the province.

The act provides for the establishment of protected areas, limited development areas etc. within the province as well as the responsibilities surrounding these aspects. The schedules to the act can provide useful information on protected areas, plant and animal species.

The implication of the LEMA is not expected to be significant as none of the species listed in the schedules to the act has been identified during the fauna and flora survey.

| | | |
|---|---|---|
| Integrated Development Plan of the Polokwane Local Municipality 2018/9 | Local | 2018/9 |

The Integrated Development Plan (IDP) is a five-year strategic tool that guides and informs all planning and development within the municipality. The IDP is developed as a result of the Constitution of the Republic of South Africa and is also entrenched in the Municipal Systems Act 32 of 2000.

The implication of the IDP for the development is significant as it described the development goals of the Polokwane Local Municipality. The proposed development falls within the boundaries of the Polokwane Local Municipality and therefore needs to be developed in line with the IDP.

| | | |
|---|---|---|
| All bylaws enforced by the Capricorn District Municipality | District | |

All relevant bylaws enforced by the Capricorn district municipality should be complied with. If applications are required in terms of the provisions of the any of the bylaws the developer should ensure that such applications are submitted and that such authorizations are obtained for the development. It is expected that the following bylaws will apply to the proposed development:

- District Waste Management Policy 16/2/5/P, 24 January 2012;
- District Environmental Management Policy 16/2/P, 24 January 2012;
- National Waste Management Strategy, 2011.

The implication of municipal bylaws to the development is significant. Where required the developer should enter into agreements with the Capricorn District Municipality for the services requires or obtain authorization for developmental aspects where required. It is expected that the developer will be responsible for the provision of services and therefore the developer should obtain authorization for the development by submitting the required applications to the

municipality. The development should take place in accordance with all National, Provincial and Local legislation and policies.

| | | |
|---|---|---|
| All bylaws enforced by the Polokwane Local<br><br>Municipality | Municipal | |

All relevant bylaws enforced by the Polokwane Municipality should be complied with. Any applications that is required in terms of any of the bylaws should be submitted and authorizations should be obtained prior to implementation of the proposed development.
Herewith a list of bylaws that could potentially apply to the proposed development:

- Refuse and Sanitation (Administrator's Notice 845 25 May 1983)
- Drainage by-law (Administrator's Notice 665 8 June 1977)
- Food handling
- Water supply
- Traffic
- Polokwane Local Municipality Noise Control By-Law

The implication of municipal bylaws to the development is significant. Where required by the bylaws the developer should enter into agreements with the Polokwane Local Municipality for the services requires or obtain authorization for developmental aspects where required. It is expected that the developer will be responsible for the provision of services and therefore the developer should obtain authorization for the development by submitting the required application to the municipality.

This list is by no means exhaustive. The EAP attempted to list the most relevant legislation with a particular focus on the environmental and socio-economic aspects addressed in this report. It would be a futile exercise to list all potentially project 'relevant' legislation and policies here as it is time consuming and repetitive. Many of the potential applicable legislations or policies might have a minor implication for the environmental and socioeconomic aspects of the development and is therefore not mentioned here. It is however not to say that it is not applicable to the development, but merely that it is of little importance to the immediate environmental and socio-economic aspects considered in this report. Please refer to all attachments to this report as various legislations and policies relevant to other aspects of the development is referred to therein. I&APs and stakeholders are hereby invited to identify additional legislation and policies which is not listed herein and which they feel is relevant to the proposed development.

## 5. Management and Mitigation Measures

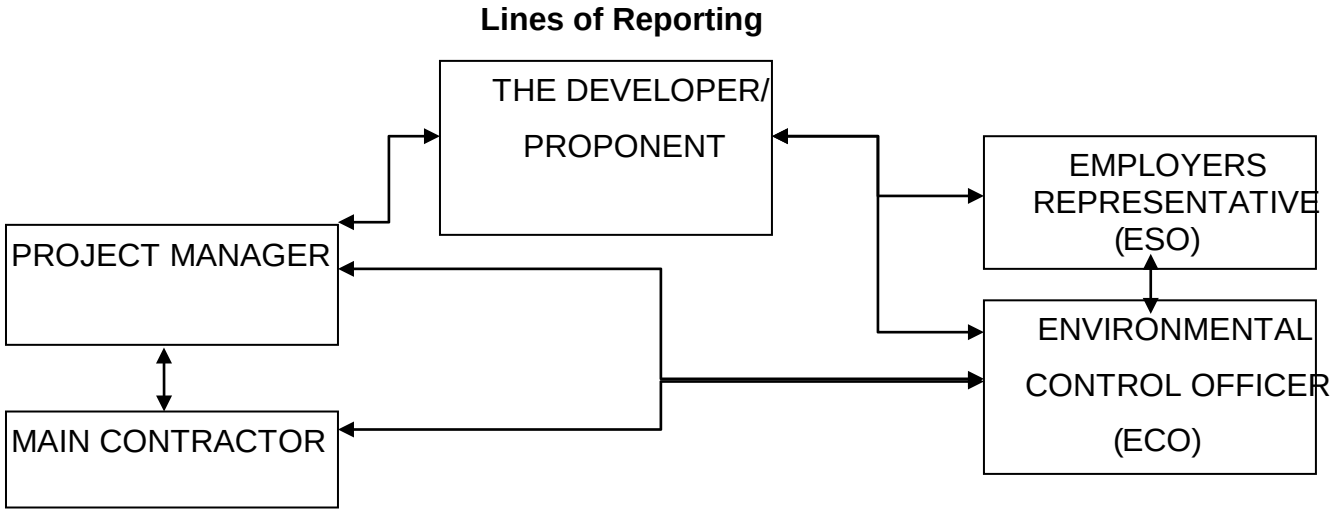
### 5.1 Management and Mitigation Measures for the Pre-Construction Phase

*Table 2: Management and Mitigation Measures for the Pre-Construction Phase*

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Pre-construction Phase Management and Mitigation Measures** | | | | | | |
| **General** | Adherence to EMPr | To make the EMPr enforceable under general conditions of contract | The EMPr document must be included in all the tender documentation for all contractors | The EMPr is included as part of the tender documentation | Developer | Prior to publication of tender documentation |
| **Health and Safety** | | | Plans must be submitted to the Building Inspectorate and compliance with the National Building Regulations (NBR) as per SABS 0400-1990; SANS 10131 and all bylaws of the Polokwane Municipality | | | |
| **Design and planning** | **Stability of Structures** | To ensure the stability of structures | Recommendation by engineers contained in geotechnical report as well as designs should be implemented. | Recommendations adhered to | Developer/ Engineer(s)/ Contractor | |
| | **Storm water design** | The developer is to comply with the Best Management Practices as prescribed by DWA | The proposed storm water design should be submitted to the authorities for approval. The objective of the storm water design for the site is to prevent erosion and saturation. The design should ensure good site drainage and prevent pollution of water resources | Storm water design submitted | Developer/ Engineer | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Pre-construction Phase Management and Mitigation Measures** | | | | | | |
| | **Services** | Adequate capacity available for facilities | Written agreement between relevant services provider and developer. | Agreements in place | Developer | |
| | | | Application for extraction and storage of water submitted to DWA | Approval in place | Developer | |
| | **Visual pollution** | Aesthetically pleasing design | All facilities and services as well as landscaping should be designed by appropriately qualified persons | Aesthetically pleasing designs in place and approved | Professional design team | |

## 5.2 Management and Mitigation Measures for the Construction Phase




**Responsibility:** Ensuring that environmental standards are met and that all legislation, regulations and the EMPr are adhered to is ultimately the responsibility of the developer. The developer shall appoint or delegate someone to represent themselves. During the construction phase the main contractor together with the appointed ESO will be responsible for the day-to-day implementation of the EMPr. It should be noted that although different sub-contractors will be part of the implementation of the development the main contractor appointed will be responsible for the proper implementation of the EMPr.

**Timeframe:** This structure of responsibility shall remain in place for the duration of the construction phase and shall only be replaced by the operational phase responsibility structure at final site handover. During any future construction the construction phase section of this EMPr will be applicable.

**Monitoring:** Environmental compliance monitoring should be done by the ECO at least once a month. If the ECO finds any non-compliance he/she must immediately report it to the project manager and the main contractor as well as the ESO. A monitoring report shall be submitted on a monthly basis to the LEDET. Should it be determined that any condition in the EMPr is not being met after reporting it to the relevant parties, the ECO shall report the continued non-compliance to LEDET. The ESO shall be responsible for all internal monitoring to ensure compliance and shall ensure that a monthly report is made available to the developer. The ESO and Contractor shall be responsible for daily monitoring routines to ensure compliance.

*Table 3: Management and Mitigation Measures for the Construction Phase*

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| **Geology and Soils** | | | construction activities, including temporary activities such as storage and stockpiling, etc. | Stockpiles not higher than 1.5 meters. No visible signs of erosion on stockpiles. | | commences. |
| | | | Stripped topsoil shall be stockpiled in areas agreed with the ESO and ECO for later use in re-vegetation and shall be adequately protected. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth of topsoil stripped may vary. | Stockpiling in areas already disturbed. Stockpiles not higher than 1.5 meters. No visible signs of erosion on stockpiles. | Contractor/ ESO | Before any construction activity commences. |
| | | | Topsoil stockpiles shall be convex and no more than 1.5 meters high. Stockpiles shall be shaped so that no surface water ponding can take place. | Stockpiles not higher than 1.5 meters. No visible signs of erosion on stockpiles. | Contractor/ ESO | Before any construction activity commences. |
| | | | Topsoil stockpiles shall be protected from erosion by wind and rain by providing suitable protection. Stockpiles shall not be covered with materials such as plastic that may cause it | Topsoil should be stockpiled and protected correctly. | Contractor/ ESO | Before any construction activity commences. |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | to compost or would kill the seed bank. | | | |
| | | | Topsoil stockpiles shall not be subject to compaction greater than 1500 kg/m2 and shall not be pushed by a bulldozer for more than 50m. | Topsoil should be stockpiled and protected correctly. | Contractor/ ESO | Before any construction activity commences. |
| | | | Topsoil stockpiles shall be monitored before use for revegetation to identify any alien plants, which shall be removed when they germinate to prevent contamination of the seed bank. | Topsoil should be stockpiled and protected correctly. Minimal invasive weed growth. | Contractor/ ESO | Continuous. Before any rehabilitation / re-vegetation activity commences |
| | | | Before topsoil is to be re-used the stockpiles shall be analyzed by the ECO or if necessary by a suitably qualified landscape architect or horticulturist to determine the type and quantity of any soil improvement to be done. | Approval by ECO of suitability of topsoil for rehabilitation purposes | ECO | Before any rehabilitation / re-vegetation activity commences |
| | | | The main contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to | No loss of top soil. No visible erosion of topsoil stockpiles. | Contractor/ ESO | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | the requirements of this EMPr. | | | |
| | | | The main contractor shall, as an ongoing exercise, implement erosion and sedimentation control measures to the satisfaction of the ESO and ECO if required. | No visible erosion | Contractor/ ESO/ ECO | Continuous |
| | | | During construction, the main contractor shall protect all areas susceptible to erosion by taking any other measures necessary to prevent erosion | No visible erosion | Contractor | Continuous |
| | | Effectively remediate erosion if it does take place. | Any runnels or erosion channels developed during the construction or maintenance period shall be backfilled and compacted and the areas restored to a proper condition by means of re-vegetation or other appropriate measures to prevent further erosion. | No visible erosion | Contractor/ ESO | Continuous: Daily monitoring |
| | | | Any erosion channel(s) that may develop should be backfilled and compacted as soon as possible, and the area(s) restored to a proper condition. The contractor | No visible erosion | Contractor/ ESO | Continuous: Daily monitoring |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | should ensure that cleared areas are effectively stabilised to prevent and control erosion. | | | |
| | | | Stabilisation of cleared areas to prevent and control erosion and/or sedimentation shall be actively managed. The method of stabilisation shall be determined in consultation with the ESO and ECO | No visible erosion | Contractor/ ESO | Continuous: Daily monitoring |
| | | | Consideration and provision shall be made for the following method: In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and revegetation should commence as soon as possible. | All damaged areas successfully rehabilitated | Contractor/ ESO/ ECO | After construction in completed in a particular area |
| **Contamination of Soil** | Contamination of soil by wastewater | Extra care should be taken to prevent any spillage of water that might be contaminated by cement or chemicals. | The contractor shall ensure that wastewater contaminated by any substance will not infiltrate the ground and thereby pollute groundwater. The contractor shall impress the | No maintenance of vehicles taking place on site.<br><br>No signs of soil pollution. | Contractor/ ESO | Continuous: Daily monitoring |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | importance of this point on his construction workers. | | | |
| | | | Contaminated water shall not be allowed to be discharged in the storm water facilities available (if any) on or around the site. | No signs of soil pollution | Contractor/ ESO | Continuous: Daily monitoring |
| | | | Concrete mixing shall take place on an impermeable surface. | No signs of soil pollution | Contractor/ ESO | Continuous: Whenever concrete mixing is to take place |
| | | Immediately and efficiently respond to any spillage | If any spillage occurs the contaminated soil and/or water shall be removed to a registered landfill site if deemed necessary. If any hazardous waste is spilled the soil shall be removed by a registered hazardous waste collector. If it is determined that the contractor did not take all reasonable measures to prevent such spillage, he will be responsible for the replacement of the contaminated soil at his own cost. | No spillage on soil. Soil rehabilitated to acceptable standards | Contractor/ ESO Consultation with ECO is recommended to identify appropriate response measures | Only if spillage occurs |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | Storage of hazardous chemicals shall be done in a responsible manner | Hazardous chemicals shall be stored in lockable shipping containers and store room with appropriate safety signage and used by authorized personnel only before returning them to the store. Spills are to be handled as described above. | No signs of soil pollution. Soil rehabilitated to acceptable standards | Contractor/ ESO Consultation with ECO is recommended to identify appropriate response measures | Only if spillage occurs |
| | Possible contamination of soil due to servicing of mechanical plant | Prevent contamination of soil | The mechanical plant is to be serviced of site. If off-site servicing is not possible, the servicing of the mechanical plant is to take place on an impermeable surface located within the construction yard or other available impermeable servicing area located on the site.<br>Drip trays or lined earth bunds must be provided for placements under vehicles to prevent pollution as a result of hazardous spills.<br>Spill kits should be made available on site.<br>The main contractor shall ensure that his vehicles are inspected by a suitably qualified mechanic who can provide the ECO with a letter confirming that the vehicles used on site are not | No maintenance of vehicles taking place on site.<br><br>No signs of soil pollution.<br><br>Spill kits available.<br><br>Letter confirming functionality of vehicles and absence of leakage | Contractor/ ESO | Continuous: Daily monitoring |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | leaking and are fully functional. The ECO shall include this letter in the monthly report(s) | | | |
| **Water** | | | | | | |
| **Water quality (groundwater and surface water)** | Possible spillage of sewage | Extra care should be taken to prevent any sewage from spilling | The Contractor is responsible for the erection and maintenance of adequate ablution facilities and for enforcing the correct use of these facilities by his staff. | No signs of sewage spills, water or soil pollution | Contractor/ ESO | Continuous: Daily monitoring |
| | | | The Contractor shall be responsible for ensuring that all ablution facilities are maintained in a clean and sanitary condition to the satisfaction of the ESO. | Ablution facilities neat and clean | Contractor/ ESO | Continuous: Daily monitoring |
| | | | Ablution facilities (chemical toilets, etc.) must be provided at all construction camp areas or where there will be a concentration of labour. Toilet paper must be provided. | Ablution facilities available for construction workers. Ablution facilities neat and clean | Contractor | Continuous: Daily monitoring |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | The contractor shall continue to discourage all construction workers and other persons visiting the site from using the veld or other natural vegetation for sanitary purposes.<br><br>The contractor shall ensure that all construction workers have access to basic washing facilities i.e. hand wash basins. The main contractor shall also ensure that such facilities and the wastewater from such facilities cannot pollute the surrounding areas especially the soil and water. | Ablution facilities available for construction workers and visitors.<br>Ablution facilities neat and clean. No signs of soil/ water pollution<br>Ablution facilities available for construction workers and visitors.<br>Ablution facilities neat and clean. No signs of soil/ water pollution | Contractor<br><br>Contractor | Continuous: Daily monitoring<br><br>Continuous: Daily monitoring |
| | | Immediately and efficiently respond to any spillage | If any spillage occurs the ESO and the Contractor should immediately be notified so as to determine the seriousness of the spill and recommend appropriate mitigation measures. In case of serious spills, the ECO should also be notified. | No signs of sewage spills, water or soil pollution. Rehabilitation to acceptable standards. | Contractor/ ESO ECO only when necessary | Only in case of spillage |
| | | | | | | |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | If it is determined that the spillage has affected a water resource the incident should be reported to the Department of Water Affairs within 24 hours and the Limpopo Department of Economic Development, Environment and Tourism. | Serious spillage reported to authorities. | Contractor/ ESO/ ECO | Only in case of serious spillage with detrimental environment al impact |
| | | | The situation of the spillage should be assessed in consultation with the main contractor to determine appropriate measures to prevent any future spillage. | No future spillage. No signs of soil or water pollution | ECO/ ESO/ Contractor | Only in case of spillage |
| | Possible leakage of sewage from portable toilets or contamination of water due to construction waste water run-off. | Extra care should be taken to prevent spillage of potentially contaminated water. | The main contractor shall prevent the discharge of any pollutants or contaminated water which might infiltrate into the ground, resulting in deterioration of groundwater quality. | No signs of groundwater pollution | Contractor/ ESO | Continuous |
| | | | Concrete mixing shall take place on an impermeable surface. This activity should never take place on bare soil or within or close to the natural drainage lines. | No mixing of concrete on bare soil. No signs of soil or water pollution | Contractor/ ESO | Continuous: Whenever concrete mixing is to take place |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Potentially contaminated water may not be allowed to flow into the storm water drainage system or to infiltrate into the soil. | Polluted water contained in suitable containers and removed from site for suitable treatment | Contractor/ ESO | Continuous |
| **Storm water** | Storm water can result in soil erosion on cleared construction site. | Limit the risk of soil erosion due to water run-off | In as far as reasonably possible the storm water should be channeled away from exposed soil areas with sand bags or other appropriate measures | No signs of erosion on exposed soil | Contractor/ ESO | Continuous |
| **Flora and fauna** | Possible killing of fauna and/or flora | Prevent killing of fauna snakes or flora | As part of the training of the staff the ECO and contractor shall ensure that it is important that all workers understand that no one is allowed to remove or kill any flora or fauna specie due to the perceived dangers thereof. | Training programme included section on fauna and flora species | ECO/ Project Manager/ Contractor | Prior to construction workers starting with work |
| | | | The emergency contact details list should also include a number of a person who can relocate and catch fauna perceived as dangerous. | Emergency contact list | Developer/ ECO/ Project Manager | Before construction activities commence and when required during the construction phase |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | The Contractor shall be responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities. | Training programme included section on fauna and flora species | ECO/ Project Manager/ Contractor | Before construction activities commence and when required during the construction phase |
| | Alien invasive species | Eradicate Alien Invasive Species | The contractor shall be responsible for familiarizing themselves with a list of possible alien invasive species and ensure that these species are eradicated. | No alien invasive on site No alien invasive species used in rehabilitation | Contractor/ ESO | Continuous |
| | | | The use of herbicides is encouraged in preference to vehicle-driven brush cutting and grading. However, care should be taken to avoid herbicide drift onto indigenous plants. Herbicides shall not be applied when conditions are windy, so as to avoid spray drift. No herbicides should be applied when rain is forecast within two days | Effective eradication of alien invasive species | Contractor/ ESO | Continuous |
| | | | Protective clothing and masks must be worn at all times during application of herbicides. | Correct PPE supplied to construction workers | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Colour dyes must be used with the herbicides to clearly mark areas that have been treated. | Treated alien invasive species are coloured | Contractor | Continuous |
| | | | Herbicide drift unto other plants must be avoided and care must be taken not to trample indigenous vegetation or stack alien vegetation on top of it. | Correct eradication of alien invasive species | Contractor | Continuous |
| | | | Always read and follow the instructions on the labels of the herbicides. | Correct eradication of alien invasive species | Contractor | Continuous |
| | | | Unused herbicides and empty herbicide containers shall not be disposed of on site. | Correct disposal of waste | Contractor | Continuous |
| | | | Eradication must start in the least infected areas and from highest lying areas. | Correct eradication of alien invasive species | Contractor | Continuous |
| | Protect indigenous vegetation | Protect indigenous vegetation | In as far as reasonably possible the smaller indigenous plants shall be removed and stored at an onsite nursery to be utilized in rehabilitation after construction. The removal and storage of these plants shall be undertaken with the | Correct removal of indigenous vegetation for later use in rehabilitation. Established on-site nursery. | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | supervision of a qualified horticulturist or landscape architect. | | | |
| | | | The Contractor shall be responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities. | Training programme included section on fauna and flora species. Contractor constantly ensure that staff understands their responsibilities | Contractor | Continuous |
| | | | The use of herbicides is prohibited unless approved by the ESO and ECO. The use of any herbicides should be done in accordance with national standards and best practice. Strict adherence to the instructions of use is essential. Care should be taken to avoid impact on any of the indigenous vegetation | Correct eradication of alien invasive species<br>No damage to indigenous vegetation | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | Protect fauna on site | Possible killing of fauna species | The Contractor shall ensure that no hunting, trapping, shooting, poisoning or otherwise disturbance of any fauna takes place. | Training programme included section on fauna and flora species. Contractor constantly ensure that staff understands their responsibilities | Contractor | Continuous |
| | | | The feeding of any wild animals is prohibited. | Training programme included section on fauna and flora species. Contractor constantly ensure that staff understands their responsibilities | Contractor | Continuous |
| | | | The use of pesticides is prohibited unless approved by the ESO and ECO | | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | No domestic pets or livestock owned by employees are permitted on site. | Training programme included section on fauna and flora species. Contractor constantly ensure that staff understands their responsibilities | Contractor | Continuous |
| | | | The activities should, in as far as is reasonably possible, be planned around sensitive areas particularly the protected tree species<br>The development should promote the concept of 'green economy' by replacing all damaged or removed indigenous vegetation in as far as is reasonably possible. The replacement plants can be utilised in the landscaping in and around the development. The replacement plants should be sourced from a local nursery which will ensure that the plants are endemic to the area and will thus ensure | No exotic plants used in landscaping. Indigenous vegetation from on-site nursery utilized. | Contractor | As soon as construction of an area is complete |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | that it establishes well within the environment | | | |
| | | | If any of the protected trees should be removed application for a permit for such removal should be lodged to the Department of Agriculture, Forests and Fisheries in terms of the National Forest Act of 1998 | Permit for removal of tree/ plant | Developer | As and when required |
| | | | A rigid plan for removal of any and all invasive plant species should be adopted to promote the 'green economy' concept. | Alien invasive eradication plan | Contractor/ ESO | Prior to eradication and construction |
| | | | Pruning of indigenous vegetation should be practiced where removal can be avoided | Indigenous vegetation pruned | Contractor | Only when required |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | A bush clearing team familiar with indigenous vegetation should be appointed. The bush clearing must take place under strict supervision and no indigenous vegetation should be removed without the relevant authorizations | Training programme included section on fauna and flora species. Contractor constantly ensure that staff understands their responsibilities | Contractor/ ESO | Before construction |
| | Risk of pollution | Prevent pollution | All reasonable measures as described above and as required by LEDET, the ECO or the ESO should be taken to prevent pollution that could be detrimental to the flora and fauna on site. | Measures in place in EMPr, Environmental Authorizations or any site instruction | Contractor | Continuous |
| **Air Pollution** | Possible air pollution in the form of emissions from construction vehicles and equipment. | Limit air pollution | All vehicles and equipment shall be kept in good working order to maximize efficiency and minimize pollution. | Letter from developer's appointed mechanic confirming functionality of all vehicles No leaks visible, no observations of unnecessary high levels of smoke or odours from vehicles | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Construction equipment will not be allowed to idle for unnecessarily long periods. | Construction equipment not in use is switched off | Contractor | Continuous |
| | | | All maintenance, including washing of plant on site shall take place at a designated area or preferably off site | Vehicles serviced offsite | Contractor | Continuous |
| | | | The Contractor shall ensure that no contamination of soil or vegetation occurs on the site. Washing of equipment shall be restricted to urgent maintenance requirements only. | Vehicles/ equipment serviced/ washed off-site | Contractor | Continuous |
| | Potential increase in dust levels during construction phase. | Minimize airborne dust | The Contractor shall implement dust suppression measures (e.g. water spray vehicles, covering of material stockpiles, etc.) if and when required. | No visible dust particles | Contractor | Continuous |
| | | | The Contractor shall ensure that the generation of dust is minimised and shall implement a dust control programme to maintain a safe working environment, minimise nuisance for surrounding buildings and protect damage to natural vegetation, crops, etc. | No visible dust particles<br><br>No complaints from neighbours | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| **Waste management** | | | Construction vehicles shall comply with speed limits and haul distances shall be minimised where possible. | No visible dust particles<br><br>No complaints from neighbours | Contractor | Continuous |
| | | | Material loads shall be suitably covered and secured during transportation. | No visible dust particles<br><br>No complaints from neighbours | Contractor | Continuous |
| | | | Exposed soil and material stockpiles shall be protected against wind erosion and the location of stockpiles shall take into consideration the prevailing wind directions and locations of sensitive receptors. | No visible dust particles<br><br>No complaints from neighbours | Contractor | Continuous |
| | | | All exposed surfaces shall be revegetated or paved as soon as is practically possible after construction. | No visible dust particles<br><br>No complaints from neighbours | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| **Solid waste management** | General solid waste generated at the construction site must be disposed of at a licensed disposal site | Safely dispose of all solid waste | Solid or domestic waste shall be transported to an approved refuse disposal site in covered containers or trucks. | No pollution from general waste.<br><br>Agreement with local municipality on suitable landfill disposal site | Contractor/ Developer | Continuous |
| | | | No burning, on-site burying or dumping of waste shall occur. | No fires or dumping on site<br><br>No complaints from neighbours | Contractor/ ESO | Continuous |
| | | | In the rare event that any hazardous waste is generated, such waste is not to be disposed of with the general waste. Any such waste should be collected by a licensed hazardous waste collector and disposed of in a responsible way. The hazardous waste collector should first be approved by the ECO prior to disposal and collection of the waste. | Agreement with licensed hazardous waste disposal company for removal of hazardous waste | Contractor/ ESO/ ECO | Only when hazardous waste needs to be disposed of |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | Provide sufficient rubbish containers and discourage littering by the construction team | The main contractor shall ensure that enough rubbish containers are provided at convenient points for the disposal of all general waste. Rubbish containers shall be covered, tip proof, weatherproof and scavenger proof. | Approved rubbish bins provided at various locations on site | Contractor | Before construction starts |
| | | | The main contractor shall ensure that the rubbish bins are emptied regularly and that no overflowing of the bins occurs. | Bins emptied once a week | Contractor | Weekly |
| | | | As part of the training of the staff the ECO and contractor will highlight the importance of not littering or disposing of any waste in an irresponsible way. | Effective training programme<br><br>No littering visible on site | ECO/ Contractors | Continuous |
| | | | The main contractor shall ensure that litter is picked up on a daily basis as and when necessary | No littering visible on site | Contractor | Daily |
| | | | Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed. | No littering on site.<br>No signs of pollution.<br>Effective waste management | Contractor | Daily |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Material shall be appropriately secured to ensure safe passage between destinations during transportation. Loads shall be appropriately covered to prevent them spilling from the vehicle during transit. The Contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials. | Materials properly secured.<br>No spills, pollution or damage to surrounding properties.<br>No complaints from neighbours | Contractor | Continuous |
| **Visual impacts** | | | | | | |
| **Visual Impact of Site Construction** | There is the possibility that the construction site may have a negative impact on the visual quality due to the removal of vegetation or the untidiness of the site. | The areas where construction will take place shall be kept neat and tidy at all times | The main contractor, together with the ESO and ECO shall continue to express the importance to construction workers of not littering as litter has a negative impact on the visual quality of the site.<br><br>See Item on Solid waste management | No littering on site.<br>No visible signs of pollution. No complaints from neighbours | Contractor/ ESO/ ECO | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | The main contractor shall ensure that building rubble is collected regularly and that it is not accumulated unnecessarily. All such building rubble shall be removed to a registered landfill site. If it is determined that building rubble can be used on site for filling material the building rubble shall be removed to such a location as soon as possible. | Site clear of building rubble | Contractor | As soon as building rubble is generated |
| | | | Any topsoil stockpiles shall be kept free of weeds and invasive species. Topsoil kept on stockpiles shall, as soon as possible after completion of construction be used for rehabilitation or landscaping on site. If topsoil stockpiles are not used for rehabilitation or landscaping it shall be shaped in such a way to blend in with the surrounding natural landscape. | No weeds on topsoil stockpiles.<br><br>Topsoil used in landscaping on site or shaped appropriately and revegetated with indigenous vegetation | Contractor to the satisfaction of the ESO/ ECO | As soon as construction is complete |
| | | | | | | |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| **Health and Safety** | | | | | | |
| **Fire** | There is a risk of fire because of construction activities as well as the high temperatures experienced in summer in the area. The risk of fire is further increased by any heat generating construction activities | First and foremost, all construction personnel including the main contractor and the maintenance team shall work together to prevent any fires | All equipment that is used that are likely to cause sparks or that work by means of an open flame shall be used with extreme caution. Furthermore, all such activities shall take place within a designated area located away from flammable materials or plant material. The Contractor shall take all reasonable steps to avoid increasing the risk of fire through activities on site. | No fires as a result of construction activities | Contractor | Continuous |
| | | | No-one on the construction site is to smoke anywhere but in designated areas and cigarette buts are to be disposed of in a responsible manner within refuse bins provided | No-smoking except for in designated smoking areas | Contractor | Continuous |
| | | | The main contractor shall ensure that no open fires are made on site except in designated areas. These designated areas should be equipped with fire appropriate containers for the making of fires e.g. a braaier | No open fires on site except in designated areas within appropriate containers | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | If a fire does occur the team should respond to the fire immediately with efficiency | All emergency numbers are to be placed on site in highly visible locations. There should at least be a copy of the emergency numbers at the site office, the guard houses, the main office of the developer and all other buildings on site. The emergency evacuation plan shall also be clearly displayed at all these locations. The main contractor shall ensure that all emergency numbers are programmed into his cell phone. | Emergency contact list affixed in appropriate locations for all personnel to see.<br>Emergency contact numbers programmed into contractor's cell phone | Contractor | Before construction starts.<br><br>In case of an emergency |
| | | | The list of emergency numbers shall include at least the number of the local fire station, local ambulance service, a local doctor(s), a local hospital, the local police station, number of the main contractor, a person who can relocate perceived dangerous fauna. | Emergency contact list affixed in appropriate locations for all personnel to see.<br>Emergency contact numbers programmed into contractor's cell phone | Contractor | Before construction starts.<br><br>In case of an emergency |
| | | | The construction yard shall be equipped with fire-fighting equipment. The | Firefighting equipment in working order | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | firefighting equipment shall be in good working order. | | | |
| | | | The Contractor shall ensure that all site personnel are aware of the procedures to be followed in the event of a fire. An emergency evacuation plan shall be adopted. | Emergency evacuation plan | Contractor | Before construction starts |
| | | | The construction yard shall be established in a position with a low fire risk, away from flammable materials. | Appropriate location of construction yard | Contractor in consultation with ESO | Before construction starts |
| | The storage and transfer of fuel can result in onsite fires and explosions | First and foremost all construction personnel including the main contractor and the maintenance team shall work together to prevent any fires | All contractors and subcontractors must be aware of the relevant Health and Safety policies and implementation thereof, in addition to an Emergency Plan and the Environmental Management Plan | Awareness training effective | ESO/ ECO/ Contractor | Continuous |
| | | | Ensure all staff are trained in what to do in the case of an emergency such as an on-site fire or explosion | Emergency plan in place | Contractor | Before construction starts |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | A fire readiness team must be appointed and properly trained Ensure all fire-fighting equipment is readily available, accessible and functioning | Firefighting equipment in working condition. Fire readiness team has received certificates | Contractor | Before construction starts |
| | | | Ensure that relevant signage is displayed in potentially dangerous areas and is abided by | Signage displayed in appropriate areas | Contractor | Continuous |
| **General health and safety** | Due to the nature of the project there is a possibility of injury during construction | The main contractor will take all reasonable measures to ensure the safety of anyone entering the construction site. Furthermore, strict adherence of the Occupational | As far as reasonably possible the construction site shall be fenced off to ensure that only construction workers, that are aware of this EMPr, can enter the site. All persons entering these demarcated areas shall obtain authorization prior to entrance and shall be made aware of the risk involved. | Construction site fenced. Visitors' book kept up to date. | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | Health and Safety Act is to be practiced | All construction workers and other persons entering the demarcated areas shall wear appropriate protective gear prior to entrance. The main contractor is to provide his construction workers with appropriate safety gear. The main contractor shall advise any person not equipped with such gear to leave the demarcated area. The main contractor shall ensure that at least two additional kits of PPE (Hardhat, reflective jacket, safety glasses etc.) are available for any visitors. All persons entering the site shall wear appropriate safety clothing. | Contractor's workers are wearing appropriate PPE. Additional PPE kits available for visitors. | Contractor | Continuous |
| | | | The main contractor shall have a fully equipped first aid kit available and fully accessible at all time. | Fully equipped first aid kit available and accessible at site office | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Workers may not be forced to engage in dangerous tasks | No forced dangerous work undertaken without appropriate health and safety measures | Contractor | Continuous |
| | | | Any excavated area that presents a risk shall be clearly indicated by means of a barrier e.g. danger tape | Dangerous excavated areas fenced of | Contractor | Whenever a dangerous excavation will take some time before it can be closed |
| **Traffic** | | | | | | |
| **Disruption of traffic** | The increase in construction vehicles travelling to and from the site can have an impact on the daily traffic situation and can possibly result in accidents | It is important that any disruption of the normal traffic situation should be limited as far as reasonably possible | Construction vehicles should as far as reasonably possible not travel during peak times between 07:00 and 08:00, 13:00 and 14:30 and 17:00 and 18:00. All travelling on main roads that needs to be done for construction purposes should therefore be done before or after the times indicated. | No use of construction vehicles during peak times on main roads | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | Construction vehicles should, as far as reasonably possible, not block the road and should move immediately to the required point of delivery. | No road lock as a result of construction vehicles No complaints from other road users | Contractor | Continuous |
| | The increased use of the road can result in injury or death to fauna and people | Prevent any accidents | Appropriate temporary road signage should be used to ensure that people are aware of the construction vehicles travelling on the road during the construction phase | Temporary road signage fixed in appropriate locations | Contractor | Continuous |
| | | | The contractor shall ensure that someone warns any pedestrians of scheduled deliveries by means of road safety measures. | Use of red/ orange flags to guide pedestrians | Contractor | Continuous |
| | | | Proper road crossings should be established e.g. pedestrian crossings (zebra stripes) with traffic lights | Pedestrian crossings on site roads | Contractor | Before final handover |
| | | | Fences should be erected to ensure that animals cannot enter the road or dangerous construction areas. | Fence erected in appropriate locations | Contractor | Only when determined necessary |
| **Construction Yard** | | Keep the size of the construction yard to a minimum | The construction, layout and extent of the construction site and its components shall be managed in such a | Absolute minimum size of construction yard | Contractor | Before construction starts |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | manner that environmental impacts are minimized. | | | |
| | | | Temporary structures and facilities shall be decommissioned to the satisfaction of the ESO and clean-up after construction shall be effectively undertaken. | No temporary structures visible | Contractor | After construction is completed |
| | | | The Contractor shall establish construction camps, offices, stockpiling areas, staff accommodation etc. in a manner that does not adversely affect the environment. | No visual pollution<br><br>No complaints from neighbours | Contractor | Continuous |
| | | | The site layout shall take cognisance of access for deliveries and services. Likely disturbance to neighbours as well as security implications shall be considered. | Well planned site layout | Developer/ Project Manager/ Contractor | Continuous |
| | | | The site office must have an access gate that can be locked outside of working hours. | Fenced site office area | Contractor | Before construction commence |

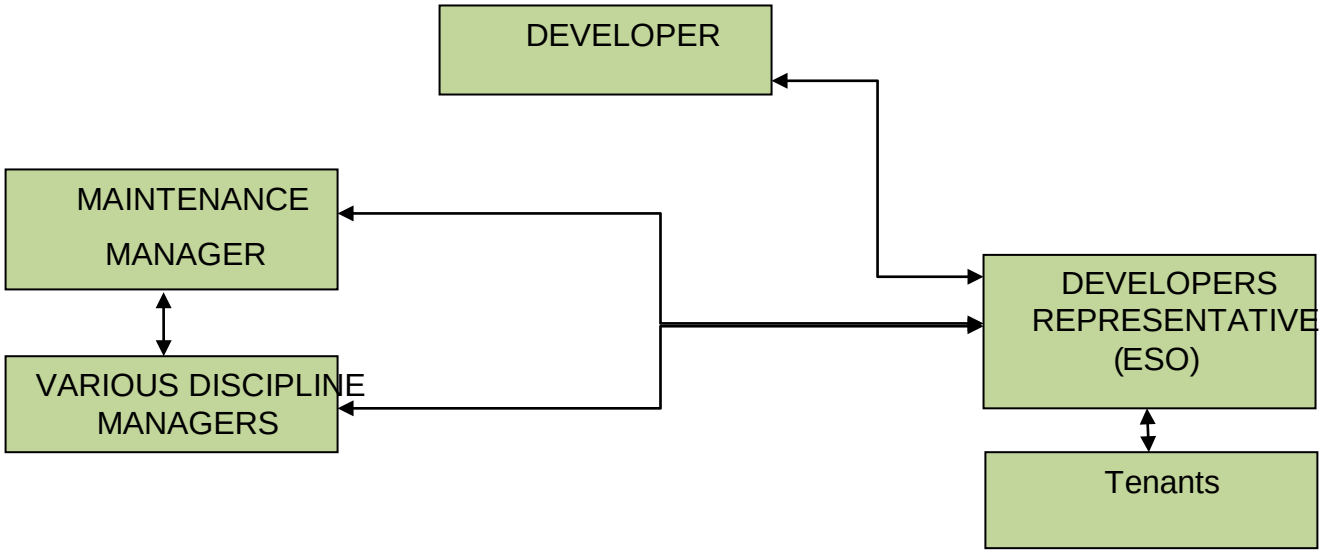
| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | All visitors to the site are to report at the site office and sign a register. The Health and Safety Officer shall ensure that all persons entering the site wear appropriate protective gear. | Visitor's register in place and available | Contractor | Every time someone other than the contractor and his/ her staff visits the site |
| **No-go Areas** | | Establish no-go areas | Areas where construction activities (including traffic accommodation) are prohibited are referred to as nogo areas. | No-go areas should be established during the pre-construction phase | Developer | Before construction starts |
| | | | No person may enter these areas without prior consent from the ESO. | Consent granted | ESO | Every time a person needs to enter this area |
| | | | The ESO may declare additional no-go areas at any time during the construction phase as deemed necessary and/or at the request of the ECO. | Declared nogo areas indicated on site plan and on site | ESO/ ECO | When required |
| | | | Demarcation materials (fencing, signage, etc.) shall not be moved or removed at any stage of the construction phase without written consent from the ESO. | Declared nogo areas clearly demarcated. Written consent granted by ESO | ESO/ Contractor | When required |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | The area identified where graves or other heritage resources are located should be fenced off and declared a no-go area during all phases. | Additional identified no-go areas clearly indicated on site plan and on site | ESO/ Contractor | If heritage resources are discovered on site |
| | | | The Contractor shall not deface, paint, damage or mark any natural feature (e.g. rocks, etc.) situated on or around the site for survey or any other purposes unless agreed beforehand with the ESO. Any features affected by the Contractor in | No damage of any natural feature visible | Contractor | Continuous |
| | | | contravention of this measure shall be restored/ rehabilitated to the satisfaction of the ESO and ECO. | | | |
| | | | All construction areas must be kept neat and tidy at all times. Different materials and equipment must be kept in designated areas and storing/stockpiling shall be kept orderly. | Neat and clean construction site | Contractor | Continuous |
| | | | The Contractor shall ensure that all suppliers and their delivery drivers are aware of procedures and restrictions | No noncompliance from any contractor | Contractor | Continuous |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | (e.g. no-go areas) in terms of this EMPr. | | | |
| **Noise Control** | The increase in construction activities can result in the increase in noise | Keep noise levels to a minimum | The Contractor shall endeavor to keep noise generating activities to a minimum. | No excessive noise levels | Contractor | Continuous |
| | | | The Contractor shall restrict all operations that result in undue noise disturbance to local communities and/or dwellings to daylight hours on weekdays or as otherwise agreed with the ESO. | No excessive noise on weekends or public holidays | Contractor | Continuous |
| | | | The Contractor shall warn the local community that could be disturbed by noise generating activities well in advance and shall keep such activities to a minimum. | Community is aware of high level noise generating activities if and when they take place | Contractor | Continuous |
| | | | The Contractor shall be responsible for compliance with the relevant legislation with respect to noise. | Noise levels kept to acceptable standards | Contractor | Continuous |
| **Protection of Heritage and Cultural Features** | | | If any archaeological or paleontological artifacts or remains are uncovered during construction activities, work in the vicinity of the find shall cease immediately. The contractor shall immediately notify the ESO, who shall | Construction work ceases once any archaeologic al find is discovered | Contractor/ ESO | If heritage resources are discovered on site |

| Aspect | Identified issue or impact | Objective | Recommended Mitigation Measures | Performance Indicator | Responsibility | Frequency |
|---|---|---|---|---|---|---|
| **Construction Phase Management and Mitigation Measures** | | | | | | |
| | | | contact an archaeologist. The archaeologist should immediately investigate the find and report it to SAHRA if necessary | | | |
| | | | The Contractor will be required to abide by the specifications as set out by SAHRA or the heritage specialist appointed to investigate the find. | Contractor complies with requirements | Contractor | If heritage resources are discovered on site |
| | | | The Contractor may not, without a permit issued by the relevant heritage resources authority, destroy, damage, excavate, alter, deface or otherwise disturb archaeological material. The area identified where graves are located shall be fenced off and declared a nogo area. SAHRA shall accept responsibility for relocating these finds to ensure ultimate protection, but the developer will incur the cost of any relocation. | Permit in place. No-go areas declared. | Contractor/ SAHRA | If heritage resources are discovered on site |

### 5.3 Management and Mitigation Measures for the Operational Phase Lines of Reporting




**Responsibility:** Ensuring that environmental standards are met and that all legislation, regulations and the EMPr is adhered to is ultimately the responsibility of the Developer. During the operational phase the maintenance team manager will be responsible for the day-to-day implementation of the EMPr. The maintenance team will also be responsible to ensure that proper management measures are in place.

**Timeframe:** The EMPr Operational Phase Measures shall remain in place for the entire duration of the operation of the Mankgaile Filling Station. The organizational structure as set out above will remain in place until the decommissioning and/or reconstruction of the development.

**Monitoring:** Environmental compliance monitoring should be done by the developer's representative (ESO) as described in the EMPr. If the ESO finds any non-compliance he/she must immediately report it to the developer. A monitoring report shall be compiled and submitted on a monthly basis to the developer. The developer shall keep thorough records of all tests, reports and monitoring sheets. These documents should be available on request of LEDET or any other department, stakeholder or interested and affected party. Should it be determined that any condition in the EMPr is not met, the non-compliance should be reported to LEDET and to any other relevant department.

*Table 4: Management and Mitigation Measures for Operational Phase*

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| **Environmental Awareness** | Lack of knowledge could result in environmentally degrading activities | To ensure that all personnel are aware of the EMPr and the importance of adhering to it. | The Applicant (Developer) shall ensure that adequate environmental awareness training of personnel takes place and that a presentation on the importance and implications of the EMPr is conducted.<br>As a minimum, training should include:<br>• Explanation of the importance of complying with the EMP.<br>• Discussion of the potential environmental impacts of operational activities.<br>• The benefits of improved personal performance.<br>• Employees' roles and responsibilities, including emergency preparedness.<br>• Explanation of the mitigation measures that must be implemented when carrying out their activities.<br>• Explanation of the specifics of this EMPr and its specification (no-go areas, etc.)<br>• Explanation of the management structure of individuals responsible for matters pertaining to the EMPr.<br>The Applicant shall keep records of the environmental training sessions, including names, dates and the information presented. | Developer/ ESO | As and when required. |
| | | | | | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | The developer shall also encourage environmental education within community. This can be achieved by encouraging proper water use, and recycling methods through signage. Furthermore, the developer can engage initiatives such as EDU Plant or active recycling to assist in environmental awareness training under the local community. | | |
| **Public Participation** | Lack of public participation resulting in lack of involvement from the local community | To maintain an ongoing process of public involvement. | An ongoing process of public participation shall be maintained to ensure the continued involvement of interested and affected parties (I&APs) in a meaningful way. All interested and affected parties (I&APs) will be allowed to give ongoing comments or request information during the project lifecycle. The ESO shall officially be delegated to administer any public consultation during the operational phase. | Developer/ ESO | As and when required |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| **Soil** | Exposed soil can result in erosion | | All soil becoming exposed during the operational phase shall immediately be reported to the ESO who in consultation with a landscape architect and/or horticulturist shall determine the most appropriate measure to remedy the erosion. Similar mitigation measures to prevent soil erosion as those discussed under the construction phase will apply. | Developer/ ESO | Only when soil is exposed |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | Storage of fuel in Underground Storage Tanks could result in the contamination of soil due to spillage or leakage | Prevent spillage and/ or leakage of fuel | **Leak Detection:**<br>• The filler point must be fitted with overfill protection.<br>• There should be a specially designed sealed containment tank to collect spilled product from the filler point from which it can be removed<br>• The integrity of the USTs and pipelines must be tested through vacu-sonic and pressure testing methods at least once a year<br>• During fuel tanker delivery, the Site Manager and tanker Driver must be present at all times during re-fuelling of the USTs and the Driver must dip the tanks before delivery and replace dip-cap properly before starting the fuel transfer<br>• Any monitoring of the piping sumps / trenches must be done with industry standard technology. | Developer/ ESO/ Filling Station Manager | Continuous |
| | | | **Monitoring:**<br>• Proper and accurate records of fuel sales and deliveries must be kept, dip the USTs at the change of each shift, and do regular fuel reconciliations to guard against subsoil product loss<br>• At least four monitoring wells | Developer/ ESO/ Filling Station Manager | Continuous |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | must be installed down into the base of the tank pit within the liner to check for any hydrocarbon leaks or subsoil spillage<br>• The water table around the monitoring wells needs to be checked regularly and in the event of hydrocarbon product being found in these wells, the Fuel Supplier must be notified immediately and instructed to inspect the fuel storage and reticulation pipe-work<br>• During monitoring, wet stock reconciliation records must be checked to ensure discrepancies can be identified and investigated<br>If product loss is suspected, the UST and pipe work must be tested to identify potential problem areas. | | |
| | | | **General**<br>• The pump area must be concrete paved and dish shaped to prevent infiltration of spilt fuel into the subsurface soils, with surface runoff designed to flow towards a centralised collection point (spill catchment drains) and contaminated wash water is collected by grid-drain linked to the separator system | Developer/ ESO/ Filling Station Manager | Continuous |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | • The area around the filler point must be contained using concrete or other material appropriate for this application<br>• The area around the USTs filling points must be concrete paved and designed for all run-off to collect at a central grid-drain collection point (spill catchment drains), linked to a sealed separator system to be installed on site<br>• This system must be serviced regularly and the outlet must be linked to the municipal wastewater system<br>• Any material collected from the spill catchment drains must be disposed of appropriately at a registered waste disposal site<br>• The separator system must be monitored and cleared regularly to prevent free-phase hydrocarbon liquids from discharging into the wastewater system<br>• All surface spills must be contained on-site<br>• All minor spills must be cleaned and a spill management procedure must be prepared to include procedures for spill clean-up, waste water | | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | collection and disposal<br>• No product must be allowed to be discharged into storm water and/or sewer system<br>• A Spill Contingency or Emergency Response Plan must be drawn up and should include the following actions that need to be taken into account in the event of a spill:<br>▪ Stop the source of the spill<br>▪ Contain the spill<br>▪ All significant spills should be reported to LEDET and other relevant authorities<br>▪ Remove the spilled product for treatment or authorised disposal<br>▪ Determine if there is any soil, groundwater or other environmental impact<br>▪ If necessary, remedial action must be taken in consultation with LEDET<br>▪ The incident should be documented.<br>• Staff must be trained to execute the spill management procedure<br>• Spillages occurring at the filler point and dispensing must be contained and cleaned up<br>• An emergency preparedness procedure must be developed | | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | and kept on site<br>• Spill kits must be kept on site and staff must be trained in the correct use of these kits | | |
| **No-Go Areas** | Sensitive areas left unprotected | Protect sensitive area by establishing no-go areas | Refer to Item relating to no-go areas under construction phase section for mitigation measures | Developer/ ESO | Before final site handover |
| | | | No-go areas shall be fenced off and clearly marked with signage | Developer/ ESO | Before final site handover |
| | | Protect sensitive heritage resources | If the heritage resources (if any was found during the construction phase) could not be relocated by SAHRA the area where the heritage resource was discovered shall be fenced off and considered a no-go area | Developer/ ESO | Before final site handover |
| **Water** | Pollution of ground water due to leakage | Prevent leakage | All sewage and waste water facilities, pipelines etc. should clearly be indicated on an as-built drawing that should be kept at the management office of the filling station as well as at the office of the developer. | Developer/ ESO/ Maintenance Manager | Only in cases that leaks/ spills are identified |
| | | | In the case of a possible leakage the leakage should be located and immediately repaired to ensure that contamination of soil and water is limited. | | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | Immediately and efficiently respond to any spillage | If any spillage occurs the ESO and the developer should immediately be notified so as to determine the seriousness of the spill and recommend appropriate mitigation measures. | | |
| | | | If it is determined that the spillage is significant the incident should be reported to the Limpopo Department of Economic Development, Environment and Tourism and the Department of Water Affairs | | |
| | | | The situation of the spillage should be assessed in consultation with the developer to determine appropriate measures to prevent any future spillage. | | |
| | | | If it is determined that the groundwater is contaminated by wastewater it should immediately be reported to LEDET and DWA | | |
| | | | The EMPr shall be kept at the management office of the Mankgaile Filling Station | Developer/ ESO/ Managers/ Tenants | Before final site handover |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | Wastage of water | Prevent the wastage of potable water | The developer shall ensure that all employees are educated on the importance of water conservation and the proper use thereof. The developer shall also fix signage all over the development encouraging the local community and any visitors to the development to save water. Water saving notices shall especially be fixed in ablution facilities and at any taps or water supply features. | Developer/ ESO/ Tenants | Before final site handover |
| **Waste Management** | | | | | |
| **Solid Waste Management** | General solid waste generated at the various facilities must be disposed of at a licensed disposal site | Safely dispose of all solid waste | Solid or domestic waste shall be transported to an approved refuse disposal site in covered containers or trucks. | Developer/ ESO/ Tenants | Daily/ Weekly |
| | | | No burning, on-site burying or dumping of waste shall occur. | | |
| | | | In the rare event that any hazardous waste is generated, such waste is not to be disposed of with the general waste. Any such waste should be collected by a licensed hazardous waste collector and disposed of in a responsible way. The hazardous waste collector should first be approved by the ESO prior to disposal and collection of the waste. | Developer/ ESO/ Tenants | Only when necessary |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | Provide sufficient rubbish containers and discourage littering | The developer's representative shall ensure that enough rubbish containers are provided at convenient points for the disposal of all general waste. Rubbish containers shall be covered, tip-proof, weatherproof and scavenger proof. | Developer/ ESO/ Tenants | Before final site handover |
| | | | The ESO shall ensure that the rubbish bins are emptied regularly and that no overflowing of the bins occur. The ESO will only monitor compliance as the facility manager will be responsible for waste removal | Developer/ ESO | Daily/ Weekly |
| | | | As part of the training of the staff the ESO and tenants will highlight the importance of not littering or disposing of any waste in an irresponsible way. | ESO/ Tenants | As and when required |
| | | | The ESO shall ensure that litter is picked up on a regular basis as and when necessary | ESO | As and when required |
| | | | Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed. | ESO | Continuous |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | Material shall be appropriately secured to ensure safe passage between destinations during transportation. Loads shall be appropriately covered to prevent them spilling from the vehicle during transit. The developer or his tenants shall be responsible for any clean-up resulting from the failure by his employees, suppliers or service providers to properly secure transported materials. | Developer/ ESO/ Tenants | Whenever waste is transported |
| | | Reduce, Re-use, Recycle | It is recommended that the developer implements a reduce reuse recycle plan. Organic material i.e. plant material can be disposed of at a compost heap located on site and can eventually be utilized for the fertilization of the gardens established on site. | ESO/ Developer | When organic material is generated |
| | | | It is highly recommended that the developer implement a recycling plan where glass, plastic, paper etc. are disposed of in separate bins and hauled to the various recycling plants. | ESO/ Developer | Continuous |
| **Noise Control** | The increase in operational phase activities can result in the increase in noise | Keep noise levels to a minimum | The Developer shall endeavor to keep noise generating activities to a minimum. | ESO/ Developer/ Tenants | Continuous |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | | The Developer shall restrict all operations that result in undue noise disturbance to local communities and/or dwellings to daylight hours or as otherwise agreed with the local community. | ESO/ Developer/ Tenants | Continuous |
| | | | The developer shall warn the local community that could be disturbed by unusual noise generating activities well in advance and shall keep such activities to a minimum. | Developer/ ESO | Whenever unusual noise generating activities is to take place |
| | | | The developer shall be responsible for compliance with the relevant legislation with respect to noise. | Developer | Continuous |
| **Fauna and Flora** | Fauna and Flora | | The mitigation measures as described in 5.1 under Fauna and flora shall apply to fauna and flora during the operational phase, however the developer will accept all responsibility. | Developer/ ESO | Continuous |
| | | | The developer shall ensure that all indigenous plants are protected from removal for example for fire wood. The large indigenous trees shall not be removed. | ESO/ Developer | Continuous |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| | | Protect indigenous vegetation | The indigenous vegetation salvaged from the site and utilized for rehabilitation shall at least remain under supervision to ensure establishment for 6 months. During the establishment period of 6 months no person except authorized personnel shall be allowed to enter rehabilitated areas. All plants that die, become deceased or appear to be in badly impaired condition will be promptly replaced by the developer. Irrigation shall be maintained to ensure proper establishment of indigenous vegetation. | Developer/ ESO/ Landscape Maintenance Contractor | Monthly inspections |
| **Disruption of Traffic** | The increased use of the road can result in injury or death to fauna and people | Prevent any accidents | Appropriate road signage should be used to ensure that people are aware of the vehicles turning and of animals in the road | Developer/ ESO/ Contractor | Before final site handover |
| | | | Delivery areas shall be clearly demarcated | | |
| | | | Proper road crossings should be established eg. pedestrian crossings (zebra stripes) with traffic lights | | |
| | | | Fences should be erected to ensure that animals cannot enter the road or parking areas | Developer/ ESO/ Contractor | Before final site handover |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures | Responsibility | Frequency |
|---|---|---|---|---|---|
| **Operational Phase Management and Mitigation Measures** | | | | | |
| **General Health and Safety** | General Health and Safety | The developer will take all reasonable measures to ensure the safety of anyone entering the facilities. Furthermore, strict adherence to the Occupational Health and Safety Act is to be practiced | Strict adherence to the Occupational Health and Safety Act is to be practiced. All other reasonable measures should be in place to ensure the safety of visitors.<br>Emergency numbers and emergency evacuation plans should be clearly displayed in all buildings. Firefighting equipment as required by legislation should be placed at proper locations all over the site. | Developer/ ESO/ Contractor/ Tenants | Continuous |
| **Social** | Unemployment in area not addressed | Employ people from the area surrounding the site | It is highly recommended that the developer and all tenants employ people from the surrounding areas to ensure that the issue of unemployment in the area is addressed and that the local community participates positively in the operational activities of the development | Developer/ Tenants | Continuous |

### 5.4 Management and Mitigation Measures for the Decommissioning Phase

A similar structure to that of the construction phase can be adopted. It is however recommended that the lines of reporting be revised to adapt to the situation.

Decommissioning of any structures should be considered a last resort and careful assessment should be undertaken to determine whether decommissioning will be the appropriate measure to take. First of all, it should be determined whether an adaptation of the facilities will not be more appropriate.

If it is determined that decommissioning is the most appropriate measure an appropriately qualified specialist i.e. Environmental Assessment Practitioner (EAP) should be appointed to assess the impacts of the decommissioning phase. There are great risks involved with and therefore such decommissioning should be planned in consultation with LEDET. The developer should appoint an EAP to revise this section of the EMPr and to ensure that it is in line with all applicable legislation as well as the situation on site. Specific mitigation measures should be clearly described by the appointed EAP to compliment the generic mitigation measures discussed in this EMPr. The EMPr by the appointed EAP should also clearly discuss the responsibilities, performance indicators and frequency of the actions in the document.

*Table 5: Management and Mitigation Measures for Decommissioning Phase*

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| **Soil** | | | |
| **Soil erosion** | The demolition and clearing of structures will result in exposed soil making the surface susceptible to erosion during rain | To reduce the risk of soil erosion | The demolition of structures should take place during the dry season i.e. winter. |
| | | | Demolition of structures should take place systematically to prevent large surfaces of soil being exposed to the elements. |
| | | Should erosion occur immediate action should be taken | To prevent further erosion in areas where erosion have been identified mitigation measures should immediately be implemented to prevent further degradation. The mitigation measures can include backfilling, compaction and re-vegetation depending on the extent of the erosion. |
| | | | The rehabilitated areas should be stabilised to prevent future erosion |
| | | | Only indigenous species is to be used for revegetation. |
| **Soil contamination** | The contamination of soil from waste water | Any spillage of waste water should be prevented | All waste water facilities should be cleaned and dried before demolition of facilities take place. To ensure no contamination of soil the waste water systems should be flushed with clean potable water. |
| | | | Leaching of chemicals or any other contaminant should be prevented by undertaking demolition of facilities during the dry season |
| | The contamination of soil from contaminated components | Waste generated by demolition should be disposed of properly and responsibly | All infrastructure should be assessed by a specialist to determine whether it classifies as hazardous waste or not. All hazardous waste should be removed by a registered hazardous waste removal facility. All other waste should be removed to a registered landfill site. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| | | | Should the specialist still regard the generated waste as hazardous a suitable hazardous waste removal company should be contracted to remove the waste. |
| | | | The report from the specialist should be in writing and should form part of the ongoing general reporting. This report will form part of the closure report. If the waste is determined to be general waste, the agreement between the local municipality and developer should also be in writing and form part of the closure report. |
| | Contamination of soil due to lack of ablution facilities for construction workers | Workers should not use the veld or other vegetation for sanitary purposes | Chemical toilets should be provided at key points to ensure that workers do not use the natural vegetation for sanitary purposes. The chemical toilets are to be regularly cleaned and equipped with toilet paper. The minimum amount of chemical toilets required is 1 toilet for every 15 workers. |
| | | | Washing facilities should be provided for the workers. The washing facilities should be placed in such a way that wastewater from the washing areas cannot pollute the surrounding area. The washing facilities should be provided with potable water of drinking quality. |
| | Possible spillage of waste water or sewage | If any spillage occurs immediate remedial action should be taken | If any spillage occurs the ESO and ECO should immediately be informed so that the situation can be investigated and appropriate mitigation measures be prescribed. |
| | | | If the spillage is of great significance the ECO should immediately report the spillage to LEDET and DWA so that they can prescribe any necessary mitigation measures. |
| | | | Proper measures must be in place to prevent any future spillage. |
| | | | |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| **Water** | | | |
| **Water quality** | Possible leakage or spillage of sewage from portable toilets and portable hand wash facilities. | Any spillage of sewage should be prevented | Any sewage, sludge and waste water should be removed to a licensed sewage treatment plant by means of a sewage extraction. |
| | Possible spillage of waste water or sewage | If any spillage occurs immediate remedial action should be taken | If any spillage occurs the ESO and ECO should immediately be informed so that the situation can be investigated and appropriate mitigation measures be prescribed. |
| | | | If the spillage is of great significance the ESO should immediately report the spillage to DWA and LEDET so that they can prescribe any necessary mitigation measures. |
| | | | Proper measures must be in place to prevent any future spillage. |
| **Flora and fauna** | | | |
| **Rehabilitation** | Uneven surfaces with dangerous excavations can cause injury | The site is to be rehabilitated to a state reflecting the predevelopment scenario or similar approved | Soil is to be graded so that no dangerous excavations or areas are present. Grading should be limited to the area where demolition took place to ensure that the surrounding area is not impacted negatively by grading. |
| | Exposed soil prone to erosion | Re-vegetation of exposed area to reflect pre development state | All contaminated soil should be removed to a suitably licensed landfill site. |
| | | | Organic material (e.g. organic compost) should be added to the soil prior to re-vegetation. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| | | | A vegetation specialist/ landscape architect should be consulted in the selection of local indigenous vegetation with fast growing abilities. The vegetation specialist/ landscape architect should provide a plan for the re-vegetation of the site and re-vegetation should take place under the supervision of the vegetation specialist/ landscape architect. |
| | | | Seeding or hydro-seeding can be considered for large areas to be re-vegetated. |
| | Alien invasive species | Prevent the growth/ establishment of alien invasive species | The appointed vegetation specialist/ landscape architects is to ensure that no alien invasive species or exotic plants are specified in the re-vegetation plan. The ecologist shall also ensure that no such species are established on site during re-vegetation. |
| | | | If any alien invasive species are already on site, the species are to be removed and disposed of prior to revegetation. |
| | | | The developer should do regular inspections of the site to ensure that no alien invasive species establish on the rehabilitated site. |
| | | | The vegetation specialist is to provide the developer with a photographic record off all invasive species that could possibly establish in the area. |
| **Waste management** | | | |
| **Solid waste** | Accumulation and incorrect disposal of solid waste | General solid waste should be removed to a licensed landfill site | All general waste should be disposed of at a licensed landfill site. All waste should be hauled by truck and should be sprayed down to prevent dust pollution during transportation. |
| | | | The building rubble that was identified as nonhazardous can be utilised as fill material for excavations etc. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| | | | No waste is to be dumped on the site or within the boundaries of the area surrounding the site. |
| | Hazardous waste | Hazardous waste should be disposed of properly | All infrastructure associated with sewage treatment or transportation should be regarded as hazardous waste until a suitably qualified specialist identifies it otherwise. If a specialist compiles a report that the components removed can be regarded as general waste the developer can come to an agreement that the waste can be disposed of at a licensed general waste landfill site |
| | | | Should the specialist still regard the generated waste as hazardous a suitable hazardous waste removal company should be contracted to remove the waste. |
| | | | The report from the specialist should be in writing and should form part of the ongoing general reporting. This report will form part of the closure report. If the waste is determined to be general waste, the agreement between the local municipality and developer should also be in writing and form part of the closure report. |
| **Health and safety** | | | |
| **Fire** | There is a risk of fire because of construction activities as well as the high temperatures experienced in summer. The risk of fire is further increased by any heat | First and foremost, all construction personnel including the main contractor and the maintenance team shall work together to prevent any fires | All equipment that is used that is likely to cause sparks or that work by means of an open flame shall be used with extreme caution. Furthermore, all such activities shall take place within a designated area located away from flammable materials or plant material. The Contractor shall take all reasonable steps to avoid increasing the risk of fire through activities on site. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| | generating construction activities | | No-one on the construction site is to smoke anywhere but in designated areas and cigarette butts are to be disposed of in a responsible manner within refuse bins provided |
| | | | The main contractor shall ensure that no open fires are made on site except in designated areas. These designated areas should be equipped with fire appropriate containers for the making of fires e.g. braaier |
| | | If a fire does occur the team should respond to the fire immediately with efficiency | All emergency numbers are to be placed on site in highly visible locations. There should at least be a copy of the emergency number at the site office, the guard house, the office of the developer and all facilities on site. The emergency evacuation plan shall also be clearly displayed at all these locations. |
| | | | The list of emergency numbers shall include at least the number of the local fire station, local ambulance service, a local doctor(s), a local hospital, the local police station, number of the main contractor. |
| | | | The construction yard shall be equipped with firefighting equipment. The firefighting equipment shall be in good working order. |
| | | | The Contractor shall ensure that all site personnel are aware of the procedure to be followed in the event of a fire. |
| | | | The construction yard shall be established in a position with a low fire risk, away from flammable materials. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| **General Health and Safety** | Due to the nature of the project there is a possibility of injury during deconstruction | The main contractor will take all reasonable measures to ensure the safety of anyone entering the construction site. Furthermore, strict adherence to the Occupational Health and Safety Act is to be practiced | As far as reasonably possible the demolition site shall be fenced off to ensure that only construction workers, that are aware of this EMPr, can enter the site. All persons entering these demarcated areas shall obtain authorization prior to entrance and shall be made aware of the risk involved. |
| | | | All construction workers and other persons entering the demarcated areas shall wear appropriate protective gear prior to entrance. The contractor is to provide his construction workers with appropriate safety gear. The contractor shall advise any person not equipped with such gear to leave the demarcated area. The contractor shall ensure that at least two additional kits of PPE are available for any visitors |
| | | | The main contractor shall have a fully equipped first aid kit available and fully accessible at all time. |
| | | | Workers may not be forced to engage in dangerous |
| | | | tasks |
| | | | Any excavated area that presents a risk shall be clearly indicated by means of a barrier e.g. danger tape/ barricading |
| | | | No weapons are to be allowed on site |
| | | | Only appointed workers are allowed on site. No relatives or friends are allowed on site. |
| | | | No alcohol or other inhibitory substance is to be allowed on site |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| **Site Office** | Socio-economic impacts due to establishment of site office | Prevent or minimise negative socio-economic impacts | No workers are allowed to overnight on site except the guard(s) |
| | | | No alcohol or other inhibitory substance is to be allowed on site |
| | | | No weapons are to be allowed on site |
| | | | No loud music or other loud noises are allowed outside of working hours |
| | | | Only appointed workers are allowed on site. No relatives or friends are allowed on site. |
| | | | The site office must have an access gate that can be locked outside of working hours. |
| | | | All visitors to the site are to report at the site office and sign a register. The Health and Safety Officer shall ensure that all persons, entering the site, wear appropriate protective gear. |
| **Noise Control** | The demolition activities can result in the increase in noise | Keep noise levels to a minimum | The Contractor shall endeavour to keep noise generating activities to a minimum. |
| | | | The Contractor shall restrict all operations that result in undue noise disturbance to local communities and/or dwellings to daylight hours on weekdays or as otherwise agreed with the ESO. |

| Aspect | Identified Issue or Impact | Objective | Mitigation Measures |
|---|---|---|---|
| **Decommissioning Phase Management and Mitigation Measures** | | | |
| | | | The Contractor shall warn the local community that could be disturbed by noise generating activities well in advance and shall keep such activities to a minimum. |
| | | | The Contractor shall be responsible for compliance with the relevant legislation with respect to noise. |

**6. Summary**

The developer shall accept full responsibility for the implementation of this EMPr. When construction takes place the developer shall ensure that the appointed contractor receives a copy of this EMPr and that the appointed contractor is aware of his role in implementing this EMPr.