



**ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) FOR THE  
PROPOSED APPLICATION FOR ENVIRONMENTAL  
AUTHORISATION AND WASTE LICENCE FOR WITBANK ASH  
RECLAIMING PROJECT, MPUMALANGA PROVINCE**

**DARDLEA REFERENCE NO.: 1/3/1/16/1N-72**

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## TABLE OF CONTENT

<b>ABBREVIATIONS .....</b>	<b>III</b>
<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 PURPOSE AND OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR).....	2
1.2 DETAILS OF THE ENVIRONMENTAL MANAGEMENT PRACTITIONER .....	3
<b>2. LEGAL FRAMEWORK.....</b>	<b>4</b>
<b>3. MANAGEMENT AND MONITORING PROCEDURES .....</b>	<b>7</b>
3.1 ORGANISATIONAL STRUCTURE AND RESPONSIBILITY .....	7
3.1.1 <i>Clinker’s Responsibility for EMP Implementation</i> .....	7
3.1.2 <i>Environmental Control Officer (ECO)</i> .....	8
3.1.3 <i>The Contractor (including sub-contractors)</i> .....	9
3.2 EMPR TRAINING AND AWARENESS .....	9
3.3 MONITORING PLAN.....	10
3.4 REPORTING PROCEDURES .....	11
3.4.1 <i>Complaints Procedures</i> .....	11
3.5 ENVIRONMENTAL INCIDENTS AND BREACHES OF EMP CONDITIONS .....	11
<b>4. ENVIRONMENTAL MANAGEMENT PROGRAMME.....</b>	<b>12</b>
<b>8. CONCLUSION .....</b>	<b>28</b>

## ABBREVIATIONS

DWA	Department of Water Affairs
DARDLEA	Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs
EA	Environmental Authorisation
ECO	Environmental Compliance Officer
EMPr	Environmental Management Programme
NEMA	National Environmental Management Act (No 107 of 1998)
NEMAQA	National Environmental Management Air Quality Act (No 39 of 2004)
NEMWA	National Environmental Management Waste Act (No 59 of 2008)
OHSA	Occupational, health and Safety Act, (Act No 181 of 1993)
PPE	Personal Protective Equipment

## Definitions:

## CONTRACTOR:

Companies and or individual persons appointed on behalf of the Client to undertake activities, as well as their sub-contractors and suppliers.

**DOMESTIC WASTE:**

Domestic waste means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes generated directly by the consumption of products for domestic use.

**EMERGENCY:**

An undesired event that results in a probable significant environmental impact and requires the notification of the relevant statutory body such as a local or provincial authority

**Alien Vegetation:** alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

**Construction Activity:** a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process.

**Environment:** environment means the surroundings within which humans exist and that could be made up of -

- The land, water and atmosphere of the earth;
- Micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

**Environmental Impact:** an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

**Environmental Authorisation:** is a written statement from Mpumalanga Department of Economic Development, Environment and Tourism, that records its approval of a planned undertaking to construct an access bridge and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

**ENVIRONMENTAL CONTROL OFFICER:**

An individual nominated through the Client to be present on site to act on behalf of the Client in matters concerning the implementation and day to day monitoring of the EMPr and conditions stipulated by the authorities as prescribed in NEMA.

**ENVIRONMENTAL MANAGEMENT PROGRAMME:**

A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the life-cycle of the project.

**ENVIRONMENTAL IMPACT:**

A change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services.

**INCIDENT:**

An undesired event which may result in a significant environmental impact but can be managed through internal response.

**MITIGATION:**

Measures designed to avoid, reduce or remedy adverse impacts.

**GENERAL WASTE LANDFILL SITE:**

A waste disposal site that is designed, managed, permitted and registered to allow for the disposal of general waste.

**HAZARDOUS WASTE:**

Hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

**WASTE:**

Waste means 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 relevant Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—
  - (i) a by-product is not considered waste; and
  - (ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste.

**WASTE DISPOSAL FACILITY:**

Waste disposal facility means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.

## 1. INTRODUCTION

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Clinker Supplies (Pty) Ltd, a subsidiary of Afrimat Limited has applied for an Environmental Authorisation for Waste License application for the reclaiming of clinker from the old Witbank power station ash dump. Clinker is a product derived from the burning of coal. The ash dump resulted from the coal burning for power generation at the old Witbank power station. The project will also involve the construction of a new access road of approximately 1.06 km to connect to the R555. An alternative access road of 0.9km has been identified and will be investigated. The ash dump as well the associated access road and alternative are collectively referred to in the remainder of this report as the study area.

Clinker Supplies has reached an agreement with Eskom to reclaim the material. Clinker Supplies proposes to reclaim the clinker from the old Witbank power station ash dump, layer by layer, from the top of the dump by various construction machineries. The aim of Clinker Supplies is to reclaim the existing derelict dump consisting of clinker ash material into useful resources. The Witbank ash dump has four (4) million tonnes. It is anticipated that the dump will be fully reclaimed in 10 years - 15 years' time, this would however be dependent on market conditions and annual consumption of the aggregate. It is intended that all of the clinker ash will be cleared from the site with no residue remaining. Once the material has been fully removed, the property will revert to Eskom and can then be re-zoned for commercial purposes.

The proposed project will consist of two parts namely:

- a) The reclamation of clinker from Eskom's ash dump at Witbank by Clinker Supplies (Pty) Ltd; and
- b) The manufacture of clinker bricks on the same site by SA Block (Pty) Ltd.

### **Part A – reclamation of clinker**

Clinker Supplies intends to erect a reclamation plant at Witbank ash dump. The operation will be closely similar to the reclamation plants operated by Clinker Supplies at Eskom's dumps in Gauteng. Clinker Supplies proposes to reclaim the clinker from the old Witbank power station ash dump, layer by layer, from the top of the dump by various construction machineries.

The operation process is summarised as follows:

- load and haul the reclaimed clinker from the dump to the crushing and screening plant;
- crush and screen the recovered clinker in order to reduce it to various size fractions of -13mm and +13mm to -22mm;
- stockpile the screened clinker at a stockpile area; and

- sell the screened clinker to Concrete Product Manufacturers (CMPs), such as brick factories etc

### **Part B – Brick manufacturing by SA Block (Pty) Ltd**

SA Block (Pty) Ltd, which is Clinker Supplies' sister company, will install four brick making machines in an area located separately from Clinker's supply plant. This company will purchase the brick making material from Clinker Supplies. It is proposed that Four (4) brick making machines will be installed in an area located separately from Clinker Supply's plant by SA Block Pty Ltd. **Figure 2** shows the proposed crushing, screening and brick making areas.

Afrimat (Pty) Ltd has undertaken the Scoping and Environmental Impact Assessment (EIA) for the proposed project. Biogeotech was appointed as an independent environmental consultancy to carry out the review process of the project

#### **1.1 Purpose and Objectives of the Environmental Management Programme (EMPr)**

The purpose of this EMPr is to provide an easily interpreted reference document that ensures that the project environmental commitments, safeguards and mitigation measures from the environmental planning documents, project approvals, and Scope of Works are implemented. It aims to minimise impacts associated with the construction phase and operational of the proposed Witbank ash reclamation project, on the environment are kept to a minimum. This includes ensuring that the mitigation measures described in the EIA Report by specialists are implemented, to ensure continued monitoring of the construction and operational phases and to ensure the involvement of interested and affected parties (IAPs) in a meaningful way.

This EMPr should be used as working document and is recommended to be always made available on the reclamation site. The stipulations and provisions of this report should be conveyed to and familiarised by the site senior personnel (site manager) and workers responsible throughout the operation.

The key objectives for the EMPr are:

- To state standards, guidelines and ensure compliance required to be achieved in terms of environmental legislations;
- To assign clear accountability and responsibility for environmental protection and social responsibility to management and employees;
- To facilitate environmental and social planning throughout the project life cycle;
- To provide a process for achieving targeted performance levels;



- To provide appropriate and sufficient resources, including training, to achieve targeted performance levels on an on-going basis;
- To outline mitigation measures and environmental specifications which are required to be implemented for all phases of the project in order to minimise the extent of environmental impacts, and to manage environmental impacts associated with the proposed project; and
- To prevent long-term or permanent environmental degradation;

The document should, therefore, be seen as a guideline that will assist in minimizing the potential environmental impact of activities to be undertaken in the implementation of the proposed project.

## 1.2 Details of the Environmental Management Practitioner

**Table 1: Details of Environmental Assessment Practitioner (EAP)**

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<b>Expertise:</b>	Ntsanko has been assigned as the lead Environmental Practitioner to undertake the necessary environmental authorisation process. Ntsanko holds a Masters Degree in Environmental Management. She is an environmental scientist with experience in various facets of environmental management. These include managing Environmental Impact Assessments (EIAs), writing Environmental Management Programmes and plans, conducting legal compliance audits and conducting environmental awareness.

The EAP who prepared this EMPr is employed by Afrimat (Pty) Ltd and is considered to have vested interests on the proposed project considering that Clinker Supplies is subsidiary to Afrimat. As a result, an independent external EAP was appointed to review all the EIA process including this reviewing EMPr as required by Regulation 13 (2) and 3 of the NEMA EIA Regulations 2014. The details of the external EAP are indicated below.

**Table 2: Details of independent Reviewer**

<b>Consultant:</b>	Biogeotech Environmental Consultance cc
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<b>Expertise:</b>	<ul style="list-style-type: none"> <li>• Bachelor of science: Environmental Sciences</li> <li>• Certificate of Environmental Law</li> <li>• Certificate: EIA Reviewers course</li> </ul> <p>Mr Manavhela has over 17 years in the field of environmental management and sustainability. Out of the 17 years, at least over 6 years were spent on EIA regulations which include review of EIA applications to advise on EIA decisions at government level. He has also worked as an Environmental specialist for Anglo American company in Pulp and Paper industry. In addition he also holds the vast experience in ISO standards implementation and has participated in global standard development for Aluminium mining and processing sector led by IUCN.</p>

## 2. LEGAL FRAMEWORK

Several laws and regulations apply to the protection of the environment and contain environmental principles and standards that need to be applied and permits and licenses that need

to be obtained. This EMPr will be subject to regulatory control under a range of State, Provincial and Local regulations. Such legislation largely embraces pollution prevention, resource use and conservation, and socio cultural (heritage) protection. This chapter reviews legislation pertaining to the proposed Witbank ash reclamation project.

The following is a summary of the environmental legislation and standards applicable to the proposed project.

LEGISLATION	SECTION	DESCRIPTION RELATING TO THE PROPOSED PROJECT
The Constitution (No 108 of 1996)	Chapter 2	Bill of Rights.
	Section 24	Environmental rights.
National Environmental Management Act (No 107 of 1998 [as amended])	Section 2	Defines the strategic environmental management goals and objectives of the government. Applies through-out the Republic to the actions of all organs of state that may significantly affect the environment.
	Section 24	Provides for the prohibition, restriction and control of activities which are likely to have a detrimental effect on the environment.
	Section 28	The developer has a general duty to care for the environment and to institute such measures as may be needed to demonstrate such care.
National Environmental Management: Waste Act (No. 59 of 2008)		Provides for specific waste management measures and the remediation of contaminated land.
Environment Conservation Act (No 73 of 1989) and regulations	Sections 19 and 19A	Prevention of littering by employees and subcontractors during construction and the operational phases of the proposed project
National Environmental Management Biodiversity Act (Act No. 10 of 2004)		The management, protection and conservation of South Africa's biodiversity and it's components
National Environmental Management: Air Quality Act (No 39 of 2004)	Section 32	Control of dust
	Section 34	Control of noise

	Section 35	Control of offensive odours
National Water Act (No 36 of 1998) and regulations	Section 19	Prevention and remedying the effects of pollution
	Section 20	Control of emergency incidents
NEMWA: National Norms and Standards for the Storage of Waste		Provides standards for the location, construction and design as well as the operation of waste management facilities
Hazardous Substances Act (No 15 of 1973) and regulations		The storage and/or use of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products and radioactive material.
Occupational Health and Safety Act (No 85 of 1993)	Section 8 and 9	provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work.
	Section 9	General duties of employers and self employed persons to persons other than their employees
Occupational Health and Safety Act-Major Hazard Installation Regulations (GN R692, July 2001)	Sections 5 and 6	A risk assessment must be conducted at intervals not exceeding five years and establish an on-site emergency plan to be followed inside the premises of the installation.
National Heritage Resources Act (No 25 of 1999) and regulations	Section 34	No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
	Section 35	No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site.
	Section 36	No person may, without a permit issued by the

		South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. "Grave" is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place.
	Section 38	This section provides for Heritage Impact Assessments (HIAs) of proposed developments
eMalahleni Local Municipality (EML) Solid Waste Management By-laws		Ensure that waste is avoided, or where it cannot be altogether avoided, minimised, re-used, recycled, recovered and disposed of in an environmentally sound manner to promote sustainable development

### 3. MANAGEMENT AND MONITORING PROCEDURES

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#### 3.1 Organisational Structure and Responsibility

##### 3.1.1 Clinker's Responsibility for EMP Implementation

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

The developer must ensure that the EMPr is included in the tender documentation so that the contractor who is appointed is bound to the conditions of the EMPr. When adjudicating relevant tenders, Clinker will ensure that contractors have made appropriate allowance for the management of environmental matters. Clinker will include adherence to the EMPr as a contractual condition in all agreements with contractors. To this end, Clinker will undertake the following:

- a) Educate its personnel, contractors and visitors with regard to the SHE requirements applicable in general to the proposed Site;

- b) Provide professional staff to give effect to its safety, health and environmental management commitments;
- c) Appoint a competent ECO, who might be the Compliance or SHE manager, prior to the commencement of construction.
- d) Undertake monthly internal EMPr compliance inspections by the ECO and annual audits by a suitably qualified and competent auditor during the operational phase. These inspections and audits will include all activities associated with the Clinker site in its entirety, including activities undertaken by Clinker's contractors and agents;
- e) Undertake internal EMP compliance inspections by the ECO at weekly intervals and external audits by a suitably qualified and competent independent auditor at three-monthly intervals during the construction phase and decommissioning phase; and
- f) Monitor, evaluate and report performance in safety, health and environmental protection to the relevant management level within Clinker.

### **3.1.2 Environmental Control Officer (ECO)**

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

- Liaison with relevant authorities;
- Liaison with contractors regarding environmental management;
- Undertaking routine monitoring and appointing a competent person/institution to be responsible for specialist monitoring, if necessary;
- Take appropriate action if the specifications contained in the EMPr are not followed;
- Monitor and verify that environmental impacts are kept to a minimum, as far as possible;
- Review and approve construction methods (where it could result in environmental impacts), with input from the Site Manager where necessary;
- Ensure that activities on site comply with all relevant environmental legislation;
- Order the removal from the construction site of any person(s) and/or equipment in contravention of the specifications of the EMPr; and
- Report any non-compliance or remedial measures that need to be applied to the appropriate environmental authorities, in line with the requirements of the Environmental Authorisation.

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

### **3.1.3 The Contractor (including sub-contractors)**

The contractor/s appointed for the construction of the road and infrastructure associated with Witbank Ash Reclamation project will receive a copy of the EMPr at the time of tender. Contractors shall familiarise themselves with the EMP mitigation measures for the site and ensure that contracting prices allow for environmental management costs.

Upon appointment it will be the responsibility of Clinker to ensure that each contractor has a copy of the EMPr in their place of work. It will also be their responsibility to ensure that all staff are aware of the measures applicable to their area of work. In addition, the contractor/s shall be responsible for:

- Complying with the environmental management specifications;
- Adhering to any instructions issued by the Project Manager;
- Keep record of all incidents that have occurred during construction period. This should be available during audits;
- Maintaining a public complaints register;
- The contractor shall arrange for the site induction on the Environmental Awareness issues before commencement of the project;
- Conduct environmental training and awareness to employees;
- Records of all, environmental training sessions, including names, dates and the information presented should be kept by the contractor; and
- Arrange for all employees and those of subcontractors to receive training before the commencement of construction in order.

### **3.2 EMPr Training and Awareness**

Clinker Supplies to inform all employees of any environmental risk which may result for the works, and risks that must be dealt with in order to avoid pollution of the degradation of the environment through the implementation of the company (Afrimat) Environmental Policy. Training needs should be identified based on the available and existing capacity of site personnel (including the Contractors and Sub-contractors) to undertake the required EMPr management actions and monitoring activities. It is vital that all personnel are adequately trained to perform their designated tasks to an acceptable standard.

The environmental training is aimed at:

- Promoting environmental awareness;
- Informing the employees of all environmental procedures, policies and programmes applicable;
- Providing generic training on the implementation of environmental management specifications; and
- Providing job-specific environmental training in order to understand the key environmental features of the reclamation site and the surrounding environment.

The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) and eMalahleni Municipality's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures; and
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff the site manager shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the site manager shall inform the supervisor when and how he/she intends concluding his environmental training obligations.

### **3.3 Monitoring Plan**

Clinker Supplies will need to establish a monitoring plan not only to ensure compliance with the EMPr through the instruction specifications, but also to monitor any environmental issues and impacts which have not been accounted for in the EMPr that are, or could result in significant environmental impacts for which corrective action is required. Clinker Supplies will cause and or carry out the internal audits.

This will be determined from applicable permits and authorisations from authorities. The Project Manager will ensure that the monitoring is carried out. The monitoring plan must state:

- Who is responsible for what monitoring tasks;



- When the monitoring must take place;
- How the monitoring must take place;
- Frequency of monitoring required;
- How the monitoring results will be distributed and communicated; and
- What avenues of corrective actions will be taken should EMP stipulations be found non-compliant

### **3.4 Reporting Procedures**

A dedicated file will be established by the Site Manager for the development to contain all documentation pertaining to environmental management of the works.

The following documentation must be kept on site in order to record compliance with the EMP:

- Record of Complaints;
- Monitoring Results;
- Non-conformance Reports;
- Written Corrective Action Instructions; and
- Notification of Emergencies and Incidents.

#### **3.4.1 Complaints Procedures**

A complaint and environmental incident registers will be kept, including the actions they take in response to these complaints. All complaints must be reported to the relevant departments.

A register of public complaints will be kept by the engineer and the ECO. This register will be a separate file containing the following information where it has been supplied by the complaints:

- Name, address and contact telephone number;
- Nature and the description of the complaints;
- Date and time of the complaints; and
- How the complaints were resolved or followed up.

### **3.5 Environmental Incidents and Breaches of EMP Conditions**

The designated person will bring to the attention of the Site Manager any significant environmental incidents or breaches of the conditions of the EMP, within 24 hours of occurrence of such event. The Site Manager will notify the controlling authority within 48 hours of such an incident, if the environmental incident constitutes a reportable breach of any permit or licence condition.

The designated person will monitor employees and contractor's adherence to the EMP by conducting regular EMP compliance audits throughout each phase of the operation and will issue the contractor with a notice of non-compliance whenever transgressions are observed. The designated person will record the nature and magnitude of the non-compliance in a register, the actions taken to rectify the non-compliance, the actions taken to mitigate its effects and the results of the actions. The contractor should act immediately when a notice of non-compliance is received and implement the agreed corrective action.

#### **4. ENVIRONMENTAL MANAGEMENT PROGRAMME**

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The following tables form the core of this EMPr for the planning, construction and operational phases of the development. These tables should be used as checklists on site during the construction and operational phases. Construction phase mitigation measures are to be implemented during the construction of the proposed access road and infrastructure associated with the Witbank Ash Reclaiming Project. Operation mitigation measures are to be implemented during the reclamation process after the required site infrastructure has been established. The operational phase is estimated to be between 10 and 15 years (market dependent). Compliance with this EMPr must be audited monthly during the construction and operational phases. This must be followed up with annual audits throughout the operational phase.

The potential impacts and mitigation measures of the proposed development were identified through a site visit, the Environmental Assessment Practitioners experience and expertise in the field and specialist studies reports.

## ENVIRONMENTAL MANAGEMENT PROGRAMME

PLANNING PHASE		
Activity /Issue	Mitigation Measures	Responsible Person
<b>Appointment of an ECO</b>	<ul style="list-style-type: none"> <li>The Developer must appoint an independent Environmental Control Officer (ECO) who must monitor the contractor's compliance with the EMPr.</li> <li>The developer must provide the contractor and sub-contractors with a copy of the EMPr.</li> </ul>	Developer
<b>EMPr</b>	<ul style="list-style-type: none"> <li>This EMPr must be made binding to the site manager as well as individual sub-contractors and should be included in tender documentation for the construction contract</li> </ul>	Developer, ECO
<b>Flow of information</b>	<ul style="list-style-type: none"> <li>Adjacent landowners should be informed one month in advance prior to the commencement of construction and operation activities commencing in vicinity of their properties</li> <li>Legitimate concerns of the interested and affected parties must be considered and addressed</li> </ul>	Developer
<b>Environmental incidents</b>	<ul style="list-style-type: none"> <li>The contractor must take corrective action to mitigate an incident appropriate to the nature and scale of the incident and must also rehabilitate any residual environmental damage caused by the incident or by the mitigation measures themselves.</li> <li>In case of pollution incidents the Department of Water Affairs should be notified within 24 hours of occurrence. However, any pollution which may emanate from the activity in the future will still be the responsibility of the applicant</li> </ul>	ECO, Contractor
<b>Traffic</b>	<ul style="list-style-type: none"> <li>A 3m wide layby should be constructed on the northern side of the new access road, just outside the gate of the Ash Dump in order to accommodate a taxi drop-off/pickup location. These taxis will be able to turn around in front of the gate to return to Price Street. For the interpeak period the layby could be used to store 2 waiting trucks if necessary.</li> </ul>	Developer, eMalahleni Municipality

	<ul style="list-style-type: none"> <li>• The following upgrades should be completed before the opening of the Ash Dump recycling plant: <ul style="list-style-type: none"> <li>○ Accesses</li> <li>○ Upgrades to 2021 Requirements for Intersection of Walter Sisulu Drive and Price Street</li> <li>○ The terminals of the N4 Walter Sisulu Drive should be upgraded based on discussions with the relevant road authority. As a minimum, the terminals should be signalised</li> <li>○ All on-site NMT and Public Transport Requirements should be met</li> </ul> </li> </ul>	
<b>CONSTRUCTION PHASE</b>		
<b>Clearing and removal of vegetation</b>	<ul style="list-style-type: none"> <li>• As the moist grasslands are classified as moderately sensitive, the work area (e.g. area to be disturbed) in the moist grassland must be kept to a minimum and therefore manual labour is recommended to keep the servitude as small as possible, with no heavy vehicles driving over or turning within the remnant moist grasslands</li> <li>• A temporary fence or demarcation must be erected around the construction area (include the servitude, construction camps, areas where material is stored and the actual footprint of the development) to prevent access to adjacent vegetated areas.</li> <li>• Prohibit vehicular or pedestrian access into natural areas beyond the demarcated boundary of the construction area (particularly the moist grassland).</li> <li>• No open fires are permitted.</li> <li>• A vegetation rehabilitation plan should already be implemented during construction and include the following: <ul style="list-style-type: none"> <li>○ Grassland can be removed as sods and stored within transformed vegetation or other disturbed areas. The sods must preferably be removed during the winter months and be replanted by latest springtime. The sods should not be stacked on top of each other. Once construction is completed, these sods should be used to rehabilitate the disturbed areas from where they have been removed. In the absence of timely rainfall, the sods should be watered well after planting and at least twice more over the next 2 weeks.</li> <li>○ Moist grasslands could also be removed as sods, but should be watered while stored until such time that it could be used for rehabilitation.</li> <li>○ Cordon off areas that are under rehabilitation as no-go areas using danger tape and</li> </ul> </li> </ul>	

	<p>steel droppers. If necessary, these areas should be fenced off to prevent vehicular, and pedestrian access until such time that monitoring confirms that rehabilitation was successful (minimum of 2 years).</p> <ul style="list-style-type: none"> <li>• Construction workers may not remove flora and neither may anyone collect seed from the plants without permission from the local authority.</li> <li>• Maintain site demarcations in position until the cessation of construction work.</li> <li>•</li> </ul>	
<p><b>Exposure to erosion</b></p>	<ul style="list-style-type: none"> <li>• Do not allow erosion to develop on a large scale before taking action.</li> <li>• Where possible, no construction / activities should be undertaken within the moist grasslands. The extent of wetland conditions should be verified by a wetland specialist and no activities should take place within these areas without that a Water Use License was granted by the Department of Water Affairs (DWA) for these activities.</li> <li>• Make use of existing roads and tracks where feasible, rather than creating new routes through vegetated areas.</li> <li>• Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area (DWAF, 2005).</li> <li>• Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining vegetation cover. The grassland can be removed as sods and re-established after construction is completed.</li> <li>• Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient within one growing season. If not, then the areas need to be rehabilitated with a grass seed mix containing species that naturally occur within the study area.</li> <li>• Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas.</li> </ul>	

<p><b>Potential increase in invasive vegetation</b></p>	<ul style="list-style-type: none"> <li>• Alien invasive species, in particular category 1 species that were identified within the study area should be removed from the development footprint and immediate surrounds, prior to construction or soil disturbances.</li> <li>• All alien seedlings and saplings must be removed as they become evident for the duration of construction.</li> <li>• All construction vehicles and equipment, as well as construction material should be free of plant material. Therefore, all equipment and vehicles should be thoroughly cleaned prior to access on to the construction areas.</li> </ul>	<p>ECO</p>
<p><b>Soil compaction</b></p>	<ul style="list-style-type: none"> <li>• Vehicles and machinery may not veer from the dedicated roads.</li> <li>• Once construction is complete, obsolete roads should be obliterated by breaking the surface crust and erecting earth embankments to prevent erosion, while the natural species composition should be re-established.</li> </ul>	
<p><b>Disturbance / impacts to moist grassland, loss of stabilising vegetation</b></p>	<ul style="list-style-type: none"> <li>• Project engineers should compile a method statement, outlining the construction methodologies. The required mitigation measures to avoid the impacts on the moist grasslands should be contained within the method statement. The method statement must be approved by the ECO and be available on site for reference purposes.</li> <li>• Make use of existing roads and tracks where feasible, rather than creating new routes through moist grassland areas.</li> <li>• Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover.</li> <li>• An ecologically sound, storm water management plan must be implemented during construction and ensure that the stormwater management of the completed development is adequate to prevent deterioration of the moist grasslands and the watercourse.</li> <li>• Do not allow stormwater to be canalised.</li> <li>• Prevent contamination of rainwater on construction camps and sites.</li> </ul>	

	<ul style="list-style-type: none"> <li>Place and maintain erosion control barriers as appropriate to prevent sedimentation into the watercourse and moist grasslands.</li> <li>Trucks and equipment should only be washed in dedicated areas and the dirty water is not allowed to discharge into the watercourse or surrounding natural vegetation.</li> </ul>	
<b>Stability of the access road</b>	<ul style="list-style-type: none"> <li>Install strategic levelling points that are check surveyed 3-4 times per year.</li> <li>Build roads or pads with a geofabric that will provide some tensile strength to the base or sub-base which will slow/control rapid subsidence.</li> <li>Post sign' indicating the road is undermined</li> </ul>	Site Manager, ECO
<b>Fauna Disturbance / Persecution</b>	<ul style="list-style-type: none"> <li>Existing road infrastructure should be utilized during construction.</li> <li>Construction personnel should be informed of the Animal Protection Act no. 71 of 1962 and encouraged not to harm any wildlife.</li> <li>Construct activities should be restricted to daylight hours to prevent any disturbance to fauna such as floodlights or construction / operational noises.</li> </ul>	Site manager
<b>Storage and Handling of hazardous substances including oil</b>	<ul style="list-style-type: none"> <li>Before containment or storage facilities can be erected, the contractor shall furnish the Site Manger with details of the preventative measures which are proposed to be installed in order to mitigate against pollution of the surrounding environment from leaks or spillage.</li> <li>The preferred method shall be a concrete floor that is bunded.</li> <li>The proposals shall also indicate the emergency procedures to be implemented in the event of misuse or spillage of substances that will negatively impact on an individual or the environment.</li> <li>All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by the</li> </ul>	Contractor

	<p>staff whose duty it is to manage and maintain the supplier's plant, machinery and equipment.</p> <ul style="list-style-type: none"> <li>• Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions.</li> <li>• All hazardous materials will be stored in a secured, appointed area that is fenced and has restricted entry.</li> <li>• The contractor shall provide proof that relevant authorisation to store such substances has been obtained from the relevant authority.</li> <li>• In addition, hazard signs indicating the nature of the stored materials shall be clearly displayed on the storage facility or containment structure.</li> <li>• The loss of oils and fuel onto the ground must be limited and contained. Where oils have leaked onto the soil, this soil must be removed and disposed of at an approved dumping site at the end of the construction phase or as required by the ECO.</li> <li>• In the event of a spillage, the contractor is to appoint someone to clean up immediately. Spillage must be reported to Department of Water Affairs (DWA).</li> </ul>	
<p><b>Top soil management</b></p>	<ul style="list-style-type: none"> <li>• All topsoil must be removed and stockpiled close to the site. However, the use of topsoil for rehabilitation contaminated by the seed of alien vegetation should not be permitted unless a programme to germinate the seed and eradicate the seedlings is drawn up and approved, or some other mitigatory feature is found. This should be approved by the ECO.</li> <li>• Stock piles should not be higher than 2m to avoid compaction.</li> <li>• Single handling is recommended.</li> <li>• Dust suppression is necessary for stockpiles older than a month – with either water or a biodegradable chemical binding agent.</li> <li>• Backfill may require contouring to ensure that it blends in with the surrounding environment.</li> <li>• Remediated slopes should be graded to preferably 1:2</li> <li>• Slopes can then be capped with topsoil. This requires a minimum layer of 100 mm in most areas.</li> <li>• Disturbed surfaces to be rehabilitated must be ripped, and the area must be backfilled with overburden.</li> </ul>	<p>Contractor, ECO</p>



<b>Removal of topsoil</b>	<ul style="list-style-type: none"> <li>• Topsoil must be stripped aside and be used for rehabilitation of trenches</li> <li>• All areas susceptible to erosion must be installed with temporary and permanent diversion channels and berms to prevent concentration of surface water and scouring of slopes and banks, thereby countering erosion</li> <li>• The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site used during the contract period. This shall include existing spoil sites that are being re-entered.</li> <li>• Before spoil sites may be used, proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the Engineer for approval.</li> <li>• The affected landowner must be consulted and must provide consent for the location of these spoils sites on his property.</li> <li>• No spoil site shall be located within 500 m of any watercourse.</li> </ul>	Contractor and Construction workers
<b>Crime, safety and security</b>	<ul style="list-style-type: none"> <li>• Security fence is to be inspected continuously to ensure no illegal entry points are created.</li> <li>• Appropriate protective clothing must be used by labourers at all times of work.</li> <li>• Opened trenches and pits must remain demarcated to avoid injuries to employees.</li> <li>• The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) and the National Building Regulations.</li> <li>• The contractor must supply his own security arrangements for the construction camp within the site.</li> <li>• Ensure the contacts details of the police or security company and ambulance services are available on the site.</li> <li>• Ensure that the handling of equipments and materials is supervised and adequately instructed.</li> <li>• Limit access to the construction crew camp only to the workforce.</li> <li>• Do not allow the movement of public within the development site by posting notices at the entrance gates, and where necessary on the boundary fence.</li> <li>• Appropriate notification signs must be erected, warning the residents and visitors about the hazards around the construction site and presence of heavy vehicles</li> </ul>	Contractor, ECO

<b>Noise pollution</b>	<ul style="list-style-type: none"> <li>• The development must comply with the local by-laws regarding health and noise.</li> <li>• Construction and related machinery and vehicles must be serviced on a regular basis to ensure noise suppression mechanisms are effective e.g. installed exhaust mufflers.</li> <li>• Switching off equipment when not in use.</li> <li>• Construction equipment may only operate between the hours of 08H00 and 17H00 weekdays and Saturdays. Operation is prohibited on Sundays and public holidays.</li> <li>• Equipment with lower sound power levels would be used in preference to noisier equipment.</li> <li>• The on-site road network will be well maintained to limit body noise from empty trucks travelling on internal roads.</li> </ul>	Developer, ECO, Contractor
<b>Dust control</b>	<ul style="list-style-type: none"> <li>• Dust production must be controlled by regular watering of roads and works area, should the need arise.</li> <li>• Care must be taken during suppression of dust, that excessive dampening does not occur, thus resulting in mud which may hinder the flow of traffic.</li> <li>• Points of ingress and egress onto the site must be regularly cleaned for dust and mud.</li> <li>• Vehicles to be used during the construction phase are to be kept in good working condition so as not to be the source of excessive fumes and nuisance.</li> <li>• All vehicles transporting material that can be blown off (e.g. soil, rubble etc.) must be covered with a tarpaulin, and speed limits of 30 km/h must be adhered to.</li> </ul>	Contractor, ECO
<b>Waste Management</b>	<ul style="list-style-type: none"> <li>• No illegal dumping of waste must be allowed;</li> <li>• All personnel shall be instructed to dispose of all waste in the proper manner.</li> <li>• Solid waste shall be stored in a designated area covered, tip proof metal drums for collection and disposal.</li> <li>• A refuse control system shall be established for the collection and removal of refuse</li> <li>• Disposal of solid waste shall be at a licensed landfill site and disposal slips must be kept onsite</li> <li>• No waste shall be burned at the site offices, or anywhere else on the site</li> </ul>	Contractor,ECO

	<ul style="list-style-type: none"> <li>• Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse.</li> <li>• Chemical containers and packaging brought onto the site must be removed for disposal at a suitable site.</li> <li>• The contractor should provide ablution facilities for employees on site, preferably chemical toilets.</li> <li>• The contents of chemical toilets will be removed to an approved disposal site – no discharge into the environment or burying of sewage will be allowed</li> </ul>	
<b>OPERATIONAL PHASE</b>		
<b>Erosion and bare soils</b>	<ul style="list-style-type: none"> <li>• Leave as much natural vegetation as intact as possible during construction of the roads.</li> <li>• Do not disturb soil unnecessarily during maintenance or operational phase of the reclamation.</li> <li>• Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular and pedestrian access.</li> <li>• Monitor rehabilitation of the disturbed areas and ensure that alien invasive species are dealt with in accordance to the Environmental Management Plan.</li> <li>• Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and livestock access.</li> <li>• Workers may not trample natural vegetation and work should be restricted to previously disturbed footprint. In addition, mitigation measures as set out for the construction phase should be adhered to.</li> </ul>	ECO, Site Manager
<b>Clearing and removal of vegetation</b>	<ul style="list-style-type: none"> <li>• Ensure that work does not take place haphazardly, but according to a fixed plan and within the proposed development footprint.</li> <li>• Cordon off the operational area from adjacent vegetated areas.</li> <li>• Introduce adequate sedimentation control measures at moist grassland and when excavation or disturbance within moist grasslands takes place.</li> <li>• Address erosion donga crossings, applying soil erosion control and bank stabilisation</li> </ul>	ECO, Site Manager

	<p>procedures as specified by the ECO.</p> <ul style="list-style-type: none"> <li>Do not allow erosion to develop on a large scale before effecting repairs. When in doubt, seek advice from the ECO.</li> <li>Repair all erosion damage as soon as possible and in any case not later than six months before the termination of the Maintenance Period to allow for sufficient rehabilitation growth.</li> </ul>	
<b>Possible increase in alien and invasive plants</b>	<ul style="list-style-type: none"> <li>Implement an alien invasive plant monitoring and management plan whereby the spread of alien and invasive plant species into the areas disturbed by the construction are regularly removed and re-infestation monitored.</li> </ul>	ECO
<b>Fauna Disturbance / Persecution</b>	<ul style="list-style-type: none"> <li>The development area should be re-habilitated and re-vegetated as soon as possible using an appropriate rehabilitation plan which incorporates indigenous plant species.</li> <li>A management plan to prevent the staff from harassing or poaching the faunal species should be developed and implemented.</li> <li>Construction and operation activities should be restricted to daylight hours to prevent any disturbance to fauna such as floodlights or construction / operational noises.</li> </ul>	Site Manager, ECO
<b>Soil and Groundwater Contamination</b>	<ul style="list-style-type: none"> <li>Store all hydrocarbons on a hardened surface to contain spillages</li> <li>Strict procedures for hydrocarbon management of the site must be developed and adhered to.</li> <li>The oil/spill/leak must be cleaned immediately and any contaminated soil must be removed and disposed off through a recognisable waste disposal method</li> <li>Used oil must be disposed off in accordance with the correct procedures.</li> <li>All equipment that has the potential for spillages or leakages shall be equipped with drip-trays.</li> <li>Ensure that care is taken to ensure that spillages of oils and effluent are limited during maintenance. In the event of a spill/leak, the source of the spill or leak must be identified and correctly addressed.</li> </ul>	Site Manager, ECO

<p><b>Destruction of heritage resources</b></p>	<ul style="list-style-type: none"> <li>• The recorded buildings older than 60 years must be preserved in situ and should not be altered without approval from Mpumalanga Provincial Heritage Resources Agency.</li> <li>• Should any unmarked burials are exposed during construction affected families must be trekked and consulted, relevant rescue/ relocation permits must be obtained from SAHRA/ AMAFA before any grave relocation can take place. Furthermore a professional archaeologist must be retained to oversee the relocation process in accordance with the National Heritage Resources Act 25 of 1999.</li> <li>• Should chance archaeological materials or human burials remains be exposed during subsurface construction work on any section of the proposed development laydown sites, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made.</li> </ul>	<p>Site Manager, ECO</p>
<p><b>Noise</b></p>	<ul style="list-style-type: none"> <li>• A noise barrier in the form of a berm, tree break or similar noise fence should be constructed on the boundary of the proposed crushing and screening area as soon as possible and around other noise</li> <li>• Barrier must be situated between the main noise source noise sensitive receivers,</li> <li>• The berm will help with the attenuation of noise produced by the mining activities. A basic rule of thumb for barrier height is: Any noise barrier should be at least as tall as the line-of-sight between the noise source and the receiver, plus 30%. So if the line-of-sight is 10m high, then the barrier should be at least 13m tall for best performance.</li> <li>• Dump mining-related machinery and vehicles must be serviced on a regular basis to ensure noise suppression mechanisms are effective e.g. installed exhaust mufflers.</li> <li>• Switching off equipment when not in use.</li> <li>• Put up barriers around fixed noise producing sources such as generators, pump stations and crushers</li> <li>• Barriers should be installed between the noise source and sensitive noise receptor, as close to the noise source as possible.</li> <li>• All employees and contractors should be instructed to avoid the use of engine compression brakes when approaching the operational area entrance or driving through</li> </ul>	<p>Site Manager, ECO</p>

	<p>or in the vicinity of the adjacent town.</p> <ul style="list-style-type: none"> <li>• All access roads will be signposted and speed limited to minimise transport noise.</li> <li>• Equipment with lower sound power levels should be used in preference to noisier equipment.</li> <li>• All equipment used onsite should be regularly serviced to ensure the sound power levels remain at or below the levels used in the modelling to assess generated noise levels and compliance with the criteria.</li> <li>• The on-site road network should be continuously well maintained to limit body noise from empty trucks travelling on internal roads.</li> </ul>	
<p><b>Crime, safety and security</b></p>	<ul style="list-style-type: none"> <li>• Emergency contact details for the police, Security Company, ambulance and fire department must be readily available onsite</li> <li>• Emergency facilities must be available and adequately supplied for use by staff and customers.</li> <li>• Ensure that only suitably qualified personnel use vehicles and machineries</li> <li>• Ensure that the handling of equipment and materials is supervised and adequately instructed.</li> <li>• Security fence is to be inspected continuously to ensure no illegal entry points are created.</li> <li>• Limit access to the site only to the workforce.</li> <li>• Do not allow the movement of public within the development site by posting notices at the entrance gates, and where necessary on the boundary fence.</li> <li>• Appropriate notification signs must be erected, warning the residents and visitors about the hazards around the site and presence of heavy vehicles.</li> <li>• Ensure that PPE is always worn on site.</li> <li>• Ensure that employees are regularly checked for illnesses.</li> </ul>	<p>Site Manager</p>

<b>Dust generation on unpaved roads</b>	<ul style="list-style-type: none"> <li>• Speed restriction of 20km/h must be implemented for all construction vehicles.</li> <li>• Use of water sprays on unpaved roads i</li> <li>• Use of dust control additives on unpaved roads to improve the compaction and stability of the road</li> </ul>	Site Manager, ECO
<b>Dust generation on crusher and screen</b>	<ul style="list-style-type: none"> <li>• Install chemical suppressants or water sprays on the primary crusher and dry dust extraction units with wet scrubbers on the secondary and tertiary crushers and screens</li> </ul>	Site Manager, ECO
<b>Vehicle Entrained Dust on Paved Roads</b>	<ul style="list-style-type: none"> <li>• Sweep to clean paved road surfaces within the project area</li> <li>• Prevention of spillages of material from badly loaded or overloaded trucks</li> <li>• Good housekeeping to prevent accumulation of wind erodible materials on paved road surfaces</li> </ul>	Site Manager, ECO
<b>Windblown dust emissions</b>	<ul style="list-style-type: none"> <li>• Continuous watering of the site should be carried out to prevent dust pollution during windy and dry conditions.</li> <li>• Covering of surface with less erodible aggregate material</li> <li>• Re vegetation of open areas unused areas</li> </ul>	Site Manager, ECO
<b>Stability of the access road</b>	<ul style="list-style-type: none"> <li>• Install strategic levelling points that are check surveyed 3-4 times per year.</li> <li>• Post sign' indicating the road is undermined</li> <li>• Only use access roads during daylight hours unless provided with adequate lighting.</li> </ul>	Site Manager, ECO
<b>Waste management: –</b>	<ul style="list-style-type: none"> <li>• Ensure that no refuse wastes are burnt on the premises or on surrounding premises. No fires will be allowed on site.</li> <li>• Waste generated during and after development should be disposed off in accordance with Council's waste policy. Illegal dumping is punishable By-law</li> <li>• All solid waste must then be disposed of at the nearest licensed landfill and safe disposal certificates obtained.</li> <li>• Locate waste bins and skips throughout the site.</li> <li>• Provision should be made for adequate and proper waste storage facilities and access into the premises, especially if the storage facility is going to be secured under locked gates all the time</li> </ul>	Site Manger, ECO

	<ul style="list-style-type: none"> <li>Littering will not be permitted on the site and general housekeeping will be enforced. General waste bins must be readily available for litter disposal and general housekeeping.</li> <li>Separate waste skips/ bins for the different waste streams must be available on site.</li> <li>The waste containers must be appropriate to the waste type contained therein and where necessary should be lined and covered.</li> <li>All hazardous material must be carefully stored and then disposed of offsite at the licensed hazardous landfill site</li> </ul>	
<b>Storm water management</b>	<ul style="list-style-type: none"> <li>Adequate storm water drainage system must be designed and maintained to adequately control the volume, speed, location of runoff, to avoid soil erosion and siltation.</li> <li>Storm water at the construction crew camps must be managed so as to reduce the silt loads into the ecological environment. Measures must be implemented to distribute storm water as evenly as possible to avoid point sources of erosion;</li> <li>Construction on steep slopes and in soft or erodable material will require erosion control measures and correct grassing methods;</li> <li>All construction areas should be suitably top soiled and vegetated as soon as is possible after construction; and</li> <li>Disturbed surfaces to be rehabilitated must be ripped, and the area must be backfilled with topsoil or overburden.</li> <li>The design of storm water management systems should be based on Sustainable Urban Drainage System (SUDS) and Water Sensitive Urban Design approaches (WSUDS) which enhance natural drainage through permeable surfacing and which integrate landscaping with storm water in line with best practice storm water management. A Stormwater Management Plan be subject for approval by the JRA prior to the site Development Plan Stage</li> </ul>	Site Manager, ECO
<b>Servicing and maintenance of vehicles and machineries on site</b>	<ul style="list-style-type: none"> <li>Maintenance/servicing of vehicle and machineries must be conducted on a concrete and roofed floor</li> <li>Construction vehicles must be well maintained and serviced to minimise leaks and spills.</li> <li>Drip trays can also be used during the servicing of vehicles and machineries.</li> <li>Used parts like filters should be contained and disposed of at a site licensed for dumping of these waste products.</li> </ul>	Site Manager



<b>Traffic impact</b>	<ul style="list-style-type: none"> <li>It must be ensured that a backlog of traffic does not develop at the access points during peak hours, through the implementation of an efficient and effective access control system.</li> </ul>	Site Manager, ECO
<b>DECOMISSIONG PHASE</b>		
<b>Rehabilitation</b>	<ul style="list-style-type: none"> <li>Stockpiles must be removed during the decommissioning phase, the area ripped and the top soil returned to its original depth to provide a growth medium</li> <li>Rehabilitation of cleared surfaces, plant area and landscaping should be as far as possible make use of indigenous vegetation.</li> <li>Repair all erosion damage as soon as possible and in any case not later than six months before the termination of the Maintenance Period to allow for sufficient rehabilitation growth.</li> <li>Cordon off areas that are under rehabilitation as no go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and livestock access.</li> <li>The use of environmentally friendly fertilizers and pesticides is recommended during maintenance of area</li> <li>Roads that can and will be used by other users post closure should, however, be left provided this is agreed upon by all parties concerned.</li> </ul>	Developer, Contractor

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## **8. CONCLUSION**

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Provided this project is mitigated, as per the EMPr, the project will result in limited negative environmental impacts that can be mitigated through implementation of this EMPr. Should these recommended measures be adopted in the planning, construction and operation/ maintenance phases of the proposed activity, the EAP finds that the predicted impacts of the proposed activities are within acceptable limits. It is the applicant's responsibility to ensure that this EMPr is made binding on the contractor by including the EMPr in the contract documentation.

This EMPr should be used as an on-site reference document during all phases of this development, and environmental auditing should take place in order to determine compliance with this EMPr. Parties responsible for transgression of this EMPr should be held responsible for any rehabilitation that may need to be undertaken. Parties responsible for environmental degradation through irresponsible behaviour / negligence should receive penalties.

It should be noted however, that environmental management is dynamic and as such the EMPr must be flexible in order to accommodate changing circumstances and requirements. Ongoing environmental monitoring of the ash reclamation project should be carried out throughout its life cycle, and such should be conducted by a dedicated Environmental Control Officer, to identify and address new issues as they arise, and to update or amend the management plan accordingly.

