

# Table of Contents

<b>List of Tables.....</b>	<b>1</b>
<b>List of Appendices.....</b>	<b>1</b>
<b>Abbreviations.....</b>	<b>2</b>
<b>SECTION 1: BACKGROUND .....</b>	<b>3</b>
<b>SECTION 2: INTRODUCTION.....</b>	<b>3</b>
<b>SECTION 3: PHASES OF THE PROJECT .....</b>	<b>4</b>
3.1 PLANNING PHASE .....	4
3.2. CONSTRUCTION PHASE .....	4
3.3. THE OPERATIONAL PHASE .....	4
<b>SECTION 4: RESPONSIBILITIES OF THE ROLE PLAYERS.....</b>	<b>5</b>
4.1 DEVELOPER.....	5
4.2 CONTRACTOR.....	5
4.3 ENVIRONMENTAL CONTROL OFFICER (ECO) .....	5
4.3.1 Liaison with Authorities.....	6
4.3.2 Liaison with Contractors.....	6
4.4 ENVIRONMENTAL LIAISON OFFICER (ELO).....	6
<b>SECTION 5: TRAINING PROGRAMME .....</b>	<b>7</b>
<b>SECTION 6: ENVIRONMENTAL MANAGEMENT PLAN (EMP) 8</b>	
<b>SECTION 8: CONCLUSIONS .....</b>	<b>41</b>

## List of Tables

Table 1: Planning Phase for the Proposed Development. ....	9
Table 2: Construction phase for the proposed development.....	14
Table 3: Operational phase for the Proposed Development .....	38

## List of Appendices

Appendix 1: Incident Log Sheet	
--------------------------------	--

## Abbreviations

BAR	Basic Assessment Report
CE	Civil Engineer
CLO	Community Liaison Officer
DEAT	Department of Environmental Affairs and Tourism
DESTEA	Department of Small Business Development, Tourism and Environmental Affairs
ECO	Environmental Control Officer
ELO	Environmental Liaison Officer
EMP	Environmental Management Plan
LM	Local Municipality
MMC	Mitigation Monitoring Committee
SAHRA	South African Heritage Resources Agency

## **SECTION 1: BACKGROUND**

MvW Environmental Services, as independent consultants, was appointed by Imbazo Trading (Pty) Ltd to facilitate the Integrated Environmental Management (IEM) procedure for the proposed new cemetery on erven 16667 – 16702 and 16704, Heidedal, Bloemfontein in in the Free State Province. Erf 16681 will also form part of the cemetery development but will not be rezoned a the buildings, parking areas etc will be housed thereon.

The purpose of this document, Environmental Management Plan (EMP) is to provide management options that will ensure that the impacts of the cemetery are minimised. This EMP, therefore, is a stand-alone document, which must be used on the site during each phase (planning, construction and operational) of the development. In addition, all mitigation measures recommended in the Basic Assessment Report and specialist studies undertaken are incorporated thereon.

## **SECTION 2: INTRODUCTION**

It is understood that any development can pose various risks to the environment as well as the inhabitants in the surrounding area. These possible risks should be taken into account during the planning phase of the cemetery. The purpose of this document is to provide management responses that will ensure that the impacts of the cemetery are minimised. This EMP is, therefore, a stand-alone document, which must be used on site during each phase of the development (planning, construction and operational).

This document should be flexible so as to allow the contractor and developer to conform to the management commitments without being prescriptive. The management commitments prove that the anticipated risks on the environment will be minimised if they are adhered to consistently. The onus set out in the EMP rests with the developer, the main and subcontractors, which will promote responsibility and commitment. Any parties responsible for transgression of the underlying management measures outlined in this document will be held liable for non-compliances and will be dealt with accordingly.

## **SECTION 3: PHASES OF THE PROJECT**

The process which was followed in compiling the EMP is in compliance with Sections 21, 22 and 26 of the Environment Conservation Act, 1989 (Act No.73 of 1989), and applies the principle of Integrated Environmental Management (IEM).

The purpose of this EMP is to formulate mitigation measures that should be made binding on all contractors during the construction phase as well as measures that should be implemented during the operational phase.

The point of departure for this EMP is to take a pro-active route by addressing potential problems before they occur. This should limit corrective measures required during the construction and operational phases of the cemetery. Additional mitigation will be included throughout the project's various phases, as required and if necessary.

In particular, this EMP deals with the following phases as detailed below:

### **3.1 PLANNING PHASE**

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

### **3.2. CONSTRUCTION PHASE**

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

### **3.3. THE OPERATIONAL PHASE**

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

## **SECTION 4: RESPONSIBILITIES OF THE ROLE PLAYERS**

### **4.1 DEVELOPER**

The developer (Masilonyana Local Municipality) remains ultimately responsible for ensuring that the cemetery is implemented according to the requirements of the EMP. Although the developer appoints specific role players to perform functions on his/her behalf, this responsibility is delegated. The developer is responsible for ensuring that sufficient resources (time, financial, human, equipment, etc.) are available to the other role players (e.g. the ECO, ELO and contractor) to efficiently perform their tasks in terms of the EMP. 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 EMP is included in the tender documentation so that the contractor who is appointed is bound to the conditions of the EMP. The developer must appoint an independent Environmental Control Officer (ECO) during the construction phase to oversee all the environmental aspects relating to the development.

### **4.2 CONTRACTOR**

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

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

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

The Environmental Control Officer (ECO) is appointed by the developer as an independent monitor of the implementation of the EMP. 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 EMP and be responsible for providing feedback on potential environmental problems associated with the development. In addition, the ECO is responsible for:

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

The ECO has the right to enter the site and 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 and protective head gear).

#### 4.3.1 Liaison with Authorities

The ECO will be responsible for liaising with the Department of Small Business Development, Tourism and Environmental Affairs (DESTEA). The ECO must submit monthly environmental audit reports to the authorities. These audit reports must contain information on the contractor and developer's levels of compliance with the EMP.

The audit report must also include a description of the general state of the site, with specific reference to sensitive areas and areas of non-compliance. The ECO is to suggest corrective action measures to eliminate the occurrence of the non-compliance incidents. In order to keep a record of any impacts, an Environmental Log Sheet (refer to Annexure 1) should be kept on a continual basis.

#### 4.3.2 Liaison with Contractors

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

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

The contractor must appoint an Environmental Liaison Officer (ELO) to assist with day-to-day monitoring of the construction activities. Any issues raised by the ECO will be routed to the ELO for the contractor's attention. The ELO shall be permanently on site during the construction phase to ensure daily environmental compliance with the EMP and should ideally be a senior and respected member of the construction crew. Past experience has revealed that ELO's that can relate to the work force are the most effective for information transfer and ensuring compliance with the EMP.

## **SECTION 5: TRAINING PROGRAMME**

This programme has been developed in order to ensure that all contractors and subcontractors are made aware of and understand the contents of the EMP, the sensitivity of the environment and the consequences of non-compliance to the EMP. It is recommended that an awareness raising session on the EMP be conducted prior to the commencement of any construction activity. This session will undertake to achieve the following:

- Explain the contents of the EMP from the Planning phase through to the operational phase.
- Identify where possible problems could arise that may lead to non-compliance with the EMP, to address these issues and identify measures to reduce the likelihood of their occurrence.
- Discuss mitigation measures that should be instituted should an incident occur.
- Establish roles and responsibility in terms of the EMP.
- Discuss the role of the Mitigation Monitoring Committee (MMC), and introduce the members on this committee to the contractors/sub-contractors.
- Provide an opportunity for the ECO to walk the site with the contractors/subcontractors and demarcate the various sensitive areas so that all have been shown where these are, so as to reduce the chances of any negative impact to these areas.

After this initial meeting, it is suggested that monthly follow-up meetings take place. These meetings will allow issues around the EMP to be discussed and to indicate areas of concern. This will also provide the ideal forum in which to discuss issues that have been captured in the Environmental Incident Log and complaints register, as well as to report back on the findings of the monthly audit reports. This will ensure that the contractors and sub-contractors are kept well informed of any transgressions as well as providing them with positive feedback in terms of their compliance with the EMP. It also will assist in identifying whether any additional measures are required to be implemented and if so, that they be fully explained to everyone to ensure that new measures are implemented when and if required. Over and above these meetings, the ELO will be on site on a daily basis and will provide on site assistance where and when required and will liaise closely with the ECO on the day-to-day activities, identifying and reporting any issues that require attention.

## **SECTION 6: ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

The following tables form the core of this EMP for the planning, construction and operational phases of the proposed cemetery. These tables should be used as checklists on site, especially during the construction phase. Compliance with this EMP must be audited monthly during the construction phase and once immediately following completion of construction. This must be followed up with annual audits for a period of two years during the operational phase.



Table 1: Planning Phase for the Proposed Cemetery.

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<b>APPOINTMENT AND DUTIES OF 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 ENVIRONMENTAL MANAGEMENT PLAN.</li> </ul>	DEVELOPER	ONCE-OFF
	<ul style="list-style-type: none"> <li>THE DEVELOPER MUST PROVIDE THE CONTRACTOR WITH A COPY OF THE EMP AND BAR.</li> </ul>	DEVELOPER	ONCE-OFF
	<ul style="list-style-type: none"> <li>THE PRIORITY OF THE ECO IS TO MAINTAIN THE INTEGRITY OF THE DEVELOPMENT CONDITIONS OUTLINED IN THE EMP AND BAR.</li> </ul>	ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>THE ECO AND MMC MUST FORM PART OF THE PROJECT MANAGEMENT TEAM AND ATTEND ALL RELEVANT PROJECT MEETINGS.</li> </ul>	ECO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>THE CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION CREW ATTEND AN ENVIRONMENTAL BRIEFING AND TRAINING SESSION PRESENTED BY THE ECO PRIOR TO COMMENCING ACTIVITIES ON SITE.</li> </ul>	CONTRACTOR, ECO, MMC	ONCE-OFF
<b>APPOINTMENT AND DUTIES OF ELO.</b>	<ul style="list-style-type: none"> <li>THE CONTRACTOR MUST APPOINT AN ENVIRONMENTAL LIAISON OFFICER (ELO). THIS PERSON WILL BE REQUIRED TO MONITOR THE SITUATION WITH A DIRECT HANDS-ON APPROACH, AND ENSURE COMPLIANCE AND CO-OPERATION OF ALL PERSONNEL. HE SHOULD BE FLUENT IN THE LANGUAGES OF THE EMPLOYEES.</li> </ul>	CONTRACTOR	ONCE-OFF
<b>EMP</b>	<ul style="list-style-type: none"> <li>THIS EMP MUST BE MADE BINDING TO THE MAIN CONTRACTOR AS WELL AS INDIVIDUAL CONTRACTORS AND SHOULD BE INCLUDED IN THE TENDER DOCUMENTATION OF THE CONSTRUCTION CONTRACT.</li> </ul>	DEVELOPER, ECO	ONCE-OFF
	<ul style="list-style-type: none"> <li>A ONE-WEEK NOTICE MUST BE GIVEN TO DESTEA PRIOR TO COMMENCEMENT OF ANY WORKS.</li> </ul>	DEVELOPER, ECO	ONCE-OFF

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<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> </ul>	ELO, ECO, CONTRACTOR, MMC	CONTINUOUS
<b>PUBLIC PARTICIPATION AND LABOUR.</b>	<ul style="list-style-type: none"> <li>EMPLOYMENT OF LOCAL LABOUR, FROM THE SURROUNDING COMMUNITIES AND THE IMPLEMENTATION OF TRAINING IS TO BE INSTITUTED DURING THE TIME PERIOD OF THE CONSTRUCTION.</li> <li>A COMMUNITY LIAISON OFFICER (CLO) MUST BE APPOINTED BY THE CONTRACTOR. THIS PERSON SHOULD PROVIDE A BRIDGE BETWEEN THE LOCAL COMMUNITY, THEIR COMMUNITY COUNCILLORS AND THE CONTRACTOR.</li> <li>THE ABOVE APPOINTMENT COULD BE COMBINED WITH THE REQUIREMENT FOR THE APPOINTMENT OF AN ELO, I.E. THE CLO AND ELO MAY BE ONE PERSON WITH DUAL FUNCTIONS, AND THE APPOINTEE MAY FORM PART OF THE LOCAL LABOUR PROCUREMENT MENTIONED ABOVE.</li> <li>IT IS RECOMMENDED THAT THE CLO SHOULD BE A MEMBER OF THE COMMUNITY AFFECTED BY THE CONSTRUCTION.</li> </ul>	DEVELOPER, CONTRACTOR	AT PROJECT INITIATION, AND AS NECESSARY.
<b>DRAINAGE</b>	<ul style="list-style-type: none"> <li>CAREFUL STORMWATER MANAGEMENT IS REQUIRED ACROSS THE SITE IN ORDER TO REMOVE STORMWATER IN A SPEEDY AND EFFICIENT MANNER AND MOST IMPORTANTLY TO PREVENT ANY ACCUMULATION OF SURFACE WATER.</li> </ul>	DEVELOPER, MMC, CE	ONCE OFF

<b>ACTIVITY/ISSUE</b>	<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>FREQUENCY OF ACTION</b>
<b>EROSION, SEDIMENTATION AND FLOODING.</b>	<ul style="list-style-type: none"> <li>IF POSSIBLE, CONSTRUCTION ACTIVITIES SHOULD BE SCHEDULED FOR THE DRY WINTER MONTHS TO DECREASE THE RISK OF EROSION DURING HEAVY THUNDERSTORMS.</li> </ul>	DEVELOPER, MMC	ONCE OFF
<b>VEGETATION.</b>	<ul style="list-style-type: none"> <li>ANY TREES THAT WILL BE RETAINED MUST BE CLEARLY MARKED AND PROTECTED AGAINST DAMAGE BY CONSTRUCTION ACTIVITIES. TREES ON NORTHERN BOUNDARY MUST BE KEPT.</li> </ul>	ECO, ELO, MMC	ONCE OFF
<b>ENVIRONMENTAL DISTURBANCE.</b>	<ul style="list-style-type: none"> <li>AREAS TO BE CLEARED OF NATURAL VEGETATION MUST BE MINIMISED.</li> </ul>	CONTRACTOR, CE	ONCE-OFF, OR AS NECESSARY
<b>SERVICES</b>	<ul style="list-style-type: none"> <li>THE REQUIRED INFRASTRUCTURE, I.E. ROADS, SEWAGE LINES, ELECTRICITY LINES ETC. SHOULD BE PLANNED IN SUCH A MANNER THAT THE POTENTIAL IMPACTS ON THE AREA ARE MINIMIZED. INSTALLATION OF THE NECESSARY INFRASTRUCTURE AND BULK SERVICES REQUIRED FOR ESTABLISHMENT SHOULD TAKE PLACE DURING THE DRY SEASON IF POSSIBLE.</li> </ul>	CE, ECO	DESIGN PHASE
	<ul style="list-style-type: none"> <li>CAREFUL STORMWATER MANAGEMENT IS REQUIRED ACROSS THE SITE IN ORDER TO REMOVE STORMWATER IN A SPEEDY AND EFFICIENT MANNER AND MOST IMPORTANTLY TO PREVENT ANY ACCUMULATION OF SURFACE WATER.</li> </ul>	DEVELOPER, ECO, CE	ONCE-OFF
<b>SENSE OF PLACE AND VISUAL IMPACT.</b>	<ul style="list-style-type: none"> <li>THE PLANNING OF CONSTRUCTION ACTIVITIES (CONSTRUCTION SITE) MUST ENDEAVOUR TO MINIMISE THE NOISE IMPACT ON ADJACENT LANDOWNERS.</li> </ul>	CONTRACTOR, MMC	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
SITE IDENTIFICATION	<ul style="list-style-type: none"> <li>• THE CEMETERY NOT TAKE PLACE WITHIN 100M FROM A WATER RESOURCE OR WITHIN THE 1:100 YEAR FLOOD LINE.</li> <li>• ANY DEVELOPMENT WITHIN 500M FROM THE BOUNDARY OF ANY WETLAND REQUIRES A WATER USE LICENSE;</li> <li>• NO SURFACE, GROUND OR STORM WATER MAY BE POLLUTED AS A RESULT OF ANY ACTIVITIES EMANATING FROM THE ACTIVITIES ASSOCIATED WITH THIS DEVELOPMENT.</li> <li>• ALL SECTIONS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT; WASTE ACT (ACT 59 OF 2008) PERTAINING TO THE DISPOSAL OF WASTE MUST BE ADHERED TO.</li> <li>• STORM WATER MANAGEMENT MUST BE IN PLACE FOR THE PROJECT.</li> <li>• ALL THE COMMITMENTS STIPULATED IN THE BAR AND EMP MUST BE ADHERED TO AND ANY DEVIATIONS MUST BE COMMUNICATED TO RELEVANT AUTHORITIES.</li> <li>• AS PER REGULATIONS RELATING TO MANAGEMENT OF HUMAN REMAINS (HEALTH ACT, NO 61 OF 2003) ALL</li> <li>• BURIALS MUST COMPLY WITH THE FOLLOWING ENVIRONMENTAL REQUIREMENTS:</li> <li>• CEMETERIES MUST BE LOCATED OUTSIDE THE 1:100 YEAR FLOODLINE;</li> <li>• CEMETERIES MUST BE LOCATED AT LEAST 350M FROM GROUND WATER RESOURCES FOR DRINKING PURPOSES AND AT LEAST 500M FROM THE NEAREST HABITABLE BUILDING.</li> </ul>	TOWN PLANNER, CLIENT	DESIGN PHASE



Table 2: Construction phase for the proposed cemetery.

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<b>GENERAL</b>	<ul style="list-style-type: none"> <li>• PRIOR TO ESTABLISHMENT OF THE SITE CAMP(S), THE CONTRACTOR SHALL PRODUCE A PLAN SHOWING THE POSITIONS OF ALL BUILDINGS, LAYDOWN YARDS, AND OTHER INFRASTRUCTURE FOR APPROVAL BY THE ECO.</li> </ul>	CONTRACTOR, ECO	ONCE-OFF
	<ul style="list-style-type: none"> <li>• ON COMPLETION OF WORKS, THE CONTRACTOR SHALL CLEAR AWAY AND REMOVE FROM THE SITE ALL CONSTRUCTION PAINT, SURPLUS MATERIALS, FOUNDATIONS, PLUMBING AND OTHER FIXTURES, RUBBISH AND TEMPORARY WORKS OF EVERY KIND. AREAS THUS CLEARED SHALL BE GRADED AND SCARIFIED TO RESTORE THE GROUND TO ITS ORIGINAL PROFILE AS NEAR AS PRACTICABLE BEFORE TOPSOIL PLACEMENT.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>• ALL PERSONS EMPLOYED BY THE CONTRACTOR OR HIS SUBCONTRACTORS SHALL ABIDE BY THE REQUIREMENTS OF THESE GENERAL ENVIRONMENTAL PROTECTION SPECIFICATIONS. ANY EMPLOYEES OF THE CONTRACTOR OR HIS SUBCONTRACTORS FOUND TO BE IN BREACH OF ANY OF THE GENERAL ENVIRONMENTAL PROTECTION SPECIFICATIONS MAY BE ORDERED BY THE ECO TO LEAVE THE SITE FORTHWITH. THE ORDER MAY BE GIVEN ORALLY OR IN WRITING. CONFIRMATION OF AN ORAL ORDER WILL BE GIVEN AS SOON AS PRACTICABLE BUT LACK OF CONFIRMATION IN WRITING SHALL NOT BE A CAUSE FOR THE OFFENDER TO REMAIN ON SITE. NO EXTENSION OF TIME WILL BE GRANTED FOR ANY DELAY OR IMPEDIMENT TO THE CONTRACTOR BROUGHT ABOUT BY A PERSON ORDERED TO LEAVE THE SITE.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>WITH REGARDS TO ESTABLISHMENT OF CAMPSITE, MITIGATION MEASURES AS DETAILED IN THE SECTION BELOW WILL ONLY BE APPLICABLE SHOULD THE WORKFORCE OF THE APPOINTED CONTRACTORS STAY OVERNIGHTS. THIS ASPECT WILL, THEREFORE, HAVE TO BE CONFIRMED FIRST ON SITE PRIOR TO COMMENCEMENT OF ANY ACTIVITIES.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>MAXIMUM USE SHOULD BE MADE OF LOCAL MANPOWER AND MATERIALS, WITH TRAINING GIVEN WHERE APPROPRIATE. WHERE POSSIBLE LOCAL CONTRACTORS AND ENTREPRENEURS SHOULD BE EMPLOYED.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>CONSTRUCTION STAFF SHOULD BE EDUCATED AS TO THE NEED TO REFRAIN FROM DESTRUCTION OF ANIMALS AND PLANTS, AS WELL AS FROM INDISCRIMINATE DEFECATION, WASTE DISPOSAL AND/OR POLLUTION OF LOCAL SOIL AND WATER RESOURCES.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>MACHINE/VEHICLE OPERATORS SHOULD RECEIVE CLEAR INSTRUCTIONS TO REMAIN WITHIN DEMARCATED ACCESS ROUTES AND OPERATIONS/CONSTRUCTION AREAS. PENALTIES SHOULD BE INTRODUCED IF NECESSARY TO ENSURE THAT THIS RULING IS ADHERED TO.</li> </ul>	CONTRACTOR, ECO	CONTINUOUS
	<ul style="list-style-type: none"> <li>STAFF SHOULD BE INFORMED THAT ACCESS TO ADJACENT PROPERTIES IS STRICTLY OFF-LIMITS AND THAT IT WILL BE DEEMED A SERIOUS OFFENCE (I.E. NO FENCES SHOULD BE JUMPED AT ANY TIME AND NO GATES ARE TO BE OPENED WITHOUT PERMISSION FROM THE RELEVANT LANDOWNER).</li> </ul>	CONTRACTOR, ECO	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<b>EFFECTS OF THE CONSTRUCTION CAMP (IF REQUIRED)</b>	<b>ESTABLISHING THE CAMPSITE</b>		
	<ul style="list-style-type: none"> <li>• A SITE WILL BE MADE AVAILABLE BY THE DEVELOPER FOR THE CONSTRUCTION CAMP.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>• THE CONSTRUCTION CAMP MUST BE LOCATED ON THE DEMARCATED SITE;</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>• VEGETATION AND TREES TO BE RETAINED SHALL NOT BE DAMAGED OR FELLED;</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>• ACCOMMODATION OF PERSONNEL IS TO INCLUDE BOTH KITCHEN AND SANITARY FACILITIES;</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR DAILY
	<ul style="list-style-type: none"> <li>• FIRES WILL ONLY BE ALLOWED IN FACILITIES ESPECIALLY CONSTRUCTED FOR THIS PURPOSE AND NO TREES MAY BE SPECIFICALLY FELLED FOR THE PURPOSE OF OBTAINING FIREWOOD. WOOD FOR THE FIRE MUST BE SUPPLIED BY THE CONTRACTOR AND NOT TAKEN FROM THE SURROUNDING AREA.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR DAILY
<ul style="list-style-type: none"> <li>• SMOKING SHOULD BE PROHIBITED IN THE VICINITY OF FLAMMABLE SUBSTANCES.</li> </ul>	ELO, MMC	DAILY	
<ul style="list-style-type: none"> <li>• FIRES STARTED FOR COMFORT (WARMTH) SHOULD BE ACTIVELY DISCOURAGED BY THE CONTRACTOR DUE TO THE RISK OF FIRES AND ASSOCIATED RISK TO ADJACENT PROPERTY OWNER'S LANDS.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY	



ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<p><b>TOILET FACILITIES, WASTE WATER AND REFUGE DISPOSAL</b></p> <ul style="list-style-type: none"> <li>• AN ADEQUATE NUMBER OF PORTABLE/CHEMICAL TOILETS SHALL BE SUPPLIED SHOULD THE EXISTING FACILITIES ON SITE BE INADEQUATE.</li> <li>• REGULAR INSPECTIONS SHALL BE CARRIED OUT TO ENSURE TOILETS ARE KEPT IN A HYGIENIC STATE.</li> <li>• TOILET PAPER SHALL BE SUPPLIED TO ALL TOILETS.</li> <li>• STAFF SHALL BE ADVISED TO USE THE PROVIDED TOILETS AT ALL TIMES.</li> <li>• REFUSE GENERATED FROM THE CAMPSITE, CONSTRUCTION AREA, STORAGE AREA OR ANY OTHER AREA SHALL BE COLLECTED AND PLACED IN A SUITABLE CONTAINER ON A DAILY BASIS.</li> <li>• A LITTER PATROL AROUND THE CONSTRUCTION CAMP IS TO TAKE PLACE TWICE A WEEK TO COLLECT ANY LITTER THAT MAY HAVE BEEN STREWN AROUND.</li> <li>• ONCE FULL AND ON A REGULAR BASIS, THE REFUSE CONTAINER SHALL BE EMPTIED AND THE CONTENTS DISPOSED OF AT A LICENSED COMMERCIAL FACILITY FOR THIS PURPOSE.</li> <li>• THE REFUSE CONTAINER IS TO BE COVERED AT ALL TIMES.</li> <li>• THE PILING OF ANY MATERIAL THAT COULD ROT AND RELEASE UNPLEASANT SMELLS INTO THE AIR WILL NOT BE ALLOWED.</li> </ul>	<p>CONTRACTOR, ELO, MMC</p> <p>ELO, MMC</p> <p>ELO, MMC</p> <p>ELO, MMC</p> <p>CONTRACTOR, ELO, MMC</p> <p>CONTRACTOR, ELO, MMC</p> <p>CONTRACTOR, MMC</p> <p>ELO, MMC</p> <p>CONTRACTOR, ELO, MMC</p>	<p>ONCE-OFF</p> <p>DAILY</p> <p>DAILY</p> <p>ONCE-OFF, MONITOR</p> <p>DAILY</p> <p>DAILY</p> <p>BI-WEEKLY</p> <p>WEEKLY</p> <p>DAILY</p>
<p><b>EFFECTS OF THE CONSTRUCTION CAMP</b></p>	<p><b>PROVISION OF WATER</b></p> <ul style="list-style-type: none"> <li>• SUFFICIENT POTABLE WATER SHALL BE PROVIDED FOR DRINKING, COOKING AND ABLUTIONS.</li> <li>• GREAT CARE IS TO BE TAKEN THAT THE WATER SUPPLY IS NOT CONTAMINATED IN ANY WAY.</li> </ul>	<p>CONTRACTOR, MMC</p> <p>CONTRACTOR, ELO, MMC</p>	<p>ONCE-OFF</p> <p>MONITOR WEEKLY</p>

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
EFFECTS OF THE CONSTRUCTION CAMP	<b>AIR POLLUTION</b> <ul style="list-style-type: none"> <li>• IF NECESSARY, CONSTRUCTION CAMP SHALL BE WATERED TO CONTROL POSSIBLE DUST FALLOUT.</li> <li>• EXCESSIVE DUST CONDITIONS SHALL BE REPORTED TO THE ECO.</li> <li>• HEAVY SMOKE MAY NOT BE RELEASED INTO THE AIR.</li> </ul>	ELO, MMC	AS REQUIRED
	<b>NOISE</b> <ul style="list-style-type: none"> <li>• NOISE LEVELS SHALL BE KEPT WITHIN ACCEPTABLE LIMITS, AND CONSTRUCTION CREW MUST ABIDE BY LOCAL BY-LAWS REGARDING NOISE.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<b>SITE SECURITY</b> <ul style="list-style-type: none"> <li>• THE AREA OF THE CONSTRUCTION CAMP SHALL BE DESIGNATED IN SUCH A MANNER THAT THE MOVEMENT OF SITE PERSONNEL IS LIMITED.</li> <li>• EXCEPT FOR THE 24-HOUR SECURITY GUARDS, NO WORKFORCE FOR EXTERNAL CONTRACTORS MAY STAY ON THE SITE DURING THE NIGHTS.</li> </ul>	CONTRACTOR, MMC	ONCE-OFF
	<b>VEHICLE AND EQUIPMENT FUELLING AND MAINTENANCE</b> <ul style="list-style-type: none"> <li>• ALL FUELLING AND MAINTENANCE OF VEHICLES SHALL BE DONE OFF-SITE AT A RECOGNISED WORKSHOP.</li> <li>• IN THE EVENT OF A BREAKDOWN, IMMEDIATE STEPS SHALL BE TAKEN TO PREVENT ANY SPILLAGE.</li> <li>• IN THE EVENT OF SPILLAGE OF OIL OR FUEL, STEPS MUST BE TAKEN TO REMOVE HYDROCARBONS.</li> </ul>	CONTRACTOR, MMC	AS REQUIRED
		CONTRACTOR, MMC	MONITOR DAILY
		CONTRACTOR, ELO, MMC	AS REQUIRED
		CONTRACTOR, ELO, MMC	AS REQUIRED

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
EFFECTS OF THE CONSTRUCTION CAMP	<b>CEMENT</b> <ul style="list-style-type: none"> <li>• CEMENT MIXING SHALL ONLY BE DONE AT SPECIFICALLY SELECTED SITES.</li> <li>• CLEANING OF CEMENT MIXING AND HANDLING EQUIPMENT SHALL BE DONE USING PROPER CLEANING TRAYS.</li> <li>• ALL EMPTY CONTAINERS SHALL BE REMOVED FROM THE SITE FOR APPROPRIATE DISPOSAL AT A LICENSED COMMERCIAL FACILITY.</li> <li>• ANY SPILLAGE, WHICH MAY OCCUR, WILL BE INVESTIGATED AND IMMEDIATE REMEDIAL ACTION SHALL BE TAKEN.</li> </ul>	CONTRACTOR, ELO, MMC  CONTRACTOR, ELO, MMC  CONTRACTOR, ELO, MMC  CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR DAILY  DAILY  DAILY  AS REQUIRED
	<b>PROVISION OF STORAGE FOR CONSTRUCTION MATERIAL</b> <ul style="list-style-type: none"> <li>• A SUITABLE AND SAFE AREA FOR STORAGE OF THE CONSTRUCTION MATERIAL IS TO BE PROVIDED.</li> <li>• IF THE AREA HAS TO BE CLEARED OF TREES AND/OR BUSHES, CARE MUST BE TAKEN TO LEAVE AS MUCH GRASS COVERING AS POSSIBLE TO PREVENT EROSION.</li> </ul>	DEVELOPER, CONTRACTOR, ELO, MMC	ONCE OFF
	<b>PROVISION OF STORAGE OR FACILITIES FOR DANGEROUS AND TOXIC MATERIALS</b> <ul style="list-style-type: none"> <li>• MATERIALS SUCH AS FUEL, OIL, PAINT, HERBICIDE AND INSECTICIDES SHALL BE STORED IN BERMED AREAS OR UNDER LOCK AND KEY, AS APPROPRIATE, IN WELL-VENTILATED AREAS.</li> <li>• SUFFICIENT CARE MUST BE TAKEN WHEN HANDLING THESE MATERIALS TO PREVENT POLLUTION.</li> <li>• IN THE CASE OF POLLUTION OF ANY SURFACE OR GROUNDWATER, THE REGIONAL REPRESENTATIVE OF THE DEPARTMENT OF WATER AFFAIRS MUST BE INFORMED IMMEDIATELY.</li> </ul>	DEVELOPER, CONTRACTOR, MMC  CONTRACTOR, ELO, MMC  CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR DAILY  AS REQUIRED  AS REQUIRED

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
EFFECTS OF THE CONSTRUCTION CAMP/SITE	<b>REHABILITATION</b>		
	<ul style="list-style-type: none"> <li>ONCE CONSTRUCTION IS COMPLETED, ALL REDUNDANT INFRASTRUCTURE, WASTE AND CONSTRUCTION MATERIALS SHOULD BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF IN AN APPROPRIATE MANNER, I.E. AT A REGISTERED SITE. THE REHABILITATION OF THE SITE MUST OCCUR IMMEDIATELY, AFTER THE CONSTRUCTION PHASE AND SHOULD NOT BE LEFT UNTIL THE END OF THE PROJECT.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>RE-VEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE BY PLANTING SUITABLE HARDY INDIGENOUS VEGETATION THAT REQUIRES LOW MAINTENANCE. AREAS COMPACTED BY VEHICLES DURING CONSTRUCTION MAY HAVE TO BE SCARIFIED (RIPPED) TO ALLOW PENETRATION OF PLANT ROOTS AND THE RE-GROWTH OF NATURAL VEGETATION. IF NECESSARY AREA MUST BE FERTILISED AND SEEDED WITH AN INDIGENOUS SEED MIX.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>STOCKPILED TOPSOIL SHOULD BE USED AS THE FINAL COVER FOR ALL DISTURBED AREAS WHERE RE-VEGETATION IS REQUIRED.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>WATERING MUST TAKE PLACE ON A WEEKLY BASIS UNTIL VEGETATION COVER IS SUFFICIENT TO CONTROL EROSION.</li> </ul>	CONTRACTOR, ELO, MMC	WEEKLY
	<ul style="list-style-type: none"> <li>VEGETATION MUST BE IMMEDIATELY REPLACED IN AREAS WHERE PLANTS HAVE FAILED TO ESTABLISH THEMSELVES.</li> <li>STRICT RECORDS OF MONITORING EXERCISES MUST BE KEPT.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>CONSTRUCTION ACTIVITIES SHOULD PREFERABLY TAKE PLACE DURING THE DRY WINTER MONTHS. RECOMMENDED MITIGATION MEASURES FOR EROSION COULD INCLUDE THAT DURING CONSTRUCTION, SITE PREPARATION, VEGETATION REMOVAL AND CONSTRUCTION MUST TAKE PLACE SIMULTANEOUSLY, AND IN STAGES, TO ENSURE THAT NO LARGE TRACTS OF LAND ARE LEFT EXPOSED.</li> </ul>	DEVELOPER, CONTRACTOR	ONCE-OFF
<b>EROSION, SEDIMENTATION AND FLOODING</b>	<ul style="list-style-type: none"> <li>VEGETATION CLEARANCE MUST BE KEPT TO A MINIMUM AND STOCKPILES MUST BE COVERED IN EXCESS WINDY CONDITIONS.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>ALL TOPSOIL REMOVED FROM THE AREA DURING SITE PREPARATION AND CONSTRUCTION MUST BE STOCKPILED FOR USE DURING REHABILITATION. TOPSOIL IS CONSIDERED TO BE THE TOP 150 MM OF THE NATURAL SOIL SURFACE AND INCLUDES GRASS, ROOTS AND ORGANIC MATTER. THE AREAS TO BE CLEARED OF TOPSOIL SHOULD BE ALL AREAS, WHICH WILL BE COVERED BY PAVING, ROADS, STRUCTURES AND MATERIAL STORAGE. THE STOCKPILES SHOULD NOT BE HIGHER THAN 2M AND IF THEY REMAIN UNDISTURBED FOR A MONTH OR MORE THEY MUST BE TREATED FOR DUST SUPPRESSION AND BE RE-VEGETATED.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>NO STOCKPILES OR CONSTRUCTION MATERIALS MAY BE STORED OR PLACED WITHIN ANY DRAINAGE LINE ON SITE.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>TO PREVENT EROSION, MATERIAL STOCKPILED FOR LONGER PERIODS SHOULD BE RETAINED IN A BERMED AREA.</li> </ul>	CONTRACTOR, ELO, MMC	MONITOR WEEKLY

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>ALL TRENCHES AND EXCAVATION WORKS MUST BE PROPERLY BACKFILLED AND COMPACTED ACCORDING TO SPECIFICATIONS GIVEN IN SUB-CLAUSE 5.2.4. OF SABS 1200DA.</li> </ul>	CONTRACTOR, ELO	AS REQUIRED
	<ul style="list-style-type: none"> <li>THE CONTRACTOR MUST REHABILITATE THE CONSTRUCTION CAMP ONCE CONSTRUCTION ACTIVITIES HAVE TERMINATED. COMPACTED AREAS WILL BE RIPPED AND MULCHED IN ORDER TO ENSURE RECOVERY OF THE NATURAL VEGETATION COVER.</li> </ul>	CONTRACTOR, ELO, MMC	END OF CONSTRUCTION PHASE
	<ul style="list-style-type: none"> <li>WHERE NECESSARY, A SUITABLE MIXTURE OF INDIGENOUS GRASS SEED SHALL BE USED TO RESEED DAMAGED AREAS.</li> </ul>	CONTRACTOR, ELO	ONCE-OFF
	<ul style="list-style-type: none"> <li>WHERE NECESSARY DAMAGED AREAS SHALL BE CORDONED OFF TO ENHANCE REHABILITATION.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>CONSTRUCTION EQUIPMENT AND MACHINERY MUST BE KEPT IN A DEMARCATED AREA. 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> </ul>	CONTRACTOR, ECO, MMC	MONITOR WEEKLY

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<b>WATERSOURCE CONTAMINATION</b>	<ul style="list-style-type: none"> <li>A MONITORING BOREHOLE MUST BE DRILLED IN CLOSE PROXIMITY AND DOWNSTREAM OF THE PROPOSED SITE BEFORE ANY OPERATIONAL ACTIVITIES COMMENCES.</li> <li>TEST (BACTERIAL AND CHEMICAL) GROUNDWATER AT THIS BOREHOLE BEFORE OPERATIONAL ACTIVITIES START AND USE IT AS A BENCHMARK FOR FUTURE TESTING. WATER SAMPLES MUST BE TESTED EVERY SIX MONTHS.</li> <li>APPROVAL MUST BE OBTAINED FROM DWS FOR ANY ACTIVITIES THAT REQUIRE AUTHORISATION IN TERMS OF SECTION 39 OF THE NATIONAL WATER ACT, 1998 (ACT NO 36 OF 1998).</li> </ul>	<p>CLIENT</p> <p>ECO, CONTRACTOR, CLIENT</p> <p>CONTRACTOR, ECO, MMC</p>	<p>BEFORE OPERATIONAL ACTIVITIES COMMENCE.</p> <p>BEFORE OPERATIONAL ACTIVITIES START AND USE IT AS A BENCHMARK FOR FUTURE TESTING. WATER SAMPLES MUST BE TESTED EVERY SIX MONTHS.</p> <p>ONCE-OFF</p>
	<ul style="list-style-type: none"> <li>A SUFFICIENT NUMBER OF PORTABLE CHEMICAL TOILETS SHOULD BE PLACED WITHIN EASY ACCESS OF THE WORKFORCE, TO ENSURE THAT THE SURROUNDING ENVIRONMENT IS NOT USED INSTEAD. THESE SHOULD BE KEPT IN A HYGIENIC STATE WITH TOILET PAPER SUPPLIED FOR THE WORKFORCE. PLACEMENT OF TOILETS SHOULD AVOID THE POSSIBILITY OF THE AREA SURROUNDING THE TOILET BECOMING FLOODED. THE CONTRACTOR MUST ALSO PROVIDE SUFFICIENT POTABLE WATER AND WASHING FACILITIES ON SITE AT ALL TIMES TO PREVENT A SITUATION WHERE CONSTRUCTION WORKERS HAVE TO RESORT TO FETCHING WATER FROM NATURAL WATER COURSES OR WASHING IN WATER COURSES.</li> </ul>	<p>CONTRACTOR, ELO, MMC</p>	<p>ONCE-OFF</p>

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>UNDERGROUND SERVICES SHOULD BE DESIGNED IN SUCH A WAY SO AS TO REQUIRE MINIMUM MAINTENANCE TO AVOID DISTURBANCE OF THE UNDERGROUND ENVIRONMENT.</li> </ul>	CE	ONCE OFF
	<ul style="list-style-type: none"> <li>BULK FUEL STORAGE TANKS ON THE SITE SHALL HAVE BUNDING TO HOLD AT LEAST 110% OF THE VOLUME OF THE TANKS AND SHALL BE LOCATED IN A PORTION OF THE CONSTRUCTION CAMP WHERE THEY DO NOT POSE A HIGH RISK IN TERMS OF WATER POLLUTION (I.E. THEY MUST BE LOCATED AWAY FROM WATER COURSES). BULK FUEL STORAGE TANKS SHALL BE PLACED SO THAT THEY ARE OUT OF THE WAY OF TRAFFIC, SO THAT THE RISK OF THE TANKS BEING RUPTURED OR DAMAGED BY VEHICLES IS MINIMISED.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF



ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>A DEDICATED STORAGE CONTAINER SHALL BE USED TO ACCOMMODATE CHEMICALS SUCH AS FUEL, OIL, PAINT, HERBICIDE AND INSECTICIDES, AS APPROPRIATE. STORAGE OF POTENTIALLY HAZARDOUS MATERIALS SHOULD BE ABOVE THE 1:100-YEAR FLOOD LINE, OR AS AGREED WITH THE ECO. THESE MATERIALS INCLUDE FUEL, OIL, CEMENT, BITUMEN, ETC. THE CONTAINER SHOULD BE STORED ON A CONCRETE BUNDED PLATFORM. CONCRETE SHALL BE MIXED ON MIXING TRAYS ONLY, NOT ON EXPOSED SOIL. CONCRETE SHALL BE MIXED ONLY IN AREAS, WHICH HAVE BEEN SPECIALLY DEMARCATED FOR THIS PURPOSE. ALL CONCRETE THAT IS SPILLED OUTSIDE THESE AREAS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR AND TAKEN TO AN APPROVED DUMPSITE. AFTER ALL THE CONCRETE MIXING IS COMPLETE ALL WASTE CONCRETE SHALL BE REMOVED FROM THE BATCHING AREA AND DISPOSED OF AT AN APPROVED DUMPSITE. STORMWATER SHALL NOT BE ALLOWED TO FLOW THROUGH THE BATCHING AREA. CEMENT SEDIMENT SHALL BE REMOVED FROM TIME TO TIME AND DISPOSED OF IN A MANNER AS INSTRUCTED BY THE SITE ENGINEER.</li> </ul>	CONTRACTOR, ELO	AS REQUIRED

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>SPILL KITS MUST BE AVAILABLE IN ALL VEHICLES THAT TRANSPORT HYDROCARBONS FOR DISPENSING TO OTHER VEHICLES ON THE CONSTRUCTION SITE. THE DISPENSING DEVICES (PUMP HEADS) MUST BE COMPATIBLE WITH THE VEHICLES TO WHICH THEY ARE DISPENSING. IN ADDITION THE DISPENSING DEVICES MUST BE FITTED WITH THE NECESSARY VALVES / APPARATUS THAT WILL ENSURE THAT THE NOZZLES DO NOT DRIP FUEL AFTER PUMPING HAS STOPPED. REFUELLING SHOULD TAKE PLACE IN A CENTRALLY LOCATED AREA AND MUST COMPLY WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993).</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>THE CONTRACTOR MUST HAVE A BASIC SPILL CONTROL KIT AVAILABLE AT EACH CONSTRUCTION CREW CAMP AND AROUND THE CONSTRUCTION SITE. THE SPILL CONTROL KITS MUST INCLUDE ABSORPTIVE MATERIAL THAT CAN HANDLE ALL FORMS OF HYDROCARBON AS WELL AS FLOATING BLANKETS / PILLOWS THAT CAN BE PLACED ON WATER COURSES. THE CONTRACTOR SHALL ENSURE THAT AT LEAST THE SITE FOREMAN AND ELO HAVE RECEIVED FORMAL TRAINING IN THE USE OF THE SPILL CONTROL KIT.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>IN THE CASE OF ANY WATER POLLUTION INCIDENT, THE REGIONAL REPRESENTATIVE OF THE DEPARTMENT OF WATER AFFAIRS MUST BE INFORMED IMMEDIATELY.</li> </ul>	ECO, MMC	AS REQUIRED
<b>STORMWATER</b>	<ul style="list-style-type: none"> <li>STORMWATER SHALL NOT BE ALLOWED TO FLOW THROUGH THE BATCHING AREA. CEMENT SEDIMENT SHALL BE REMOVED FROM TIME TO TIME AND DISPOSED OF IN A MANNER AS INSTRUCTED BY THE SITE ENGINEER.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>STORMWATER AT THE CONSTRUCTION CAMPS MUST BE MANAGED SO AS TO REDUCE POTENTIAL SILT LOADS IN STORMWATER RUN-OFF. MEASURES MUST BE IMPLEMENTED TO DISTRIBUTE STORM WATER AS EVENLY AS POSSIBLE TO AVOID POINT SOURCES OF EROSION.</li> </ul>	CE, CONTRACTOR, MMC	ONCE-OFF
<b>GEOLOGY</b>	<ul style="list-style-type: none"> <li>NO PERMANENT STRUCTURES TO BE CONSTRUCTED BELOW THE 1:100 YEAR FLOOD PLAIN.</li> <li>NO GRAVES TO BE PLANNED WITHIN THE MINIMUM SAFE DISTANCE AS IDENTIFIED IN GEOTECHNICAL REPORT.</li> </ul>	DEVELOPER, ELO, CONTRACTOR, MMC  DEVELOPER, TOWN PLANNER, MMC	CONTINUOUS  CONTINUOUS
<b>MANAGEMENT OF TOPSOIL</b>	<ul style="list-style-type: none"> <li>TOPSOIL SHALL BE STRIPPED FROM ALL AREAS THAT ARE TO BE UTILIZED DURING THE CONSTRUCTION PERIOD AND WHERE PERMANENT STRUCTURES AND ACCESS IS REQUIRED. THESE AREAS WILL INCLUDE COMPRISING THE PERMANENT WORKS, PIPELINE TRENCHES, STOCKPILES, ACCESS ROADS, CONSTRUCTION CAMPS AND LAYDOWN AREAS. TOPSOIL SHALL BE STRIPPED AFTER CLEARING OF WOODY VEGETATION AND BEFORE EXCAVATION OR CONSTRUCTION COMMENCES.</li> <li>TOPSOIL SHALL BE DEEMED TO BE THE TOP LAYER OF SOIL CONTAINING ORGANIC MATERIAL, NUTRIENTS AND PLANT AND GRASS SEED. FOR THIS REASONS IT IS AN EXTREMELY VALUABLE RESOURCE FOR THE REHABILITATION AND VEGETATION OF DISTURBED AREAS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>AT THE BEGINNING OF THE CONSTRUCTION PHASE, TOPSOIL REMOVED FOR VEGETATION CLEARANCE MUST BE STRIPPED TO A MINIMUM DEPTH OF 150 MM AND STOCKPILED ON THE DEMARCATED TOPSOIL STOCKPILE AREAS.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>HERBACEOUS VEGETATION, OVERLYING GRASS AND OTHER FINE ORGANIC MATTER SHALL NOT BE REMOVED FROM THE STRIPPED SOIL.</li> </ul>	CONTRACTOR, ELO	ONCE-OFF
	<ul style="list-style-type: none"> <li>TEMPORARY SOIL STOCKPILES SHOULD NOT BE HIGHER THAN 2 M (TO AVOID COMPACTION) AND THE SLOPES OF SOIL STOCKPILES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 1,5 M HORIZONTAL. STOCKPILES MUST NOT BE ALLOWED WITHIN THE FLOODLINE AREAS.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>NO VEHICLES SHALL BE ALLOWED ACCESS ONTO THE STOCKPILES AFTER THE TOPSOIL HAS BEEN PLACED.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>ONCE THE CONSTRUCTION ACTIVITIES HAVE TERMINATED, REHABILITATION OF ALL THE DISTURBED AND COMPACTED AREAS SHALL OCCUR BY RIPPING, TOPSOILING AND MULCHING THESE AREAS.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>RIPPING SHALL BE DONE TO A DEPTH OF 250 MM IN TWO DIRECTIONS AT RIGHT ANGLES. TOPSOIL SHALL BE PLACED IN THE SAME SOIL ZONE FROM WHICH IT HAD BEEN STRIPPED.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
<b>DESTRUCTION OF VEGETATION AND SENSITIVE AREAS ON THE SITE</b>	<ul style="list-style-type: none"> <li>NO DUMPING OF BUILDING RUBBLE IN THE SURROUNDING NATURAL AREAS SHOULD BE ALLOWED. IF IT IS REQUIRED TO STORE RUBBLE TEMPORARILY IT SHOULD BE DONE IN AN ALREADY DISTURBED AREA SUCH AS THE PLOUGHED FIELDS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>AREAS OF THE NATURAL VEGETATION THAT IS TO BE RETAINED MUST BE DEMARCATED AND CORDONED OFF DURING CONSTRUCTION, PREFERABLY USING A TEMPORARY FENCE.</li> <li>TREES ON NORTEHN BOUNDARY SHOULD BE KEPT AS PER THE GEOHYDROLOGICAL REPORT.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, INSPECT DAILY

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>NO FIRES MAY BE IGNITED WITH THE INTENT TO DESTROY THE FLORA ON SITE AND SURROUNDING PROPERTIES.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, INSPECT DAILY
	<ul style="list-style-type: none"> <li>THE USE OF INDIGENOUS VEGETATION SHOULD BE OPTIMISED IN AND DURING THE LANDSCAPED AREAS AND COMMUNAL OPEN SPACES.</li> </ul>	LM, LANDSCAPE CONTRACTOR, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>TO ELIMINATE VEGETATION DESTRUCTION, THE MAIN CONSTRUCTION CAMP IF REQUIRED MUST BE PLACED IN AN AREA THAT IS ALREADY DISTURBED. NO INDIGINOUS VEGETATION MAY BE COLLECTED, OR USED AS FIREWOOD.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR WEEKLY
	<ul style="list-style-type: none"> <li>LITTER ACCUMULATING ON THE SITE MUST BE STORED IN CLOSED CONTAINERS, COLLECTED AND DISPOSED OF AT AN APPROVED WASTE DISPOSAL FACILITY.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR WEEKLY
	<ul style="list-style-type: none"> <li>INSTRUCTIONS PROHIBITING UNAUTHORISED ACCESS OF PEOPLE AND PARTICULARLY VEHICLES OF ANY KIND INTO AREAS DEEMED SENSITIVE MUST BE POSTED.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR CONTINUOUSLY
	<ul style="list-style-type: none"> <li>DISTURBED AREAS, WHICH, ARE TO REMAIN FREE OF INFRASTRUCTURE SHOULD BE REHABILITATED TO A STATE COMPARABLE TO THE SURROUNDING VEGETATION.</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF, MONITOR CONTINUOUSLY
	<ul style="list-style-type: none"> <li>CONSTRUCTION STAFF SHOULD BE EDUCATED AS TO THE NEED TO REFRAIN FROM DESTRUCTION OF ANIMALS AND PLANTS, AS WELL AS FROM INDISCRIMINATE DEFECATION, WASTE DISPOSAL AND/OR POLLUTION OF LOCAL SOIL AND WATER RESOURCES.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
<b>IMPACT ON ANIMAL LIVE</b>	<ul style="list-style-type: none"> <li>ALL ACTIVITIES ON SITE MUST COMPLY WITH THE REGULATIONS OF THE ANIMAL PROTECTION ACT, 1962 (ACT NO.71 OF 1962).</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>UNDER NO CIRCUMSTANCES SHALL ANY ANIMALS (WILDLIFE AND DOMESTIC ANIMALS) BE HANDLED, REMOVED, KILLED OR INTERFERED WITH BY THE CONTRACTOR, HIS EMPLOYEES, HIS SUB-CONTRACTORS OR HIS SUB-CONTRACTORS' EMPLOYEES.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>SHOULD ANY FOSSORIAL (BURROWING) SPECIES (ESPECIALLY INSECTIVORES OR SNAKES) BE KILLED AND RECOVERED DURING THE CONSTRUCTION PHASE, THESE SHOULD BE ADEQUATELY PRESERVED AS VOUCHER SPECIMENS. THESE SPECIMENS MAY CONTRIBUTE TOWARDS BIOGEOGRAPHY PATTERNS AND ANIMAL SYSTEMATICS.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>IF ANY RED DATA SPECIES IS FOUND DURING THE CONSTRUCTION PHASE, THIS SPECIES MUST BE RELOCATED TO THE NEAREST CONSERVATION AREA OF NATURAL OPEN SPACE WITH SUITABLE HABITAT FOR THE PARTICULAR SPECIES TO CONTINUE ITS LIFE HISTORY.</li> </ul>	CONTRACTOR, ELO, ECO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>DURING CONSTRUCTION, ALLOWANCE SHOULD BE MADE FOR THE FREE MOVEMENT OF ALL NATURAL BIOTA THROUGH UNNATURAL BARRIERS, SUCH AS FENCES, WALLS AND STORMWATER MANAGEMENT FEATURES.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>SHOULD SURFACE WATER IN THE SURROUNDING AREA BE POLLUTED, AND FAUNA AND INDIGENOUS FLORA SHOW SIGNS OF DETERIORATION OR DEATH, SPECIALIST HYDROLOGICAL OR ECOLOGICAL ADVICE MUST BE SOUGHT FOR THE APPROPRIATE TREATMENT AND REMEDIAL PROCEDURES TO BE FOLLOWED. THE REQUIREMENTS FOR SUCH INPUT SHALL BE AGREED WITH THE ENGINEER. IF LIABILITY IS FOUND TO REST WITH THE CONTRACTOR, THE COSTS OF CONTAINMENT AND REHABILITATION SHALL BE ON THE CONTRACTOR'S ACCOUNT, INCLUDING THE COSTS OF SPECIALIST INPUT.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>CONSTRUCTION STAFF SHOULD BE EDUCATED AS TO THE NEED TO REFRAIN FROM DESTRUCTION OF ANIMALS AND PLANTS, AS WELL AS FROM INDISCRIMINATE DEFECATION, WASTE DISPOSAL AND/OR POLLUTION OF LOCAL SOIL AND WATER RESOURCES.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
<b>DESTRUCTION OF HERITAGE RESOURCES</b>	<ul style="list-style-type: none"> <li>CONSTRUCTION PERSONNEL MUST BE ALERT AND MUST INFORM THE LOCAL MUNICIPALITY AND SAHRA SHOULD THEY COME ACROSS ANY FINDINGS</li> </ul>	CONTRACTOR, ELO	AS REQUIRED
	<ul style="list-style-type: none"> <li>SHOULD ANY ARCHAEOLOGICAL ARTEFACTS BE EXPOSED DURING EXCAVATION, WORK ON THE AREA WHERE THE ARTEFACTS WERE FOUND, SHALL CEASE IMMEDIATELY AND THE ECO SHALL BE NOTIFIED AS SOON AS POSSIBLE. UPON RECEIPT OF SUCH NOTIFICATION, THE ECO WILL ARRANGE FOR THE EXCAVATION TO BE EXAMINED BY AN ARCHAEOLOGIST AS SOON AS POSSIBLE.</li> </ul>	CONTRACTOR, ELO	MONITOR DAILY
	<ul style="list-style-type: none"> <li>UNDER NO CIRCUMSTANCES SHALL ARCHAEOLOGICAL ARTEFACTS BE REMOVED, DESTROYED OR INTERFERED.</li> </ul>	CONTRACTOR, ELO	CONTINUOUS

<b>ACTIVITY/ISSUE</b>	<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>FREQUENCY OF ACTION</b>
	<ul style="list-style-type: none"> <li>ANY ARCHAEOLOGICAL SITES EXPOSED DURING CONSTRUCTION ACTIVITIES MAY NOT BE DISTURBED PRIOR TO AUTHORISATION BY THE SOUTH AFRICAN HERITAGE RESOURCES AGENCY.</li> </ul>	CONTRACTOR, ECO	AS REQUIRED
<b>TRAFFIC IMPACT</b>	<ul style="list-style-type: none"> <li>VEHICULAR MOVEMENT BEYOND THE PROPERTY BOUNDARIES SHOULD BE LIMITED DURING PEAK HOUR. ACCESS TO THE SITE MUST FOLLOW CURRENT AND ESTABLISHED ROUTES.</li> </ul>	DEVELOPER, CONTRACTOR, MMC	DAILY
<b>CRIME SAFETY AND SECURITY</b>	<ul style="list-style-type: none"> <li>IN CASE WHERE BLASTING IS REQUIRED, AN AUTHORISATION MUST BE OBTAINED FROM THE DEPARTMENT OF MINERAL &amp; ENERGY AFFAIRS. FULL PRECAUTIONS SHOULD BE TAKEN TO AVOID MISSILE DAMAGE TO SURROUNDING BUILDINGS AND/OR INFRASTRUCTURE SHOULD BLASTING BE REQUIRED.</li> </ul>	CONTRACTOR, ECO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>DO NOT ALLOW THE MOVEMENT OF PUBLIC WITHIN THE DEVELOPMENT SITE BY POSTING NOTICES AT THE ENTRANCE GATES AND PERIMETER FENCING/WALLS. LIMIT ACCESS TO THE CONSTRUCTION CREW CAMP ONLY TO THE WORKFORCE. SIGNS OR HAZARD TAPE MUST BE PLACED IN AND AROUND AREAS WHERE EXCAVATIONS ARE IN PROGRESS.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>NO RUBBLE OR DISCARDED BUILDING MATERIALS MUST REMAIN ON THE CONSTRUCTION SITE FOR MORE THAN TWO WEEKS.</li> </ul>	CONTRACTOR, ELO, MMC	MONITOR DAILY



ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>THE IMPLEMENTATION OF ADEQUATE AND APPROPRIATE FENCING AND/OR BARRIERS BETWEEN THE SITE AND ADJOINING PROPERTIES AND DEVELOPMENTS MUST BE UNDERTAKEN, TO ENSURE SENSITIVITY TO ADJOINING RESIDENTS AND THEIR PROPERTIES, PARTICULARLY DURING CONSTRUCTION PHASES. THE FENCES, ONCE ERECTED HAVE TO BE CHECKED AND MAINTAINED. STAFF SHOULD BE INFORMED THAT ACCESS TO ADJACENT PROPERTIES IS STRICTLY OFF-LIMITS AND THAT IT WILL BE DEEMED A SERIOUS OFFENCE (I.E. NO FENCES SHOULD BE JUMPED AT ANY TIME AND NO GATES ARE TO BE OPENED WITHOUT PERMISSION FROM THE RELEVANT LANDOWNER). THE CONTRACTOR SHOULD ENSURE PROPER SUPERVISION OF EMPLOYEES AT ALL TIMES.</li> </ul>	DEVELOPER, CONTRACTOR, ELO, MMC	ONCE-OFF AND AS REQUIRED
	<ul style="list-style-type: none"> <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> </ul>	CONTRACTOR	DAILY
	<ul style="list-style-type: none"> <li>THE CONTRACTOR MUST SUPPLY HIS OWN SECURITY ARRANGEMENTS FOR THE CONSTRUCTION CAMP.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>ENSURE THE CONTACTS DETAILS OF THE POLICE OR SECURITY COMPANY AND AMBULANCE SERVICES ARE AVAILABLE ON THE SITE.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>ENSURE THAT THE HANDLING OF EQUIPMENTS AND MATERIALS IS SUPERVISED AND ADEQUATELY INSTRUCTED.</li> </ul>	CONTRACTOR, ELO	CONTINUOUS
	<ul style="list-style-type: none"> <li>THE CONTRACTOR SHOULD ENSURE THAT FIRE-FIGHTING EQUIPMENT IS AVAILABLE ON SITE, IN PARTICULAR WHERE FLAMMABLE SUBSTANCES ARE BEING STORED OR USED.</li> </ul>	CONTRACTOR	DAILY

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>ANY WELDING OR OTHER SOURCE OF HEATING OF MATERIALS SHOULD BE DONE IN A CONTROLLED ENVIRONMENT WHEREVER POSSIBLE AND UNDER SUPERVISION, IN SUCH A MANNER AS TO MINIMISE THE RISK FIRES AND/OR INJURY TO STAFF. FIRES STARTED FOR COMFORT (WARMTH) SHOULD BE ACTIVELY DISCOURAGED BY THE CONTRACTOR DUE TO THE RISK OF FIRES AND ASSOCIATED RISK TO ADJACENT PROPERTY OWNER'S LANDS.</li> </ul>	CONTRACTOR	DAILY
NOISE POLLUTION	<ul style="list-style-type: none"> <li>THE CONSTRUCTION CREW MUST ABIDE BY THE NATIONAL NOISE LAWS AND THE LOCAL BY-LAWS REGARDING NOISE.</li> </ul>	DEVELOPER, CONTRACTOR, ELO	DAILY
	<ul style="list-style-type: none"> <li>WORKING ACTIVITIES DURING CONSTRUCTION MUST BE CONFINED TO THE FOLLOWING WORKING HOURS: <ul style="list-style-type: none"> <li>MONDAY TO SATURDAY, 07H00 TO 17H00;</li> <li>NO WORK ON SUNDAYS AND PUBLIC HOLIDAYS, UNLESS AN ARRANGEMENT IS MADE WITH THE ADJACENT LANDOWNERS.</li> </ul> </li> </ul>	DEVELOPER, CONTRACTOR, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>ANY BLASTING REQUIRED SHOULD OCCUR DURING NORMAL WORKING HOURS (8AM – 5PM), UNLESS APPROVED BY THE ENVIRONMENTAL SITE OFFICER IN CONSULTATION WITH NEARBY LANDOWNERS.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
ATMOSPHERIC POLLUTION	<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> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>POINTS OF INGRESS AND EGRESS ONTO PUBLIC ROADS MUST BE REGULARLY CLEANED FOR DUST AND MUD.</li> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <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 40 KM/H MUST BE ADHERED TO.</li> </ul>	CONTRACTOR, ELO, MMC	SPOT CHECKS:DAILY-WEEKLY, AS REQUIRED

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <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> </ul>	CONTRACTOR, ELO, MMC	DAILY
	<ul style="list-style-type: none"> <li>HEAVY SMOKE MAY NOT BE RELEASED INTO THE AIR. BURNING OF WASTE IS NOT PERMITTED.</li> </ul>	CONTRACTOR, ELO	DAILY
<b>VISUAL IMPACT</b>	<ul style="list-style-type: none"> <li>RUBBLE AND LITTER MUST BE REMOVED ON A WEEKLY BASIS AND BE DISPOSED OF AT A SUITABLY REGISTERED LANDFILL. ORGANISE CONSTRUCTION SITE – STOCKPILES, BUILDING MATERIALS, VEHICLES AND OFFICES.</li> </ul>	ELO, CONSTRUCTION CREW, MMC	WEEKLY
	<ul style="list-style-type: none"> <li>INDIGENOUS VEGETATION SHOULD BE USED IN THE LANDSCAPING OF THE PROPOSED CEMETERY.</li> </ul>	CONTRACTOR, LANDSCAPE CONTRACTOR	AS REQUIRED
	<ul style="list-style-type: none"> <li>AVOID SHINY METALS IN STRUCTURES. IF POSSIBLE SHINY METAL STRUCTURES SHOULD BE DARKENED OR SCREENED TO PREVENT GLARE. NIGHT TIME LIGHT SOURCES MUST BE DIRECTED AWAY FROM RESIDENTIAL AREAS.</li> </ul>	DEVELOPER, CONTRACTOR, ELO & MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>WATER SPRINKLING OF SOILS, ROADS ETC TO MITIGATE DUST POLLUTION AND THE VISUAL IMPACT IT CAN HAVE.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
<b>WASTE</b>	<ul style="list-style-type: none"> <li>THE CONSTRUCTION CREW MUST ADHERE TO ALL THE RELEVANT LAWS AND REGULATIONS APPLICABLE TO THE DISPOSAL OF CONSTRUCTION WASTE AND RUBBLE. THE CONTRACTOR SHALL PROVIDE A WASTE MANAGEMENT STRATEGY TO THE ECO AND THE ECO SHALL MONITOR THE IMPLEMENTATION THEREOF.</li> </ul>	CONTRACTOR, ECO, MMC	WEEKLY
	<ul style="list-style-type: none"> <li>RUBBLE MUST BE REMOVED FROM THE CONSTRUCTION SITE FREQUENTLY AND DISPOSED OF AT AN APPROVED DUMPING SITE AS APPROVED BY THE MUNICIPALITY.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
	<ul style="list-style-type: none"> <li>SUFFICIENT CONTAINERS MUST BE AVAILABLE ON THE CONSTRUCTION SITE TO HANDLE THE AMOUNT OF LITTER, WASTES, RUBBISH DEBRIS AND BUILDERS WASTES GENERATED ON THE SITE.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>CONTAINERS MUST BE EMPTIED FREQUENTLY TO AVOID RODENTS, INSECTS OR ANY OTHER ORGANISMS ACCUMULATING ON THE SITE AND BECOMING A HEALTH HAZARD TO ADJACENT PROPERTIES.</li> </ul>	CONSTRUCTION CREW, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>NO WASTES MUST REMAIN ON THE CONSTRUCTION SITE FOR MORE THAN TWO WEEKS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>MATERIAL TO BE USED, AS BACKFILL DURING A LATER BUILDING PHASE MUST BE COVERED WITH A LAYER OF SOIL TO PREVENT LITTER FROM FLYING AWAY AND UNHYGIENIC CONDITIONS DEVELOPING ON THE RUBBISH DUMPS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>ALL DOMESTIC WASTE GENERATED IN THE SITE CAMP SHOULD BE DISPOSED OF IN A PROPER MANNER OFF SITE (I.E. NO BURIAL ON SITE UNLESS A PERMITTED WASTE SITE IS IDENTIFIED AND CREATED). THE SITE SHOULD BE SERVICED BY PROPERLY MANAGED AND MAINTAINED TOILET FACILITIES. IN GENERAL, LITTERING, DISCARDING OR BURYING OF ANY MATERIALS SHOULD NOT BE ALLOWED ON SITE. REFUSE BINS MUST BE AVAILABLE ON THE SITE. PLACEMENT AND NUMBER WILL BE VERY IMPORTANT.</li> <li>ROADS ON SITES AND APPROACHES MUST BE REGULARLY SCRAPED AND MAINTAINED FREE OF DEPOSITS AND OTHER WASTE.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

<b>ACTIVITY/ISSUE</b>	<b>ACTION</b>	<b>RESPONSIBILITY</b>	<b>FREQUENCY OF ACTION</b>
<b>ADEQUACY OF WASTE DISPOSAL FACILITIES</b>	<ul style="list-style-type: none"> <li>ALL CONTRACTS WITH SUBCONTRACTORS SHOULD CONTAIN A CLAUSE TO THE EFFECT THAT THE DISPOSAL OF ALL CONSTRUCTION-GENERATED REFUSE / WASTE TO AN OFFICIALLY APPROVED DUMPING SITE IS THE RESPONSIBILITY OF THE SUBCONTRACTOR IN QUESTION AND THAT THE SUBCONTRACTORS ARE BOUND TO THE MANAGEMENT ACTIVITIES STIPULATED IN THIS EMP.</li> </ul>	DEVELOPER, SUB-CONTRACTORS, MMC	ONCE-OFF, MONITOR WEEKLY
	<ul style="list-style-type: none"> <li>ALL SOLID AND CHEMICAL WASTES THAT ARE GENERATED MUST BE REMOVED AND DISPOSED OF AT A LICENSED WASTE DISPOSAL SITE.</li> </ul>	CONTRACTOR, ELO, MMC	WEEKLY
	<ul style="list-style-type: none"> <li>CHEMICAL CONTAINERS AND PACKAGING BROUGHT ONTO THE SITE MUST BE REMOVED FOR DISPOSAL AT A SUITABLE SITE.</li> </ul>	CONTRACTOR, ELO, MMC	AS REQUIRED
	<ul style="list-style-type: none"> <li>BURNING OF WASTE IS NOT ALLOWED.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
<b>ACCESS CONTROL</b>	<ul style="list-style-type: none"> <li>THE SITES SHOULD BE FENCED TO CONTROL ACCESS TO OTHERWISE DANGEROUS EXCAVATIONS AND MATERIALS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS
	<ul style="list-style-type: none"> <li>TRANSPORT ROUTES TO AND WITHIN THE SITE, AND OPERATIONAL/CONSTRUCTION AREAS SHOULD BE CLEARLY DEMARCATED PRIOR TO USE (E.G. USING RED AND WHITE BUNTING).</li> </ul>	CONTRACTOR, ELO, MMC	ONCE-OFF
	<ul style="list-style-type: none"> <li>ALL VEHICLES USED FOR TRANSPORTATION AND/OR CONSTRUCTION PURPOSES SHOULD REMAIN WITHIN THESE DEMARCATED ROUTES AND AREAS, I.E. VEHICLES SHOULD NOT BE ALLOWED TO DRIVE RANDOMLY ACROSS UNDISTURBED AREAS, BUT SHOULD STICK TO APPROVED ROUTES.</li> <li>THE PURPOSE OF THIS MEASURE IS TO A) LIMIT UNNECESSARY COMPACTION OF TOPSOIL, AND B) TO PREVENT DISTURBANCE OF ANIMALS AND PLANTS OUTSIDE OF CONSTRUCTION AREAS.</li> </ul>	CONTRACTOR, ELO, MMC	CONTINUOUS

Table 3: Operational phase for the Proposed Cemetery

ACTIVITY/ISSUE	ACTION	RESPONSIBILITY	FREQUENCY OF ACTION
<b>SITE MANAGEMENT</b>	<ul style="list-style-type: none"> <li>A MITIGATION MONITORING COMMITTEE (MMC) SHOULD BE ESTABLISHED TO ENSURE THAT THE EMP IS IMPLEMENTED AND SOUND ENVIRONMENTAL MANAGEMENT OCCURS IN THE OPERATIONAL PHASE.</li> </ul>	MMC	ONCE-OFF, YEARLY AUDITS
<b>STORMWATER MANAGEMENT</b>	<ul style="list-style-type: none"> <li>CARE SHOULD BE TAKEN TO AVOID ANY ACCUMULATION OF SURFACE WATER.</li> </ul>	CE, MMC, LM	CONTINUOUS
<b>EROSION, SEDIMENTATION AND FLOODING</b>	<ul style="list-style-type: none"> <li>THE STORMWATER SYSTEM, ESPECIALLY THE DISCHARGE POINTS, MUST BE INSPECTED AND DAMAGED AREAS MUST BE REPAIRED IF REQUIRED.</li> </ul>	MMC	CONTINUOUS, MONITOR BI-ANNUALLY
	<ul style="list-style-type: none"> <li>LITTER BLOCKING STORMWATER SYSTEM MUST BE REMOVED.</li> </ul>	MMC	BI-WEEKLY
	<ul style="list-style-type: none"> <li>IF SOILS COMPACTION OCCURS – RIP COMPACTED AREAS TO IMPROVE INFILTRATION, REDUCE RUNOFF AND EASE OF LANDSCAPING. MAINTAIN PLANT COVER AND AVOID UNNECESSARY TRAFFICKING.</li> </ul>	MMC	CONTINUOUS, MONITOR BI-ANNUALLY
<b>WATER</b>	<ul style="list-style-type: none"> <li>A MONITORING BOREHOLE MUST BE DRILLED BEFORE ANY OPERATIONAL ACTIVITIES STRAT ON THE SITE. WATER FROM THIS BOREHOLE MUST BE TESTED BEFORE COMMNECMENT OF THE OPERATIONAL ACTICITIES. THIS MUST BE USED AS A BECHMARK FOR FUTURE TESTING (EVERY 6 MONTHS)</li> </ul>	CLIENT	BEFORE COMMENCEMENT OF OPERATIONAL PHASE AND THEN EVERY SIX MONTHS THEREAFTER.
	<ul style="list-style-type: none"> <li>INSPECT THE SITE FOR BURST, BLOCKED OR LEAKING WATER PIPES AND REPAIR AS REQUIRED.</li> </ul>	MMC	CONTINUOUS

	<ul style="list-style-type: none"> <li>IRRIGATION OF LAWNS MUST NOT TAKE PLACE DURING PERIODS OF HIGH EVAPORATION, IE: LOW HUMIDITY, HIGH TEMPERATURE OF HIGH WINDS. ALL IRRIGATION SHOULD PREFERABLY TAKE PLACE AFTER SUNSET TO ALLOW SUFFICIENT TIME FOR WATER TO SEEP INTO THE SOIL BEFORE THE SUN RISES AND ACCELERATES EVAPORATION.</li> </ul>	MMC	CONTINUOUS
<b>NOISE IMPACT</b>	<ul style="list-style-type: none"> <li>ALL ACTIVITIES ON THE SITE MUST ABIDE BY THE NATIONAL NOISE LAWS AND THE LOCAL NOISE BY-LAWS. NO LOUD MUSIC SHOULD BE ALLOWED ON SITE.</li> </ul>	MMC	CONTINUOUS
<b>WASTE MANAGEMENT</b>	<ul style="list-style-type: none"> <li>DISPOSAL OF ALL DOMESTIC WASTE MUST BE UNDERTAKEN BY THE LOCAL MUNICIPALITY. EXTERNAL DUSTBINS SHOULD BE CLEANED AT LEAST ONCE A WEEK.</li> </ul>	MMC, LM	WEEKLY
	<ul style="list-style-type: none"> <li>THE DEVELOPMENT SHOULD BE KEPT CLEAN THROUGH THE REMOVAL OF LITTER ON A DAILY BASIS. THIS SHOULD BE INCLUDED IN A MAINTENANCE PLAN FOR THE DEVELOPMENT.</li> </ul>	MMC	DAILY
	<ul style="list-style-type: none"> <li>ENSURE THAT THE GARBAGE IS COLLECTED ON A WEEKLY BASIS.</li> </ul>	MMC	WEEKLY
<b>VISUAL AND AESTHETIC</b>	<ul style="list-style-type: none"> <li>CEMETERY MUST BE MAINTAINED. THIS INCLUDES WATERING PLANTS, PRUNING TREES, CUTTING GRASS, COLLECTING LITTER, ETC.</li> </ul>	MMC	INSPECT MONTHLY
	<ul style="list-style-type: none"> <li>DISPOSAL OF ALL DOMESTIC WASTE MUST BE UNDERTAKEN BY THE LOCAL COUNCIL.</li> </ul>	LM, MMC	WEEKLY
	<ul style="list-style-type: none"> <li>LANDSCAPE AREAS ARE TO BE MAINTAINED AND WEEDED FREQUENTLY.</li> </ul>	MMC	WEEKLY – FORTNIGHT MAINTENANCE, DEPENDING ON THE SEASON.

<b>ROAD TRAFFIC</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> <li>ONLY THE APPROVED ACCESS ROAD MAY BE USED.</li> </ul>	MMC	CONTINUOUS
<b>VEGETATION AND ANIMAL LIVE</b>	<ul style="list-style-type: none"> <li>MONITORING OF THE DISTURBED AREAS MUST BE DONE TO INSPECT THE SUCCESSION PROCESS OF THE VEGETATION DURING THE OPERATIONAL PHASE. INDIGINOUS VEGETATION SHOULD BE USED DURING LANSCAPING AND REHABILITATION.</li> </ul>	MMC	CONTINUOUS
<b>PARKING AREA</b>	<ul style="list-style-type: none"> <li>PARKING AREA MUST BE GRAVELLED AT ALL TIMES</li> </ul>	MMC	CONTINUOUS



## **SECTION 8: CONCLUSIONS**

Provided this development is mitigated, as per the EMP, the project will result in limited negative environmental impacts.

This Environmental Management Plan should be used as an on-site reference document during all phases of this development, and auditing should take place in order to determine compliance with this EMP. Parties responsible for transgression of this EMP 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.

In order to have records of environmental incidences and the handling thereof, it is suggested that incidence logs (as supplied below) be filled in by the Environmental Control Officer or Environmental Liaison Officer. The MMC needs to be informed of such incidences and further actions need to be taken, should the need arise.

Non-compliance with the conditions set out in this EMP will be regarded as an offence and will consequently be dealt with in terms of Sections 29, and 30 of the Environment Conservation Act, 1989 (Act No.73 of 1989) and other appropriate legal mechanism.

Appendix 1: Incident Log Sheet

<b>ENVIRONMENTAL INCIDENT LOG</b>				
<b>DATE</b>	<b>ENVIRONMENTAL CONDITION</b>	<b>COMMENTS</b> (Include any possible explanations for current condition and possible responsible parties. Include photographs, records etc. if available)	<b>CORRECTIVE ACTION TAKEN</b> (Give details and attach documentation as far as possible)	<b>SIGNATURE</b>



