

ENVIRONMENTAL MANAGEMENT PROGRAMME

DEDEAT Ref. No: AM/A/2,3/L25/16

THINK GREEN RECYCLING FACILITY

Prepared for:

Think Green Recycling cc
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East London, 5206
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Prepared by:



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1 INTRODUCTION

Think Green Recycling cc is an operational recycling facility located at number 367 Philip Frame Road Chislehurst East London in the Buffalo City Metropolitan Municipality (Figure 1). The facility recycles paper, cardboard, industrial mixed waste, heavy letter, super mix and plastic. The site is situated in an industrial area surrounded by businesses including various manufacturers, wire industries and office spaces.



Figure 1: Google Earth aerial image of Think Green Recycling facility site

1.1 Objectives of the EMPr

The Environmental Management Programme (EMPr) has been compiled to provide recommendations and guidelines in order to minimise the environmental impacts during the operational phase of the recycling facility. The EMPr should be used for compliance monitoring during the operational phase.

This EMPr informs all relevant parties (the facility owner, manager and all other staff employed by Think Green Recycling at the site) as to their duties in the fulfilment of the legal requirements for the operation of the Think Green Recycling Facility with particular reference to the prevention and mitigation of anticipated potential environmental impacts.

The objectives of the EMPr are to:

- Ensure compliance with regulatory authority stipulations and guidelines which may be local, provincial, national and/or international;
- Ensure there is sufficient allocation of resources on the project budget so that the scale of EMPr-related activities is consistent with the significance of project impacts;
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels;
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project;
- Identify measures that could optimise beneficial impacts;

- Create management structures that address the concerns and complaints of I&APs with regards to the development;
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity;
- Ensure compliance with safety requirements.

1.2 Structure and function of an EMPr

An EMPr is focused on sound environmental management practices, which should be undertaken to minimise adverse impacts on the environment through the lifetime of a development. In addition, an EMPr identifies which measures will be in place or will be actioned to manage any incidents and emergencies that may occur during operation of the facility.

As such, the EMPr provides specifications that should be adhered to, in order to minimise adverse environmental impacts associated with the operation of the development.

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (a) Details of –
 - (i) The EAP who prepared the environmental management programme; and
 - (ii) The expertise of the EAP to prepare an environmental management programme, including a curriculum vitae;
- (b) A detailed description of the aspects of the activity that are covered by the draft environmental management programme as identified by the project description;
- (c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;
- (d) Information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of –
 - (i) Planning and design;
 - (ii) Pre-construction;
 - (iii) Construction activities;
 - (iv) Rehabilitation of the environment after construction and where applicable post closure; and
 - (v) where relevant, operation activities;
- (e) a description and identification of impact outcomes required for the aspects contemplated in (d).
- (f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable include actions to –
 - (i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
 - (ii) Comply with any prescribed environmental management standards or practices;
 - (iii) Comply with any applicable provisions of the Act regarding closure, where applicable;
 - (iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;
- (g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
- (h) The frequency of monitoring the implementation of the impact management actions contemplated in (f);
- (i) An indication of the persons who will be responsible for the implementation of the impact management actions;
- (j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
- (k) The mechanism for monitoring compliance with the impact management actions contemplated in

- paragraph (f);
- (l) A program for reporting on compliance, taking into account the requirement as prescribed by the regulations;
- (m) An environmental awareness plan describing the manner in which –
- (i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and
 - (ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment; and
- (n) Any specific information that may be required by the competent authority.

1.3 Legal requirements

The Applicant must identify and comply with all South African national and provincial environmental legislation, including associated regulations and all local by-laws relevant to the project. Key legislation currently applicable to the operation of the project must be complied with. The list of applicable legislation provided below is intended to serve as a guideline only and is not exhaustive:-

- The Constitution of the Republic of South Africa Act (No. 108 of 1996)
- National Environmental Management Act (No. 107 of 1998)
- National Environmental Management: Protected Areas Act (No. 57 of 2003)
- National Environmental Management: Biodiversity Act (No. 10 of 2004)
- National Water Act (No. 36 of 1998)
- Hazardous Substances Act (No. 15 of 1973)
- National Heritage Resources Act (No. 25 of 1999)
- National Environmental Management: Waste Management Act (No. 59 of 2008)
- Occupational Health and Safety Act (No. 85 of 1993)
- National Environmental Management: Air Quality Act (No. 39 of 2004)
- All relevant provincial legislation, municipal by-laws and ordinances.

2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT TEAM

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (a) Details of –
 - (i) The EAP who prepared the environmental management programme; and
 - (ii) The expertise of the EAP to prepare an environmental management programme, including a curriculum vitae;

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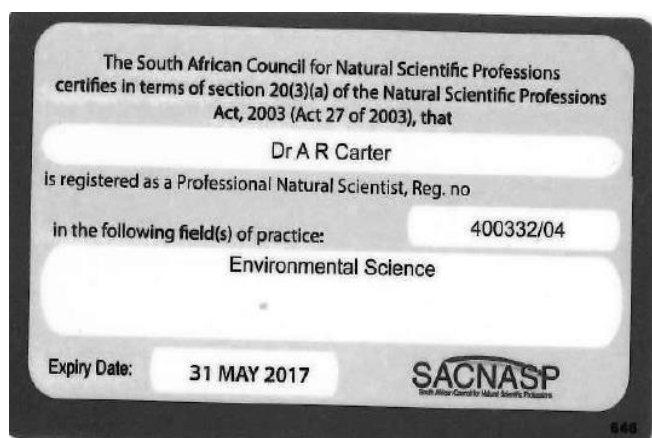
Project team:

- Dr Alan Carter
- Dr Cherie-Lynn Mack
- Ms Thina Mgweba

EOH Coastal & Environmental Services (EOH CES) was established in 1990 as a specialist environmental consulting company and has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Plans (EMPs), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes.

2.1 Dr Alan Carter

Alan is the Executive of the EOH CES East London Office. He holds a PhD in Marine Biology and is a certified Public Accountant, with extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He has 25 years' experience in environmental management and has specialist skills in sanitation, coastal environments and industrial waste. Dr Carter is registered as a Professional Natural Scientist under the South African Council for Natural Scientific Professions (SACNASP) and registered as an Environmental Assessment Practitioner under the Environmental Assessment Practitioners Association of South Africa (EAPSA).



2.2 Dr Cherie-Lynn Mack

Cherie-Lynn is a Principal Environmental Consultant, holds a PhD and MSc (with distinction) degrees in Environmental Biotechnology, with a BSc degree in Microbiology and Biochemistry. She has postgraduate research experience in industrial and domestic wastewater treatment technologies, with particular emphasis on the coal and platinum mining industries. Her interests lie in the water sector, with experience in ecological reserve determination and water quality monitoring and analysis. She has experience in water quality analysis and industrial wastewater treatment research.

2.3 Thina Mgweba

Thina holds a BSc degree in Economics and Environmental Science as well as a BSc Honours degree in Environmental Science both from Rhodes University. Her Honours dissertation investigated climate change resilience and adaptation in the coastal villages of Hamburg, Eastern Cape. Her professional interests include the development of climate change strategies, environmental economic analyses as well as social impact assessments.

3 PROPOSED ACTIVITY

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (b) A detailed description of the aspects of the activity that are covered by the draft environmental management programme as identified by the project description;
- (c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;

3.1 Description of proposed activity

Think Green Recycling cc is an operational recycling facility. The facility recycles paper, cardboard, industrial mixed waste, heavy letter, super mix and plastic.

THE PROCESS

1. Own Truck Collections

Cage trucks are used to collect waste from the smaller customers eg, Spars, shops, offices etc. The cage trucks are fully enclosed with shade cloth over the top of the cage to prevent anything blowing out. The cage trucks load the cardboard from the different customers and transport it to the processing plant. Here it is offloaded and sorted. The plastic and other foreign material is separated from the cardboard. The cardboard is then thrown onto a conveyer belt which leads to the baling machine. The plastic is put into bags to be processed at a later stage. The rubbish is pushed to one side to be baled when there is sufficient material to bale.

2. Roll-on truck bin collection

Approximately sixty 31m³ bins are located at different customers around East London, Mdanstane and King William's Town. When a bin is full the customer will phone and a truck is sent to collect it. The driver puts a net over the full bin and places an empty one and picks up the full one and returns it to the processing plant. The net is then removed and the cardboard tipped out onto the floors. The same process as the cage trucks is then followed hereafter.

3. Customer vehicle Deliveries/Collections

Numerous agents/customers buy and collect cardboard all around BCMM. They use their own vehicles and bring the cardboard to the facility. Think Green then pays them for the cardboard.

Waste cardboard is purchased from these agents and the same sorting/baling process is followed as described.

- **Baling Process**

The cardboard that has been put on the conveyer belt falls down into the baling machine. Once the baling machine hopper is full the machine will move forward and push the cardboard into the chamber. When a bale is the correct length the machine will automatically tie the bale with wire. Once the bale is out of the machine it is picked-up with a forklift and taken to the designated loading area. When there are 42 bales the Sappi call centre is phoned and a truck is ordered. The forklift operator will load the truck when it arrives. The cardboard bales on the truck are then transported to Sappi Tugela Mill in Mondini, Kwa-Zulu Natal to be processed.

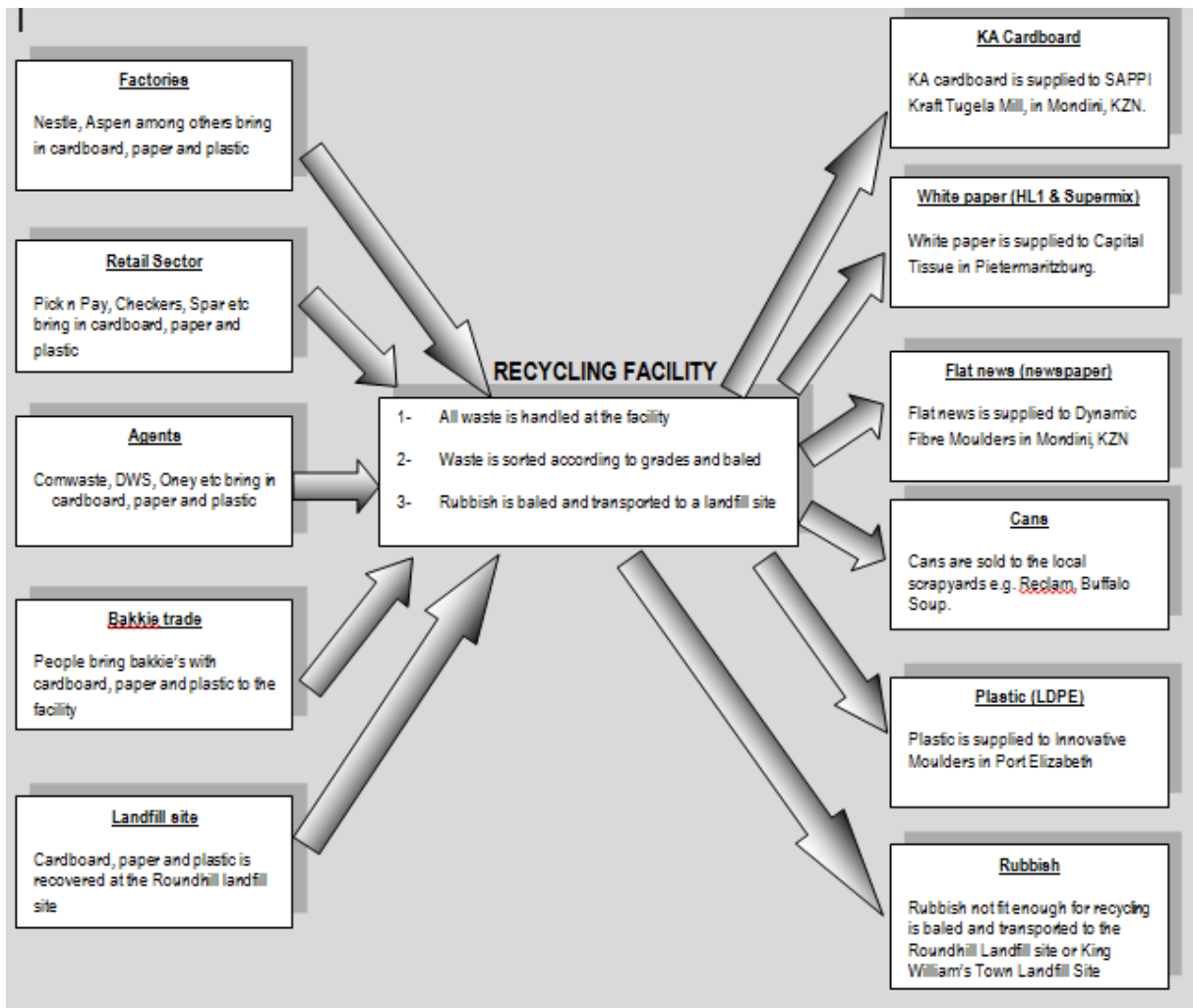
The same baling procedure applies to all the different grades of paper, i.e. cardboard, newsprint, industrial mixed waste, heavy letter 1 and supermix. The plastic process is the same except it is transported to Port Elizabeth.

- **Rubbish Process**

Once the cardboard has been sorted and the rubbish removed, the rubbish is thrown on side. Once there is enough for a bale it is placed on the conveyer belt and baled. The baled rubbish is then taken by forklift to the designated storage area. When there are 8 bales, it is loaded onto a truck and transported to the Roundhill landfill site or King William's Town landfill site for disposal.

Clients supplying recyclable materials

- Factories
- Retail Sector
- Households
- Printers
- Landfill sites
- Hawkers in town
- Rubbish removal companies (they sort out the recyclables first before taking the rubbish to the landfill sites).
- Malls etc. at Hemingways Mall and Mdanstane City.
- Offices – mainly white paper from their archives.
- Seaside resorts, e.g. Morgan Bay Hotel and Kobb Inn on the wild coast.



3.2 Site Location

The Facility is located at number 367 Philip Frame Road Chislehurst East London in the Buffalo City Metropolitan Municipality (Figure 3.1). The site is situated in an industrial area surrounded by businesses including blanket manufacturing, wire industries and office spaces.



Figure 3.1: Location of the Think Green Recycling Facility

4 SCOPE OF THE EMPr

In order to ensure a holistic approach to the management of environmental impacts during the operation of the Think Green Recycling Facility, this EMPr sets out the methods by which proper environmental controls are to be implemented by the Applicant's Project Manager as well as all other parties involved.

The EMPr is a dynamic document subject to influences and changes as are wrought by variations to the provisions of the project specification.

4.1 Layout of the EMPr

This EMPr consists of the operation and decommissioning phases of the development because the facility is already operational. Each phase has specific issues unique to that period of the operation and decommissioning of the Recycling Facility. The impacts are identified and given a brief description. The phases of the development are identified as below:

4.1.1 Operational and maintenance phase

This section of the EMPr provides management principles for the operation and maintenance phase of the project. Environmental actions, procedures and responsibilities as required during the operation and maintenance phase are specified.

4.1.2 Decommissioning phase

This section of the EMPr provides management principles for the decommissioning phase of the project. Environmental actions, procedures and responsibilities as required during decommissioning phase are specified.

5 ROLES AND RESPONSIBILITIES

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (i) An indication of the persons who will be responsible for the implementation of the impact management actions;

5.1 Applicant

Think Green Recycling is the applicant and will therefore be the entity monitoring the implementation of the EMPr and compliance with the environmental authorisation. For the purposes of implementing the conditions contained herein, the Applicant's Project Manager will be the responsible person for ensuring that the provisions of the EMPr as well as the conditions of the Waste License are complied with during the operation period. The Project Manager's duties in this regard will include, inter alia, the following:

- Monitoring and verifying that the EMPr and Waste License are adhered to at all times and taking action if specifications are not followed.
- Monitoring and verifying that environmental impacts are kept to a minimum.
- Reviewing and approving operational method statements, where necessary, in order to ensure that the environmental specifications contained within this EMPr and Waste License are adhered to.
- Inspecting the site and surrounding areas on a regular basis regarding compliance with the EMPr and the Waste License.
- Monitoring operations and environmental awareness training for all new personnel on site.
- Ensuring that activities on site comply with all relevant environmental legislation.
- Undertaking a continual internal review of the EMPr and implementing any changes and/or submitting any changes to DEDEAT (in case of major changes) for review and approval.
- Checking that the required actions are/were undertaken to mitigate the impacts resulting from non-compliance.
- Keeping a record of all incidences of non-compliance.
- Ensure that all third parties who carry out all or part of the Applicant's obligations comply with the requirements of this EMPr;
- Ensure that the infrastructure is maintained and functional during the operational phase of the development.

The Project Manager must have:

- A good working knowledge of all relevant environmental policies, legislation, guidelines and standards;
- The ability to conduct inspections and audits and to produce thorough, readable and informative reports;
- The ability to manage public communication and complaints;
- The ability to think holistically about the structure, functioning and performance of environmental systems; and

The Project Manager must be fully conversant with this EMPr and the Waste License (if issued) and all relevant environmental legislation.

5.2 Site Labourers

The site labourers refer to appointed labourers involved in the day to day operations of site.

The labourers will have the following responsibilities:

- Be familiar with the contents of the EMP
- Comply with the Environmental Specifications contained in the EMP
- Notify the project manager immediately in the event of any accidental infringements of the environmental specifications and ensure appropriate remedial action is taken.
- Communicate and liaise frequently with the Project manager to ensure effective, proactive environmental management with overall objective of preventing or reducing negative environmental impacts.

6 MITIGATION AND/OR MANAGEMENT MEASURES

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (d) Information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of –
 - (i) Planning and design;
 - (ii) Pre-construction;
 - (iii) construction activities;
 - (iv) Rehabilitation of the environment after construction and where applicable post closure; and
 - (v) where relevant, operation activities;
- (e) a description and identification of impact outcomes required for the aspects contemplated in (d).
- (f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable include actions to –
 - (i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
 - (ii) Comply with any prescribed environmental management standards or practices;
 - (iii) Comply with any applicable provisions of the Act regarding closure, where applicable;
 - (iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;

A number of potential impacts are associated with the operation and decommissioning phases of this project. This section focuses on the mitigation measures associated with the each phase in order to reduce negative impacts.

Table 1: Mitigation measures associated with the operation phase

Theme	Mitigation
Legislation & policy compliance.	<ul style="list-style-type: none"> • The facility must adhere to all relevant legislation and/or policies. The facility must obtain a waste licence in terms of NEM: WA and implement and adhere to all conditions therein.
Stormwater Management	<ul style="list-style-type: none"> • Storm water drainage must be kept open and clear of litter and other debris.
Waste storage and disposal	<ul style="list-style-type: none"> • A waste management plan must be implemented to ensure appropriate handling, collection, processing and disposal of solid waste.
On Site Fire	<ul style="list-style-type: none"> • Open fires must be prohibited onsite. • Any source of fire hazards must be removed. • Personnel must be educated regarding fire and fire management. • Fire extinguishers must be available onsite. • In order to reduce the risk of fires: • All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances. • Smoking must not be permitted on site. • No cooking must be permitted on site. • There must be operational fire-fighting equipment available on site at all times.

Table 2: Mitigation measures associated with the Decommissioning Phase

Issue	Mitigation
Site Contamination	<ul style="list-style-type: none">• Ensure that the equipment to be dismantled is emptied of potential contaminants, oil, fuel etc. before dismantling takes place.
Pollution	<ul style="list-style-type: none">• All waste onsite must be collected and disposed of at a licensed waste disposal facility.
Loss Of Recycling Opportunity	<ul style="list-style-type: none">• Paper and associated waste will be diverted to roundhill etc. No mitigation is possible by the proponent.

7 ENVIRONMENTAL MONITORING

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
- (h) The frequency of monitoring the implementation of the impact management actions contemplated in (f);

A monitoring programme should be implemented for the duration of the operation of the facility. This programme should include:

- Annual waste audits in line with the issued Waste License must be undertaken to ensure that good operational practices are being employed with respect to operation of the facility (e.g good housekeeping, appropriate storage of recyclable waste etc).
- All complaints/claims relating to the operation must be recorded
- Compilation of an audit report with a rating of compliance with the EMPr.
- Results of the audits should inform changes required to the specifications of the EMPr or additional specifications to deal with any environmental issues which arise on site and have not been dealt with in the current document.

8 COMPLIANCE WITH THE EMPr

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
- (k) The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);

A copy of the EMPr must be kept on site at all times during the operation period. The EMPr will be binding on the applicant project manager operating on the site.

It should be noted that in terms of the National Environmental Management Act (No. 107 of 1998) those responsible for environmental damage must pay the repair costs both to the environment and human health and the preventative measures to reduce or prevent further pollution and/or environmental damage (The 'polluter pays' principle).

8.1 Non-compliance and complaints

The Project managers must act immediately when notice of non-compliance is received from any government entity and corrective actions must be implemented. Complaints received regarding activities on the site pertaining to the environment must be recorded in a dedicated register and the response noted with the date and action taken.

The Applicant is deemed not to have complied with the EMPr if, *inter alia*:

- There is evidence of contravention of the EMPr specifications within the boundaries of the facility.
- There is contravention of the EMPr specifications which relate to activities outside the boundaries of the site.
- Environmental damage ensues due to negligence;
- Operation activities take place outside the defined boundaries of the site; and/or

8.2 Emergency preparedness

The Contractor must compile and maintain environmental emergency procedures to ensure that there will be an appropriate response to unexpected or accidental actions or incidents that will cause environmental impacts, throughout the operation period. Such activities may include, *inter alia*:

- Accidental discharges of polluting substances to water and land.
- Accidental exposure of employees to hazardous substances.
- Accidental fires.
- Accidental spillage of hazardous substances.
- Accidental toxic emissions into the air.
- Specific environmental and ecosystem effects from accidental releases or incidents.

These plans must include:

- Emergency organisation (manpower) and responsibilities, accountability and liability.
- A list of key personnel and contact details.
- Details of emergency services available (e.g. the fire department, spill clean-up services, etc.).
- Internal and external communication plans, including prescribed reporting procedures where required by legislation.
- Actions to be taken in the event of different types of emergencies.
- Incident recording, progress reporting and remediation measures required to be implemented.

- Information on hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.
- Training plans, testing exercises and schedules for effectiveness.

The project manager must comply with the emergency preparedness and incident and accident-reporting requirements, as required by the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), the NEMA, 1998 (Act No. 107 of 1998) and the National Water Act, 1998 (Act No. 36 of 1998) and/or any other relevant legislation.

8.3 Incident reporting and remedy

If a leakage or spillage of hazardous substances occurs on site, the local emergency services must be immediately notified of the incident. The following information must be provided:

- The location;
- The nature of the load;
- The extent of the impact; and
- The status at the site of the accident itself (i.e. whether further leakage is still taking place, whether the vehicle or the load is on fire).

Written records must be kept on the corrective and remedial measures decided upon and the progress achieved therewith over time. Such progress reporting is important for monitoring and auditing purposes.

8.4 Penalties

Where environmental damage is caused or a pollution incident, and/or failure to comply with any of the environmental specifications contained in the EMP, the developer will be liable.

9 REPORTING

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (l) A program for reporting on compliance, taking into account the requirement as prescribed by the regulations;

9.1 Good housekeeping

The Project Manager must undertake “good housekeeping” practices during operation. This will help avoid disputes on responsibility and allow for the smooth running of the facility as a whole. Good housekeeping includes the care for and preservation of the environment within which the operational activities occur.

9.2 Record keeping

The Applicant’s Project Manager will continuously monitor the adherence to the approved mitigation measures. The Applicant should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance will be documented and reported to the Applicant’s Project Manager in the annual report. These reports must be made available to DEDEAT when requested.

9.3 Document control

The Applicant’s Project Manager will be responsible for establishing a procedure for electronic document control. The document control procedure should comply with the following requirements:

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

The Applicant’s Project Manager must ensure that documents are periodically reviewed and revised, where necessary, and that current versions are available at all locations where operations essential to the functioning of the EMP are performed.

10 CLOSURE PLANNING

10.1 Final site restoration

The applicant must clear and restore the site and ensure that all residual waste material and equipment is removed from site once decommissioning has been completed.

10.2 Rehabilitation

The applicant will be responsible for the rehabilitation of all disturbed areas.

11 ENVIRONMENTAL AWARENESS

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (m) An environmental awareness plan describing the manner in which –
- (i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and
 - (ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment.

The Applicant must ensure that their employees and any third party that carries out all or part of the Contractor's obligations are adequately trained with regard to the implementation of the EMPr, as well as regarding environmental legal requirements and obligations.

Environment awareness training programmes should be targeted at three distinct levels of employment, i.e. project manager, supervisor and labour.

The appointed ECO must provide training and ensure that records of all training interventions are kept in accordance with the record keeping and documentation control requirements as set out in this EMPr.

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

- Environmental legal requirements and obligations.
- The importance of conformance with all environmental policies.
- The environmental impacts, actual or potential, of their work activities.
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures, including emergency preparedness and response requirements.
- The potential consequences of departure from specified operating procedures.
- The mitigation measures required to be implemented when carrying out their work activities.
- The importance of not littering.
- The importance of using supplied toilet facilities.
- The need to use water sparingly.
- Details of and encouragement to minimise the production of waste and re-use, recover and recycle waste where possible.

Recommended Environmental Education Material is provided in Appendix A

12 CONCLUSIONS

Although all foreseeable actions and potential mitigations or management actions are contained in this document, the EMPr should be seen as a day-to-day management document. The EMPr thus sets out the environmental and social standards, which would be required to minimise the negative impacts and maximise the positive benefits of the operation activities. The EMPr could thus change daily, and if managed correctly lead to a successful operation of the facility.

All attempts should be made to have this EMPr available, as part of any tender documentation, so that the Applicant's Project Manager and/or the Contractor are made aware of the potential cost and timing implications needed to fulfil the implementation of the EMPr, thus adequately costing for these.

APPENDIX A

PROPOSED ENVIRONMENTAL EDUCATION COURSE

WHAT IS THE ENVIRONMENT?

- Soil
- Water
- Plants
- People
- Animals
- Air we breathe
- Buildings, cars and houses

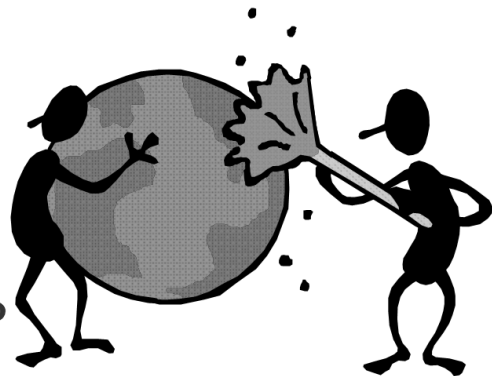


WHY MUST WE LOOK AFTER THE ENVIRONMENT?

- It affects us all as well as future generations
- We have a right to a healthy environment
- A contract has been signed
- Disciplinary action (e.g. construction could stop or fines issued)

HOW DO WE LOOK AFTER THE ENVIRONMENT?

- Report problems to your supervisor/ foreman
- Team work
- Follow the rules in the EMP



WORKING AREAS

Workers & equipment must stay inside the site boundaries at all times



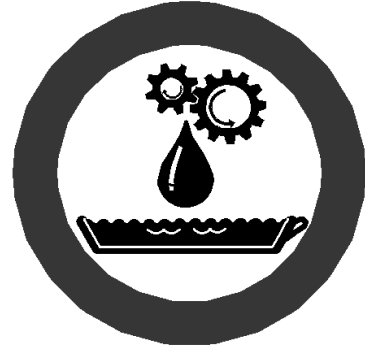
SMOKING AND FIRE

- Put cigarette butts in a rubbish bin
- Do not smoke near gas, paints or petrol
- Do not light any fires without permission
- Know the positions of fire fighting equipment
- Report all fires
- Do not burn rubbish or vegetation without permission



PETROL, OIL AND DIESEL

- Work with petrol, oil & diesel in marked areas
- Report any petrol, oil & diesel leaks or spills to your supervisor
- Use a drip tray under vehicles & machinery
- Empty drip trays after rain & throw away where instructed



DUST

Try to avoid producing dust -
Use water to make ground & soil wet



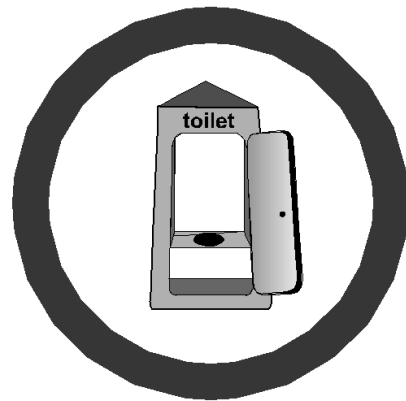
NOISE

- Do not make loud noises around the site, especially near schools and homes
- Report or repair noisy vehicles



TOILETS

- Use the toilets provided
- Report full or leaking toilets



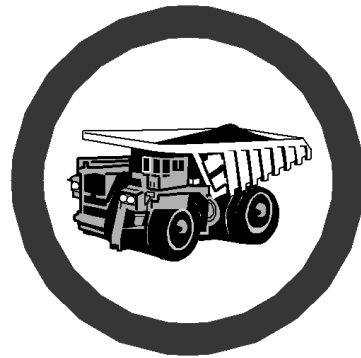
RUBBISH

- Do not litter – put all rubbish (especially cement bags) into the bins provided
- Report full bins to your supervisor
- The responsible person should empty bins regularly



TRUCKS AND DRIVING

- Always keep to the speed limit
- Drivers – check & report leaks and vehicles that belch smoke
- Ensure loads are secure & do not spill



EMERGENCY PHONE NUMBERS

Know all the emergency phone numbers:

- Ambulance:
- Fire:
- Police:
- Local Municipality:



PROBLEMS - WHAT TO DO!

- Report any breaks, floods, fires, leaks and injuries to your supervisor
- Ask questions!



