

ANNEXURE F: ENVIRONMENTAL MANAGEMENT SPECIFICATION
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ENVIRONMENTAL MANAGEMENT PLAN

(ANNXURE F)

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1. INTRODUCTION

1.1 Scope of EMP

This EMP establishes the environmental standards to be adhered to by all persons contracted during the construction phases of the project. It also serves as the general code of conduct for any contractor carrying out any work on the project.

2. ENVIRONMENTAL PROCEDURES

2.1 Roles and responsibilities

The general roles and responsibilities of various parties are outlined below.

The Developer: Kouga Local Municipality

The Kouga Local Municipality, as the developer of the project shall ultimately be responsible for the implementation of the EMP. The Kouga Local Municipality shall appoint a representative, the Responsible Person ("RP"), who shall:

- Ensure that the Contractor is duly informed of the EMP and associated responsibilities and implications of this EMP
- Monitor the Contractor's activities with regard to the requirements outlined in the EMP
- For the purpose of this project the "RP" can assume the responsibilities of the Environmental Control Officer (ECO,
- Act as a point of contact for local residents and community members,
- Ensure that the contractor remedy problems timeously and to the satisfaction of the authorities and
- Notify the authorities should problems arise which cannot be remedied effectively, or of any change in the developer or changes in project specification that could impact negatively on the environment.

The Contractor

The contractor will be responsible for:

- Ensuring all activities on the site are undertaken in accordance with the EMP
- Informing all employees and sub-contractors of their roles and responsibilities in terms of the EMP and
- Ensuring that all employees and sub-contractors comply with this EMP.

The Contractor has a duty to demonstrate respect and care for the environment in which they are operating. They will be responsible for the cost of rehabilitation, to the satisfaction of the ECO/ RP, of any environmental damage that may result from non-compliance with the EMP, environmental regulations and relevant legislation.

The Environmental Control Officer (“ECO”)

The Environmental Control Officer (“ECO”) shall for the purpose of this project be the same person as the “Responsible Person” as outlined above and shall have the following responsibilities:

- Receiving and reviewing the compliance certificates for submission to the DEDEA upon project completion.
- Undertaking the pre-construction inspection, which may result in recommendations for additional clean-up and rehabilitation measures and
- Undertaking a post-construction Final Audit Report to audit compliance to the conditions of the Record of Decision of DEDEA.
- Make the necessary amendments to the EMP during the construction project as and when required. Such changes should be clearly communicated to the appointed Contractor and DEDEA.

The Final Audit Report will be submitted to the KLM and The Contractor for comment prior to submission to DEDEA. Comments from the parties will be included in the audit report submitted to DEDEA.

2.2 EMP Procedure

The EMP implementation procedure is outlined below.

- The ECO shall undertake an initial site visit in conjunction with the appointed Contractor
- The contractor shall train his employees regarding the importance of the EMP
- The RP will undertake two-weekly site inspections to ensure that the EMP is being implemented and
- The ECO will undertake a final audit of the site on completion of the project and submit a Final Audit Report to DEDEA as per the conditions of the approval for the project.

2.3 Community Liaison, Environmental Training and Monitoring

Community Liaison

- A community liaison officer will be appointed,
- The CLO must be involved in all aspects of the construction planning and construction implementation,
- An information board with contact details of the CLO shall be erected at a central location,
- Contact details of the CLO shall be provided to DEDEA, and
- A community complaints record shall be maintained detailing complaints and issues raised by the community members and the way problems were resolved.

Environmental Training

- It is incumbent upon the contractor to convey the sentiments of the EMP to all personnel involved in the operations and the specific provisions of the EMP.

Monitoring

The monitoring programme to be implemented by the ECO is outlined below.

- Photographic monitoring of the construction shall be undertaken from logged (coordinate) points. The monitoring points shall be positioned along the access roads as well as at construction locations;
- Photographic monitoring shall be undertaken as follows:
 - Initial baseline photographs shall be taken prior to the commencement of construction;
 - Photographs should be taken before construction commences, during construction and after construction has been completed.

3. ENVIRONMENTAL SPECIFICATIONS

Note: Where the responsibility for a specific provision is the sole responsibility of a single party, e.g. ECO, this is indicated. Otherwise, it should be assumed that provisions outlined below are the responsibility of all parties.

3.1 Construction Site

Construction during summer months is to be restricted to normal working hours being 07:00 to 18:00 on weekdays and 07:00 to 13:00 on Saturdays. No construction is to take place on Sundays and public holidays. Construction during winter months will generally be dictated by daylight hours, which would be of a similar nature to those during summer months.

Deviation from the above normal working hours may be implemented upon agreement with all parties concerned and written communication outlining working hour variations with the DEDEA.

Contractor's Camp (Site Office)

- The Contractor's camp, office and storage facilities shall be located at positions that are acceptable to the RP
- The camp must be fenced as agreed by the RP
- The camp should be established away from the drainage channel to ensure that equipment is protected from flood events

Access

- No staff shall overnight on site with the exception of security staff
- No indiscriminate driving shall occur around access roads and construction areas or areas outside the boundary of the site
- The safety of other road users must be ensured at all times.
- The Contractor shall prevent public access to the construction site.
- Only site vehicles will be permitted within the demarcated construction site, as required to complete their specific tasks.
- Private vehicles shall be parked in a clearly marked area away from construction activities where they are stored at their own risk

Ablution Facilities

- Excretion and urination are prohibited other than at designated facilities
- The RP shall designate an area on the site for the erection for portable chemical toilets
- Toilets are to be provided for workers at a ratio of at least 1 toilet per 20 workers or as per specifications of the supplier
- The toilets shall be of neat construction and shall be provided with doors and locks and shall be secured to prevent them blowing over
- The Contractor shall supply adequate toilet paper at all toilets.
- Toilets shall be maintained and properly equipped and shall be serviced regularly by a reputable contractor and the contents shall be removed to a licensed disposal facility
- The Contractor shall ensure all the toilets are emptied before builder' or other holidays and that waste be stored and disposed of at an appropriate place or site
- The Contractor shall ensure that no spillage occurs where chemical toilets are cleaned and emptied
- Chemical toilets should be positioned so that the river channel is protected from spillage and accidents. The chemical toilets should also be positioned to ensure that they are not washed away during flood events.
- Service certificates must be filed to include in the Final Audit Report.

Eating / Break Areas

- The RP shall designate an area for staff and labourers to eat during breaks
- The RP shall designate an area for staff where food preparation must take place – if needed
- No cooking of food shall be permitted on site except in the designated area and
- Sufficient weather and vermin proof portable bins shall be provided.
- The Contractor shall provide water for drinking purposes and construction purposes until such time as it is available from the local municipal supply.

Labour

- Environmental education must be provided to all construction personnel before start of work

3.2 Materials handling

Delivery

- Sub-contractors and delivery drivers e.g. of concrete, sand etc. shall be informed of procedures and restrictions in terms of the EMP
- All loads shall be secured to prevent spillage during transport and
- The Contractors shall be responsible for clean up resulting from failure of sub-contractors to properly secure materials.
- Materials should not be dumped into the river channel.

Fuel Storage and Dispensing

- The contractor shall take all reasonable steps to prevent the pollution of soil and/or groundwater by fuels and oils as a result of his activities
- Generators and temporary fuel supply needed shall be placed on trays which rest on sand in order to minimise any petrochemical spillage and
- A concrete surface will be provided at the dispensing pump to prevent spills from getting into direct contact with the soil.
- No fuel storage or dispensing should take place along the river bank as the river channel must be protected from fuel spillage at all cost.

3.3 Waste Management

- No waste is to be buried on the site
- The contractor will be responsible for removing of pollutants from the site if their presence is the result of his employees, sub-contractors or activities.
- Refuse bins shall be of such a design that the refuse cannot be blown out and that animals are not attracted to the waste and spread it around.
- Refuse bins shall be water tight, wind-proof and scavenger-proof and shall be appropriately placed throughout the site.
- The Contractor shall provide labourers to clean up the construction site on a daily basis.
- Refuse bins should be positioned away from the river channel to ensure that this sensitive environment is protected from litter and uncontrolled waste spillage.

General Waste

- Sufficient weather and vermin proof portable bins shall be provided for the disposal of solid waste
- Bins shall be emptied regularly and the contents disposed of at a registered waste disposal facility.
- Proof of disposal shall be kept for auditing purposes
- Waste may not be burned on site.

Hazardous Waste

- Generators and fuel supply needed shall be placed on trays that rest on sand in order to minimise any petrochemical spillage. Contaminated sand and material shall be disposed of at a suitable registered waste disposal site
- Hazardous waste (e.g. used oils) shall be separated from general wastes, stored separately in appropriate containers and disposed of at a licensed hazardous waste disposal facility or certified recycling facility and
- Certificates of hazardous waste disposal shall be kept for auditing purposes.

Construction Waste

- Excess excavated material shall not be allowed to accumulate on site and
- All construction waste shall be disposed off at a registered waste disposal site.

3.4 Maintenance

- No routine maintenance of earth moving equipment and vehicles shall occur on site.

3.5 Fire Control

- No fires are permitted on site except in designated areas determined by the RP
- The contractor must supply proper fire places where fires can be made
- Smoking shall not be permitted in those areas that pose a fire hazard. Such areas include areas where vegetation is such that a fire may spread rapidly e.g. vegetation stockpiles and open veld
- A fire officer shall be appointed by the Contractor who shall be responsible for co-ordinating rapid, appropriate responses in the event of a fire and
- Sufficient fire-fighting equipment shall be maintained on site at all times.
- The Contractor shall ensure that all the necessary emergency telephone numbers are posted at conspicuous and relevant locations in the event of an emergency
- The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.

3.6 Vegetation

- All suitable indigenous vegetation, as identified by the ECO, shall be preserved and used in rehabilitation
- All exotic plant material will be removed and all construction areas will be cleared of alien vegetation and
- Disturbed soils around the construction sites should be sufficiently compacted and rehabilitated.

3.7 Wildlife

- No wildlife may be removed from the site or surrounding areas unless approved by the RP in conjunction with the appropriate permits obtainable from DEDEA and
- No hunting, killing, capturing or snaring of wildlife will occur on the site or the surroundings, the contractor shall assume responsibility in this regard for all his employees and sub-contractors.

3.8 Soils

- All topsoil removed will be stockpiled in demarcated areas (clearly marked) and shall be watered when necessary (depending on the length of time between removal and replacement of topsoil) in order to prevent drying and wind erosion
- Topsoil shall be placed such that it will not be washed away by storm water or rainfall or blown away by wind and
- Topsoil shall be replaced immediately after construction has been completed and should be anchored using indigenous grass and small shrubs.

3.9 Noise

- Noise levels shall be limited to less than 70 dB at the boundary of the site
- Construction shall only occur between the hours of 7:00 am and 6:00 pm, from Monday to Friday and 7:00 am and 13:00 pm on Saturdays
- The use of radios, television sets and other such equipment by workers shall be controlled and noise levels kept to a level that does not disturb the neighbouring residents and
- A complaints record will be kept to record any complaints lodged due to noise disturbance.

3.10 Construction activities

Excavation activities

- Excavation activities and clearing shall be restricted to areas of construction
- Excavated material shall be dumped in stockpiles in an area designated by the RP
- Disturbed soils around construction areas should be sufficiently compacted and planted with removed indigenous plant material to reduce the erosion potential and
- Excess excavated material shall not be allowed to accumulate on any site related to the development.

Concrete and Cement Batching

- The ECO shall designate an area where concrete batching is to take place
- Concrete and cement batching shall not be permitted outside this designated area, which must be clearly marked
- Cement mixers shall be placed on trays and no cement mixing will take place on the soil surface or easily penetrable layers (e.g. plastic) and
- Cement bags must be disposed of as waste to a licensed waste disposal facility.

Fuel and Chemical Management

- The Contractor shall ensure that fuels and chemicals (e.g. fuel, grease, oil, brake fluid, hydraulic fluid etc) are stored and handled so as to minimise the risk of spillage and that appropriate steps are taken to prevent the pollution in the event of a spill.
- All fuel, oil, chemicals etc. shall be confined to a specific and secured area within the construction site, in a way that does not pose a danger of pollution.
- These materials must be stored in a bunded area with adequate containment (at least 1,5 times the volume of fuel) for potential spills or leaks.
- The fuel dispenser shall be hung within the bunded area while not in use. Gas and fuel shall be stored in the same storage area.
- The Contractor shall stand any equipment that may leak and does not have to be transported regularly on watertight drip trays to catch pollutants. The drip trays shall be of a size that the equipment can be placed inside it.
- Drip trays shall be cleaned regularly and shall not be allowed to overflow.
- The Contractor shall ensure that rainwater does not run off areas containing cement, oil, diesel etc. and thus result in a pollution threat.

Dust

- The Contractor shall implement appropriate measures to minimise the generation of dust or wind blown sand as a result of his works, operations and activities to the satisfaction of the ECO
- Particular attention shall be paid to preventing dust generation during earth moving and stockpiling activities
- Removal of vegetation shall occur immediately prior to construction commencing
- Suitable measures shall be taken to control dust arising from stockpiles, bare surfaces and transportation of material

- Potential dust control measures include covering of stockpiles, dampening of surfaces on windy days (water sprays) and the use of straw shall be implemented and
- Vehicle speeds are to be limited to 40 km/hr
- The Contractor shall ensure that no materials escape from the transport vehicles by providing adequate covering to confine the material during transport.

Safety

This EMP is not a health and safety plan and it is the contractor's responsibility to implement a health and safety plan to the satisfaction of the authorities.

- Pedestrian access to all construction sites shall be restricted and
- The proper health and safety regulations will be applied to all subcontractors and staff

3.11 Rehabilitation

The aim of rehabilitation should be to replace constructed and exposed areas with topsoil and indigenous vegetation where practical. Stabilising seed mixtures of indigenous grasses should be used as quickly as possible to stabilize exposed areas and road verges. The river channel environment should remain clear of terrestrial vegetation and running water should be able to flow unobstructed within the channel environment.

3.12 Penalties

- Penalties can be instituted for non-compliance.
- Any damage caused to the environment during the construction process shall be made good to the satisfaction of the DEDEA.
- The penalty is over and above the cost of rectifying the problem and / or damage.
- Penalties will be enforced under the National Environmental Management Act (NEMA), which allows for prosecutions by both the State and private individuals.
- In the event of any dispute as to what constitutes environmental damage, the DEDEA's opinion will prevail.

4. POST CONSTRUCTION ENVIRONMENTAL AUDIT

A post-construction Environmental Audit Report shall be submitted to the DEDEA upon completion and rehabilitation of the construction site. Information referred to in the EMP shall be appended to the Environmental Audit Report including the following:

- Amendments to the EMP as compiled by the ECO/ RP during the construction process
- The quarterly compliance certificates compiled by the ECO/RP
- Community complaints record kept during the construction process
- Photographic record compiled by the ECO/RP
- Service certificates for ablution facilities
- Certificate of hazardous waste disposal
- Record of all environmental concerns such as fuel spillage, fires etc.