

SILONJANE FUEL SERVICE STATION

(Fuel Station, Bed & Breakfast, Car Wash, Shops, Mechanic Workshop)

1st DRAFT

ENVIROMENTAL MANAGMENET PLAN

Version 1.1

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1 Background

An Environmental Management Programme (EMP) describes mitigation measures in detail, and is prescriptive, identifying specific individuals or organisations responsible for undertaking specific tasks to ensure that impacts on the environment are minimised during construction and related activities.

It is an open and a living document of information gained during the Environmental Impact Assessment (EIA) Process, and from on-going monitoring of procedures on site which could lead to changes in the recommendations and specifications of this document.

This document is intended to guide and manage the operation of the new Silonjane Fuel Service Station Proposed Construction of Silonjane Fuel Service Station (5 x 23,000L tanks, and associated dispensers) and a Bed & Breakfast on Remainder of Erf 15838 Ndatshana, Nquthu Local Municipality, Umzinyathi District Municipality, KwaZulu-Natal. The commercial development will consist of Filling Station with convenience shops, 41 parking bays, Bed & Breakfast, access roads and associated infrastructure. The development site is 1,74 ha in extent.

2 LIST OF ACRONYMS USED

DEDTEA	: Department of Economic Development, Tourism and Environmental Affairs - KwaZulu-Natal Province.
DWA	: Department of Water Affairs – National (Pretoria)
ECA	: Environmental Conservation Act
ECO	: Environmental Control Officer
EMP	: Environmental Management Plan
EMPR	: Environmental Management Programme
GN	: Government Notice
IAAPs	: Interested and Affected Parties
LPG	: Liquid Petroleum Gas
MSDS	: Material Safety Data Sheets
NEMA	: National Environmental Management Act
NWA	: National Water Act
NEM	: WA: National Environmental Management: Waste Act
OHSA	: Occupational Health and Safety Act
WL	: Waste License

3 LIST OF TERMS USED

- **Contractor:** Persons/organisations contracted by the Developer to carry out parts of the work for the planned development.
- **Construction Phase:** The Construction Phase is the period of commencement of physical disturbance to the land,
- **Environment:** The surroundings within which humans live and that consist of:
 - a. the land, water and atmosphere of the earth;
 - b. micro-organisms, plant and animal life
 - c. any part or combination of (a) and (b) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.
- **Environmental Audit:** A systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client.
- **Environmental Control Officer:** A person appointed and paid for by the Developer to ensure compliance with Environmental Authorisation and conditions, Duty of Care, and all other requirements as deemed fit by the Authorities charged with implementing environmental legislation, and the EMP.
- **Hazardous substance:** A substance which can have a deleterious effect on the environment, as defined in the Regulations for Hazardous Biological Agents, 2001.

- **Inspector:** An official appointed and empowered to act in terms of section 31 of the National Environmental Management Act
- **Interested and Affected Parties (IAAP's):** Those individuals or organisations who have an interest in the proposed development or will be directly affected by the activities of the development, as identified in the environmental impact assessment process.
- **Incident:** An environmental incident as defined in section 48 of NEMA
- **Method Statement:** A method statement is a written submission by the Contractor to the Engineer in response to the specification or a request by the Engineer, setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, identified by the relevant specification or the Engineer when requesting a Method Statement. It contains sufficient detail to enable the Engineer to assess whether the Contractor's proposal is in accordance with the Specifications and/or will produce results in accordance with the Specifications.
- **Pollutant and Pollution:** a contaminant at a concentration high enough to endanger the environment or the human health.
- **Project:** Proposed Construction of Silonjane Fuel Service Station and a Bed & Breakfast on Remainder of Erf 15838 Ndatshana, Nquthu Local Municipality, Umzinyathi District Municipality, KwaZulu-Natal.
- **Risk:** Ability and/or potential to harm or cause damage in relation to known occurrence

4 OBJECTIVES OF THE EMP

Objectives of the EMP can be summarised in a list below:

- To outlines activities to be performed and their environmental impacts and determines migratory measures.
- Outlines frequencies, aspects and detail of reporting mechanism to be installed.
- Management of complaints and resolution mechanism
- Define relevant roles and responsibilities of partners
- Defines what and which documents must be available on site
- Defines what and by who must be measured and reported
- Provides yardstick to measure and ensure compliance
- Gives effect to Sustainable Development principles

5 LEGAL COMPLIANCE OF THE PROJECT

5.1 The Constitution (section 24 Bill of Rights)

Guarantees every person's right to an environment that is not detrimental to health. Further it enables measures such as legislation to be implemented.

5.2 National Environmental Management Act, 107 of 1998 (as amended)

Defines and specifies environmental management practices that contribute and implements section 24 of the Constitution. Section 28 (1) of NEMA places an obligation to the person/s to exercise Duty of Care when dealing with activities detrimental to the Environment and to take reasonable measures to avoid degradation. Failure to do so is a criminal offense.

5.3 KwaZulu-Natal Planning and Development Act No 5 of 1998

This act Deals with planning and related issues and is implemented by Local Municipalities. This act defines planning so as to achieve coherent and compatibility in land uses in the Municipal area concerned.

5.4 Conservation of Agricultural Resources Act, No 43 of 1983

This legislation deals with utilisation and conservation of agricultural land and activities that impact on agricultural resources. It regulates the unsustainable utilisation of Agricultural Natural Resources and changes in Agricultural lands which may lead to unsuitable land uses and/or loss of viability of Agricultural lands and resources.

5.5 National Heritage Resources Act, No. 25 of 1999

Regulates the management of National heritage as identified or found on site during construction of the project. It specifies relevant authorities and measures to be taken when such occurrences are unearthed on site.

5.6 National Water Act, No 36 of 1998

The National Water Act regulates the management of water resources by specifying measures to be taken to protecting and conserving them.

5.7 Occupational Health and Safety Act (OHSA), No 85 of 1993

The OHSA and its regulations regulate the workplace and machinery used in the construction industry. The act specifies legal appointments of e.g. Safety Officers and assigns responsibility to Health and Safety to relevant persons in the organisations.

5.8 Mines and Works Act, No. 27 of 1956

This act regulates working in confirmed areas and in hazardous areas. A construction site for this project is covered by this act.

6 DETAILED SCOPE OF EMP

6.1 Conditions of Contract / Roles and Responsibilities

The Developer and Contractor shall be responsible for ensuring compliance with the provisions contained in the EMP, and shall be held accountable in terms of the EMP.

6.2 Duties and powers of the Developer

The Developer has overall responsibility for compliance with the EMP as it is a fundamental component of the authorisation requirements for the project. This means that the Developer must:

- Ensure that the professional team and the Contractors are appropriately briefed and that their appointment includes environmental requirements as relevant.
- Ensure that he is kept fully informed of the performance of the project against the requirements of the EMP.
- Ensure that appropriate action is taken where consistent incidents of non-compliance are taking place.
- Ensure that any corrective action required by the authorities is implemented.

6.3 Duties and Powers of the Site Manager

The Site Manager is ultimately responsible for ensuring compliance with the Environmental Management Plan. The Site Manager:

- Maintains a register of complaints and queries by members of the public at the site office. This register is forwarded to the Environmental Control Officer on a bi-monthly basis.
- Enforces the EMP on site and Monitors compliance with the requirements of the EMP.
- Assesses the Contractor's environmental performance in consultation with the Environmental Control Officer.

6.4 Duties and Powers of the Environmental Control Officer

The Environmental Control Officer (ECO):

- Must be appointed by the Developer to visit the site from time to time once the first activities start on site.
- Undertake induction training and briefs the Site Manager and the Contractor about the requirements of the Environmental Management Plan.
- Advises the Site Manager about the interpretation, implementation and enforcement of the Environmental Specification and other related environmental matters.
- Advises and Attends site meetings, as necessary.

- Monitors the Contractor's compliance with the EMP by undertaking an environmental audit at the start of the construction phase, then monthly thereafter until all works on site have been completed, and then a close-out audit is to be undertaken.
- Reports on the performance of the project in terms of environmental compliance with the EMP to be submitted to the Site Manager, Local Municipality, DWAF and DEDTEA.
- Provides technical advice relating to environmental issues to the Site Manager.
- Acts as liaison with DEDTEA, and other environmental organisations or stakeholders as necessary.

6.5 Extent of the Contractor's Obligations

The Contractor is required to:

- Supply method statements and management plans for all activities requiring special attention as specified and/or requested by the Site Manager or Environmental Control Officer during the duration of the Contract.
- Be conversant with the requirements of the Environmental Management Plan.
- Brief staff about the requirements of the Environmental Management Plan.
- Comply with directives/instructions of the Environmental Control Officer in terms of this EMP.
- Ensure any sub-contractors/ suppliers who are utilised within the context of the contract comply with the environmental requirements of the EMP.
- Take full responsibility and be held responsible for non-compliance on their behalf.
- Bear the costs of any damages/ compensation resulting from non-adherence to the EMP or written site instructions.
- Ensure that the Site Manager is timeously informed of any foreseeable activities that will require input from the Environmental Control Officer.
- The Contractor will conduct all activities in a manner that minimises disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.

7 Project Description and Location

Proposed Construction of Silonjane Filling Station (5 x 23,000L tanks, and associated dispensers) and a Bed & Breakfast on Remainder of Erf 15838 Ndatshana, Nquthu Local Municipality, Umzinyathi District Municipality, KwaZulu-Natal. The proposed site is located along iswandlwana road/R68 and approximately 17km northwest of Nquthu CBD. The commercial development will consist of Petrol Station with convenience shops, 41 parking bays, Bed & Breakfast, access roads and associated infrastructure. The proposed development site is 1,74 ha. The site is zoned as residential.

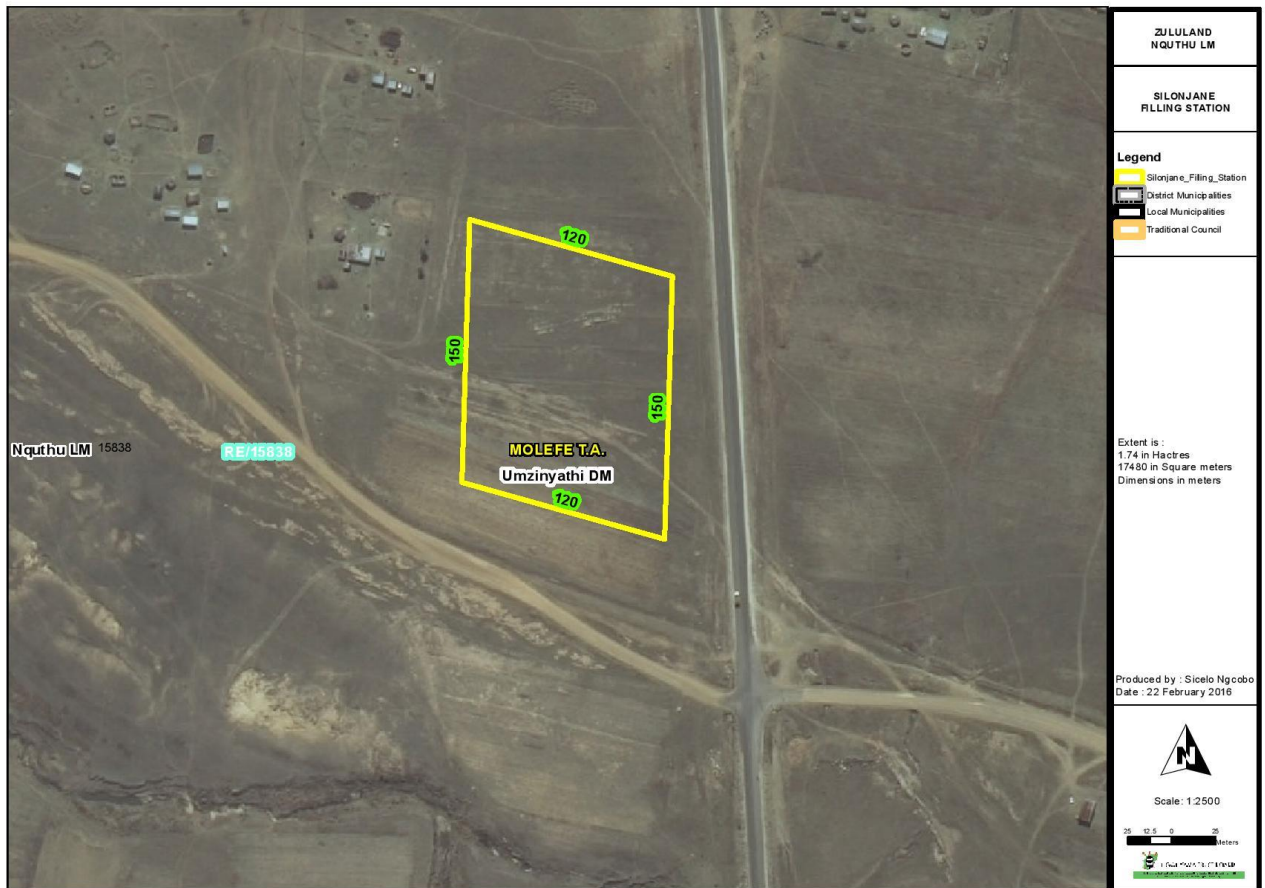


Figure 1: Map showing the proposed site for Silonjana Fuel Filling Station

8 PRE-CONSTRUCTION PHASE

Pre-Construction EMP activities are those relating to the preparation of the site prior to the start of the Construction Phase.

8.1 Access to the Site

This site must have strict access control to reduce the risks associated with vehicular transportation and pedestrian access on the site. The Contractor shall be made aware of this requirement by the Developer prior to construction commencing on site.

8.2 Preparation of Method Statements and/or Management Plans

Method Statements and/or Management Plans shall be submitted by the Contractor and shall be adhered to by the Contractor and Site Manager. These relate to water and storm water management requirements, traffic requirements, solid waste management requirements, fuel storage and filling and dispensing of fuel (diesel and petrol), hydrocarbon spills, contaminated water treatment, the storage of hazardous materials, standard emergency procedures, and biohazard control. The Environmental Control Officer shall monitor the implementation of the Statements and Management Plans. All copies of the statements and plans shall be submitted to the appointed Environmental Control Officer.

8.3 Permits required

The necessary permits shall be obtained by the Developer prior to the commencement of construction and sufficient time shall be allowed to obtain such permits, for activities such as:

- a. The sourcing of borrow material which if required, would constitute Mining Right Permits from the Department of Mineral and Energy.
- b. The disposal of effluent offsite.
- c. The management of storm water on site.
- d. Abstraction of water (ground or from a river), and for stream flow reduction activities, from the Department of Water Affairs.
- e. The relocation, removal or pruning of protected trees from the Department of Water Affairs.

8.4 Provision of Bulk Services

The Site Manager shall confirm that the existing services on site are sufficient for demands of operating plant, such as water and electricity.

Agreement will be required with Nquthu Local Municipality, Umzinyathi District Municipality or Eskom for these services.

8.5 Layout of Construction Camp

- a. The Site Manager shall in conjunction with the Contractor and Environmental Control Officer, identify the most suitable location for the Site Establishment Office/ Construction Camp.
- b. The choice of a site for the Construction Camp requires the Municipal Engineer's permission and must consider the location of local residents and or ecologically sensitive areas, including flood zones, drainage areas and slip/unstable zones.
- c. A site plan must be submitted to the Engineer for approval.
- d. The camp may not be located on a floodplain or on slopes greater than 1:3.
- e. Should the Contractor decide to locate the camp site on adjacent private land, he must get prior written permission from both the Engineer and the landowner.
- f. An onsite accommodation may not be required. However, this will need to be determined by the user concerned.
- g. The construction camp is usually comprised of:
 - a site office;
 - ablution facilities;
 - a designated first aid area;
 - eating areas;
 - staff lockers and showers (where waterborne sewers are available);
 - storage areas;
 - batching plant (if required);
 - refuelling areas (if required);
 - maintenance areas (if required).
- h. Further considerations for the construction of the camp include the avoidance of cut and fill wherever possible during the establishment of the construction camp.
- i. The size of the camp should be kept to a minimum (especially where natural vegetation or grassland has to be cleared for its construction).
- j. Parking for staff and visitors needs to be adequately provided. The Contractor must also ensure that drainage on the camp site is such to prevent standing water and/or sheet erosion from taking place.

8.6 Storm Water Management

- a. On-site storm water controls shall be implemented prior to the start of construction. A Storm Water Management Plan needs to be submitted by the Contractor and approved by the Site Manager. The increase in storm water run-off resulting from construction activities must be estimated and the drainage system assessed accordingly to prevent storm water damage.
- b. It is important that the attenuation and/or retention ponds be aligned with future artificial wetlands that have been proposed for collecting runoff from the site prior to it entering the water course.

8.7 Soil Management

- a. The Contractor should ensure that wind screening and storm water management controls should be undertaken to prevent soil loss during site establishment. This will involve erection of shade cloth fencing around the site perimeter, where considered necessary by the Site Manager.
- b. The time that stripped areas are exposed should be minimised wherever possible. Care should be taken to ensure that lead times are not excessive.
- c. Procedures that are in place to conserve topsoil during the construction phase are to be applied during the site establishment phase, i.e. topsoil is to be conserved while providing access to the site and setting up the camp.
- d. Prior to Site establishment the Contractor shall strip and stockpile all soil within the works area for possible subsequent use. Stockpiled soil should not be in excess of 2 m in height, and should be protected from wind and rain with the use of tarpaulins where necessary.

8.8 Conservation of Natural Resources

The conservation of natural resources is applicable to areas outside the perimeter of the property and governs the behaviour of contractors and employees.

- a. No natural vegetation may be cleared during the site establishment without the prior permission of the Department of Economic Development, Tourism and Environmental Affairs after a motivation from the ECO.
- b. Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas.

8.9 Cultural Heritage Environment

- a. The archaeological component and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage practitioner to assist in the provision of recommendations and mitigation procedures.
- b. Any archaeological or historical assets found prior and during constructing must be protected and Amafa AkwaZulu-Natal be notified of such findings. No construction shall continue at such area.

8.10 Security Fencing

- a. During site establishment the site should be secured if necessary to minimize the opportunity for criminal activity in the locality of the site. The site should be fenced and manned on a 24-hour basis.

8.11 Lighting On-site

- a. Adequate but intrusive light must be provided on site; such light must be minimised to the intended use only.
- b. The light must not pollute aesthetically and/or interfere with surrounding environment and users.

8.12 Noise Impacts

- a. All Construction vehicles must be in good working condition. Any unfit or badly maintained vehicles must be removed from site for repairs.
- b. Construction vehicles must whenever possible be fitted with silencers to minimise noise levels during construction.

8.13 Designated Working Hours

- a. In line with Department of Labour's requirements, operational hours shall be as follows.

Day	Start Time	Finish Time	Hours per Day
Weekdays (Monday to Friday)	07h00	17h00	10
Saturdays	08h00	16h00	8
Sundays and Public Holidays	08h00	14h00	6

- b. Any deviations from the above must be approved in writing by the Department of Economic Development, Tourism and Environmental Affairs or Nquthu Local Municipality.

8.14 Environmental Awareness & Induction

- a. The Contractor shall ensure that the construction team and all sub-contractor/s are familiar with the EMP requirements and have a basic level of environmental awareness training.
- b. The Environmental Control Officer shall undertake environmental awareness induction training prior to the start of construction activities on site.
- c. Topics to be covered by the Induction should include:
 - Explanation of what is meant by "environment" and why the environment needs to be protected and conserved.
 - How construction activities can impact on the environment, and what measures can be taken to militate against these impacts.
 - Awareness of emergency and hazardous spills response provisions.
 - Prevention of pollution and litter control and the minimization of disturbance to sensitive areas.
 - Social responsibility during construction. This entails being considerate to local residents.
 - Construction Workers need to be made aware that they are not to make excessive noise (e.g. shouting/hooting) as the site borders the residential properties.
 - The need for a "clean site" policy also needs to be conveyed to construction workers.
 - Worker conduct on site which encompasses a general regard for the social and ecological wellbeing of the site and adjacent areas.
 - Workers need to be made aware of the following general rules of behaviour.

- No alcohol/drugs to be present on site and no firearms permitted on site or in vehicles transporting staff to /from site, (unless used by security personnel).
- Prevention of noise and unsocial behaviour.
- Bringing pets on site is forbidden, and no harvesting of firewood from the site or for areas adjacent to it.
- Workers are to make use of facilities provided for them, as opposed to ad-hoc alternatives (e.g. the use of surrounding bush as a toilet facility is forbidden; fires for cooking).
- Driving under the influence of alcohol is prohibited.
- Trespassing on private/commercial properties bordering the site is forbidden.
- Other than pre-approved security staff, no workers shall be permitted to live on site unless deemed necessary due to the specific project.

9 CONSTRUCTION PHASE

The construction phase covers all activities during construction. There may be overlaps between pre-construction and construction phases. The overlaps may not be used as an excuse for non-compliance with either portion of the EMP.

9.1 Access to the Site

- a. All access to the property must be properly controlled 24 hours a day.
- b. No unauthorised access must be granted to vehicles or persons.
- c. A register of persons and vehicles accessing the site must be maintained and produced on request.
- d. Access roads must be maintained in good conditions.
- e. Vehicle movements must be controlled to avoid congestion, dust generation and road hazards.

9.2 The Construction Camp

- a. The proposed site will act as the Contractors Camp.
- b. All employees and contractors must adhere to camp rules.
- c. Proper ablution chemical toilets must be available and properly serviced on site as per Public Health requirements. Ration of 1 toilet per 16 employees must be the minimum ration applied. The construction of "long drop" toilets is forbidden. Under no circumstances may the neighbouring open areas be used instead of toilets.
- d. Waste must be handled using proper receptors, with bin liners, and cleaned regularly. Waste separation for recycling must be enforced on site using colour coding and clear markings on bins.
- e. Waste receptors must be cleared and waste disposed-off on a licensed waste disposal facility. Records/certificates of such disposal must be produced on request by authorities.

9.3 Visual Impacts

- a. All physical structures must, at least mirror colours of the natural environment as far as possible.
- b. Screening cloths away from the public must be installed to mitigate any intrusive structures.
- c. Lights must shine away from the road, residential areas to avoid light pollution from the site.
- d. Reflective materials must be avoided whenever possible.

9.4 Waste Management

- a. Waste generated on the site shall be handled appropriately using appropriate receptacles, bin liners, and skips.

- b. Regular trips to the Nquthu Disposal Site must be made for general waste.
- c. All hazardous waste must be sent to a Hazardous Disposal Site. Hazardous wastes include but not limited to fluorescent tubes, oil contaminated material, paints, etc.
- d. Records of waste generated must be kept and be produced on request.
- e. Recycling of waste must be encouraged on site.
- f. Littering is prohibited on-site and off-site.
- g. Burning and burying of waste is prohibited.
- h. No servicing of vehicles is permitted on site.

9.5 Water Quality Management

- a. The proximity of, and the distances to all surface water bodies in the vicinity shall be established.
- b. A borehole and spring census shall be carried out within a one kilometre radius of the site.
- c. The yield of each borehole, their logs and water quality must be supplied.
- d. The geohydrology of the proposed site must be assessed by surface mapping, accessing existing information and Geohydrological maps of the area, together with appropriate subsurface investigative measures.
- e. Where appropriate geophysics must be carried out across the site to assist in the identification of faults or to establish if any other geological anomalies exists beneath the proposed site.
- f. The latter boreholes shall be utilised for ground water monitoring.
- g. No polluted water or grey water shall be disposed-off to the natural environment. All contaminated water and effluent shall be disposed-off at the Municipal Sewer System.
- h. The contractor shall ensure that no water contamination occur and that strict measures are instituted when such pollution occur.
- i. Polluted water must not come into contact with clean water.
- j. Polluted water must not be flushed down the drains.
- k. The Environmental Control Officer will be responsible for reporting the storage/use of any other potentially harmful materials to the relevant authority.

9.6 Air Pollution – Dust Prevention

- a. All reasonable measures must be taken to ensure that dust generation is minimised.
- b. Dust suppression by regular water spraying shall be done.
- c. A 20km/hr. speed limit must be enforced to all vehicles entering the site.
- d. Shade cloths properly fastened shall be used to prevent dust escaping the property.
- e. No fires are to be permitted on site except for the burning of firebreaks.

9.7 Noise Pollution

- a. All construction vehicles must be in good working conditions.
- b. Noise reducing instruments such as silencers and side flaps must be installed on construction vehicles and machinery.
- c. Noisy activities such as blasting must occur during the day.

9.8 Hazardous Chemical Storage and/or Handling

- a. Hazardous substances are those that are potentially poisonous, flammable, carcinogenic, or toxic. Some examples are: diesel, petroleum, oil, bitumen, cement, solvent based paints, lubricants, explosives, drilling fluids, pesticides, herbicides, LPG.
- b. Storage of fuel, oils, or hazardous chemicals or substances is prohibited, unless in small daily used up quantities. Such storage is limited to fuels and oils used by heavy machinery or mobile tools which cannot readily move in and out of the site.
- c. Storage of limited hazardous substances must be clearly demarcated, bundled and installed with safety considerations, and installations approved by the Town Engineer or Fire Department.
- d. The bund must at least have a concrete plinth with a containment capacity 110% to the container being bundled.
- e. Spillages from containers shall be reported to ECO who in turn must report using the s30 incident form of the Department of Economic Development, Tourism and Environmental Affairs, and must immediately notify the said Department.
- f. Ensure that the mixing /decanting of all chemicals and hazardous materials should take place on tray or impermeable surface.
- g. All contaminated soils and materials must be removed and sent to the Hazardous Landfill site NOT Nquthu Landfill site. A Safe Disposal Certificate must be sort from the transporter of such contaminated material and/or the Disposal Facility concerned. Failure to do so is an offence in term of NEMA section 48.

9.9 General & Hazardous Substances and Materials

- a. The location of storage sites for material especially hazardous materials must be sited in consultation with the ECO. The ECO shall consider logistics, prevailing wind directions, fugitive emissions, and water resources when deciding of locations.
- b. Locations must be clearly demarcated and fenced off to avoid unauthorised access.
- c. Material must be located with consideration of fire and spillage incidents and to the approval of the Municipality's Fire Department.
- d. Hazardous materials to be stored on site are those that are potentially poisonous, flammable, carcinogenic or toxic. These materials include diesel, petroleum, oil, bituminous products; cement; solvent based paints; lubricants; explosives; drilling fluids; pesticides and herbicides and Liquid Petroleum Gas (LPG). Material Safety Data Sheets (MSDS's) shall be readily available on site for chemicals and hazardous substances to be used on site. MSDS's should also include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.
- e. Hazardous storage and refuelling areas must be bundled with an approved impermeable liner to protect groundwater quality.
- f. A Method Statement and plans for the storage of hazardous materials and emergency procedures.
- g. The contractor shall ensure that all used oils/lubricants are placed into drums and recycled.
- h. The ECO and the Contractor must ensure that all hazardous materials and substances are reported to the Local Municipality.

- i. The ECO is responsible for reporting all spillages and incidents in a prescribed section 48 of NEMA Form, and to inform Department of Economic Development, Tourism and Environmental Affairs.
- j. A register of incidents referred to in i) above must be kept on site and be produced on request by officials.
- k. The Environmental Control Officer and Contractor shall be responsible for ensuring that potentially harmful materials are properly stored in a dry, secure environment, with concrete or sealed flooring and a means of preventing unauthorized entry. The Environmental Control Officer shall further ensure that materials storage facilities are cleaned / maintained on a regular basis, and that leaking containers are disposed of in a manner that allows no spillage onto the bare soil.
- l. The Contractor shall ensure that there is available adequate supply of absorbent material to use in emergency spills to deal with at least 200 litres or 200kg of material/chemical/substance spillages on site. All used absorbent together with spilled material shall be disposed-off at a Hazardous Disposal Site and a disposal certificate secured, filed and presented on request by the ECO.

9.10 Materials and Stockpile Management

- a. Stockpiles and materials shall be stored away from water resources, access roads and wind prone areas of the working area.
- b. Excessive exposure of stockpiles to rain or clean water must be avoided by cloth or other screening material, or berms where appropriate.
- c. Stockpiles must not exceed 2 meters in height unless approved by the Engineer.
- d. Soil stockpiles must be kept free of cement, growing plants and chemicals/oils.
- e. Topsoil's must be used within 6 months of being stripped to avoid dust pollution, water contamination and erosion.

9.11 Staff Conduct

- a. All contractors and sub-contractors must ensure that employees are well behaved on site, in compliance with EMP and other applicable laws.
- b. All employees must undergo Environmental Induction Training, which may be part of Safety Induction, but presented by the ECO.

9.12 Soil Erosion

- a. Soil clearing must be undertaken with great care to avoid unnecessary vegetation destruction on site.
- b. The contractor must avoid removal of vegetation groundcover on steep slopes and inclined.
- c. Remediation of exposed areas must be undertaken as soon as those areas are no longer required for use.

9.13 Storm water Control

- a. Metal grits must be used to cover drains and culverts to prevent soil silting and blockages.
- b. Contaminated water must be treated prior to disposal to the natural water system.
- c. Clean and dirty water must be separated and not allowed to mix.
- d. Material such as soils, stones, rubble etc. must not obstruct natural waterways.
- e. The site manager and ECO must ensure that drains and water ways are not obstructed in anyway by regular inspections.
- f. Storm water attenuation must be practiced on site.
- g. Measures to ensure a net zero increase in run-off as a result of the Project on completions, must be implemented.
- h. Drains must be cleared and cleaned on weekly basis.
- i. No polluted water shall be washed or disposed-off in drains.

9.14 Underground Storage Tanks

- a. The USTs must comply with the relevant SANS/SABS Codes of Practice which include:
 - SANS 10400 TT 53 (Sections 1-6)
 - SANS 10131
 - SANS 10108
 - SANS 11535
 - SANS 10089 Parts 2 & 3 which requires:
 - The installation of a leak detection system including observation and monitoring wells situated around the tank to facilitate early warning that a leak has arisen.
 - The provision of a plastic sheet below the tank that slopes towards an observation well.
 - Installation of leak detectors on the pressure systems.
- b. The installation must comply with local authority bylaws.
- c. The Underground Storage Tanks must be fitted with an overfill protection device.
- d. The tanks must be designed so as to reduce the risk of soil and groundwater contamination.
- e. The Underground Storage Tanks must be dipped daily and reconciled against volume to check for losses due to leakage.
- f. The condition of the tanks, associated piping and the monitoring wells must be inspected on a regular basis.
- g. The tanks and product lines must be pressure tested prior to commissioning.

9.15 Vegetation

- a. No vegetation may be cleared without prior permission from the Engineer.
- b. Damage to vegetation must be kept at minimum and limited to areas required for use only.
- c. A vegetation plan must be developed and implemented in consultation with the Grassland or Horticulturalist to ensure indigenous vegetation is planted on site.
- d. Introduction of alien vegetation and animals prevented.

- e. Re-vegetation and remediation must be undertaken as soon as practically possible to prevent unnecessary exposure to risks of erosion and water pollution.
- f. Screening trees along P258, Iswandlana Road/R68 and on the property boundary shall be planted to provide screening function. Only indigenous trees shall be used and these must mirror the natural vegetation of the surrounding environment.
- g. Harvesting of vegetation for medicinal, recreational, fire wood, or any other use is prohibited.
- h. Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas.

9.16 Vehicular and Traffic Management

- a. All vehicles must be operated in compliance with the Road Traffic Act.
- b. Safety of passengers, pedestrians, and other road users must be a consideration by all road users in the property.
- c. A speed limit of 20km/hour shall be enforced by the Site Manager.
- d. Traffic management shall be done in consideration of physical site constraints, dust pollution, safety of road users and property, and general environmental and EMP provisions.
- e. Overloading of vehicles is prohibited.
- f. Unsafe loading of inappropriate material will not be allowed.
- g. Traffic exiting or entering the site to and from R68 Road will be assisted to do so safely. This may require management of traffic and signalling inside the site.

9.17 Social Impacts

The project is likely to have a minimum negative impact on the neighbouring communities.

- a. Any complaints and interactions shall be cordial and understanding.
- b. Concerned and complaints of neighbouring communities must be recorded and discussed at site meetings. EMP related complaints shall be dealt with by the ECO.
- c. Cognisance must be made of social and economic issues raised by the neighbouring and interested and Affected Parties.

9.18 A Complaint's Register

- a. A Complaints Register shall be kept at the site office.
- b. It shall have duplicate numbered pages.
- c. The IAAP's need to be made aware of the register and have access to it.
- d. The Contractor needs to appoint a staff member(s) to act as liaison officer for formal consultation with IAAP's.
- e. The ECO must check Complaint Register every day to ensure that EMP and Environmental specific complaints are addresses immediately.
- f. A set protocol must be implemented to deal with complaints and communication with stakeholders.
- g. Complaints must be resolved and records of complainant, issues and resolution filed.

9.19 Fire Control and Welding

- a. Fire Management Plan must be produced when required and be approved/ accepted by the Municipality's Fire Department.
- b. No cooking or heating must occur on-site other than those specific to building and governed by the OHSA.
- c. Burning of fire belts is the only allowed activity by an appointed person using appropriate methods, at appropriate time of the year, and with adequate equipment to prevent development of wild fires.
- d. Welding shall be done in compliance with OHSA Regulations and applicable procedures as may be determined by the Fire Department.

9.20 General Provisions

- a. All unusual disturbances e.g. blasting, traffic closures, etc. must be communicated by the Site Manager to stakeholders including neighbouring communities at least 24 hours prior to occurrences.
- b. Local residents must be given opportunities for employment, and skills development.

10 POST-CONSTRUCTION PHASE

The Post-Construction refers to activities after the construction activities have been completed.

10.1 Construction Camp

- a. The construction camp shall be demolished, dismantled or moved off the site.
- b. All concrete and hard surfaces removed and rubble disposed-off at an appropriate disposal site. If such surfaces are to be reused, a confirmation of acceptance of such rubble must be obtained from the recipient property owner.
- c. All services must be terminated e.g. temporal ablution facilities.
- d. Hazardous installations must be dismantled and containers with residues disposed-off at an appropriate landfill site.
- e. All hardened surfaces within the construction camp area should be ripped, all imported materials removed, and the area shall be top-soiled and re-grassed using the guidelines set out in appropriate re-vegetation specifications.
- f. Failure to adhere to proper dismantling and disposal directives/instructions are a direct violation of EMP and applicable legislation.

10.2 Site Clearance

- a. Construction material and equipment shall be removed on site once construction and rehabilitation is completed.
- b. Vegetation and beatification activities must align with the EMP objectives and sustainable development principles.
- c. ECO and the Contractor have to approve all the remediation measures and to ensure that the site has been in compliance with the EMP.

10.3 Site Re-vegetation

- a. Remediation by re-vegetation and landscaping of the site would have been in progress throughout the construction phase and will be completed at this stage. On-going management and maintenance will proceed as per the contractual agreement between the Lessor and Lessee's.
- b. All rubble is to be removed from the site to an approved landfill site as per construction phase requirements. No remaining rubble is to be buried on site.
- c. The site is to be free of litter and surfaces are to be checked for waste products from activities such as concreting or asphaltting and cleared.

10.4 Removal of Barriers, Remediation of Damage

- a. Fences, barriers and demarcations associated with the construction phase are to be removed from the site unless stipulated otherwise by the Engineer.
- b. All residual stockpiles must be removed to spoil or spread on site as directed by the Engineer.
- c. All leftover building materials must be returned to the depot or removed from the site.

- d. The Contractor must repair any damage that the construction works has caused to neighbouring properties.

10.5 **General Remediation**

- a. A meeting is to be held on site between the Engineer, ECO and Contractor to approve all remediation activities and to ensure that the site has been restored to a condition approved by the Engineer, and to the satisfaction of the ECO.
- b. Temporary road works must be closed and access across these blocked.
- c. All areas where temporary services were installed are to be rehabilitated to the satisfaction of the Engineer.

11 OPERATIONAL PHASE

An operational EMPr must be used subsequent to the detailed engineering design and prior to the operation of the proposed petroleum filling station. SA' Garage standard operating procedures. This operational EMPr must be approved by the Competent Authority prior to the commencement of operations.

11.1 Access to the Site

- a. All access to the property must be properly controlled 24 hours a day.
- b. No unauthorised access must be granted to vehicles or persons.
- c. Heavy duty vehicles must be directed to loading/offloading bays.
- d. Vehicles hauling waste, chemicals and other hazardous substances must be strictly controlled and only if prior arrangements have been made.

11.2 Visual Impacts

- a. Maintenance of screening vegetation must a priority such that these perform purpose intended.
- b. All physical structures must, at least mirror colours of the natural environment as far as possible, and be maintained as such.
- c. Lights must shine away from the road, residential areas to avoid light pollution from the site.
- d. Reflective materials must be avoided whenever possible.

11.3 Waste Management

- a. Waste generated on the site shall be handled appropriately using appropriate receptacles, bin liners, and skips.
- b. Regular trips to the Nquthu Disposal Site must be made for general waste.
- c. All hazardous waste must be sent to a Hazardous Disposal Site. Hazardous wastes include but not limited to fluorescent tubes, oil contaminated material, paints, etc.
- d. Records of waste generated must be kept and be produced on request.
- e. Recycling of waste must be encouraged on site.
- f. Littering is prohibited on-site and off-site.
- g. Burning and burying of waste is prohibited.
- h. No servicing of vehicles is permitted on site.

11.4 Water Quality Management

- a. The proximity of, and the distances to all surface water bodies in the vicinity of the site shall be established.
- b. A borehole and spring census shall be carried out within a one kilometre radius of the site.

- c. The yield of each borehole, their logs and water quality must be supplied.
- d. The geohydrology of the proposed site must be assessed by surface mapping, accessing existing information and Geohydrological maps of the area, together with appropriate subsurface investigative measures.
- e. Where appropriate geophysics must be carried out across the site to assist in the identification of faults or to establish if any other geological anomalies exists beneath the proposed site.
- f. The latter boreholes shall be utilised for ground water monitoring.
- g. No polluted water or grey water shall be disposed-off to the natural environment. All contaminated water and effluent shall be disposed-off at the Municipal Sewer System.
- h. No polluted water or grey water shall be disposed-off to the natural environment. All contaminated water and effluent shall be disposed-off at the Municipal Sewer System.
- i. The contractor shall ensure that no water contamination occur and that strict measures are instituted when such pollution occur.
- j. Polluted water must not come into contact with clean water.
- k. Polluted water must not be flushed down the drains.
- l. The Environmental Control Officer will be responsible for reporting the storage/use of any other potentially harmful materials to the relevant authority.

11.5 Air Pollution – Dust Prevention

- a. All reasonable measures must be taken to ensure that dust generation is minimised.
- b. Dust suppression by regular water spraying shall be done.
- c. A 20km/hr. speed limit must be enforced to all vehicles entering the site.
- d. No fires are to be permitted on site except for the burning of firebreaks.

11.6 Noise Pollution

- a. No noise pollution is allowed during the operation of the development.
- b. All noises generated must be limited to the site only.
- c. Care must be taken not to disturb neighbours either at daylight or at night.

11.7 Hazardous Chemical Storage and/or Handling

- a. Storage of fuel, oils, or hazardous chemicals or substances is prohibited, unless in small daily used up quantities. Such storage is limited to fuels and oils used by heavy machinery or mobile tools which cannot readily move in and out of the site.
- b. Storage of limited hazardous substances must be clearly demarcated, bundled and installed with safety considerations, and installations approved by the Town Engineer or Fire Department.
- c. The bund must at least have a concrete plinth with a containment capacity 110% to the container being bundled.
- d. Spillages from containers shall be reported to the Centre Management who in turn must report using the s48 incident form of the Department of Economic Development, Tourism and Environmental Affairs, and must immediately notify the said Department.
- e. Ensure that the mixing /decanting of all chemicals and hazardous materials should take place on tray or impermeable surface.

- f. All contaminated soils and materials must be removed and sent to the Hazardous Landfill site NOT Nquthu Landfill site. A Safe Disposal Certificate must be sort from the transporter of such contaminated material and/or the Disposal Facility concerned. Failure to do so is an offence in term of NEMA section 48.

11.8 General & Hazardous Substances and Materials

- a. The location of storage sites for material especially hazardous materials must be sited in consultation with the ECO. The ECO shall consider logistics, prevailing wind directions, fugitive emissions, and water resources when deciding of locations.
- b. Locations must be clearly demarcated and fenced off to avoid unauthorised access.
- c. Material must be located with consideration of fire and spillage incidents and to the approval of the Municipality's Fire Department.
- d. Hazardous materials to be stored on site are those that are potentially poisonous, flammable, carcinogenic or toxic. These materials include diesel, petroleum, oil, bituminous products; cement; solvent based paints; lubricants; explosives; drilling fluids; pesticides and herbicides and Liquid Petroleum Gas (LPG). Material Safety Data Sheets (MSDS's) shall be readily available on site for chemicals and hazardous substances to be used on site. MSDS's should also include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.
- e. Hazardous storage and refuelling areas must be bundled with an approved impermeable liner to protect groundwater quality.
- f. A Method Statement and plans for the storage of hazardous materials and emergency procedures.
- g. The contractor shall ensure that all used oils/lubricants are placed into drums and recycled.
- h. The Centre Manager must ensure that all hazardous materials and substances are reported to Nquthu Local Municipality's Fire Department
- i. The Centre Manager is responsible for reporting all spillages and incidents in a prescribed section 48 of NEMA Form, and to inform Department of Economic Development, Tourism and Environmental Affairs.
- j. A register of incidents referred to in i) above must be kept on site and be produced on request by officials.
- k. The Contractor and/or Centre Manager shall ensure that there is available adequate supply of absorbent material to use in emergency spills to deal with at least 200 litres or 200kg of material/chemical/substance spillages on site. All used absorbent together with spilled material shall be disposed-off at a Hazardous Disposal Site and a disposal certificate secured, filed and presented on request by the Centre Management.

11.9 Staff Conduct

- a. All contractors and sub-contractors must ensure that employees are well behaved on site, in compliance with EMP and other applicable laws.
- b. All employees must undergo Environmental Induction Training, which may be part of Safety Induction.

11.10 Soil Erosion

- a. The Centre Management shall ensure that erosion causing activities are controlled in such a manner that prevents erosion setting off on site.
- b. Grounds shall be maintained such that no soil loss occurs, thereby causing erosion of this natural resource.

11.11 Storm water Control

- a. Metal grits must be used to cover drains and culverts to prevent soil silting and blockages.
- b. Contaminated water must be treated prior to disposal to the natural water system.
- c. Clean and dirty water must be separated and not allowed to mix.
- d. Material such as soils, stones, rubble etc. must not obstruct natural waterways.
- e. The Centre Manager must ensure that drains and water ways are not obstructed in anyway by regular inspections.
- f. Storm water attenuation must be practiced on site.
- g. Measures to ensure a net zero increase in run-off as a result of the Project on completions, must be implemented.
- h. Drains must be cleared and cleaned on weekly basis.
- i. No polluted water shall be washed or disposed-off in drains.

11.12 Vegetation

- a. Introduction of alien vegetation and animals is prohibited. Only indigenous plants and vegetation shall be used on the gardens.
- b. Screening trees along the R68 Road and on the property boundary shall be maintained for screening function.
- c. Only indigenous trees shall be used and these must mirror the natural vegetation of the surrounding environment.

11.13 Vehicular and Traffic Management

- a. All vehicles must be operated in compliance with the Road Traffic Act.
- b. Safety of passengers, pedestrians, and other road users must be a consideration by all road users in the property.
- c. A speed limit on internal (i.e. Centre) shall be enforced by the Centre Manager.
- d. Unsafe loading of inappropriate material will not be allowed.
- e. Traffic exiting or entering the site to and from R68 Road will be assisted to do so safely. This may require management of traffic and signalling inside the site.

11.14 Social Impacts

The project is likely to have a minimum negative impact on the neighbouring communities.

- a. Any complaints and interactions shall be cordial and understanding.

- b. Concerned and complaints of neighbouring communities must be recorded and discussed at Management meetings. EMP related complaints shall be dealt with by the Centre Management and communicated to the Department of Economic Development, Tourism and Environmental Affairs.
- c. Cognisance must be made of social and economic issues raised by the neighbouring and interested and Affected Parties.

11.15 A Complaint's Register

- A Complaints Register shall be kept at the Centre Manager's Office.
- It shall have duplicate numbered pages.
- The IAAP's need to be made aware of the register and have access to it.
- A set protocol must be implemented to deal with complaints and communication with stakeholders.
- Complaints must be resolved and records of complainant, issues and resolution filed.

12 OPERATIONAL REQUIREMENTS AND OPERATIONAL GOALS

The Environmental Impact Assessment identified various issues and concerns that were addressed through the process. Many of the issues need to be mitigated by management procedures and therefore goals need to be set to ensure implementation of these measures. Management activities are described to achieve the objectives together with monitoring and target criteria.

12.1 Components of Operational Management

The Fuel Service Station will generate waste on a daily basis. Here are examples of waste generated during operations:

- Food waste (both from preparation and waste cooked food);
- Packaging (paper, plastic, cardboard);
- General paper from newspapers and administration;
- Glass bottles;
- Plastic bottles;
- Waste chemicals, soaps, detergents, pesticides and fertilisers;
- Garden waste;
- Metal cans;
- Light bulbs
- Sewage;
- Waste from maintenance activities and mechanics workshop (paints, thinners, structural elements);
- General waste; and

Measures pointed out below should be integrated in the daily operation of the Silonjana Fuel Service Station, Bed & Breakfast, Car Wash, Shops, Mechanic Workshop:

a. **Water** - will be supplied from the Municipality. The water from the source will be managed according to water saving principles:

- Capture and use rainwater from gutters and roofs into rainwater storage tanks for individual structures;
- All external taps will only be linked to rain storage tanks to prevent the use of potable (drinkable) water to be used for activities such as gardening and car washing;
- Washbasin and shower taps to be fitted with flow reduction devices, aerators and motion sensors to ensure water conservation and prevent that they can be left running;
- Toilets should be fitted with reduced flow or preferably a dual flush system;
- Re-use household waste water for gardening and/or flushing;
- Washing facilities / toilets for construction team to be provided with flow reduction devices and adequate catchment to contain wash water;
- Dry sweeping of garden and construction gear in preference to washing to limit water consumption;
- Preference should be given to planting only endemic / indigenous gardens and using such for landscaping to minimise water demand;
- All drains fitted with grease traps which are included in a maintenance schedule;
- A vehicle wash bay constructed ensures that contaminated water is routed to the correct waste water stream and not storm water systems;
- Only plants adapted to the local climate used in landscaping to reduce the need for excessive watering;
- Washing appliances (dishwashers and washing machines) filled only to the minimum level required for effective functioning;

b. **Electricity** – will be supplied by Eskom. Internal reticulation will be according to the appointed Electrical Engineers standards. The following energy saving mechanisms should be implemented:

- Energy saving bulbs in all structures, alternatively use low voltage or compact fluorescent lights;
- Use energy saving geysers;
- Use proper insulation to reduce the need for air conditioning;
- Solar glazing or energy efficient windows to reduce the need for air conditioning;
- Maximise the use of solar heating;
- Structures should be orientated to optimise use of ambient weather and climate conditions for heating and cooling;
- Natural light used wherever possible during the day in preference to artificial light (Trade-off between using large windows for use of sunlight but this may require additional air conditioning);
- Use of solar heating maximised.

c. **Sewage** - Through the above water saving mechanisms the load on the general sewage flow will be reduced and therefore limit the load on the septic tank.

d. **Material** - Material used during construction or in the life-cycle of the project should be focused on renewable and recyclable elements:

- Select building materials for durability to minimise maintenance or replacement;

- Use standard materials to increase the potential for re-use and re-cycling;
- Materials should be sourced locally where possible; and
- Use recycled shuttering, door and window frames, sanitary ware, concrete aggregate and roofing materials.

12.2 Renovations/ building maintenance:

- Paints water based paints used wherever possible;
- Renovations and maintenance planned to minimise the production of waste;
- Waste segregation and recycling planned prior to commencement; and
- Any waste generated segregated to maximise re-use or recycling.

13 COMPLIANCE AND MONITORING

13.1 Compliance and Monitoring

- a. The monitoring of works on site is necessary to demonstrate compliance with the specifications of the EMP and to allow for problems or issues of non-conformance to be identified and appropriate
- b. Monitoring should include visual checks by the Site Manager on a daily basis, checks on particular requirements for site activities by the ECO, as well as a review of site documentation.
- c. The ECO shall complete the performance record at the end of each table above, as a record of transgressions or problems experienced on site, and how they were dealt with.
- d. Monitoring of activities on site by the ECO should be done on a weekly basis.

13.2 Transgression and Penalties

Transgressions relate to actions by the owner and operating team members whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMP are infringed upon.

In the instance of environmental damage, the damage where possible, is to be repaired and rehabilitated using appropriate measures, as specified and undertaken by appropriate specialists, for the account of the contractor or other guilty party.

Transgressions are most likely to occur with respect to litter on site, damage or the disturbance of sensitive areas, for example the indigenous vegetation, and erosion.

Issues of non-compliance noted by the ECO are to be communicated to the site operator, who holds the responsibility of ensuring that the relevant parties are made aware of the lack of compliance with EMP specifications, and that appropriate action is taken to rectify the situation. The ECO will advise on appropriate corrective actions when necessary. The Municipality is ultimately responsible for compliance of the EMP.

13.3 Site record

Minutes of meetings on site must reflect environmental queries, complaints, actions agreed upon, dates of eventual compliance and must form part of the official environmental site record. In additions to the summary report, the ECO shall keep a monthly photographic record of issues on site and an ad hoc record of incidents or events on site, especially in the case of transgressions from EMP specifications.

14 EMP VIOLATIONS

EMP violations are a violation of the Environmental Authorisation issued for the project, and are therefore a violation of NEMA provisions.

14.1 Contractor and/or Developer

The Contractor is deemed not to have complied with this generic EMP if:

- within the boundaries of the Project Area, during the Construction Phase, adjacent areas and haul/ access roads there is evidence of contravention of EMP clauses, Environmental Authorisation conditions, or any legally issued directive or instruction;
- environmental damage ensues due to negligence;
- he fails to comply with corrective or other instructions issued by the Relevant Authority, Site Manager or Environmental Control Officer within a specified time,
- Failure to take any reasonable measure to protect the environment if there is a perceived or identified environmental risk associated with an activity that has not been defined in the EMP.
- Pollution of land surfaces and air pollution results from construction and related activities.
- The Contractor fails to comply with corrective or other instructions issued by the Engineer within a specified time.
- The Contractor fails to respond adequately to valid complaints from the public.

14.2 Sub-contractor

The Sub-contract is deemed NOT to have complied with the EMP if:

- She violates any part of the EMP whether in stipulated in her contract or not,
- He causes environmental damage due to negligence,
- He fails to comply with directives/instructions of the relevant authority, site manager or engineer, or ECO,
- Fails to respond and act adequately to public complaints.

15 REPORTING ON EMP

15.1 Reporting Regime

The following reporting regime will be implemented.

	What	Details, Who, Outcomes	Frequency/ When
1	ECO appointment	The Developer/Contractor appoints ECO and informs DEDTEA in writing of the name and contact details.	At least 30 days prior to construction activities
2	Safety File	ECO and Developer ensure EMP included in the Contractors' Safety File.	At least 10 days prior to construction
3	Baseline Audit	ECO conducts a baseline audit of all environmental assets, conditions, and landscapes. A Report is generated.	10 days prior to construction
4	Inform Authorities of Intention to Commence with Construction	The developer shall inform DEDTEA in writing on date of starting of construction activities.	At least 5 days prior.
5	Complaints Register	ECO and Contractor develops Complaints Register for the site	At least 5 days prior to Commencement of Construction
6	Induction	ECO conducts Environmental Awareness and Induction of Management, employees, etc. An attendance register is generated.	On first day of construction commencement
7	Monthly Audits	ECO conducts monthly audits for the first 3 months of commencement of construction. Monthly Audit Reports are produced	Every Month-end. Reports to Authorities in 14 days.
8	Quarterly Audits	ECO conducts quarterly audits every 3 months for the duration of the construction. Quarterly Audit Reports are produced	Every Quarter-end. Reports to Authorities in 21 days.
9	Annual Audit	ECO conducts annual audits every 12 months for the duration of the construction. Annual Audit Reports are produced.	Every 12 month-end. Reports to Authorities in 6 weeks.

15.2 Contents of the Audit Report

The audit report shall typically contain this information:

- Date of the audit;
- Aspects covered;
- Stage of the construction project;
- List of activities undertaken during the reporting period;
- Environmental impacts identified;
- Mitigation measures implemented;
- Corrective actions;
- Violations of the EMP;
- Level of compliance with Environmental Legislation and EMP;
- Suggestions on the EMP amendments;

- Incidents i.t.o. section 48 of NEMA and other incidents;
- Complaint register entries and resolution of complaints;
- Any other matter of interest to the authorities.

15.3 Environmental Audits

- a. A suitably qualified Environmental Auditor is to be appointed, at the expense of the Developer, to undertake audits of compliance with the EMP. This should happen every 6 months.
- b. Objectives should be to audit compliances with the key components of the EMP, to identify main areas requiring attention and recommend priority actions. The audit should cover across section of issues, including implementation of environmental controls, environmental management and environmental monitoring.
- c. Results of the audits should inform changes required to the specifications of the EMP or additional specifications to deal with any environmental issues which arise on site and have not been dealt with in the current document.

16 AMENDMENTS TO THE EMP

Any major issues not covered in the EMP as submitted shall be addressed as an addendum to the EMP, submitted for approval by the Department of Economic Development, Tourism and Environmental Affairs, prior to implementation.

17 CLOSURE

Decommissioning and/or closure of the petroleum filling station and/or the underground storage tanks is not anticipated. However, should this be required for any reason, the Department of Water Affairs must be consulted for guidance. The following conditions are generally required by the Department of Water Affairs.

17.1 Tank Closure/ Decommissioning

- a. A soil and groundwater contamination investigation must be conducted to determine the presence, nature and extent of any contamination. This will provide information as to the current status of the site in terms of the level of contamination, which will ultimately influence the level or type of remediation that needs to be undertaken, if any.
- b. The soil and groundwater must be analysed for Benzene, Toluene, Ethyl benzene and Xylene (BTEX's) and for lead based fuel, if this was previously stored in the tank.
- c. Prior to the tanks and associated piping being closed all residue products must be carefully removed for recycling or safe disposal. Safe disposal certificates must be obtained and kept on record as proof.
- d. A solid inert material must be used for filling the underground storage tank. Only clean soil must be used for backfilling purposes.

17.2 Stormwater & Wastewater Management

- a. Water used for flushing the pipes and tanks must be disposed of safely if it is not suitable for disposal via the sewer system. The relevant department at the Local Municipality must be contacted with regard to the discharge of water containing waste to the sewer system.
- b. The water containing waste generated must pass through an oil/water separator prior to discharge to the municipal sewer system.
- c. It must be ensured that any water containing waste does not contaminate clean stormwater.

17.3 Waste Management

- a. All solid waste generated from the removal of the tanks must be handled according to the precautionary principle. This implies that waste (including soils, metals and other material) should be treated as hazardous unless proven otherwise.
- b. All contaminated soil and other material must be disposed of at a permitted landfill site that is authorized to accept such wastes.
- c. Waste must not be allowed to be stockpiled on site for extensive periods but must be disposed of as generated.
- d. Any waste material temporarily stockpiled must be adequately protected from the environment to prevent leaching of potentially harmful contaminants.

17.4 Spillages

- a. Any spillages during the decommissioning of the tanks must be reported to this Department and other relevant authorities.
- a. Clean-up or remediation of any contamination must be done in consultation with Department of Economic Development, Tourism and Environmental Affairs.