ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE PROPOSED CONSTRUCTION OF NDWEDWE AUTO SERVICE STATION AND ASSOCIATED INFRASTRUCTURE AT NDWEDWE (MSUNDUZE FARM NUMBER 8313) WITHIN NDWEDWE LOCAL MUNICIPALITY, KWAZULU - NATAL

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

Report prepared for

NDWEDWE AUTO SERVICE STATION

Prepared by

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A. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) WHO PREPARED THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr):

1. (1) An EMPr must comply with section 24N of the Act and include -

(a) Details of -

(i) the EAP who prepared the report:

Business name of EAP:	**Mondli Consulting Services**		
Physical address:	**6 Joseph Avenue, New Era House, Suite 12, Durban North**		
Postal address:	**P O Box 22536, Glenashley**		
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(ii) The expertise of the EAP (including curriculum vitae)

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
M. Mthembu	**Diploma in Nature Conservation** **Masters Degree (Environmental Management Dissertation)** **Bachelor of Laws (LLB)**	**Society of South African Geographers**	**Has been involved in environmental and conservation field for over 20 yrs.** **Conducted EIAs for over 15 years including Strategic Env. Assessment.** **Has been involved in the review and commenting on development**

			projects impacting on the environment.
H.J. Ngcobo	**Bachelor of Science Honours degree in Agriculture & Masters degree in Commerce.**		**Over 6 years' experience in monitoring and inspection of environmental projects.**

(B) A DETAILED DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION;

The environmental management programme covers mainly aspects that directly relates to the construction of Ndwedwe Auto Service Station and associated infrastructure comprising of fuel storage tanks [2 x 23 000 for ULP 95 / LRP 95], 2 x 14 000 diesel (VPower / Standard) all underground, three pump islands, 1 x 14 000 paraffin tank above ground, storage of LP GAS in 5 kg, 9kg and 18 kg bottles, a convenience shop, car wash, administrative office & training room, fast food restaurant, workshop, staff room, kitchen, storeroom, change rooms inclusive of ablutions and security guard house.

The site previously operated as a service station with fuel tanks that were removed, but the canopy and buildings still exist. The site is currently utilised as a workshop and a panel beater shop with administrative offices. The developer intends utilising the existing infrastructure if it is found to be structurally sound, with the installation of new fuel and paraffin tanks.

The EMPr covers aspects like environmental awareness, issues of spillage, soil erosion, soil and ground water contamination, vegetation and groundcover, solid waste, health and safety, stormwater and traffic issues including noise. These aspects are described and covered in detail throughout the EMPr.

(C) A MAP AT AN APPROPRIATE SCALE WHICH SUPERIMPOSES THE PROPOSED ACTIVITY, ITS ASSOCIATED STRUCTURES, AND INFRASTRUCTRE ON THE ENVIRONMENTAL SENSITIVITIES OF THE PREFERED SITE, INDICATING ANY AREAS THAT SHOULD BE AVOIDED, INCLUDING BUFFERES;

See the attached map as **Appendix A (1)(i) of the Basic Assessment Report.**

(D) A DESCRIPTION OF THE IMPACT MANAGEMENT OBJECTIVES, INCLCUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMSNET PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING -

The main aim and objective of the monitoring exercise is to ensure the appraisal of environmental performance in line with the Environmental Authorisation (EA) if applicable, EMPr, EIA Regulations and National Environmental Management Act (NEMA) No. 107 of 1998 as amended. The Department of Economic Development, Tourism and Environmental Affairs is responsible for ensuring the compliance to NEMA. EMPr is also meant to provide objective feedback to Ndwedwe Auto Service during project construction and beyond, by making appropriate recommendations for remedial interventions where appropriate.

The monitoring deals with conformance and non-conformance measured against EMPr and EA where appropriate. Any non-compliance observed during the construction period will be followed by an immediate remedial intervention. The environmental audit and monitoring will primarily focus on evaluating the measure of compliance with statutory requirements within the project site.

The identified impacts and risks will be managed and mitigated throughout the following phases of development:

(i) planning and design;

Impact

Congestion and overcrowding by project technicians.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Impact

Ignorance of the EMPr principles resulting in environmental degradation.

Impact

Non-compliance to the EMPr document resulting in environmental degradation.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

(iii) construction activities;

(a) **The storage facility**

Impact

Environmental pollution that may result in soil contamination and environmental pollution in case of leakages and spills.

(b) Solid waste and littering

Impact

The possible pollution of the environment.

(c) Concrete mixing

Impact

Soil contamination.

(c) **Chemical materials**

Impact

Environmental pollution relating to soil and surface water.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and surface water pollution.

(f) Air pollution

Impact

Air pollution and nuisance.

(g) Noise control

Impact

Noise pollution to the village / settlement, passing local people and passersby.

(h) Earthworks and Soil

Impact

Soil erosion and invader plant species growing after earthworks.

(i) Vegetation / Groundcover

Impact

Soil erosion.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

(k) Construction camp

Impact

The unsuitable location can result in environmental degradation.

(l) Traffic Management

Impact

Congestion and increased traffic flow can result in noise and air pollution.

(m) Heritage impact

Impact

Impact on heritage resources, graves, and places to which oral history is attached.

(n) Visual impact

Impact

Nuisance to the neighbouring households and the public.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

(b) Signing off

Impact

Environmental pollution and degradation left on site after construction.

(c) Landscaping

Impact

Soil erosion.

Impact

Possibility of soil contamination.

(v) where relevant, operation activities;

Impact

Environmental pollution and possible degradation.

Impact

Ground water contamination

(E) A DESCRIPTION AND IDENTIFICATION OF IMPACT MANAGEMENT OUTCOMES REQUIRED FOR THE ASPECTS CONTEMPLATED IN PARAGRAPH (D);

(i) planning and design;

Impact

Some of the identified impacts during this phase include movement of cars and overcrowding on this site.

Traffic congestion as technicians descends on the site for various technical assessments e.g. architects, environmentalists, builders and other professionals. Ignorance about environmental issues is regarded as a negative impact with regard to the project.

Mitigation

This EMPr will be discussed with all interested and affected parties and contractors to ensure that awareness of events and activities that have a negative impact on the environment are understood. The project planners are expected to be considerate and ensure that their activities are not detrimental to both social and physical environment. The environmentalist is already involved to ensure all designs reflect environmental principles.

The technicians working on site must be sensitized about possible environmental impacts, in order to be considerate at all times when working on site. Therefore, the Ndwedwe Local Municipality, Builder and the environmentalists and all affected stakeholders must be involved during this phase.

The project must ensure sustainable development in balancing social, economic and environmental aspects.

Responsible party

Applicant and the Environmental Control Officer (ECO).

(ii) Pre-construction activities;

Environmental awareness and partnerships

Impact

Ignorance of the EMPr and EA principles; resulting in environmental degradation.

Mitigation

This EMPr will be discussed with stakeholders to ensure that awareness of activities that have a negative impact on the environment are clarified. In terms of this project site the critical aspects will be around ground water pollution, removal of ground cover, soil erosion, soil contamination, noise and safety aspects.

As per the prescriptions of the EMPr its contents will be communicated to all the registered interested and affected stakeholders. The contents will further be discussed with all stakeholders in terms of the project to ensure they are understood. Compliance will be emphasized to the developer, and the Compliance section of DEDTEA is also expected to do inspections, as they deem appropriate and necessary.

Responsible party

ECO and the Applicant

Impact

Noncompliance to the EMPr document; resulting in environmental degradation.

Mitigation

- The EMPr will be signed by the contractor on site.
- All stakeholders including employees of the contractors on site need to be familiar with the contents of the EMPr and the construction protocol.
- The EMPr document must be available on site at all times.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

Mitigation

The building contractor and all personnel that will be involved in the construction phase of this project will be taken through a crash course on environmental awareness and EMPr.

- The contractor and relevant stakeholders will have to be familiar with the contents of the Environmental Management Programme (EMPr) to be able to comply with the aforementioned document during all project phases.

Responsible party

ECO and the Applicant.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution that may result in soil contamination and environmental pollution in case of leakages and spills.

Mitigation

- The storage facility will prevent direct sun which may cause certain materials to explode, and rain from flushing materials that may later contaminate the soil and surface water. The storage facility will also help in safe storage preventing accidental falling of uncontained materials and liquids that may not have been sealed safely.
- This will be mitigated by constructing a storage facility that is roofed and properly paved to store all the contractor's tools and materials during construction phase. In some cases this may take the form of construction containers.
- The liquid materials must be tightly closed and sealed to prevent spillage in case of accidental falling.

Responsible party

Site Engineer or Builder / Contractor / Safety Officer / ECO.

(b) Solid waste and littering

Impact

The possible pollution of the environment and surface water due to litter and waste.

Mitigation

- Solid waste must be disposed of in an environmentally acceptable manner during construction to minimize pollution of the environment.
- Solid waste generated from this development must be disposed of in an appropriate manner. Rubbish drums and refuse plastic bags will have to be made available for litter during the day, to be cleared and disposed of at the municipal disposal site at appropriate intervals as advised by the Environmental Control Officer.
- All construction spoil must be disposed of at the municipal disposal site.
- No burning of refuse must take place on site.

Responsible party

Site Engineer or Builder / Contractor and Applicant.

(c) Concrete mixing

Impact

Soil contamination.

Mitigation

- All concrete mixing that is “not ready mixed” is to be carried out on wooden boards in a lined bunded area so that cement slurry does not escape out of the area. This will also prevent contamination of the soil.
- At the end of each day's construction operations cement spoil and rubble must be collected and placed in appropriate containers for later disposal.

Responsible party

Site Engineer or Builder / Contractor.

(d) Chemical materials

Impact

Environmental pollution including soil and water.

Mitigation

- Chemical materials like paint, turpentine, solvents, cement and the like must be stored appropriately in line with the provisions of Hazardous Substances Act (Act 15 of 1973).
- These must not pose risk to the surrounding environment, and such storage areas must be located outside of the 1:100 year floodline of a river / watercourse or such storage must not be closer than 150 metres from the water course / river.
- Access to these areas must be controlled, and temporary bunds must be constructed around chemical or diesel storage areas to contain possible spillages.
- Any spill must be reported to the relevant authorities as soon as possible i.e. Ndwedwe Local Municipality, Ilembe District Municipality, Department of Water and Sanitation and the Department of Economic Development, Tourism and Environmental Affairs.
- Oil leaks from heavy machinery and vehicles must not be allowed to contaminate soil and the environment. This must be done by properly servicing the machinery to prevent unnecessary oil leaks, as well as preventing any servicing of vehicles and machinery on site.

- In case of oil leak that contaminate the soil, such soil must be removed and disposed of appropriately as advised by the ECO.

Responsible party

Site Engineer or Builder / Contractor / ECO / Safety Officer.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and surface water pollution.

Mitigation

- The local authority's storm water plans and designs must be complied with, and these must adhere to the Project Engineer's specifications.
- Any soil stockpiles created are to be maintained as flat as possible, avoiding side slopes.
- Storm water leaving the premises shall not be polluted by any substance whether such a substance is a solid, liquid, gas vapour or any combination of these.
- After construction, the site must be graded or paved to ensure free flow of runoff and to prevent ponding of water.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(f) Air pollution

Impact

Air pollution.

Mitigation

- It is important that the requirements of the atmospheric Pollution Prevention Act (APA) (Act No. 45 of 1965) and National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) be adhered to.
- Construction operations especially during earthworks if applicable, may create larger amounts of atmospheric dust that may cause a nuisance and pollution in the area.
- Dust from the latter operations must be minimized by regularly spraying with water during construction.

Responsible party

The Applicant and the Contractor / Site Engineer.

(g) Noise control

Impact

Noise pollution to the neighbouring households and passersby. Construction activities by their nature may lead to increased noise levels.

Mitigation

- Noise Control Regulations (Regulations 154, 10 January 1992) of the Environmental Conservation Act (Act No. 73 0f 1989) must be adhered to.
- Building operations must be restricted to daylight period, Monday to Saturday, and must adhere to legally stipulated hours (7.00 – 18.00).
- The use of equipment that is less noisy must be encouraged.
- Workers using noisy equipment must be informed about the need to minimize noise and its impact on the general surrounding environment.
- The neighbouring households must be informed about noise possibilities.

Responsible party

The Applicant and Site Engineer or Builder / Contractor.

(h) Earthworks and Soil

Impact

Soil erosion and invader plant species that tend to grow after earthworks.

Mitigation

- Soil generated during digging of trenches must be backfilled immediately or at least within 48 hours.
- No soil must be left in heaps after the construction.
- Any excessive soil that was unable to be used or backfilled will have to be taken to the municipal disposal site or disposed of in an environmentally acceptable manner as per the advice of an environmental control officer.

Responsible party

Site Engineer or Builder / Contractor and Applicant / ECO.

(i) Vegetation

Impact

Soil erosion.

Mitigation

- Should any area be left bare during construction, it will have to be planted with suitable ground cover to prevent possible soil erosion.
- It is critical to keep and maintain the grass cover after all earthworks operations.

Responsible party

The Applicant and ECO

(j) Health and safety

Impact

Unhealthy and unsafe environment.

Mitigation

- All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
- Fire extinguishers must be kept at appropriate points, not only during construction phase, but even during operational phase for immediate action in case of fire.
- Assurance must be made that the staff on site are familiar with fire procedures, and the use of fire equipment.
- In line with Health Requirements the mobile toilets will have to be provided on site during construction, to cater for human excrement.
- Such toilets facilities must be located outside of the 1: 100 year floodline or, must not be placed closer than 150 metres from the water course / river. These toilets must be monitored on daily basis and sewerage sludge must be disposed of at a nearest registered Waste Water Treatment Works.
- The site will have to be kept clean and free of litter by continuously disposing waste at the municipal disposal site.

Responsible party

Site Engineer or Builder / Applicant and the Contractor.

(k) Construction camp

Impact

The unsuitable location can result in environmental degradation.

Mitigation

- The construction site is already within the fenced property area, and the construction camp will be within the project site.
- The construction camp may not be placed closer than 150 metres to any stream, river or watercourse. In this instance the premises are far from the river.
- As mentioned above adequate provision for sanitation must be made in the form of mobile toilets, to cater for human excrement from residents of the construction camp. These must be emptied on regular basis.

- The whole property is already fenced.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(l) Traffic Management

Impact

Congestion, nuisance and possible accidents.

Mitigation

- Vehicles must adhere to the speed limit of 40 kms per hour during construction.
- Construction vehicles must be properly marked with “construction vehicle” signs, and drivers must be given clear work instructions.
- No construction vehicles must obstruct entrances to any neighbouring households.
- Pointsmen to be used to direct traffic flow to and from the site.
- Dedicated access routes to be identified and communicated to drivers of construction vehicles.

Responsible party

Site Engineer or Builder / Contractor.

(m) Heritage impact

Impact

Impact on heritage objects or graves that may be identified on site.

Mitigation

- Amafa should be contacted if any heritage objects are identified during any earthmoving activities, and all development should cease until further notice.
- Amafa should be contacted if any graves or heritage objects are identified during construction and the following procedure is to be followed:
  - Stop construction
  - Report finding to local police station
  - Report to Amafa to investigate
- No activities are allowed within 50 m of a site which contains rock art.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(n) Visual impact

Impact

Nuisance to the neighbouring households and the public.

Mitigation

- The project site must be fenced and shielded during the construction phase.

Responsible party

Site Engineer or Builder / Contractor. They must take care to reduce this impact, and avoid the emotional outcry associated with irresponsible development.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

Mitigation

- Once the construction phase is complete all material on site associated with construction must be removed from the property, and everything referred to, as waste must be disposed of at the municipal disposal site or landfill site as the case may be.
- No on site burning or burial of waste material must be done on site.

Responsible party

Contractor / *ECO* / Applicant

(b) Signing off

Impact

Environmental pollution and degradation left after construction.

Mitigation

- EMPr has to be signed off by the contractor on site.

Responsible party

Contractor / ECO

(c) Landscaping

Impact

Soil erosion.

Mitigation

- On completion of the facility a proper landscaping is recommended with indigenous tree species planted where practical.
- All bare areas must be planted with grass cover to minimize soil erosion.
- Invader species on site must be eradicated.
- The soil must not be left bare, but grass planting must be done to ensure adequate groundcover.

Responsible party

Applicant and ECO.

(d) Closure

Impact

There is a possibility of soil contamination, fire, soil erosion, noise and environmental pollution in case of decommissioning.

Mitigation

- Decommissioning must be done within the legal framework; under the supervision of an environmentalist and full knowledge of the Department of Economic Development, Tourism and Environmental Affairs should the facility be decommissioned.
- Soil will have to be backfilled immediately after the removal of storage tanks.
- Any signs of soil erosion must be addressed during and after the decommissioning phase.
- Contaminated material must be cleaned, removed and disposed of at the nearest landfill site.
- The area must be cordoned off with a danger tape and “no smoking” signs conspicuously displayed around the site during decommissioning.
- Any fuel inside the tanks must be removed, and the tanks degassed.
- All services equipment must be mapped e.g. electrical pipes, stormwater and water pipes to avoid damage.
- Contaminated soil after laboratory tests must be stockpiled and disposed of at the nearest landfill site.

Responsible party

Applicant and the ECO.

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

Mitigation

Ensure procedure to deal with spillage is in place.

Responsible party

Applicant.

Impact

Ground water contamination

Mitigation

Ensure spillage plan is in place.

Responsible party

Applicant.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

Mitigation

- The facility has to provide at least 240 litre bins on site to be emptied and collected by the municipality at least once a week.
- Solid waste generated from this facility should be disposed of in an appropriate manner at the municipal disposal site.
- Contaminated materials must be disposed of at a permitted hazardous landfill site**.**
- Chemical waste must be stored in appropriate containers, and disposed of appropriately at a permitted landfill site which is authorized to accept the said material.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

Mitigation

- All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
- Fire extinguishers must be kept at appropriate points during operational phase.
- Assurance must be made that the staff on site are familiar with fire procedures, and use of fire equipment.
- Proper housekeeping is very crucial during operational phase.

Responsible party

Applicant

(d) Measurement and monitoring procedures

Impact

Soil and groundwater pollution.

Mitigation

Slow leakage from underground tanks containing liquid stocks can be detected through measurements and reconciliation procedures.

- Dipstick reading will be done on daily basis to establish any discrepancy between recorded and actual stock.
- A pattern will be established to monitor any unusual product loss. Major discrepancies and unusual patterns are indicative of uncontrolled product loss of which a leak can be one possibility.
- The developer must keep proper and accurate records of fuel sales and deliveries, dip the UGST's at the end of each shift, and regular fuel reconciliation to guard against product loses.
- Site Manager need to be present during fuel deliveries to overseer that there is no overfilling resulting in hydrocarbon spills. The driver needs to dip the tanks before delivery and replace the dip cap before starting the fuel transfer.

Responsible party

Applicant

(e) Obtaining evidence

Impact

Soil and groundwater pollution.

Mitigation

- Whenever a discrepancy is suspected the stock will be checked immediately to ascertain whether the stock is real or there was an error in recording.
- Abnormal water amounts will be checked, as water cannot enter tanks lying above the water table.
- Excessive water is indicative of the problem that needs to be attended to immediately.
- The information and control system will be such that it's accurate and easy to establish a pattern to be able to pick up unusual changes, which might be leaks.

Responsible party

Applicant

(F) A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT OBJECTIVES AND OUTCOMES CONTEMPLATED IN PARAGRAPH (D) AND (E) WILL BE ACHIVIED, 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;

(i) planning and design;

How impact management outcomes will be achieved

This will be done by educating the stakeholders about the environment, and the crash course for the contractor. The project must ensure sustainable development in balancing social and environmental aspects.

(ii) Pre-construction activities;

Environmental awareness and partnerships

How Impact management outcomes will be achieved

The EMPr contents will further be discussed with all stakeholders in terms of the project to ensure they are understood, and are adhered to. Compliance will be emphasized to the developer, and the Compliance section of DEDTEA is also expected to do inspections, as they deem appropriate and necessary.

How Impact management outcomes will be achieved

- The EMPr will be signed by the main contractor, and popularized to stakeholders.
- The EMPr document must be available on site at all times to ensure monitoring by organs of state with jurisdiction on site.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

How Impact management outcomes will be achieved

- The main contractor and relevant stakeholders will have to be familiar with the contents of the Environmental Management Programme (EMPr) to be able to comply with the aforementioned document during all project phases.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution likely to result in soil contamination and environmental pollution in case of leakages and spills.

How Impact management outcomes will be achieved

- This will be mitigated by constructing a storage facility that is roofed and properly paved to store all the contractor's tools and materials during construction phase.

(b) Solid waste and littering

Impact

The possible pollution of the environment resulting from litter and waste.

How Impact management outcomes will be achieved

- Solid waste must be disposed of at the nearest disposal site

(c) Concrete mixing

Impact

Soil contamination.

How Impact management outcomes will be achieved

- All concrete mixing that is “not ready mixed” must be carried out on wooden boards in a lined bunded area so that cement slurry does not escape out of the area. This will also prevent contamination of the soil.

(d) Chemical materials

Impact

Environmental pollution including soil and surface water.

How Impact management outcomes will be achieved

- Chemical materials like paint, turpentine, solvents, cement and the like must be stored appropriately in line with the provisions of Hazardous Substances Act (Act 15 of 1973).

(e) Management of water, sediments and stormwater

Impact

Soil erosion and ground water pollution.

How impact management outcomes will be achieved

- Stormwater must be in line with the design and adhere to all Engineers stipulations.

(f) Air pollution

Impact

Air pollution.

How impact management outcomes will be achieved

- It is important that the requirements of the atmospheric Pollution Prevention Act (APA) (Act No. 45 of 1965) and National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) be adhered to.
- Dust from the operations must be minimized by regularly spraying with water during construction

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

How impact management outcomes will be achieved

- Noise Control Regulations (Regulations 154, 10 January 1992) of the Environmental Conservation Act (Act No. 73 0f 1989) must be adhered to.
- Construction operations must be restricted to daylight period, Monday to Saturday, and must adhere to legally stipulated hours (7.00 – 18.00).

(h) Earthworks and Soil

Impact

Soil erosion.

How impact management outcomes will be achieved

- Soil generated during digging of trenches must be backfilled immediately or at least within 48 hours.
- All soil left after construction will be removed.

(i) Vegetation / Groundcover

Impact

Soil erosion.

How impact management outcomes will be achieved

- Planting of grass and ground cover.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

How impact management outcomes will be achieved

- All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
- Provision of mobile toilets placed some 150 metres away outside of the 1: 100 year floodline. These toilets must be regularly monitored on daily basis and sewerage sludge must be disposed of at a nearest registered Waste Water Treatment Works.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation and surface water pollution.

How impact management outcomes will be achieved

- Located at a distance of 150 metres away from any watercourse. In this instance there is no watercourse nearby.

(l) Traffic Management

Impact

Congestion and increased traffic flow.

How impact management outcomes will be achieved

- Vehicles must adhere to the speed limit of 40 kms per hour during construction.
- Construction vehicles must be properly marked with “construction vehicle” signs, and drivers must be given clear work instructions.

(m) Heritage impact

Impact

Impact on heritage resources that may be identified during earthworks.

How impact management outcomes will be achieved

- Amafa must be contacted if any heritage objects are identified during earthmoving activities, and all development must cease until further notice.
- Amafa must be contacted if any graves are identified during construction.
- No activities are allowed within 50 m of a site which contains rock art.

(n) Visual impact

Impact

Nuisance to the community.

How impact management outcomes will be achieved

- Stick to principles of sustainable development that avoids emotional environmental outcry.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

How impact management outcomes will be achieved

- Proper housekeeping.

(b) Signing off

Impact

Environmental pollution and degradation left after construction.

How impact management outcomes will be achieved

- EMPr has to be signed off by the contractor on site.

(c) Landscaping

Impact

Soil erosion.

How impact management outcomes will be achieved

- Landscaped area, planted with grass and ground cover.
- Eradication of invader evasive species on site.

Impact

Possibility of soil contamination.

How impact management outcomes will be achieved

- Contaminated soil must be cleaned, removed and disposed of at the nearest disposal site.

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

How impact management outcomes will be achieved

Standard operating procedure to deal with possible spillage.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

How impact management outcomes will be achieved

- Waste Management plan in place.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

How impact management outcomes will be achieved

- Health and Safety plan in place.
- Training on health and safety issues.

Responsible party

Applicant

(d) Measurement and monitoring procedures

Impact

Soil and groundwater pollution.

How impact management outcomes will be achieved

- By regular fuel reconciliation to guard against product looses.

(e) Obtaining evidence

Impact

Soil and groundwater pollution.

How impact management outcomes will be achieved

- Whenever a discrepancy is suspected the stock will be checked immediately to ascertain whether the stock is real or there was an error in recording.

Where applicable include actions to:

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

As above

(ii) comply with any prescribed environmental management standards or practices;

As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

In case of closure the activity must be reported to the Department of Economic Development, Tourism and Environmental Affairs, Local Authorities, Department of Energy and such closure needs monitoring by an environmentalist as outlined above.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

Issues of rehabilitation on site will be done by Ndwedwe Auto Service.

(G) THE METHOD OF MONITORING THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

(i) planning and design;

Method of monitoring the implementation of impact management

Compilation of monthly reports.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Method of monitoring the implementation of impact management

Monthly reporting to stakeholders.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

Method of monitoring the implementation of impact management

- Monitoring environmental performance against the Environmental Management Programme (EMPr) posted on the notice board inside the construction office.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution likely to result in soil contamination and environmental pollution in case of leakages and spills.

Method of monitoring the implementation of impact management

- Monthly reporting and site photographs.

(b) Solid waste and littering

Impact

The possible pollution of the environment and water due to litter and waste.

Method of monitoring the implementation of impact management

- Monthly reporting and proof of disposal receipts from the disposal site.

(c) Concrete mixing

Impact

Soil contamination.

Method of monitoring the implementation of impact management

- Monthly reporting.

(d) Chemical materials

Impact

Environmental pollution including soil and water.

Method of monitoring the implementation of impact management

- Monthly reporting and Safety Officer reports.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and water pollution.

Method of monitoring the implementation of impact management

- Monthly reporting.

(f) Air pollution

Impact

Air pollution.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

Method of monitoring the implementation of impact management

- Monthly reporting and information from the local leaders and community.

(h) Earthworks and Soil

Impact

Soil erosion and sedimentation.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(i) Vegetation / Groundcover

Impact

Soil erosion.

Method of monitoring the implementation of impact management

- Site inspection and photographs.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

Method of monitoring the implementation of impact management

- Monthly reporting, inspection and safety officer reports.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation.

Method of monitoring the implementation of impact management

- Site inspection.

(l) Traffic Management

Impact

Congestion caused by delivery trucks.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting

(m) Heritage impact

Impact

Impact on heritage resources that may be identified during earthworks.

Method of monitoring the implementation of impact management

- Site inspection, monthly reporting done against the standing directives of Amafa.

(n) Visual impact

Impact

Nuisance to the community.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(b) Signing off

Impact

Environmental pollution and degradation left behind after construction.

Method of monitoring the implementation of impact management

- Site inspection and reporting.

(c) Landscaping

Impact

Soil erosion.

Method of monitoring the implementation of impact management

- Site inspection and photographs.

Impact

Possibility of soil contamination.

Method of monitoring the implementation of impact management

- Site inspection, photographs and reporting.

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

Method of monitoring the implementation of impact management

- Site inspection, photographs and reporting.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

Method of monitoring the implementation of impact management

- Correct waste disposal method.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

Method of monitoring the implementation of impact management

- Sticking to OHS procedures.

(d) Measurement and monitoring procedures

Impact

Soil and groundwater pollution.

Method of monitoring the implementation of impact management

- Regular site inspection and reporting

(e) Obtaining evidence

Impact

Soil and groundwater pollution.

Method of monitoring the implementation of impact management

- Regular inspection and recording.

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;

- As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

- Reporting to the Department of Economic Development, Tourism and Environmental Affairs.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

Removal of any alien plants in line with legal requirements. The applicant and the asset owner has an obligation to eradicate alien invader species that may infest the area after the earthworks on site. The Department of Economic Development, Tourism and Environmental Affairs is empowered to request this eradication programme as provided in the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), as well as the Alien and Invasive Species Regulations dated 2014.

(H) THE FREQUENCY OF MONITORING THE IMPLEMNETATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

The method of monitoring the implementation of the impact management actions contemplated under (F) above. The monitoring for all the impacts will be done on monthly basis through monthly reporting, and project meetings.

(I) AN INDICATION OF PERSONS WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS;

Responsible persons:

- Mondli Consulting Services (Environmental Control Officer) – overall responsibility of environmental reporting, training and awareness and the overseer of the implementation of the whole EMPr.
- Contractor / Site Engineer or Builder (Ndwedwe Auto Service) – responsible for all engineering or building related work on site, and project implementation.
- Ndwedwe Auto Service – ensure adherence to the EMPr.
- DEDTEA (Compliance Section) – inspections.

(J) THE TIME PERIODS WITH WHICH THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F) MUST BE IMPLEMENTED;

(i) planning and design;

Time periods of implementation

Planning and commencement phase of the project.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Time periods of implementation

Immediately after the issuing of the Permit by the Department of Energy.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

Time periods of implementation

- Immediately after the issue of the Permit by the Department of Energy.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution that is likely to result in soil contamination and environmental pollution in case of leakages and spills.

Time periods of implementation

- For the duration of construction period.

(b) Solid waste and littering

Impact

The possible pollution of the environment.

Time periods of implementation

- For the duration of both construction and operational periods.

(c) Concrete mixing

Impact

Soil contamination.

Time periods of implementation

- During the concrete / construction phase of the project.

(d) **Chemical materials**

Impact

Environmental pollution including soil and water.

Time periods of implementation

- For the duration of the project.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and water pollution.

Time periods of implementation

- For the duration of the project and beyond.

(f) Air pollution

Impact

Air pollution.

Time periods of implementation

- For the duration of the project.

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

Time periods of implementation

- For the duration of the project and beyond.

(h) Earthworks and Soil

Impact

Soil erosion.

Time periods of implementation

- During the earthworks and construction phases of the project.

(i) Vegetation / Groundcover

Impact

Soil erosion.

Time periods of implementation

- On project completion.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

Time periods of implementation

- For the duration of the project and beyond.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation.

Time periods of implementation

- During the project set up on site.

(l) Traffic Management

Impact

Congestion and increased traffic flow.

Time periods of implementation

- For the duration of the project

(m) Heritage impact

Impact

Impact on heritage objects that may be identified during earthworks.

Time periods of implementation

- For the duration of the project.

(n) Visual impact

Impact

Nuisance to the community.

Time periods of implementation

- For the duration of the project.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

Time periods of implementation

- During project completion phase.

(b) Signing off

Impact

Environmental pollution and degradation left behind after construction.

Time periods of implementation

- On project completion.

(c) Landscaping

Impact

Soil erosion.

Time periods of implementation

- On project completion.

Impact

Possibility of soil contamination.

Time periods of implementation

- For the duration of the project

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

Time periods of implementation

- For the duration of the project and beyond.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

Time periods of implementation

- For the duration of the project and beyond.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

Time periods of implementation

- For the duration of the project and beyond.

(d) Measurement and monitoring procedures

Impact

Soil and groundwater pollution.

Time periods of implementation

- For the duration of the project and beyond.

(e) Obtaining evidence

Impact

Soil and groundwater pollution.

Time periods of implementation

- During operational phase and beyond.

Where applicable include actions to:

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

As above.

(ii) comply with any prescribed environmental management standards or practices;

- As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

- Reporting to the Department of Economic Development, Tourism and Environmental Affairs on project completion.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

- Monitoring after project completion.

(K) THE MECHANISM FOR MONITORING COMPLIANCE WITH THE IMPACT MANAGEEMNT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

Monitoring and Auditing

- The Environmental Control Officer (Mondli Consulting Services) will monitor implementation and do environmental reporting.
- The main contractor / Site Engineer or Builder will ensure adherence to set technical specifications through project meetings.
- The planting of grass will be supervised by the environmental control officer.
- The Department of Economic Development, Tourism and Environmental Affairs (Compliance Section) will do inspections as deemed appropriate.

(L) A PROGRAM FOR REPORTING ON COMPLIANCE, TAKING INTO ACCOUNT THE REQUIREMENTS AS PRESCRIBED BY THE REGULATIONS;

- Monthly report.
- Project meetings.
- Auditing.
- Reporting as per the Petroleum Products Act, 1977 (Act No. 120 of 1977).

(M) AN ENVIRONMENT AWARENESS PLAN DESCRIBING THE MANNER IN WHICH -

(i) the applicant intends to inform his or her employees of any environmental risk which is likely to result from their work; and

- This will be done through a short environmental course.
- Employees will be taken through the EMPr.

(ii) risks must be dealt with in order to avoid pollution or degradation of the environment; and

- There must be full compliance with all other relevant legislation relating to the handling and storage of hazardous material, occupational health, safety and pollution. A course will be arranged in this regard.

(N) ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY

None.