TURN180
ENVIRONMENTAL CONSULTANTS
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ENVIRONMENTAL MANAGEMENT PROGRAMME

APPLICATION FOR ENVIRONMENTAL AUTHORISATION THROUGH BASIC ASSESSMENT REPORTING PROCESS FOR THE PROPOSED EXPANSION AND CONSTRUCTION OF A COLLEGE ON PLOT 27, RAYTON, BLOEMFONTEIN

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JENN MAREMATLOU
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A Division of Marematlou Group Holdings

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Site Information:

Farm / Erf Name	: Rayton Small Holdings
Farm Number	: Plot 27
Farm Portion	:
21 Digit Surveyors Code	: F 00300660000002200000 F 00300660000002100000
District	: Mangaung Metropolitan
District Municipality	: Mangaung Municipality
Local Municipality	: Mangaung Local Municipality
Site coordinates (Centre of site)	: 29˚04'4.19" S 26˚11'4.90" E

Abbreviations:

AEL	:	Atmospheric Emissions License
BA	:	Basic Assessment
BAR	:	Basic Assessment Report
CA	:	Competent Authority
EA	:	Environmental Authorization
EAP	:	Environmental Assessment Practitioner
EIA	:	Environmental Impact Assessment
FSH	:	Free State Heritage
I&AP	:	Interested and Affected Parties
IWUL	:	Integrated Water Use License
IWULA	:	Integrated Water Use License Application
MPRDA	:	Minerals and Petroleum Resources Development Act (Act 28 of 2002)
NEMA	:	National Environmental Management Act (Act 107 of 1998)
NEM:WA	:	National Environmental Management: Waste Act (Act 59 of 2008)
NHRA	:	National Heritage Resources Act (Act 25 of 1999)
NWA	:	National Water Act (Act 36 of 1998)
SAHRA	:	South African Heritage Resource Agency
WULA	:	Water Use License Application
WUL	:	Water Use License

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Objectives of the Environmental Management Programme (EMPr)

The Environmental Management Programme is intended to provide environmental specifications to put measures in place to mitigate and manage potential environmental impacts arising from the construction and expansion activities during the construction- and operational phases of the establishment of a College and Offices on Plot 27, Rayton, Bloemfontein, Free State. This EMPr enables the key role players to use a pro-active approach by addressing potential impacts beforehand, thus, limiting the corrective measures needed during the construction and operational phases of the project.

This EMPr deals with the phases as set out below:

The Planning Phase

The EMPr offers an ideal opportunity to incorporate pro-active environmental management measures in order to ensure that potential harmful impacts are limited and avoided as far as possible. Furthermore, by implementing this EMPr during the planning phase, the necessary corrective actions can be taken to limit future potential impacts which could be detrimental to the environment.

The Construction Phase

The majority of impacts during the construction phase will pose immediate effects (e.g. noise, dust etc.). The site must be monitored on a regular basis during the entire construction phase in order to identify and mitigate impacts as they occur. These impacts can then be mitigated effectively using the measures as set out in this EMPr.

The Operational Phase

Pro-active measures used during the planning and construction phases can be used to minimise potential environmental impacts during the operational phase of the project. These measures will also limit the risks related to certain impacts and reduce the intensity of monitoring during the operational phase.

Construction Phase, Operational Phase and Responsible Parties

Formal responsibilities are necessary to ensure that procedures and EMPr measures are executed throughout the construction and operational phase by each responsible party. Responsible parties for this project include the following: Project Manager, Site Manager, Contractors, Dedicated Environmental Officer ("**DEO**"), construction workers and employees.

The Project Manager:

- Ensure that the Applicant and on-site contractors are aware of all specifications, legal aspects, and standards of procedure relating to the construction phase in terms of environmental protection.

- Ensure that all EMPr measurements and guidelines are communicated to and adhered to by all parties on site.
- Monitor the implementation of the EMPr throughout the construction phase through regular monitoring, inspections and meetings with all applicable parties on site.
- Should be completely familiarised with the Environmental Impact Assessment ("**EIA"**)/Basic Assessment ("**BA**") for the project, the conditions of the Environmental Authorisation ("**EA"**) and other relevant environmental legislation.

The Site Manager:

- Will be familiarised with the EIA for the project.
- Will be familiarised with the conditions regarding the EA for the project.
- Will have sound knowledge of and be familiarised with the EMPr.
- Should be aware of all specifications, legal aspects, and standards of procedure relating to the construction and operational phase in terms of environmental protection and ensure compliance with these.
- Will have an overall responsibility to implement measures as set out in this EMPr.
- Will ensure the relevant audits take place to ensure compliance with this EMPr.
- Will continuously liaise with the project manager, the environmental control officer and other role players on matters concerning the environment.
- Prevent actions that will harm or may cause harm to the environment and take steps to prevent any form of pollution on the site.
- Confine related activities to the demarcated site.

The Dedicated Environmental Officer:

- Should be fully familiar with the EIA/BA Report.
- Be fully familiar with the conditions of the EA.
- Be fully familiar with the EMPr.
- Assume a leading role in performing environmental audits and guiding other staff in the performing of external and internal audits
- Perform monthly environmental reporting for input into Divisional management information reports.
- Be fully up-to-date with all relevant environmental legislation and policies and procedures, and ensure compliance with them.
- Conduct daily inspections to determine compliance with EA using checklists.
- Submit monthly audit update report to External Auditor and Management, showing progress with findings.
- Facilitate reporting, recording, investigation and follow-up of environmental related incidents.

- Facilitate and integrate relevant training programs for personnel covering all activities impacting on the environment
- Ensure that the environmental commitments in this EMPr and the EA are complied with by the contractor and sub-contractors.
- Evaluate operational methods, techniques and procedures, identify environmental risk, draw conclusions and recommend possible solutions.
- Implement and manage the necessary operational Environmental Management Measures.
- Proactively interpret and objectively analyse environmental data and initiate programs to mitigate against the environmental and related risks
- Take appropriate action if the specifications contained in the EMPr are not followed.
- Monitor and verify that environmental impacts are kept to a minimum, as far as possible.
- Ensure that activities on site comply with all relevant environmental legislation.

Contractors and Service Providers:

All contractors (including subcontractors and staff) and service providers are ultimately responsible for:

- Complying with the environmental management specifications where applicable;
- Provide Environmental Method Statements to the Site Manager with regards to how certain activities on-site will be conducted.
- Adhering to any environmental instructions issued by the Site Manager/Project Manager
- Submitting a report, in a format and frequency as decided upon by the Project/Site Manager, which will document all incidents that have occurred during the period before the site meeting
- Arrange that all his employees and those of his subcontractors receive training. Training has to be appropriate for the level of the tasks and functions undertaken.

Layout Plan

- A copy of the layout plan must always be available on site.

Protection of the Environment

Awareness Plan

All contractors and employees must be trained and should informed about the environmental impacts and the prevention thereof. Workers should receive Induction for environmental safety and risk management and regular "Toolbox Talks" should commence to brief and debrief workers on potential environmental issues in order to prevent an unnecessary environmental impact from occurring.

The following aspects should be taken in consideration:

1. Ensure that development only takes place within the development footprint. Any area cleared outside the scope of the initial BAR done for the project will trigger another activity in terms of the NEMA 2014 Regulations.

2. All watercourses and/or wetlands are regarded as sensitive areas and must be avoided as far as practically possible. No material/waste products may be dumped into a watercourse and/or wetland.

3. Ensure that hydrocarbons (diesel, oil, and any lubricant) are stored according to best practices.

4. Water utilized for the project may only be abstracted from authorized sources.

5. Ensure that sufficient pollution prevention measures are implemented at the construction area.

6. Good housekeeping on all the sites is very important. Ensure that the construction site is always clean as this will determine the impact on passing motorists.

7. General waste skips should be emptied at regular intervals to avoid pollution.

Protection of Geology and Soil

The geology of the Bloemfontein area is situated within the Karoo Supergroup of which it is subdivided into the Beaufort Group and then the Adelaide Subgroup, and is primarily represented by late Permian, Balfour Formation sedimentary rocks, which are made up of alternating and potentially fossil-bearing sandstone and mudstone layers. The study area is underlain by resistant Jurassic dolerites in the form of sills which represent themselves as ridges or "koppies". As a result of the topography, overlying Quaternary sediments (superficial, residual deposits) largely represent an erosional surface made up of well-developed, residual soils of varying depth. The soils are classified as, "One or more of: vertic, melanic, red structured diagnostic horizons, undifferentiated" (ENPAT 2001).

The following aspects should be taken in consideration:

- Topsoil will be removed before construction and stockpiled appropriately and in such a manner to prevent any loss thereof.
    - Topsoil will not be used for any construction purposes and will only be used during the levelling of the site.
    - Stockpiles may not exceed a height of 1.5 m.
- Soil loss through erosion will be reduced by implementing storm water management practices.

- Equipment and machinery on site will be maintained and drip trays will be used to prevent spillages of petrochemical products which may cause contamination of soil. Any hazardous substances on the site will be stored in a bunded area which consists of an impermeable floor with walls which will have the capacity to contain 110% of the volume of the substance stored therein.
- Any spills of hazardous substances will be cleaned immediately by disposing of the affected soil as hazardous waste.

Protection of Plant and Animal Life

According to Mucina & Rutherford (2006) the area consists of Winburg Grassy Shrubland (Gh 7). This vegetation type is currently listed as being of Least Concern (LC) under the National List of Threatened Ecosystems (Notice 1477 of 2009) (National Environmental Management Biodiversity Act, 2004). The site in question is listed as being an Ecological Support Area 1 and 2 and is considered to have a moderate conservation value (van Rensburg, 2019).

A shallow excavation contains a significant juvenile population of the protected Giant Bullfrog (*Pyxicephalus adspersus*). Although it is a relatively widespread and common species and Red Listed as being of Least Concern (LC) it is protected and as such does retain a significant conservation value which will require adequate management and mitigation. A few protected plant species were observed on the site. The protected species occurring on the site are *Olea europaea* subsp. *africana, Brunsvigia radulosa* and *Raphionacme hirsuta*. The Wild Olive Tree (*O. europaea* subsp. *africana*) should be kept intact where possible and where development will affect them the necessary permits should be obtained to remove them (van Rensburg 2019).

The following aspects should be taken in consideration:

- No open fires are allowed on the site.
- No animals will be harmed and/or killed on the site. If any animals are encountered, they will be relocated from the site.
- Any sensitive, protected or endangered plant and animal species found on site during and after construction should be safely removed with the necessary permits and relocated to a suitable habitat elsewhere.
- Alien plant species on site will be removed to prevent the spread of these plants to the surrounding environment.
    - Removal of alien plants must adhere to the Alien and Invasive Species Regulations.

Protection of Surface Water

From the survey done by the Ecologist, it is clear that the site does not contain any watercourses or drainage lines. It is also clear that no naturally occurring wetlands are present. However, as previously mentioned, alterations to the topography, i.e. berm and excavation, causes the accumulation of surface runoff which in turn causes the formation of artificial wetland conditions. A low artificial berm has been erected centrally on the site and along the eastern border. As a result of the above, the artificial wetland area formed by the berm is considered of low conservation value. A small, shallow excavation occurs along the southern border of the site and due to the modified topography, it also accumulates runoff forming a small artificial impoundment. As with the berm, this again causes the formation of artificial wetland conditions. Here the 13 wetland conditions are again completely artificial, are not being fed by any defined watercourse and do not form part of any surface water system. This shallow excavation forming artificial wetland conditions are therefore again not considered to have a significant conservation value. From the above description of the artificial impoundments and wetland conditions formed by the artificial berm, excavation and concrete dam it is clear that they are not considered to form part of any surface water systems and are consequently of low conservation value. As a result, should development require the removal of any of these features it will not result in any significant ecological impact (van Rensburg 2019).

The following aspects should be taken in consideration:

- An adequate storm water management system should be implemented during the construction and operational phases to accommodate runoff during rain events as well as to divert the water around the development to the surrounding storm water drains in Frans Kleynhans Road.
    - Stormwater will be allowed to drain off-site into the storm water drains.
    - No storm water will be allowed to pond in large quantities during the construction phase.
- Any hazardous substances will be stored in a bunded area with a capacity to contain 110% of the volume of the substance.
- The site will be kept clean and tidy to prevent general waste and littering from occurring in the surrounding surface water resources.
- Spillages of hazardous substances will be cleaned by removing the spill and contaminated soil and disposing of it as hazardous waste.
    - Any incidents on surface water resources during construction will be reported to the relevant authorities within 24 hours of the incident.
- The site will be monitored for any erosion trenches. Trenches will be rectified, and erosion control measures will be implemented.

Protection of Groundwater

It should be noted that the applicant indicated that they will use an already existing borehole on-site. It was also indicated that this borehole has a yield of 1500 L/hr and that the abstracted water will only be used to irrigate the gardens and surrounding vegetation. It is imperative that this yield not be exceeded and only used for its intended purpose of irrigation. The groundwater of the area consists of minor sandstone aquifers or contact fractures of relatively good water quality. The aquifers at the site most likely has an approximate depth of 30 m or up until the sandstone dolerite contact is reached. Due to the nature of the site (sloping towards Frans Kleynhans Road and dolerite outcrops) recharge can only realistically take place through fractures and the lowest part of the site through run-off. It is however very likely that this site will receive less than 5 mm/per annum due to the dolerite sill present (impermeable layer) and the new construction area will be totally paved over. It is imperative that although recharge and infiltration of surface water is low, that hazardous spills or any form of contamination during the construction phase be cleaned up as soon as possible to prevent the contamination of the soils and aquifer.

The following aspects should be taken in consideration:

- No over abstraction will occur from the borehole and no water will be used other than that of its intended purpose of garden irrigation.
- Spillages of hydrocarbons will be prevented by using drip trays.
- Spillages of any potentially hazardous substances should be cleaned by removing the spill and the contaminated soil and disposing thereof as hazardous waste.
- Potentially hazardous substances will be stored on an impermeable surface inside a bunded area to prevent seepage of the substance and pollution of the groundwater.

Protection of the Air Quality and Regulation of Noise Levels

It is expected that the ambient air quality in the area is good. Construction activities will contribute towards higher noise levels and some minor form of dust fallout. The proposed site is located in close proximity to sensitive receptors as it is located near new developments, residential areas and natural environments. The construction process will release small amounts of carbon into the atmosphere during heavy vehicle operation but this can be classified as negligible.

The following aspects should be taken in consideration:

- Dust suppression should be implemented if found that construction activities leads to excessive amounts of dust fallout.
    - Dust control measures must adhere to Dust Control Regulations.

- Construction and operational activities, especially activities contributing to dust emissions should be avoided during windy conditions.
- Vehicle movement and speeds at which vehicles travel on the site will be kept to a minimum of below 35km/h.
- Waste will not be burned on site and open fires will not be permitted.
- Construction and operational activities contributing to elevated noise levels will be restricted to normal working hours.
- Any stockpiles of sand, topsoil and building material that can be easily blown by wind should be covered by a tarp/canvas to prevent fine dust particles from entering neighbouring properties.

Protection of Site and Surrounding Land Use

The site's condition is near natural except for construction activities and infrastructure to the North East. It is planned to leave the centre of the site (Site 2) undisturbed and construct the college on Site 1. The surrounding land to the North is used for agriculture whereas the remaining land is used a residential.

Impacts on land use is unavoidable and rehabilitation is not likely as this project is a permanent installation and plans on operating well into the future.

The following aspects should be taken in consideration:

- Construction and operation activities will only take place within the site boundary to limit disturbance.
- The centre of the site, earmarked to be conserved, has near natural vegetation with certain rare species of flora and needs to be protected.
- It must be ensured that general and/or construction waste be stored in the correct locations on the site in order to keep the site clean and tidy.
  - The site must be equipped with necessary waste bins.

Protection of Cultural, Archaeological and Palaeontological Heritage

A Heritage Impact Assessment ("**HIA**") and Palaeontological Impact Assessment ("**PIA**") was conducted for the site. No evidence of archaeological material or any indications of rock art, prehistoric structures or historical buildings were observed. The underlying geology of the site consists of dolerite bedrock, which is not considered to be paleontologically significant (Rossouw 2019).

The following aspects should be taken in consideration:

- No blasting or deep excavations will take place.

- If any archaeological objects or palaeontological remains are found, work will stop immediately and a specialist and SAHRA will be notified.

Protection of Aesthetics (Visual) Exposure

Due to the area surrounding the site being used for agricultural purposes, residential settlements and still containing some of its environmental significance, the site contains near-natural conditions and has a medium visual significance. The site is also located next to the main Frans Kleynhans Road and depending on the design of the building and how it is incorporated into the natural environment can have either a positive or negative visual impact on passing motorists.

The following aspects should be taken in consideration:

- There should be no unnecessary felling of trees or removal of natural vegetation.
- Alien vegetation should be cleared regularly.
- The infrastructure on site should be maintained regularly to keep up the aesthetic appeal of the area.
- Waste should be disposed of in the correct manner regularly.
- Separate skips and/or bins should be available for the separate waste streams.
- Any spills and/or leakages should be cleaned immediately in the correct manner.

Inspections and Monitoring

- Ongoing and regular reporting of the progress of implementation of this EMPr will be done.
- Inspections and monitoring shall be carried out on both the implementation of the EMPr and the impact on plant and animal life.
- Visual inspections on erosion and physical pollution shall be carried out on a regular basis.

Compliance Reporting/Submission of Information

- A DEO will be appointed. The officer is responsible to monitor all the environmental management measures and ensure compliance with the EMPr.
- A compliance assessment will be undertaken by an independent Environmental Control Officer once during construction and once during operation of the site to verify compliance with the EMPr and the EA.
- Any changes of the layout and/or rehabilitation plan or technology will be submitted to the Free State Department of Economic Development, Small Business, Tourism and Environmental Affairs ("**DESTEA**") for approval.

- Reports confirming compliance with various points identified in the EMPr will be kept and made available when requested.
- Any emergency or unforeseen impact will be reported within 12 hours after identification to the DESTEA telephonically and confirmed in writing.

Rehabilitation after the Construction phase

It is anticipated that after the construction phase is completed that there will be pre-designated areas were either waste was stored or building waste was stockpiled. It is also possible that new gravel roads will be constructed to gain access to the site.

- All areas used for storage of material during the construction should be cleared of all remaining material and rehabilitated to its original state.
- All new and existing gravel roads that will not be utilized after the construction process must be rehabilitated to its original state.
- Any erosion caused directly by the construction process must be rehabilitated.

Rehabilitation

It is not anticipated that the proposed project will undergo decommissioning and / or closure. However, should it be decided to rehabilitate the site in future, the site will be rehabilitated to its original state as far as practicable possible, depending on the end land use to be decided upon at that time. The final rehabilitation of the site will, amongst other, include the following activities:

- All infrastructures, equipment and other items used during the operational period will be removed from the site.
- Scrap metal will be sold to be recycled.
- Waste material of any description will be removed entirely from the site and disposed of at a recognised landfill facility in the area.
- Waste will not be permitted to be buried or burned on the site.
- Any concrete surface will be removed, and compacted areas will be ripped.
- The site will be profiled with acceptable contours and erosion control measures.
- Topsoil will be returned to its original depth over the area.

Table 1: Mitigation measures and monitoring, responsible person(s) and time frames

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
Construction Phase					
Clearance of vegetation and removal of topsoil	• Erosion • Loss of topsoil • Contamination of soil • Establishment of invasive alien plant species • Negative aesthetic impact on passing motorists • Unearthing of significant heritage resources	• Levelling of the site. • Limit construction. activities and movement of construction vehicles to the site under construction. • Stockpile topsoil in an area not prone to erosion for re-use during rehabilitation or for levelling purposes after construction. • Topsoil stockpile heights may not exceed 1.5 m. • Topsoil will not be used for construction purposes. • Any hazardous substances on the site will be stored in a bunded area which consists of an impermeable floor with walls which will have the capacity to contain	DEO / Contractors	• No erosion • Minimum soil loss • No loss of heritage resources • Vegetation outside marked areas are undisturbed and in good condition. • No new roads used by construction vehicles outside the marked areas.	During construction phase

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
		110% of the volume of the substance stored therein. • Any spills of hazardous substances will be cleaned immediately by disposing of the affected soil as hazardous waste. • The site will always be kept clean and neat by housekeeping. • Removal of alien plant species on a regular basis. • Removal of alien plants must adhere to the Alien and Invasive Species Regulations. • If any objects of archaeological or palaeontological significance are found, SAHRA must be notified immediately and all work must stop.			
Removal of animals	• Loss of permanent and migratory	• An endangered species (*Giant African Bullfrog*) was identified	DEO	• All sensitive species safely relocated from site.	Continuous process, throughout the

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
	species on the undisturbed areas.	during the Ecological and Wetland Assessment report. • Relocation of all permanent animal life on site (*Giant African Bullfrog*). • An effort should be made to not disturb migratory animal life on site (*Various birds, small antelope and reptile species*).			project lifetime, but permanent relocation should commence before construction activities start.
Waste Management	• Littering which pollutes the area. • General and construction waste. • Aesthetic impact	• Building material and general waste must be disposed of at an authorised landfill site and may not be dumped in the veld or on site. • The site will always be kept clean and neat by correct waste disposal measures and housekeeping. • Separate waste skips or bins for the different waste streams must be available on site. Where possible they	DEO / Contractors	• No pollution and/or littering	Continuous throughout the project lifetime.

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
		should be lined and covered.			
Storm Water Management (NOTE: No storm water retention is required for the site)	• Contamination and siltation of surface water • Erosion	• Implement appropriate storm water measures. • Storm water should be channeled or guided in such a manner that no ponding occurs on site and that the run-off can freely drain into the storm water drains.	DEO	• No erosion • No contamination and/or siltation of surface water • No ponding of storm water on-site.	Continuous throughout the project lifetime.
Construction of infrastructure (College, Office building and Expansion of existing infrastructure)	• Construction activities may lead to dust and noise generation • Negative aesthetic impact on passing motorists • Unearthing of significant heritage resources. • Deterioration of existing road network.	• Construction should be limited to normal working hours in order to limit the significance of the noise levels • A speed limit will be enforced on construction vehicles • Dust control measurements will be investigated if nuisance dust generation proves to be problematic • Dust control measures must adhere to Dust Control Regulations. • The site will always be kept clean and neat	DEO/ Contractors	• Minimal noise and dust. • Reduced aesthetic impact. • Road surface in an acceptable condition.	Construction Phase.

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
		by correct waste disposal measures and housekeeping. • If any objects of archaeological or palaeontological significance are found, SAHRA must be notified immediately and all work must stop. • The asphalt roads which allows access to the site should be kept in a good condition. If that proves not to be possible the road should be repaired.			
EMPr compliance monitoring: Construction Phase	N/A	• Environmental compliance assessment to verify compliance with the EMPr during construction.	Independent Environmental Control Officer	Full compliance with the EMP and EA, Minimum environmental impacts	Once during construction
Operational Phase					
Waste Management	• Littering • General waste • Aesthetic impact	• General waste must be disposed of at an authorised landfill site and may not be dumped in the veld or on site. • The site will always be kept clean and neat	DEO / Management	• No pollution and/or littering • Continuous recycling	Ongoing during Operational Phase

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
		by correct waste disposal measures and housekeeping. • Separate waste skips or bins for the different waste streams must be available on site. Where possible they should be lined and covered. • Waste that will be identified as going to be recycled will each be stored in separate containers until full or until removal by contractors.			
Storm Water Management	• Contamination and siltation of surface water • Erosion	• Implement appropriate storm water measures. • Storm water should be channeled or guided in such a manner that no ponding occurs on site and that the run-off can freely drain into the storm water drains.	DEO / Management	• No erosion • No contamination and/or siltation of surface water • No ponding of storm water on-site.	Ongoing during Operational Phase.

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
Operation of College, Offices and Dormitories.	• Negative aesthetic impact on passing motorists. • Establishment of invasive alien plant species. • Over abstraction of on-site borehole for irrigation of gardens. • No regular maintenance of site and infrastructure.	• Try an incorporate the buildings around/into the natural surrounding environment. • Dust control measures must adhere to Dust Control Regulations. • Removal of alien plant species on a regular basis. • Removal of alien plants must adhere to the Alien and Invasive Species Regulations. • The borehole must be tested, and the recommended yields be kept to. • The site will always be kept clean and neat by housekeeping. • Regular maintenance of the buildings will be implemented, and a scheduled program be kept to.	All management involved during the operational phase.	Clean and neat site No alien invasive species	Ongoing during Operational Phase.
EMPr compliance monitoring: Operational Phase	N/A	• Environmental compliance assessment to verify compliance	Independent Environmental Officer	Full compliance with the EMPr	Once during operation

Activity	Potential Impact	Mitigation	Responsible Person	Performance Indicators	Time Frame
		with the EMPr during operation.			