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SEATON THOMSON & ASSOCIATES



ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

PREPARED FOR:



PROPOSED COMMERCIAL AND RESIDENTIAL DEVELOPMENT ON ERF 3094, DE AAR, NORTHERN CAPE

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**Prepared by: Seaton Thomson and Associates
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PROPOSED COMMERCIAL AND RESIDENTIAL DEVELOPMENT ON ERF 3094, DE AAR, NORTHERN CAPE

1. INTRODUCTION

The Environmental Management Programme (EMPr) Report provides guidelines and directions to ensure that the proposed development is able to pursue its economic goals without impairing the long-term sustainability of the biophysical and cultural environment. The EMPr addresses the managerial and operational activities of the development during and after construction. Once approved by the authority, compliance is obligatory for developers, contractors, service providers and property owners.

2. ACTIVITIES COVERED BY THE EMPr/ DESCRIPTION OF ACTIVITY

The intention of the application is to establish a township on the property, in order to develop the property for commercial (retail/ offices) and residential purposes on Erf 3094, De Aar.



Figure showing the location of Erf 3094, De Aar

3. OWNER / DEVELOPER

Tintswalo Property Group (Pty) Ltd

The developer is ultimately responsible for:

- Commissioning the preparation, implementation and monitoring of the EMPr.
- Ensuring that the EMPr is submitted for approval with the Environmental Impact Assessment and that approval in the form of a Environmental Authorization is given before development begins.
- Appointing the Environmental Control Officer (ECO).
- Ensuring compliance by all parties and the imposition of penalties for non-compliance through the ECO.
- Appointment of an Internal Environmental Officer (IEO)
- Bearing the costs of development and implementation.

- Implementing corrective action where required
- After the development has been completed and individual buyers take ownership, the above responsibilities devolve to the property owners association/ centre management or other appropriate organisation.

4. ENVIRONMENTAL CONSULTANT

SEATON THOMSON AND ASSOCIATES

The consultant is responsible for:

- Preparing the EMPr.
- Facilitating its submission to the Authority for an Environmental Authorization.
- The consultant is *not* responsible for the implementation or the monitoring of the EMPr unless expressly commissioned to do so.

Seaton Thomson and Associates have ±30 years experience in town, regional and environmental planning. This includes environmental impact assessment and environmental management. The Company has undertaken numerous EIA and BA applications for authorisation under both the Environment Conservation Act (Act 73 of 1989) and the National Environmental Management Act (NEMA)(as amended) (Act 107 of 1998) in all Provinces in South Africa, including diverse land use development applications, various types of bulk and service infrastructure, filling stations and game lodges in conservation areas.

5. AUTHORITY

Northern Cape Department of Environment and Nature Conservation (NCDENC)

The Authority is responsible for:

- Appraising the EMPr in the light of the Basic Assessment Report findings and other relevant information.
- Calling for modifications, extensions or further information if required.
- Issuing an Environmental Authorization on the Basic Assessment Report, which includes approval (or otherwise) of the EMPr.

6. ENVIRONMENTAL CONTROL OFFICER (ECO)

TO BE APPOINTED

The ECO is appointed by the developer and is responsible for:

- Implementing all aspects of the EMPr.
- Monitoring and verifying compliance with the EMPr by contractors, sub-contractors, agents, property owners and any other parties concerned with the development.
- Being fully familiar with relevant legislation and regulations.
- Providing guidance and assistance to all participants in implementing and complying with the EMPr.
- Keeping a permanent, written and photographic record of activities, instances of non-compliance.
- Implementing corrective action with regard to the EMPr and imposing appropriate penalties for non-compliance as authorised by the owner/developer.

7. CONTRACTORS AND SERVICE PROVIDERS

All contractors, sub-contractors and service providers are responsible for:

- Incorporating the EMPr into their contracts and signing agreements to comply with its conditions.
- Submitting an obligatory Methods Statement for approval by the ECO before any work is undertaken.
- Adhering to any instructions issued by the ECO.

8. PROPERTY OWNERS ASSOCIATION OR SIMILAR BODY

Once ownership of the development falls to the buyers of properties within the retail centre, responsibility for implementing all aspects of the EMPr must be incorporated into the constitution of the property owners association or the retail centre management.

9. LEGISLATION

Management of the development during both the construction and the operational stages is subject to a suite of environmental law. Compliance with this legislation is an integral aspect of the EMPr. Examples of the some of the relevant legislation:

National Environmental Management Act 107 of 1998 (as amended)
National Heritage Resources Act (Act No. 25 Of 1999)
National Environmental Management: Biodiversity Act (Act 10 of 2004)
National Environmental Management: Protected Areas Act (Act 57 of 2003)
Conservation of Agricultural Resources Act (Act 43 of 1983)
National Water Act 36 of 1998
Atmospheric Pollution Prevention Act 45 of 1965
Local Government Municipal Structures Act 117 of 1998
Hazardous Substances Act 85 of 1993
Fire Services Act 99 of 1956
Occupational Health and Safety Act 85 of 1993
Environmental Planning Act (Act No. 88 of 1967)
Forest and Veld Conservation Act (Act No. 13 of 1941)
Land Survey Act (Act No. 9 of 1921)
Minerals and Petroleum Resources Development Act (Act No. 28 Of 2002)
Soil Conservation Act (Act No. 76 of 1969)
Water Services Act (Act 108 of 1997)
Relevant building codes (e.g. SABS 089)
Provincial and Local Government Ordinances and Bylaws
Regional Development Frameworks
Land Use Planning Policies.

10. EMP UPDATE

This EMPr must be updated upon:

- receipt of an Environmental Authorization (EA), and/or
- issues of any relevant environmental permit, licence, or authorisation with respect to the project

11. PLANNING, DESIGN AND PRE-CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
All planning and design aspects of the development	None	<p>Planning and design of all elements of the application to be in accordance with acceptable and approved standards as required by the relevant authorities.</p> <p>Planning and design to take cognisance of localised conditions and circumstances, particularly in terms of control of building operations, appropriate approved and registered contractors, access to the site, source of labour and transportation.</p>	Project planning team	Throughput planning phases, before construction commences
Contractual Issues	None	<p>The appointed contractors will be contractually bound to these conditions as well as the provisions of the proposed EMPr.</p> <p>The appointed contractors will undertake an induction process with all staff and workers on site and issue a written schedule of rules and work conditions specific to the site</p>	Project planning team and developer	As required
Site Establishment and site infrastructure	Vegetation and soil disturbance	<p>The contractor and/ or developer must provide for the following:</p> <ol style="list-style-type: none"> 1. An area to set up a temporary construction site office and laydown area. 2. Adequate ablution facilities for all construction personal to be provided. Abluting anywhere other than in the toilets provided is strictly forbidden. 3. Eating areas must be safe from animals, to avoid pests on the site 4. Provide clean drinking water to all construction staff 5. Provide refuse bins in the construction site office area as well as on the construction site 6. All roads and accesses to the site must be maintained. Vehicles may not leave the designated roads, tracks and/or turnaround points at any time 	Project planning team and developer	Before actual construction commences on the site
Demarcation of the Sites	Vegetation disturbance, visual and noise	<ul style="list-style-type: none"> • The Contractors shall demarcate the boundaries of the actual construction areas on the site in order to restrict their construction activities • Fence off and screen (using shade cloth or similar material) the boundary along van der Merwe and Niewoudt Streets to shield noise and visual disturbance. The height of the fence 	Contractor and developer	Before commencement of construction

11. PLANNING, DESIGN AND PRE-CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
		and shade cloth should not be less than 2.5m from ground level <ul style="list-style-type: none"> Maintain site demarcations in position until the cessation of construction works. 		
Topsoil conservation	Loss of topsoil	<ul style="list-style-type: none"> Any topsoil which is to be stripped must be stockpiled for use during rehabilitation and landscaping on the site. Sand bags are to be placed at the base of all topsoil stockpiles as soon as the topsoil is stockpiled, in order to limit erosion and washing away of the soil during rain storms. 	Contractor	Before construction
Movement of Construction Personnel and Equipment on and off site	Disturbance to residents	<ul style="list-style-type: none"> Movement of all construction personnel to and from the construction sites must be strictly controlled and monitored. No unauthorized movement of personnel is permitted. Construction personnel are only to move onto site and off site by means of official construction related vehicles 	Contractor	Daily
Erosion Control	Loss of soils due to erosion	<ul style="list-style-type: none"> The Contractors shall take all reasonable measures to ensure that erosion does not occur as a result of any construction related activities. Measures such as cut off trenches, sand bags and berms must be installed in areas where erosion has or is predicted to take place. This must be done in conjunction with the site ECO 	Contractors and ECO	As required
Legal compliance	Non-compliance	All relevant legislation must be adhered to before construction commences. The environmental authorisation as well as any licences or permits must be in place before construction commences, and any recommendations contained in these permits, licences and/or authorizations must be incorporated into the project design	Project Manager and contractor	As required

12. CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
Monitoring and reporting	Compliance with the EMPr and Environmental Authorisation.	<ul style="list-style-type: none"> Monitor site activities and compliance with EMPr. Identify, propose, monitor and sign off on the implementation of rectification measures 	ECO	Monitor daily. Full report back monthly.
Environmental Incidents	Environmental incident during the construction phase	The ECO must immediately be informed should any serious incident occur which is likely to have detrimental effects on the environment. A record of these incidents must be kept.	Contractor and ECO	As required
Traffic	Degradation to roads around site	<ul style="list-style-type: none"> Schedule all deliveries between certain times of the day, and NOT before 9am or after 3pm. No work is to be undertaken on Sunday's and normal working hours of 7am to 5pm must be adhered to, to avoid disturbance outside of these times Trucks and delivery vehicles must strictly obey speed limits within a 400m radius of the site to not cause additional noise from driving at high speed. Any damage to roads caused as a direct result of the construction vehicles associated to this site must be repaired at the contractors/ developers expense 	Contractor	Daily
Maintenance of vehicles and equipment	Oil, diesel, petrol leaks	<ul style="list-style-type: none"> Regularly check vehicles, machinery and equipment operating on site to ensure that none have leaks or cause spills of oil, diesel, grease or hydraulic fluid. No vehicles, machinery or equipment with leaks or causing spills may be allowed to operate on the construction site. These must be sent to the maintenance yard or workshop for repair, or must be removed from site 	Contractor	Daily
Cultural, Historical and Archaeological Features	Loss of any potential Cultural, Historic and Archaeological Features	<ul style="list-style-type: none"> All measured outlined in the archaeological impact assessment are to be adhered to, which includes undertaking a phase 2 surface collection and small excavation of "Site 2" (Site 2: 30 38 39.7S 23 59 59.6E). Any other archaeological sites exposed during construction must not be disturbed during or after the construction period prior to authorisation from SAHRA. The removal, exhuming, destruction, altering or any other disturbance of heritage sites must be authorised by SAHRA in terms of the National Heritage 	Contractor, ECO and project Manager	As required

12. CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
		<p>Resources Act (No 25 of 1999)</p> <ul style="list-style-type: none"> Should any unusual features, artefacts, graves etc be discovered on the site during excavation and construction, this must be brought to the immediate attention of the Contractor / Project Manager/ and ECO 		
Noise	Nuisance from excessive noise associated with construction	<ul style="list-style-type: none"> Keep residents of the area surrounding the site informed of unusually noisy activities. Noise suppression measures can be applied to all equipment. Equipment must be kept in good working order, and where appropriate fitted with silencers which are to be kept in good working order. 	Contractor and ECO	As required
Soils	Changes to Soil Structure as a Result of Disturbance Loss of topsoil due to erosion	<ul style="list-style-type: none"> No soil stripping shall take place on areas within the sites that the contractors do not require for services or structures All good topsoil exposed will be stockpiled for use in rehabilitation and landscaping. Stockpiles must be on already disturbed areas All cement or mortar mixing shall be done in already impacted areas, and on trays or sealed areas, to prevent soil contamination 	Contractor	Check daily
Ground water pollution	Decrease in groundwater quality and quantity	<ul style="list-style-type: none"> All cement or mortar mixing shall be done in already impacted areas, and on trays or sealed areas, to prevent any water pollution. All excess cement must be disposed of at a registered landfill site Any hazardous substances (i.e. diesel or oil) that are spilled must be contained and removed immediately. All hazardous storage vessels must be designed and managed in order to prevent pollution. All vessels to be bunded. The main contractor will be responsible for ensuring that used oils/lubricants are not disposed of on/near the site, and that contractors purchasing these materials understand the liability under which they must operate 	ECO and Contractor	Daily
Surface water pollution	Decrease in surface water quality and/ or	<ul style="list-style-type: none"> The entire work site must be managed in order to prevent pollution of and nearby drainage systems, due to suspended 	Contractor and ECO	Daily

12. CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
	quantity	<p>solids, silt or chemical pollutants.</p> <ul style="list-style-type: none"> All cement or mortar mixing shall be done in already impacted areas, and on trays or sealed areas, to prevent any water pollution. All excess cement must be disposed of off site, at a registered land fill site that accepts discard cement. 		
Air pollution due to dust and odours	Air pollution due to dust, odours or fire	<ul style="list-style-type: none"> The Contractors will dampen exposed soil surfaces on the site with a water bowser or sprinklers, as necessary to minimise dust problems. All dirt roads in or around the site used frequently by construction vehicles will have to be damped down using a water bowser, to minimise dust. The Contractors will commence rehabilitation of exposed soil surfaces as soon as practical after completion of construction Cooking will only be permitted at a designated area and the establishment of open fires will be strictly prohibited 	Contractor – ECO to monitor strictly	Daily
Security	Crime	<ul style="list-style-type: none"> The relevant policing and security forces that are responsible for the area must be approached and become involved in the monitoring of activities on the site. The developer is also responsible to control access to the site and guard the site to reduce crime. No construction personnel will be allowed to live on the site under any circumstances Fence off and screen (using shade cloth or similar) the boundary along van der Merwe and Niewoudt Streets, and to keep construction personnel on the site at all times. The height of the fence and shade cloth should not be less than 2.5m from ground level 	Contractor and developer	Daily
Waste management	Littering, contaminated water runoff, hazardous spills	<ul style="list-style-type: none"> All waste streams (general, solid, liquid, hazardous etc...) must be disposed of adequately by the contractor. Provide general waste bins/ skips throughout the construction site and enforce the use of these by all construction personnel. Litter bins must be equipped with a closing mechanism to prevent their contents from blowing out or being overturned 	Contractor – ECO to inspect	Daily

12. CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
		<ul style="list-style-type: none"> Immediately clean any accidental oil or fuel spills or leakages, and clean up and dispose of all general or non-hazardous construction related waste immediately. 		
Visual	Negative visual impact of construction activities to residents of the area	<ul style="list-style-type: none"> Fence off and screen (using shade cloth or similar) the boundary along van der Merwe and Niewoudt Streets to shield the site against passersby, and to keep construction personnel on the site at all times. The height of the fence and shade cloth should not be less than 2.5m from ground level Any litter or other waste must be cleared on an on-going basis and placed in bins provided at each work site 	Contractor	Daily
Fire	Destruction of properties surrounding site	<ul style="list-style-type: none"> The Contractors shall take all the necessary precautions to ensure that fires are not started as a result of activities on site No open fires for heating or cooking shall be permitted anywhere but the designated site next to the site office. Closed fires or stoves shall only be permitted at agreed designated safe sites at the site office. All firefighting equipment is to be onsite at all times Any fire started intentionally or unintentionally from the site during construction will be the responsibility of the contractors and site developers 	Contractor, ECO monitor	Daily
Vegetation (flora)	Reduction of biodiversity/ loss of flora as a result of the development	<ul style="list-style-type: none"> A permit is required to remove or transplant the one <i>Boscia albitruca</i> on the site. This permit must be obtained before the tree is removed (if it is to be removed at all). All vegetation currently on the site will be lost and cleared completely All landscaping and planting within the development (once developed) must be indigenous to the area 	Contractor and ECO	Monitor continuously
Wildlife (fauna)	Disturbance to natural wildlife and/or loss of natural wildlife	<ul style="list-style-type: none"> Larger animals will leave the site if there is noise disturbance It is not expected that the development will have any impact what-so-ever on fauna of the area, as they are not constrained, and will move away to adjacent areas when disturbed. No animals will be allowed to be trapped or killed during the construction phase of the development. 	Contractor and ECO	Monitor continuously

12. CONSTRUCTION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
		<ul style="list-style-type: none"> Ensure that the Work Site is kept clean, tidy and free of rubbish that would attract animals 		
Plant collection	Unnecessary damage to Flora/ loss of valuable flora for the purposes of plant collection	<ul style="list-style-type: none"> No plant collecting for medicinal or other purposes to occur on the site or on any areas adjacent to the site. This must be strictly enforced by the contractor, their staff and the security responsible for the site. 	Contractor and ECO	Daily
Alien invasive plants and weeds	Emergence of Invasive Weeds to the Detriment of Indigenous Plants	<ul style="list-style-type: none"> All invasive weeds and exotic plants on the various work sites are to identified and removed during the construction phase of the project 	Contractor and ECO	Daily
Services	Overload of current services	<ul style="list-style-type: none"> The various upgrades (as proposed in the services report) to service infrastructure in and around the site must be implemented before the construction can commence 	Developer/ Contractor	Before construction on site
Socio-economic (positive)	Economic investment by the applicant in public roads and infrastructure and well as job creation	<ul style="list-style-type: none"> Jobs will be created during the construction phase of the development - for formal skilled jobs and informal jobs Utilise Local Market - The labour force should largely be recruited from the local communities, where ever possible, including skilled and semi-skilled positions. The Contractors must indicate that recruitment will take place through formal procurement procedures, which will be implemented in conjunction with the local community. Training and Education - In order to facilitate training and education, it is recommended that the contractors, where possible, recruits its Employees from previously disadvantaged groups and from adjoining low income areas, and not only will they fill certain posts, but for those posts that they are inexperienced in, a mentorship process should be initiated. Labour intensive construction methods - Where appropriate, labour intensive construction methods should be utilised to maximise the potential number of employment opportunities whilst mitigating impact on site of machinery 	Contractor and developer	Continuous

13. POST-CONSTRUCTION REHABILITATION PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
Site clean-up		Clear and completely remove from site all construction plant, equipment, storage containers, temporary fencing, temporary services, fixtures, waste and any other temporary construction works	Contractor and developer	Once off after construction
Rehabilitation		<ul style="list-style-type: none"> The principle of progressive reinstatement must be followed wherever possible. This includes the reinstatement of disturbed areas on an ongoing basis, immediately after the specified construction activities for that area are concluded All topsoil removed for any reason during construction must be used for landscaping or to rehabilitate any areas scarred by construction works, that will form a part of landscaping plans Indigenous grass and shrubs should be planted in areas which are devoid of vegetation Landscape of gardens and recreational areas within the development must be undertaken by qualified landscapers, and only indigenous trees, grasses and other plants are to be used for landscaping purposes 	Contractor, developer and ECO	Directly after construction, until such time as the ECO is satisfied with the rehabilitation

14. OPERATIONAL PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
Legal requirements	Non-compliance	<ul style="list-style-type: none"> The EMPr must be updated on a periodic basis to ensure that environmental legal requirements for the operational phase are adhered to. An on-site safety plan must be available and all staff must be trained in the appropriate emergency procedures. 	Contractor and developer	Continuous
Vegetation and landscaping management	Loss of vegetation	Continued establishment and management of indigenous vegetation and removal and control of alien vegetation should continue for the entire operational phase.	Centre management/ body corporate	Continuous
Sewerage and waste (services)	Spills or broken pipes	<ul style="list-style-type: none"> All spillages or broken pipes are to be attended to immediately to avoid environmental contamination All service agreement and bulk service contributions are to be paid 	Centre management/ body corporate	Continuous

		before any connections are made <ul style="list-style-type: none"> All waste will be disposed of by the municipality, as agreed by the service agreements and bulk service contributions. General waste generated by the development will be disposed of at a registered landfill site as agreed by the municipality 		
Security	Crime	<ul style="list-style-type: none"> The relevant policing and security forces that are responsible for the area must be approached and become involved in the monitoring of the area and all activities around the development. There must be a controlled gated access to the development and an onsite guard 24 hours a day to reduce crime. 	Contractor and developer	Daily
Socio-economic (positive)	Economic investment by the applicant in public roads and infrastructure and well as job creation	<ul style="list-style-type: none"> The development will provide for many more jobs in the De Aar area. Both skilled and semi-skilled labour will be required, and There will also be the creation of business opportunities for existing businesses such as contract cleaning, landscaping and maintenance, catering etc... 	Body corporate/ centre management etc...	Continuous
Environmental incidents	Negative impact on all fauna, flora and other wildlife	<ul style="list-style-type: none"> The Body corporate /centre management must be informed of serious incidents immediately upon occurrence of the incident. The body corporate/ centre management will be responsible for rehabilitating any damaged caused to the environment due to any event occurring on site, or off site which has been as a direct incident emanating from the site 	All onsite staff and body corporate/ centre management	As required

15. DECOMMISSIONING PHASE

Aspect/ activity	Impacts	Management and mitigation	Responsibility	Frequency
Permanent closure and decommissioning	N/A	This activity will not be decommissioned. This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	N/A	N/A