



ECO ROUTE ENVIRONMENTAL CONSULTANCY

ENVIRONMENTAL MANAGEMENT PROGRAMME

The Proposed Construction of a Residential Dwelling and Four Self-Catering Guest Cottages on Erf 2003, Wilderness, Western Cape



January 2024

Compiled by:

Eco Route Environmental Consultancy

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***This EMPr will need to be amended to contain specific conditions of the
Environmental Authorisation should it be granted.***

Appendix 4 of Regulation 982 of the 2014 EIA Regulations contains the required contents of an Environmental Management Programme (EMPr). The checklist below serves as a summary of these requirements:

<p>(a) Details of</p> <p>(i) the EAP who prepared the EMPr; and</p> <p>(ii) The expertise of that EAP to prepare an EMPr, including a curriculum vitae.</p>	<p>This EMPr was prepared by Samantha Teeluckdhari of Eco Route Environmental Consultancy. Samantha has a BSS degree in Geography and Environmental Management and has 8 years' experience as an Environmental Assessment Practitioner. Please see attached CV of the EAP.</p>
<p>(b) A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description.</p>	<p>This EMPr covers all aspects involved in the Proposed Construction of a Residential Dwelling and Four Self-Catering Guest Cottages on Erf 2003, Wilderness, George Municipality, Western Cape.</p> <p>Section 2 provides specific project details.</p>
<p>(c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers</p>	<p>Section 2 provides GIS mapping which superimpose the proposed activity onto environmentally sensitive areas.</p>
<p>(d) A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all the phases of the development including –</p> <p>(i) Planning and design;</p> <p>(ii) Pre-construction activities;</p> <p>(iii) Construction activities;</p> <p>(iv) Rehabilitation of the environment after construction and where applicable post closure; and</p> <p>(v) Where relevant, operation activities</p>	<p>Addressed in Sections 3, 4 and 10.</p>
<p>(e) A description and identification of impact management outcomes required for the aspects contemplated above.</p>	<p>Addressed in Sections 3, 4 and 10.</p>
<p>(f) A description of the proposed impact management actions, identifying the manner in</p>	<p>Addressed in Section 10.</p>

<p>which the impact management objectives and outcomes contemplated above will be achieved and must, where applicable include actions to –</p> <p>(i) Avoid, modify, remedy control or stop any action, activity or process which causes pollution or environmental degradation;</p> <p>(ii) Comply with any prescribed environmental management standards or practises;</p> <p>(iii) Comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable.</p>	
<p>(g) The method of monitoring the implantation of the impact management actions contemplated above.</p>	Section 7.1 and 10.
<p>(h) The frequency of monitoring the implementation of the impact management actions contemplated above.</p>	Section 7.2 and 10.
<p>(i) An indication of the persons who will be responsible for the implementation of the impact management actions.</p>	Sections 10 and 14.
<p>(j) The time periods within which the impact management actions must be implemented.</p>	Section 10.
<p>(k) The mechanism for monitoring compliance with the impact management actions.</p>	Section 7.
<p>(l) A program for reporting on compliance, taking into account the requirements as prescribed in the Regulations.</p>	Section 7 and 10.
<p>(m) An environmental awareness plan describing the manner in which –</p> <p>(i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and</p> <p>(ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment</p>	Sections 10 and 14.
<p>(n) Any specific information that may be required by the competent authority.</p>	All required information has been addressed within this EMP and annexures.

1. INTRODUCTION

In accordance with the Integrated Environmental Management Guidelines published by the Department of Environmental Affairs & Tourism (DEAT) in 1992, the purpose of an Environmental Management Programme (EMPr) is "to describe how negative environmental impacts will be managed, rehabilitated or monitored and how positive impacts will be maximised".

National Environmental Management Act, (Act 107 of 1998)

(i) Section 28 of NEMA (National Environmental Management Act, Act 107 of 1998) states that:

Duty of care and remediation of environmental damage

"(1) Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot be reasonably avoided or stopped, to minimise and rectify such pollution or degradation of the environment"

This EMPr must be read in conjunction with the Environmental Impact Assessment Report dated January 2024 and the accompanying specialist reports. All recommendations, relevant conditions and mitigation measures provided in these documents must also be adhered to.

This EMPr must form an integral part of the contract documents, as it outlines the methodology & duties required so that the project objectives can be achieved in an environmentally sustainable manner; with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with this project.

These requirements will have a financial impact on the projects costings.

This EMPr is a dynamic document that may need to evolve during its implementation period so that it recognises any new issues that may arise; or changes in the parameters of identified issues and can address these issues with the required/amended mitigation.

The Polluter-Pays Principle

This principle provides for "the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment." The Polluter Pays Principle will be rigorously applied throughout the construction phase of this project.

2. PROJECT DETAILS

Eco Route Environmental Consultancy has been appointed as independent environmental practitioners by the proponent, Mr Wentzel Coetzer, to ensure the lawful construction of a residential dwelling and four self-catering cottages on Erf 2003 Wilderness in terms of the National Environmental Management Act (Act 107 of 1998).

The proposed development property is located at GPS coordinates: 33° 59' 36.52" | 22° 33' 44.74"

Erf 2003 is zoned Open Space III. The property is 28135,6m² in extent and is currently vacant.

The development footprint of the preferred layout will be 1105m² and will occupy approximately 3.58% of the total property.

The development will entail the following:

Proposed Development: Buildings and Structures:

- > 1 x main dwelling house of 200 m² with a deck of 175m² and a 30m² swimming pool = Total footprint 405m²
- > 4 x self-catering 2-storey tree-top pods of 98m² each with a 42m² deck for each unit = Total footprint 560m²

Proposed Development: Infrastructure:

- > There will be designated parking areas in the northwestern section of the property that also makes provision for a total of 8x vehicles = Total footprint 337m²
- > From the parking areas and the main dwelling house, there will be wooden decking walkways 0.5m above the forest floor meandering through the trees to the pods, hence no roads will be developed on the property = Total footprint 194m²

Proposed Development: Water Supply (as per the engineer's Service Report)

There is an existing municipal 50mm Class 12 uPVC pipe located on the western side of Remskoek Street. It is proposed that a 25mm connection is made to supply the proposed development with both domestic and fire water.

The addition of the main house and the cottages, will have a minimal impact (less than 4%) on the stormwater runoff generated from site.

It is proposed that where possible, that roof water is gathered and stored in tanks. From the tanks, outlets will be provided onto a stone pitched base (1 m x 1 m x 0.2m thick), before stormwater is dissipated into the forest.

Proposed Development: Sewage Treatment

Currently there is no sewer reticulation in close proximity to the site.

The applicant will not be using the system proposed by the engineer. Instead, the applicant has opted for a more environmentally friendly system which is a closed sewage treatment system referred to as the Clarus Fusion® by Re Source Water Solutions.

The process sequence promotes good nitrification, denitrification, and biological phosphate removal, with foreign solids removal at the head of the works and final disinfection available in an Ultraviolet lamp process or chlorine. Interlinked stages in the process include anaerobic sedimentation settling, anoxic secondary settling, aerobic oxidation, final clarification, and disinfection, with electrical control monitoring of the system. Recirculation and backwashed sludge return via the bio ball filter material and floating media bed re-invigorates the bacterial action by returning circulation from the clarifier to the sedimentation chamber and backwashing from the aerobic bioreactor to the primary settler (Re Source Water Solutions).

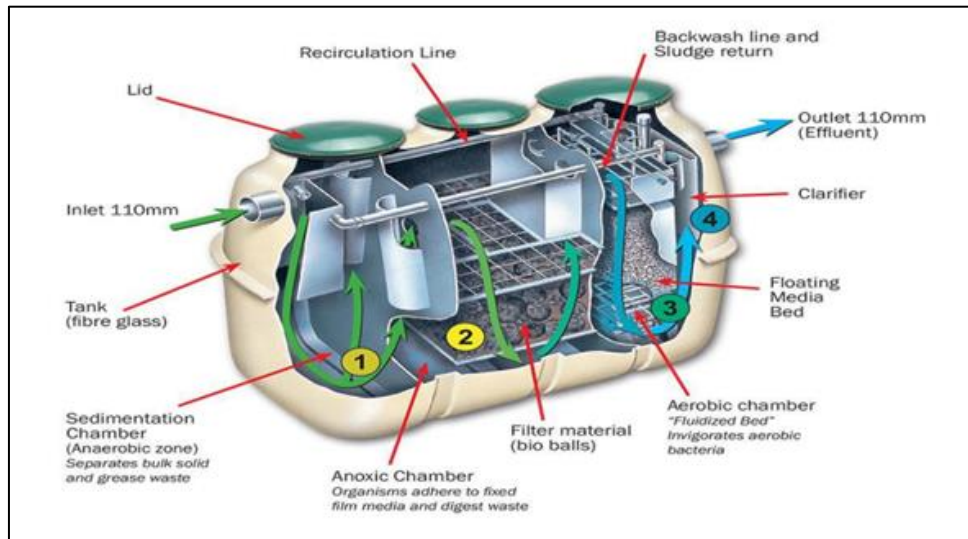


Diagram of the Clarus Fusion® system as per document from Re Source Water Solutions

The system provides optimised nitrification and effluent quality to a standard that meets the requirements of the South African Department of Water Affairs and sanitation (DWS) for the release of such treated effluent back into the environment to meet the General Limit Values (GLV) in terms of Section 9 of the National Water Act No. 36 of 1998 (Re Source Water Solutions).



Clarus Fusion® installation at De Hoop Nature Reserve

Proposed Fencing:

The proposal also entails fencing the property along the western boundary with clear-vue fencing for safety for tourists and the owners. No physical boundaries will be erected along the property boundaries as per requirements from George Municipality restricting the movement of natural fauna. The remainder of the property will be preserved in its natural state.

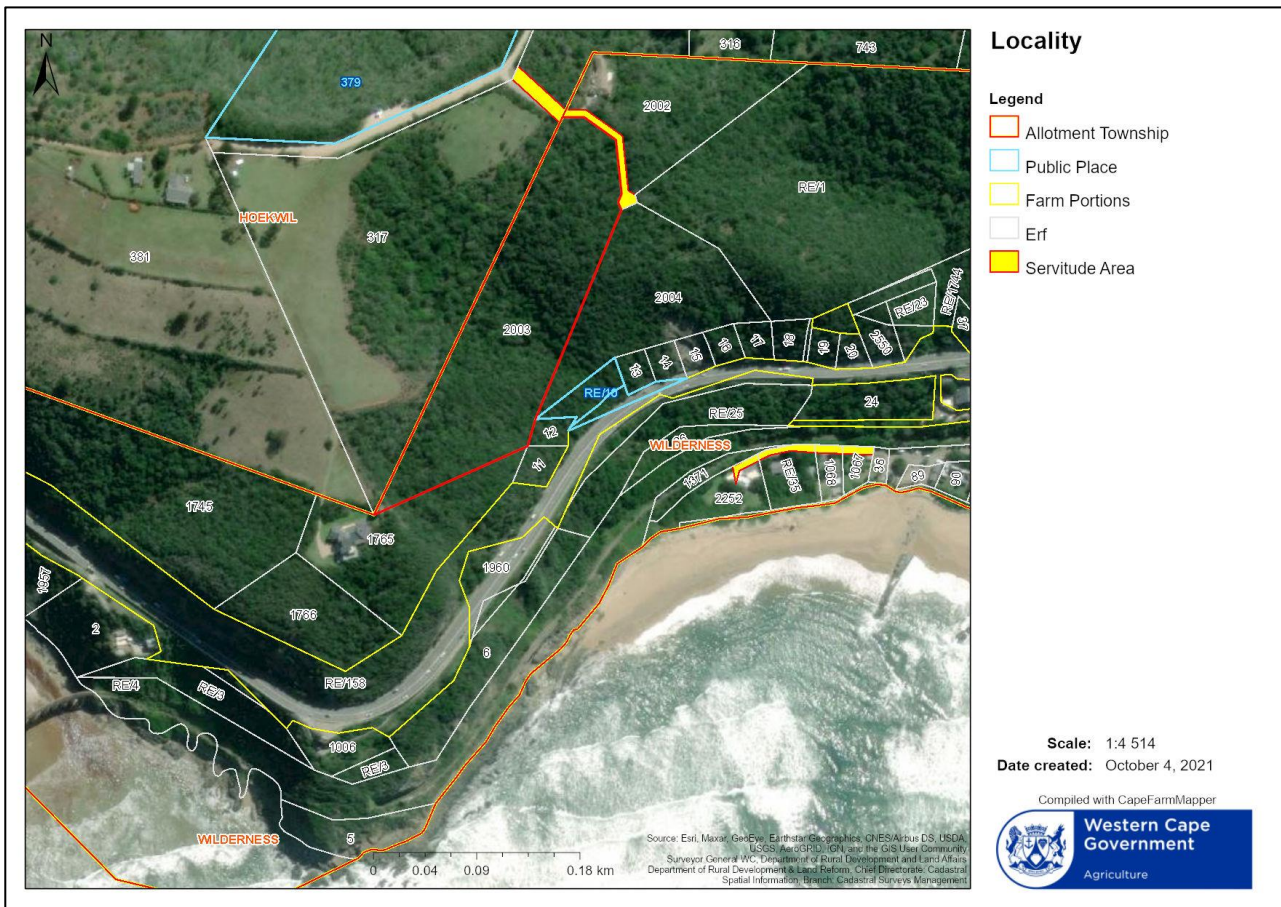


Figure 1: Locality map of Erf 2003, Wilderness, Western Cape

3. IMPACTS ASSOCIATED WITH THE PLANNING/DESIGN, CONSTRUCTION AND OPERATION OF THE ACTIVITY (Preferred Alternative)

Alternative:	Preferred
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	
Potential impacts on geographical and physical aspects:	
Nature of impact:	Soil compaction as a result of the construction. Please note all buildings are on stilts so this impact is minimal. However, the units, residential dwelling and boardwalk will result in a hard surface than a natural environment.
Extent and duration of impact:	Throughout the lifespan of the project
Consequence of impact or risk:	Possible erosion from water runoff if not managed properly
Probability of occurrence:	High

Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources anticipated
Cumulative impact prior to mitigation:	Storm Water runoff rustling in erosion
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Medium
Degree to which impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<p>Typical sustainable drainage systems, often referred to as SuDS, and the associated stormwater infrastructure and management thereof take the following key principles into account:</p> <ul style="list-style-type: none"> Storing runoff and releasing it slowly (attenuation) Harvesting and using the rainwater Allowing water to soak into the ground (infiltration) Slowly transporting (conveying) water on the surface Allowing sediments to settle out by controlling the flow of the water. <p>Each of the above and how they are accommodated/included in the proposed stormwater system are discussed below:</p> <p>Storing runoff: This will be achieved in two ways. Firstly, all runoff from the roofs of the development will be harvested and stored in rainwater tanks next to each unit.</p> <p>Secondly, the remaining surface water from grassed areas, parkings, etc. will be discharged into surrounding vegetation.</p> <p>Harvesting and using the rain close to where it falls: As discussed above, all runoff from the roofs will be harvested by collecting and storing in rain water tanks.</p> <p>Some developments also encourage infiltration within the parking areas through the use of permeable paving, etc.</p> <p>Filtering out pollutants: All rainwater from the roofs is to be harvested. This water will be treated on-site prior to use as a potable water. This treatment would remove any pollutants in this water. Water discharging from the remaining surface areas, namely grassed and parking areas, etc., will be discharged onto the vegetation.</p> <p>Any exposed earth must be rehabilitated by planting suitable vegetation to protect the exposed soils;</p> <p>The footprint area of the construction should be kept to a minimum. The footprint area must be clearly demarcated to avoid unnecessary disturbances to adjacent areas;</p>
Residual impacts	No impact is expected after mitigation measures are set in place to redirect water runoff
Cumulative impact post mitigation:	No impact is expected after mitigation measures are set in place to redirect water runoff
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential impact on biological aspects:	
Nature of impact:	Disturbance and removal of trees within the natural forest. Loss of vegetation.
Extent and duration of impact:	Throughout the lifespan of the project
Consequence of impact or risk:	Reduced habitat and ecological corridors impact on fauna and flora
Probability of occurrence:	High
Degree to which the impact may cause irreplaceable loss of resources:	Low

Degree to which the impact can be reversed:	High
Indirect impacts:	Loss of fauna and flora due to habitat loss
Cumulative impact prior to mitigation:	Disturbance of natural habitat of birds and small mammals . Loss of ecological corridors
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which impact can be avoided;	Medium
Degree to which impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<p>Empty pockets within the forest were identified with the assistance of the appointed biodiversity specialist. All units were placed during the planning phase to mitigated disturbance and removal of large trees. The SDP placed all units along the margin of the CBA1 area.</p> <p>All units and the board walk are placed on stilts above the forest floor encouraging vegetation growth and animal movement beneath these structures.</p> <p>It is imperative that impacts on the continuity of ecological processes and corridors be taken into consideration irrespective of the type of land use proposed or envisaged in the region as a whole.</p> <p>An onsite nursery needs to be established and a plant rescue needs to be carried out prior to any construction activities occurring on site.</p> <p>Suitable forest floor vegetation, including tree recruits in the form of nursery-grown or rescued seedlings, from the same undisturbed forest type environment in the vicinity, should be established on the forest floor, especially in the canopy gaps. (This will be augmented by natural seed dispersal processes.)</p>
Residual impacts:	Loss of trees in the forest
Cumulative impact post mitigation:	No cumulative impacts are foreseen after mitigation measures are implemented.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential impact on biological aspects:	
Nature of impact:	Positive impact – Installation of a closed sewage treatment plant
Extent and duration of impact:	During the lifespan of the project
Consequence of impact or risk:	Low
Probability of occurrence:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Disturbance of forest floor vegetation
Cumulative impact prior to mitigation:	Pollution of the receiving environment
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which impact can be avoided;	High
Degree to which impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	The sewage treatment plant must be assembled off-site and installed by the company supplying the product. Service of the treatment plant must occur every six (6) months and must be undertaken by a trained and accredited dealer to ensure the system is operating sufficiently to prevent pollution of the receiving environment due to failure.
Residual impacts:	Loss of forest floor vegetation

Cumulative impact post mitigation:	None
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Potential impact on biological aspects:	
Nature of impact:	Impact on forest tree roots using pad foundations
Extent and duration of impact:	During the construction phase
Consequence of impact or risk:	Damaging tree roots of trees not to be removed may have a negative impact on forest trees when installing services, and foundations
Probability of occurrence:	High
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	High
Indirect impacts:	Health and stability of the forest trees can be impacted
Cumulative impact prior to mitigation:	Disturbance of natural forest vegetation not earmarked for removal
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which impact can be avoided:	Medium some damage may occur
Degree to which impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<p>To minimize disturbance of tree roots during installing utilities for development alternatives are explored outside of root zone first. If not possible, tunnelling is done by hand. (Figure 1) This method requires patience where care is taken to keep roots intact, and not cut them. Tunnelling is preferably done by hand or smaller hand tools to prevent roots being severed by mechanical equipment. This is done on cooler days, to avoid exposing root during hot, dry weather. Trenches are backfilled with soil as soon as possible to reduce exposure and soaked with water on the same day. If trench is kept open for a longer period, roots are wrapped in hessian until trench is backfilled. If roots need to be cut, no roots larger than 2,5cm are cut.</p> <p>Pad foundations are used instead of strip or raft foundation, to allow for Pad to be moved around tree roots when necessary and reduce the potential impact on the root system. (Figure 12 and 13).</p> <p>No heavy machinery allowed on site, all work to be carried out by hand.</p> <p>When installing services this can be done as per the picture below to protect tree roots.</p>  <p>Figure 12</p>



Figure 13 Pad foundations



Figure 14 Tree roots were protected by pad foundations.

	 <p>Figure 13 Pad foundations</p>  <p>Figure 14 Tree roots were protected by pad foundations.</p>
Residual impacts:	Loss of trees in the forest
Cumulative impact post mitigation:	Loss of trees in the forest
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential noise impacts:	
Nature of impact:	impacts associated with general building construction noise
Extent and duration of impact:	Only during construction phase
Probability of occurrence:	High
Degree to which the impact can be reversed:	None
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be avoided:	None
Degree to which impact can be managed:	Only operate during construction hours
Cumulative impact prior to mitigation:	No cumulative impact foreseen
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	Construction work and noise generation only allowed during weekday working hours
Cumulative impact post mitigation:	No cumulative impacts are foreseen after mitigation measures are implemented
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential impacts on socio-economic aspects:	
Nature of impact:	Creation of temporary employment opportunities through construction
Extent and duration of impact:	Throughout the construction and operational phase of the project
Probability of occurrence:	High
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A

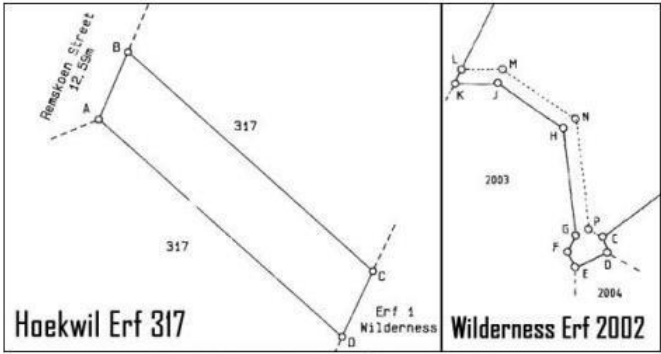
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

OPERATIONAL PHASE

Potential impact and risk:	
Potential impacts on socio-economic aspects:	
Nature of impact:	Job creation, Increase of revenue in area- Positive Impact. No negative impacts on the socio-economic aspects are foreseen as the proposed construction will create work opportunities during construction and operational phases.
Extent and duration of impact:	During the lifespan of the project
Consequence of impact risk:	No risk. More employment in area.
Probability of occurrence:	High
Degree to which the impact can be reversed:	Not a negative impact on socio-economic aspects
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable
Cumulative impact prior to mitigation:	Not applicable
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Not applicable
Degree to which impact can be managed:	High
Degree to which the impact can be mitigated:	Not applicable
Proposed mitigation:	Not applicable
Cumulative impact post mitigation:	Not applicable
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Not applicable

Potential noise impacts:	
Nature of impact:	Noise impacts associated with accommodation and tourism
Extent and duration of impact:	During the life Span of the proposed development
Probability of occurrence:	High
Degree to which the impact can be reversed:	None
Degree to which the impact may cause irreplaceable loss of resources:	None
Cumulative impact prior to mitigation:	No cumulative impact foreseen
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	Notifications for guest to adhere to no noise and loud music after a certain time at night.
Cumulative impact post mitigation:	No cumulative impacts are foreseen after mitigation measures are implemented
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential visual impacts:	
Nature of impact:	Visual impact of development
Extent and duration of impact:	Throughout the lifespan of the project
Probability of occurrence:	Low
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<p>The proposed development will hardly be visible from neighbouring properties and the N2 as it was place within the forest and designed to blend with the natural environment.</p> <p>Low lighting and using colours that blend into the natural environment during the design phase.</p> <p>Only removal of vegetation within the footprint areas as the vegetation remaining will also act as a natural buffer.</p>
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Potential traffic impacts:	
Nature of impact:	<p>Traffic impacts on area and existing roads. Access to the application area is obtained via an access servitude road that runs over Wilderness Erf 2002. These access servitudes are accessed directly off the public road 'Remskoek Street' that runs along the northern boundary of Hoekwil Erf 317. This road is also the access road to the 'The Map of Africa' lookout point.</p> 
Extent and duration of impact:	Throughout the lifespan of the project
Probability of occurrence:	Medium
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	<p>Existing Traffic: The current traffic consists of property owners of neighbouring properties, people accessing Remskoek street and tourists visiting the Map of Africa.</p> <p>The dwelling and 4 accommodation units will not create a substantial increase on traffic and the establishment will not be</p>

	at full capacity all the time. No mitigation needed.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

4. SPECIALIST RECOMMENDATIONS/MANAGEMENT ACTIONS

4.1 Iain Paton Consulting Geotechnical Engineers and Engineering Geologists Soil specialist:

Recommendations: Earthworks & materials: The site is moderately sloping, becoming steep towards the west, and access/vegetation clearing will be challenging unless a minimal footprint area is adopted. Earthworks required to create level platforms (if any) may encounter shallow rock, mainly on the western side of the proposed development. Shallow excavations for the proposed development are unlikely to have any significant effect on the general stability of the site, but excavations should be assessed by a competent person as excavations progress. Excavations shallower than 1.5m are likely to be fairly stable at near-vertical angles for short periods (temporary works). In situ granular soils (sandy/gravelly soils, not clay), less any large rock fragments >150mm diameter, obtained from excavations may be suitable for reuse as bulk filling material under floors and behind retaining walls but should be approved by the engineer before placement. Any unsuitable soil obtained from excavations should be spoiled in a suitable location on site (e.g. as landscaping fill). Allowance should be made for imported high quality materials (e.g. G5) for final selected fill layers under concrete surface beds. Imported free-draining fill material (coarse sand/crusher run/stone) will be required for drainage medium behind retaining walls (if any).

All structures will be on stilts therefore no deep excavations are expected.

Foundations & floors: The recommended foundation type for single or double storey masonry or timber structures is reinforced strip and/or pad foundations placed on dense/stiff soil horizons or preferably bedrock at minimum nominal depth of 0.8m below NGL. The recommended maximum bearing pressure for foundations is 125kPa. Structures founded at the correct levels on suitable bedrock or stiff/dense soil horizons are unlikely to induce or become susceptible to slope instability. Competent supervision in this regard is important. All foundations should be inspected by the engineer before placing reinforcement.

An Engineer will be appointed during construction phase. However, it is advised to rather use Pad foundations as the impact on tree roots will be mitigated.

Driveway & parking areas: The proposed driveway onto the site with parking area will be a challenge due to the dense indigenous vegetation, which may be environmentally sensitive. Construction of the driveway may involve minor cutting and filling to achieve the correct line and levels. The in situ soils are generally poor quality in terms of road-building and it is recommended that an allowance is made for the importation of SSG gravel material to improve access during construction, in addition to the final subbase and paving layer works.

The EAP agrees, it must be noted that stormwater must be redirected off hardened surfaces onto natural vegetation to ensure no erosion on site.

Drainage: The soil has a low permeability and vertical infiltration will be restricted by the presence of shallow rock and dense soils, so stormwater will tend run off site after heavy rainfall. Effective stormwater management systems are required to collect and discharge stormwater in controlled manner down slopes. Subsoil drains are recommended behind retaining walls as standard.

The SUDS principles to be adhered too. Rainwater tanks will be placed next to each unit for re-use.

The investigation indicates that the site is potentially suitable for development but there are some geotechnical constraints, such as difficult access, restricted construction space, steep slopes and shallow/irregular rock, which may have an impact on the engineering design and construction costs. Some recommendations are offered for consideration by the structural engineer.

4.2 Dr David Hoare - David Hoare Consulting (Pty) Ltd) Biodiversity specialist

Based on the botanical assessment, this section of the report provides recommendations for the project. The following recommendations are made:

- The proposed development will result in loss of relatively small areas of natural habitat. This is not considered to be a significant threat to the habitat or threatened plant or animal species on site or in neighbouring areas. On the basis of having a minimal impact on natural features, it is recommended that the proposed development be approved but on condition that surrounding indigenous forest is ecologically managed to enhance the biodiversity value and protected from damage.
- 96% of the site has been designated as a no-go area and to remain natural. Only alien vegetation clearing will be permitted within this area.
- Remaining areas of thicket in surrounding areas is dominated by the protected tree, *Sideroxylon inerme*, and also contains individuals of the protected tree, *Pittosporum viridiflorum* and *Curtisia dentata*. In the event that there are any impacts on individuals of any of these species, it would require a permit in terms of the National Forests Act.
- Department of Forestry has been asked to provide comments during the PPP process, as this is seen as natural protected forest a Forestry licence to disturb indigenous trees within the National Forest will be obtained prior to construction commencing.
- If possible, no significant trees must be damaged by the proposed development. The proposal to raise units above the forest floor is supported, especially if these footprint areas are allowed to return to forest understorey. It would be preferable if no formal gardens are developed around the proposed units, but that the indigenous forest vegetation is retained as a feature of the development.
- All structures to be raised above ground the Cottages at ± 4 to 5 meters above natural ground level and the wooden boardwalk at 1.5 meters above natural ground level.
- The drainage area (as mapped here), as well as a buffer of 30 m, should not be impacted upon.



Figure 3 - Drainage areas and protected milkwood trees on site

- This area is marked in the no-go area
- It is recommended that pre-emptive control of alien invasive species is undertaken using registered control methods and that an Alien Invasive Management Plan is implemented to control potential invasions on site and in neighbouring areas, especially within areas of remaining natural habitat.
- Alien management as per NEMBA will be implemented.

5. LEGISLATIVE REQUIREMENTS

5.1 Signing of the EMPr

The acknowledgement form at the back of the approved EMPr is to be signed by the holder of the Environmental Authorisation (the Proponent), the Site Manager and the ECO; acknowledging that all parties are familiar with the requirements of the EMPr. All employees, especially the machine and equipment operators, are to be made aware of the conditions as contained in the EMPr as well as the contractual conditions relating to the environment as contained in the contract document.

5.2 Legislation

Of importance are all national, provincial and municipal by-laws and regulations. Statutes are amended periodically, and it is the Proponent's responsibility to identify legislation relevant to the proposed activity.

Title of legislation, policy or guideline:	Administering authority:	Date:
Constitution of the Republic of South Africa. (Act 108 of 1996)	All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	Relevant Consideration

Environmental Conservation Act (Act 73 of 1989)	Department of Environmental Affairs and Development Planning	Relevant Consideration
National Environmental Management Act (Act 107 of 1998)	Department of Environmental Affairs and Development Planning	Authorization
National Environmental Management: Biodiversity Act (Act 10 of 2004)	Department of Environmental Affairs and Development Planning and CapeNature	Relevant Consideration
Water Services Act (Act 108 of 1997)	Department of Water and Sanitation/ BOCMA	Relevant Consideration
National Heritage Resources Act (Act 25 of 1999)	Heritage Western Cape	Comment/ Relevant Consideration
Government Notice No 19493, Outeniqua Sensitive Coastal Area Extensions (OSCAE PERMIT)	George Local Municipality	Permit

5.3 Project Responsibilities

Responsibility for the implementation of the EMPr lies with the Proponent who must retain the services of a suitably experienced Environmental Control Officer (ECO) who will monitor the construction processes and activities periodically.

The ECO's responsibilities must include, *inter alia*:

- ❖ Identify suitable areas for construction access and laydown of materials/equipment with consultation with the relevant appointed specialists.
- ❖ Secure the protection and rehabilitation of the environment.
- ❖ Consult with the relevant authority on environmental issues during construction.
- ❖ Guide, advise and consult any sub-contractors, suppliers etc. who will be involved in this project.
- ❖ Revise the EMPr if required and submit the revised document to the Competent Authority for authorisation of the revisions prior to the developer/contractor proceeding with the changes.
- ❖ Ensure that the EMPr has been accepted and understood as a contractually binding document on all parties involved with this project.
- ❖ Ensure staff operating equipment are adequately trained, certified and sensitised to any potential hazards associated with their tasks.

- ❖ Educate staff as to the need to refrain from indiscriminate waste disposal and/or pollution of local soil and water resources, ensure that they (the staff) have received the necessary safety training, and are aware of the importance of a “clean-site policy”.
- ❖ The management guidelines contained in this document must form part of the contractual agreements between the Proponent, Site Manager and the ECO. A tabulated synopsis of relevant responsibilities is appended hereto.

6. REPORTING PROCEDURES

6.1 Documentation

The following documentation must be kept on site in order to record compliance with the EMPr:

An Environmental File which includes:

- ❖ Copy of the EMPr;
- ❖ Copy of the EA;
- ❖ Copy of all other licences/permits;
- ❖ Environmental Method Statements;
- ❖ Non-conformance Reports;
- ❖ Environmental register, which must include:
 - Communications Register – including records of complaints, minutes and attendance registers of all environmental meetings;
 - Monitoring Results – including environmental monitoring reports, register of audits, non-conformance reports; and
 - Incident book – including copies of notification of Emergencies and Incidents, this must be accompanied by a photographic record.
- ❖ Waste Documentation such as, but not necessarily limited to: Waste Manifest Documents;
- ❖ Material Safety Data Sheets (MSDSs) for any hazardous substances; and
- ❖ Written Corrective Action Instructions.

6.2 Environmental Register

The Proponent will put in place an Environmental Register and will ensure that the following information is recorded for all complaints / incidents:

- ❖ Nature of complaint / incident.
- ❖ Causes of complaint / incident.
- ❖ Party/parties responsible for causing complaint / incident.
- ❖ Immediate actions undertaken to stop / reduce / contain the causes of the complaint / incident.

- ❖ Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint / incident.
- ❖ Timeframes and the parties responsible for the implementation of the corrective or remedial actions.
- ❖ Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented.
- ❖ Copies of all correspondence received regarding complaints/incidents.

6.3 Non-Conformance Report

A Non-Conformance Report (NCR) will be issued to the Proponent as a final step towards rectifying a failure in complying with a requirement of the EMPr. This will be issued by the ECO to the Proponent in writing. Preceding the issuing of a NCR, the Proponent must be given an opportunity to rectify the issue.

Should the ECO assess an incident or issue and find it to be significant (e.g. non-repairable damage to the environment), it will be reported to the relevant authorities and immediately escalated to the level of a NCR. The following information should be recorded in the NCR:

- ❖ Details of non-conformance;
- ❖ Any plant or equipment involved;
- ❖ Any chemicals or hazardous substances involved;
- ❖ Work procedures not followed;
- ❖ Any other physical aspects;
- ❖ Nature of the risk;
- ❖ Actions agreed to by all parties following consultation to adequately address the non-conformance in terms of specific control measures and should take the hierarchy of controls into account;
- ❖ Agreed timeframe by which the actions documented in the NCR must be carried out; and
- ❖ ECO should verify that the agreed actions have taken place by the agreed completion date, when completed satisfactorily; the ECO and Proponent should sign the Close-Out portion of the Non-Conformance Form and file it with the contract documentation.

6.4 Emergency Response

The Proponents environmental emergency procedures must ensure appropriate responses to unexpected / accidental actions / incidents that could cause environmental impacts.

The Environmental Emergency Response Plan is separate to the Health and Safety Plan as it is aimed at responding specifically to environmental incidents and must ensure and include the following:

- ❖ Employees shall be adequately trained in terms of incidents and emergency situations;
- ❖ Details of the organisation (i.e. manpower) and responsibilities, accountability and liability of personnel;
- ❖ A list of key personnel and contact numbers;
- ❖ Details of emergency services (e.g. the fire department / on-site fire detail, spill clean-up services) shall be listed;
- ❖ Internal and external communication plans, including prescribed reporting procedures;
- ❖ Actions to be taken in the event of different types of emergencies;
- ❖ Incident recording, progress reporting and remediation measures to be implemented; and

- ❖ Information on any hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.

7. COMPLIANCE WITH THE EMPr

7.1 Monitoring and Compliance

The monitoring and compliance of the development should take place as follows:

- ❖ The ECO has the authority to instruct the Proponent to cease a particular operation causing or liable to cause significant environmental damage, and issue fines or penalties for non-compliance of the Environmental Management Programme/ EMPr.
- ❖ An Environmental Control Officer (ECO) must audit the site and compile an audit report on a **monthly** basis until rehabilitation is successful.
- ❖ The holder of the environmental authorisation (the Proponent) is responsible to ensure that an environmental audit report is submitted to the Department of Environmental Affairs and Development Planning (DEA&DP) as per the timeframes stipulated in the Environmental Authorisation (EA).

7.2 Auditing Process

The terms of reference for the audits must comprise the following:

- ❖ Develop a checklist against which the criteria can be referenced during the audit.
- ❖ During the audit process, key individuals involved with the management of the project are to be given the opportunity to comment on issues being audited and will be invited to accompany the auditor during the site inspection.
- ❖ Compile an audit report on the implementation of the EMPr and compliance to the Environmental Authorisation and submit this report to the competent authority (DEA&DP).

Compliance ratings against which the listed criteria are assessed are as follows:

Symbol	Rating	Interpretation
Y	Yes	Evidence of compliance
P	Partial	Evidence of partial compliance
N	No	Evidence of non-compliance
NR	Not Relevant	The condition or commitment is not relevant at this stage of the development or it is inappropriate
NA	Not Audited	Not audited

7.3 Non-Compliance

Definition

The non-compliance is defined as, and will be issued for:

- ❖ Any deviation by the Proponent from the environmental conditions and requirements as set out in the EA and EMPr - or;
- ❖ Any contravention by the Proponent of environmental legislation - or;
- ❖ Any unforeseen environmental impact resulting from direct or indirect actions or activities on site that would be considered as a significant impact. Significance will be determined by the Environmental Control Officer (ECO) but will be informed by geographic extent, duration, lasting effects of the impact and extent of remediation to the impact.

Types of non-compliances issued

Two types of non-compliances may be issued:

A. Stop Works Non-Compliance

Stop Works Non-Compliance will require that all works as described in the non-compliance will stop immediately and may only continue on a formal written permission from the ECO.

Stop Works Non-Compliance will be issued under the following conditions:

- ❖ Total disregard by the Proponent to the environmental conditions and requirements listed in the EA and EMPr;
- ❖ An activity that if left unattended will escalate the degree, severity or extent of the environmental impact.

B. General Non-Compliance

A general non-compliance will allow work and activity by the receiving party to continue while the corrective action takes place.

7.4 Issuing a Non-Compliance

Non-compliance may be issued to:

- ❖ The Proponent
- ❖ Any representative of the Proponent

7.5 Process of Issuing Non-Compliance

The appointed Environmental Control Officer (ECO) may issue a formal non-compliance to the Proponent. A copy of the non-compliance issued will be placed in the EMPr file. The Proponent will be responsible for returning a formally signed off corrective action (as per template) to the ECO to be placed in the EMPr file. The ECO will be required to sign-off on the corrective action, indicating that it has been completed within the timeframes and to the satisfaction of the ECO.

7.6 Failure to complete corrective actions

In the event that the Proponent fails or refuses to complete the corrective action, either at all or within the allocated timeframe, the ECO shall,

- ❖ Inform DEA&DP in writing that a condition of approval for the project is not being met.

The DEA&DP office is responsible for resolving the impasse with the Proponent.

The Proponent is deemed not to have complied with the EA and EMPr if:

- ❖ Within the boundaries of the site and site extensions there is evidence of contravention of clauses;
- ❖ Environmental damage occurs due to negligence; inappropriate actions taken by the Proponent or any of his staff.

On receiving a notice of non-compliance the Proponent is required to swiftly address the issue/s taking all corrective actions required to rectify the situation. Penalties will be applied for non-compliant situations. Penalties/fines are advocated to ensure corrective measures are successfully undertaken and the necessary standard of rehabilitation is achieved.

The penalty associated with a chemical spill is not a set amount but will depend on the nature and extent of the spill; the cost of any soil and /or groundwater monitoring and any soil and /or groundwater remediation required by authorities will be to the Proponent's account.

The imposition of such a penalties / fines shall not preclude the relevant competent authority from applying an additional penalty in accordance with statutory powers.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression as deemed fit.

7.7 Unlawful Activity/ies

NEMA and its Regulations entitle environmental authorities to administer a fine not exceeding R 5 million or 10 years imprisonment and/or a fine and imprisonment for a person guilty of an unlawful activity. The Act makes allowance for the rectification of unlawful activity and may charge up to R1 million administration fees over and above the remediation costs.

NEMA makes provision for damages to be awarded by the courts where loss or damage has occurred as a result of a contravention of other environmental statutes. Importantly, NEMA provides for the liability of conviction of employees, managers, agents and directors for any offences resulting from the failure to take all the reasonable steps that were necessary under the circumstances to prevent the commission of an offence.

8. AMENDMENTS TO THE EMPr

This EMPr outlines the environmental practices and mitigation measures to be adhered to during the construction and rehabilitation phases in order to curtail and/or minimise potential negative impacts and promote sound environmental practises.

Any major issues not covered in the EMPr as submitted, will be addressed as an addendum to this EMPr, and submitted for approval. The EMPr is a living document and is subject to change from time to time in consultation with the DEA&DP. Any amendments to the EMPr will require approval from the DEA&DP.

9. ENFORCING THE EMPr

The holder of the Environmental Authorisation (EA) has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes casual labour, etc.). The EA and EMPr shall be part of the terms of reference for all stakeholders.

All senior and supervisory staff members shall familiarise themselves with the full contents of the EA and EMPr. They shall know and understand the specifications of the EA and EMPr and shall be able to assist other staff members in matters relating to the EA and EMPr.

10. ENVIRONMENTAL MANAGEMENT PROGRAMME

10.1 CONSTRUCTION PHASE

Activity	Management / Mitigation	Responsibility	Frequency / Timing
Authorisations, Licences and Permits	Environmental Authorisations All necessary authorisations, permits and licences must be obtained by the Proponent prior to construction commencement. This includes permits for the removal of protected vegetation (please see Appendix 2 of the Vegetation and Flora of Erf 2003, Wilderness, George District report, 2021): <ol style="list-style-type: none"> 1. Aloe arborescens 2. Curtisia dentata 3. Pittosporum viridiflorum 4. Sideroxylon inerme 5. Habenaria arenaria 6. Liparis remota 7. Bonatea speciosa 8. Streptocarpus rexii 	Proponent	Once-off Pre-construction
	Appointment of Environmental Control Officer An independent ECO must be appointed at the Proponent's cost to monitor the implementation of the EMPr. Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence which includes site preparation. The nomination of the ECO must be given to DEA&DP, in writing fourteen (14) days prior to construction commencement. The notification must include contact details for the ECO and details pertaining to the ECO's relevant experience.		

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	Should the ECO for the development change at any time, this must be communicated, in writing, to DEA&DP, within seven (7) days of appointing the new ECO. The notification must include contact details for the ECO, details pertaining to the ECO's relevant experience and reasons for the change in ECO.		As required
Preparation of Method Statements	Method Statements Method Statements must be submitted by the Proponent/ Contractor to the ECO and must be adhered to by the Proponent/ Contractor. These relate to water and stormwater management requirements, solid waste management requirements, the storage of hazardous materials (if applicable), and standard emergency procedures.	Proponent/ Contractor	Prior to commencement of construction and during construction (if necessary)
	The ECO will monitor the implementation of the statements.	ECO	On-going
Notifying Relevant I&APs	Notice of Environmental Authorisation (EA) A written notice must be given to all relevant I&APs notifying them of the EA. The notice must include a date on which the EA was received and the reference number for the EA. Commencement of construction may not begin until 21 days after the notification, provided no appeals have been lodged against the EA.	Proponent	Prior to commencement
	Environmental Awareness and Training Construction staff must be adequately educated by the ECO as to the provisions included in the EMPr, and in terms of general environmentally-friendly practice. The ECO must ensure that all staff, and if applicable, Contractors / Sub-contractors / Suppliers / Service Providers are trained on the environmental, occupational safety and/or legal responsibilities expected from them. The training must take into account language and literacy requirements as well as measures to determine the effectiveness of the training. Proof of training must be attached to the ECO's audit reports. Consideration of the implications of the EA and EMPr must form part of the formal site induction for all contractors, sub-contractors and casual labourers, preferably in their native language. The induction training will, as a minimum, include the following:	ECO	Once-off and as required
Education of Site Staff on General and Environmental Conduct <i>A general regard for the social and ecological wellbeing of the site and adjacent areas is expected of the site staff.</i>			

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	<ul style="list-style-type: none"> ➤ The importance of conformance with all environmental policies; ➤ The environmental impacts, actual or potential, of their work activities; ➤ The environmental benefits of improved personal performance; ➤ Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Consultant's environmental management systems, including emergency preparedness and response requirements; and ➤ The mitigation measures required to be implemented when carrying out their work activities. ➤ Identify no-go areas and site demarcation around the construction footprint. No damage to the environment is permitted within the no-go areas. 		
	All contractors, sub-contractors and casual labourers must acknowledge their understanding of the EMPr and environmental responsibilities by signing an induction attendance record.	ECO	Once-off
	Staff, operating equipment, shall be adequately trained and sensitised to any potential hazards associated with their tasks.	Proponent	During staff induction, followed by on-going monitoring
	Translators are to be used where necessary during staff training.	ECO	
	The ECO must be on hand to explain more difficult / technical issues and to answer questions which may be raised.	ECO	
	Staff must be made aware that they are not to make excessive noise e.g. shouting, hooting.	ECO & Proponent	
	All employees must undergo the necessary safety training and wear the necessary protective clothing at all times.		
	No alcohol / drugs to be present on site; no vehicles or machinery are to be operated whilst under the influence of alcohol or drugs.		
	No firearms allowed on site or in vehicles transporting staff to / from the site (unless used		

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	by security personnel).		
	No unsocial behaviour will be permitted.		
	Bringing pets onto site is forbidden.		
	Staff must make use of facilities provided for them, as opposed to ad-hoc alternatives (e.g. fires for cooking, the use of surrounding bush as a toilet facility is strictly forbidden). No fires to be permitted on site.		
	Trespassing on private / commercial properties adjoining the site is forbidden.		
	No worker may be forced to do work that is potentially dangerous or for what he / she is not so trained		
	The staff conduct rules are described in a separate table of rules in the EMPr. This is aimed at providing staff with the basic information regarding worker conduct on site.		
Site Management	Access		
	No vehicles may drive onto the adjacent properties and any other no-go areas.	Site Manager	On-going
	Access is restricted to Remskoen Road via the existing servitude.	Site Manager	On-going
	Site Management		
	To ensure that the ecological integrity of the adjacent properties are maintained and preserved, the proponent and contractor must ensure that the construction footprint is limited to the construction area. The extent of the construction must be marked out to satisfaction of the engineer and ECO. A silt screen fence must be erected 1m from the property boundary, to prevent workers from going beyond the work zone.	Proponent/ Contractor/ Site Manager	On-going
	The Contractor must restrict all activities, materials, equipment, and personnel within the area specified or restricted activities to areas that are necessary to undertake the work.		
	The Contractor must ensure that materials are appropriately secured to ensure safe passage between destinations. Loads including, but not limited to, sandstone chips, fine vegetation or refuse should have appropriate cover to prevent pollution of adjacent properties.		
Adequate drainage and erosion protection must be provided around the site and where necessary.			
Access points and other cleared surfaces must be dampened whenever necessary and especially in dry and windy conditions to avoid excessive dust. Alternatively, a binding product such as Dustex (supplied by Patch Industrial Supplies) could be used.			

Activity	Management / Mitigation	Responsibility	Frequency / Timing
Sewage and Sanitation	Ablutions		
	Ablution facilities must comply with local authority regulations and must be maintained in a clean and hygienic condition. Their use must be strictly enforced. Ablution facilities must be positioned in an appropriate place, also taking into consideration, gradient of the land.	Site Manager	Immediately & on-going
	The Site Manager must ensure that toilets are cleaned weekly or more regularly, if found to be necessary.		On-going
	Unauthorised spilling of waste into the environment and burying of waste are strictly prohibited.		
Social Impacts	Communication Between Site Manager, Site Staff and I&APs		
	Site signage must be erected to alert the public of construction works and contact details of personnel in charge.	Site Manager	Pre-Construction
	Should the staff be approached by members of the public or other stakeholders, they must assist them in locating the Site Manager, or provide a number on which they may contact the Proponent/ Site Manager.	Site Manager	On-going
	The conduct of the staff when dealing with the public or stakeholders shall be in a manner that is polite and courteous at all times.		
	Drivers of heavy-duty vehicles must exercise care when travelling to and from the site – and adhere to all legally enforceable requirements. Traffic must be managed accordingly.		
Equipment lay-down and storage	Storage Areas		
	Choice of location for equipment lay-down and storage areas must take into account prevailing winds, general on-site topography and water erosion potential of the soil. Impervious surfaces, bunded areas or drip trays must be provided where necessary.	Site Manager	Prior to construction and on-going
	Material stockpiles must be protected against wind, rain and flooding.		
	Equipment lay-down and storage areas must be designated by the ECO and Engineer, demarcated and signed.		
Conservation of the Natural Environment	Erosion and Stormwater Control		
	Soil disturbance during the removal of alien invasive plants must be minimised as much as possible.	Site Manager	Duration of the project
	Storm water control must be undertaken to prevent soil loss and erosion impacts from		

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	the site.		
	Erosion prevention and control measures must be implemented. This may be by the use of mulch bags or silt fences. The engineer must provide a method statement for specific erosion methods prior to construction.		
	Provision shall be made for storm water management measures that will ensure effective run-off control and prevent erosion at run-off points.		
	Continuous monitoring for evidence of erosion must be undertaken around the site.		
	Earth, stone or rubble is to be properly stored or disposed of so as not to obstruct natural water pathways over the site.		
	Fauna and Flora		
	All vegetation outside the boundary of the property is to be recognised as "no-go" areas.	ECO & Site Manager	Immediately
	No natural vegetation may be cleared without prior permission from the ECO and if applicable from any relevant authority. Indigenous vegetation that is removed is to be replanted either back to the point from which it was taken or must be replaced by new relevant indigenous vegetation.		On-going
	Topsoil must be reserved for rehabilitation works. Stockpiles must not exceed 1.5m in height. Stockpiles must be covered with shade cloth or similar, to prevent erosion and any invasive alien species that begin to grow within it must be removed.	ECO & Site Manager	Immediately and on-going
	All alien invasive plant species must be continuously removed around the site. The best way to do this is to remove the plants from the roots by hand and leave the plants in the sun to dry out and die before disposal. Please refer to the Alien Plant Control Programme at the end of this document for further instructions.	ECO & Site Manager	Immediate and On-going
Disturbance to birds, animals and reptiles and their habitats must be minimized wherever possible.	Site Manager		
Waste Management	On-Site Waste Management		
	The excavation and use of rubbish pits is forbidden.	Site Manager	On-going
	Burning of waste is forbidden. <i>A possible exception to this may be that the alien invasive vegetation which is removed from the site should be burned to prevent the spread of the plants. The transportation of Alien Invasive Plants is strictly forbidden in terms of the Conservation of Agricultural Resources Act (CARA), especially if in seed; unless stored in a completely sealed container.</i>		On-going and monitored weekly

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	<p>Littering on the site is forbidden and the site shall be cleared of litter at the end of each working day.</p> <p>An adequate number of general waste bins must be arranged around the site to collect all domestic refuse, and to minimise littering.</p> <p>Solid waste must be managed and separated into recyclable and non-recyclable and disposed of accordingly.</p> <p>Waste must be removed from the site on a weekly basis.</p> <p>All waste generated during construction is to be disposed of at a facility registered in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).</p>		On-going monitoring
Handling of Hazardous Materials (if necessary)	Hazardous Materials		
	Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs must additionally include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.	Site Manager	On-going
	Cement and other potential environmental pollutants must be stored within an impermeable bunded, roofed and sign posted area.		
	The mixing of cement must be done on Rhino board.		
	All empty contaminated containers must be stored within a hazardous bunded area until collection by a reputable hazardous waste collection company. Waybills must be presented to the ECO for review and filing purposes.		
No vehicles transporting hazardous materials to the site may be washed on or near site. They must return to the supplier of such material to be cleaned out.			
Cultural Environment	Archaeology and Palaeontology		
	<p>No structures older than sixty years or parts thereof are allowed to be demolished altered or extended without a permit from Heritage Western Cape.</p> <p>If any archaeological or palaeontological sites/materials are exposed, mitigation regarding the finds must be conducted with Heritage Western Cape regarding the destiny of the material.</p> <p>Examples of heritage resources are as follows:</p> <ul style="list-style-type: none"> Human remains. 	Site Manager	Immediate and On-going

Activity	Management / Mitigation	Responsibility	Frequency / Timing
	<ul style="list-style-type: none"> • Coins/Gold/Silver • Fossils • Fossils shell middens/ marine shell heaps • Pottery/ceramics <p>If Heritage Western Cape agrees to the removal of the material, an archaeologist must apply for a permit from Heritage Western Cape to scientifically excavate/collect the material.</p> <p>All costs must be financed by the proponent/developer. This may include:</p> <p>All monitoring and mitigation expenses regarding the excavations/collecting of material, travel, accommodation and subsistence, analysis of the material, radiocarbon date(s) of the site(s) and possibly a curation/storage fee.</p>		
Safety and Security	Safety and Security On-Site		
	Material stockpiles or stacks must be stable and well secured to avoid collapse and possible injury to site workers / local residents.	Site Manager	On-going
	Firefighting equipment must be present on site at all times. All equipment on site must be used in accordance with the Occupational Health and Safety Act regulations of South Africa (OHSA), Act No. 85 of 1993; staff must be trained in firefighting procedures.		
	Section 12 (1) and 2 (a) of National Veld and Forest Act 8 states that an adequate firebreak must be prepared and maintained around the property to reasonably prevent the spread of unwanted fires in the area. Thus, firebreaks must be maintained and managed on the property.		
	No unauthorised person may be permitted to enter the site without prior permission of the site manager.		

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10.2 REHABILITATION AND MAINTENANCE

The purpose of the Rehabilitation Plan is to ensure that areas cleared or impacted during construction activities within the development footprint, and that are not required for operation are rehabilitated to their original state before the operation phase commences, and that the risk of erosion from these areas is reduced. The purpose of the Rehabilitation Plan for the site can be summarised as follows:

- Achieve long-term stabilisation of all disturbed areas.
- Re-vegetate all disturbed areas with suitable local plant species.
- Minimise visual impact of disturbed areas.
- Ensure that disturbed areas are rehabilitated to a condition similar to that found prior to disturbance.

The following general management practices should be encouraged or strived for:

- Clearing of invaded areas should be conducted.
- No harvesting of vegetation may be undertaken outside the area to be disturbed by construction activities.
- Indigenous plant material must be kept separate from alien material.
- Indigenous seeds may be harvested for purposes of revegetation in areas that are free of alien invasive vegetation, either at the site prior to clearance or from suitable neighbouring sites.
- Topsoil should be reserved wherever possible on site, to be utilised during rehabilitation.
- Water used for the irrigation of re-vegetated areas should be free of chlorine and other pollutants that might have a detrimental effect on the plants.
- All seeded, planted or sodded grass areas and all shrubs or trees planted are to be irrigated at regular intervals.
- On steep slopes and areas where seed and organic matter retention is low, it is recommended that soil savers are used to stabilise the soil surface. Soil savers are man-made materials, usually constructed of organic material such as hemp or jute and are usually applied in areas where traditional rehabilitation techniques are not likely to succeed.
- In areas where soil saver is used, it should be pegged down to ensure that it captures soil and organic matter flowing over the surface.
- The final rehabilitated area should resemble the current composition and structure of the soil as far as practicably possible.
- Progressive rehabilitation is an important element of the rehabilitation strategy and should be implemented where feasible.
- No construction equipment, vehicles or unauthorised personnel should be allowed onto areas that have been rehabilitated.
- Any erosion runnels, erosion channels or wash-aways developing after revegetation should be backfilled and consolidated and the areas restored to a proper stable condition.
- Re-vegetated areas should be monitored frequently and prepared. Revegetate from scratch should inadequate signs of surface coverage or growth be evident after two growth seasons. Adequate recovery must be assessed by a qualified botanist or rehabilitation specialist.
- Where herbicides are used to clear vegetation, species-specific chemicals should be applied to individual plants only. General spraying should be strictly prohibited, and only the correct herbicide type should be applied.

Monitoring of rehabilitation:

Rehabilitation success, monitoring and follow-up actions are important to achieve the desired cover and soil protection. The following monitoring protocol is recommended:

- Rehabilitation areas should be monitored every 4 months for the first 12 months following construction, or as per the recommendations of the ECO.
- Ensure that steep slopes are not de-vegetated unnecessarily and subsequently become hydrophobic (i.e. have increased runoff and a decreased infiltration rate) increasing the erosion potential.
- Soil loss is related to the length of time that soils are exposed prior to rehabilitation or stabilisation. Therefore, the timeframe between construction activities and rehabilitation should be minimised.
- Any areas showing erosion, should be adaptively managed with particular erosion control measures, depending on the situation.

11. ALIEN PLANT CONTROL PROGRAMME

As per the Vegetation and Flora report (4 September 2021) appended to the BAR: "There is currently no invasion by alien plants on site but the invasive species, *Acacia mearnsii*, *Acacia melanoxylon*, and *Acacia cyclops* occur in nearby areas and have the potential to rapidly colonise disturbed areas and to then displace indigenous vegetation."

Benefits of control

- Elimination of spread of these species into non-affected areas.
- Improvement of water quality and quantity.
- Legal compliance: landowners are required to eradicate or control declared weed and alien invader plants in terms of the Conservation of Agricultural Resources Act 43 of 1983 and the National Environmental Management: Biodiversity Act 10 of 2004.
- Improvement of biodiversity in conservation areas. Fast growing invader plants suppress indigenous flora, with a resultant loss in overall biodiversity.
- Commercial reasons: alien vegetation can spread from conservation areas into production land resulting in greater weed control costs.

Important factors influencing the effectiveness of a control programme

- Timely implementation of control operations is important for alien plants.
- Operations must be directed towards killing alien vegetation. This is best achieved by using an effective herbicide chosen by the ECO and applied by using the "cut-stump; frilling or ring barking methods. Under no circumstances may spraying with a "Rose" or multi-stream nozzle head be done.

Requirements for an effective alien vegetation control programme

- Identify the problem: extent, location and species of problem plant.
- Divide the problem areas into manageable units, taking budget and resource constraints into account.
- Identify any sensitive ecosystems, rare or endangered plants etc. which may be affected by a control programme. Identify the original ecosystem applicable to the area.
- Make provision for a number of follow up operations. The initial clearing operation is only part of the total programme. Failure to follow up will result in a failure of the entire programme.

While the importance of removing or clearing of alien or exotic vegetation is recognised, there should be control over the way in which this takes place. Often what generally appears to be covered by alien vegetation, actually contains pockets of sensitive vegetation or protected species. It is for this reason that clearing of such areas must be undertaken by hand (*Guidelines for the Control and Management of Activities in Sensitive Coastal Areas, first edition, 1998*).

It is important to note that all of the above must be performed with instruction by the ECO, as well as in the presence of an ECO at all times.

11.1 Legislation

The National Environmental Management Act, No 107 of 1998, creates a duty of care towards the environment. Within the preface of this Act, it is stated thus:

“Everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development: the environment is a functional area of concurrent national and provincial legislative competence, and all spheres of government and all organs of state must co-operate with, consult and support one another.”

Any person or business found to be responsible for illegally introducing an invasive plant or species, and allowing it to spread, may be compelled, by this Act to desist with their actions and remove the source of invasion.

The Conservation of Agricultural Resources Act, No 43 Of 1983 (CARA) was passed to protect soil, water resources and vegetation. This included measures to manage and control weeds and invader vegetation species. The CARA regulations declare several species of “weeds” or “invader plants.” These species have been divided into three categories:

Category 1a Listed Invasive Species:

Category 1a Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the National Environmental Management: Biodiversity Act/ NEMBA (Act 10 of 2004) as species which must be combatted and eradicated.

A person in control of a Category 1a Listed Invasive Species must-

- (a) comply with the provisions of section 73(2) of the NEMBA;
- (b) immediately take steps to combat or eradicate listed invasive species in compliance with sections 75(1), (2) and (3) of the NEMBA; and
- (c) allow an authorised official from the Department to enter onto land to monitor, assist with or implement the combatting or eradication of the listed invasive species.

If an Invasive Species Management Programme has been developed in terms of section 75(4) of the NEMBA, a person must combat or eradicate the listed invasive species in accordance with such programme.

Category 1b Listed Invasive Species:

1) Category 1b Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the NEMBA as species which must be controlled.

2) A person in control of a Category 1b Listed Invasive Species must-

- (a) control the listed invasive species in compliance with sections 75(1), (2) and (3) of the NEMBA.

(b) must allow an authorised official from the Department to enter onto the land to monitor, assist with or implement the control of the listed invasive species, or compliance with the Invasive Species Management Programme contemplated in section 75(4) of NEMBA.

3) If an Invasive Species Management Programme has been developed in terms of section 75(4) of the NEMBA, a person must combat or eradicate the listed invasive species in accordance with such programme.

Category 2 Listed Invasive Species:

1) Category 2 Listed Invasive Species are those species listed by notice in terms of section 70(1)(a) of the NEMBA as species which require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit, as the case may be.

2) Unless otherwise indicated in the Notice, no person may carry out a restricted activity in respect of a Category 2 Listed Invasive Species without a permit.

3) A landowner on whose land Category 2 Listed Invasive Species occurs or person in possession of a permit, must ensure that the specimens of the species do not spread outside of the land or the area specified in the Notice or permit.

4) Unless otherwise specified in the Notice, any species listed as Category 2 Listed Invasive Species that occurs outside the specified area contemplated in sub-regulation (1), must, for purposes of these regulations, be considered to be a Category 1b Listed Invasive Species and must be managed according to Regulation 3 above.

5) Notwithstanding the specific exemptions relating to existing plantations in respect of Listed Invasive Plant Species published in *Government Gazette* No. 37886, Notice 599 of 1 August 2014 (as amended), any person or organ of state must ensure that the specimens of such Listed Invasive Plant Species do not spread outside of the land over which they have control.

6) If an Invasive Species Management Programme has been developed in terms of section 75(4) of the NEMBA, a person must combat or eradicate the listed invasive species in accordance with such programme.

Category 3 Listed Invasive Species:

1) Category 3 Listed Invasive Species are species that are listed by notice in terms of section 70(1)(a) of the NEMBA, as species which are subject to exemptions in terms of section 71(3) and prohibitions in terms of section 71A of the NEMBA, as specified in the Notice.

2) Any plant species identified as a Category 3 Listed Invasive Species that occurs in riparian areas, must, for the purposes of these regulations, be considered to be a Category 1b Listed Invasive Species and must be managed according to regulation 3 below.

3) If an Invasive Species Management Programme has been developed in terms of section 75(4) of the NEMBA, a person must combat or eradicate the listed invasive species in accordance with such programme.

Should any invasive plant species occur, other than those stated in The Act, the land user must control them by species-specific control methods. Caution should ALWAYS be taken when dealing with noxious chemicals, and care should be taken to cause the least amount of harm to the environment.

11.2 Ways to Eradicate Alien Vegetation

This alien eradication and control program comprises the following three steps:

Step 1

The first step of the Alien Plant Eradication Programme will be to undertake an inception and educational meeting, where the people employed to undertake this activity are able to identify the correct species as aliens and the manner in which to remove and control them.

Step 2

The second step will be to identify the Alien Invasive Species and start a process of removing the individuals that occur on the site. The removal of the alien species must be in a stepwise manner and be undertaken within a single area at a time. This will ensure that all individuals are removed at the same time to reduce re-infestations. Below are a number of methods that may be employed to undertake the activity of removing alien plant species. These methods are dependent on the size and nature of the plant that is to be removed.

Mechanical Methods

Hand-pulling

This method of removal is only really an option during the summer months and when the alien plant species that are requiring removal are very small, and their root system is not very well established. The only precautionary note here is that many alien plant species may look similar to indigenous species when they emerge, so the labour force must be extremely well versed in the individuals that will require removal.

Up-rooting

This method is similar to hand-pulling but is undertaken on slightly older individuals of the target species. It only has one drawback; a relatively large area can be disturbed with the soils being altered and opening the area up to re-infestation.

Lasso & Winch

This method is the upgraded version of the up-rooting, with the same principles applying, that is of trying to remove the entire plant with all the root system attached, to prevent re-growth. This can have a serious destabilizing effect on the receiving environment and should definitely not be undertaken on slopes or sandy soils.

Cutting / Slashing

This method is not a suitable method for control and long term management if used as a stand-alone technique because many of the alien plant species will simply coppice or re-sprout during the summer periods. Many, if not most, alien plants species are annual species, and through their natural life strategy (r-selected) are able to withstand disturbance, even extreme disturbance as in this instance.

Ring-barking

This involves the removal of bark in a 30 centimetre band. This technique is used to desiccate the plant through killing the phloem and xylem and thus preventing transpiration. Further it also facilitates pathogen infestation. It is very effective on large trees if undertaken correctly.

Strip-barking

As with ring-barking, just at a larger scale.

Frilling / Girdling

Girdling and frilling are methods of killing standing trees that may be done with or without an herbicide. Girdling involves cutting a groove or notch into the trunk of a tree to interrupt the flow of sap between the roots and crown of the tree. The groove must completely encircle the trunk and should penetrate into the wood to a depth of at least 1.5 centimetres on small trees, and 2.5 to 4 centimetres on larger trees. Girdling can be done with an axe, panga or chain saw. When done with an axe or panga, the girdle is made by striking from above and below along a line around the trunk so that a notch of wood and bark is removed. The width of the notch varies with the size of the tree. Effective girdles may be as narrow as 2.5 to 5 centimetres on small-diameter trees, and as wide as 15 to 20 centimetres on very large-diameter trees. When a chain saw is used to girdle, two horizontal cuts between 5 and 10 centimetres apart are usually made completely around the tree when no herbicide is used and one horizontal cut is made completely around the tree when herbicide is used.

Frilling is a variation of girdling in which a series of downward angled cuts are made completely around the tree, leaving the partially severed bark and wood anchored at the bottom. Frilling is done with an axe or panga.

By themselves, girdling and frilling are physical methods to deaden trees that require very little equipment and may be done without herbicides. Both techniques require considerable time to carry out, particularly with an axe or panga. The effectiveness of girdling and frilling depends on the tree species and on the size and completeness of the girdle or frill. To be effective, girdles and frills must completely encircle the tree. Because frills can heal-over more easily, girdling is usually more effective.

The effectiveness of both girdling and frilling can be increased by using herbicides. With frilling and girdling, water soluble forms of herbicides are most commonly used to get maximum movement of herbicide within the plant. When using water-soluble herbicides, the herbicide/water mixture is commonly applied by squirting it on the girdle or frill until the cut surface is wet. Hand-held, spray bottles, such as those available at local garden stores, are ideal for applying herbicide to the girdle. Again, note that a single, rather than double chain saw girdle is used when a water soluble herbicide is to be applied.

Chemical Methods

The use of chemicals in controlling and removing of alien plant species should not be excluded as a possible option. Once the alien plant species are more manageable the use of chemicals should be reduced or excluded completely. The best option would be to pursue a combination of mechanical and chemical control in the early stages.

The only negative impact of the use of chemicals is that if used incorrectly may result in plant species being able to develop some form of resistance to the herbicide. If herbicides are used as a foliar spray, drift will cause non-target species to be impacted upon. The only method that should be undertaken is the cutting of the plants prior to the treatment of the remaining stems using a "stem painting" technique.

It is imperative that the herbicides used are dye treated or that the end-user add a dye to ensure that all stems that have been treated are easily identified. Note, the application of the chemical solution must follow directly after the cutting of the vegetation. Therefore, a small area should be selected and all cutting and stem painting be undertaken on that area prior to moving to the next area.

Environmental Safety

In order to minimise the impact of the construction on the natural environment the following must be observed.

- ❖ Area contamination must be minimised by careful accurate application with a minimum amount of herbicide to achieve good control.
- ❖ All care must be taken to prevent contamination of any water bodies. This includes due care in storage, application, cleaning equipment and disposal of containers, product and spray mixtures.
- ❖ Equipment should be washed where there is no danger of contaminating water sources and washings carefully disposed of at a suitable site.
- ❖ To avoid damage to indigenous or other desirable vegetation product should be selected that will have the least effect on non-target vegetation.
- ❖ Coarse droplet nozzles should be fitted to avoid drift onto neighbouring vegetation, e.g. TG-1 or equivalent.
- ❖ The correct protective clothing is to be used in line with manufacturer's instructions and / or the Occupational Health & Safety Act, Act 85 of 1993 (and amendments) and,
- ❖ All MSDS sheets are to be made available on site along with a Medical First Aid Kit.

Disposal of Alien Vegetation

- ❖ Plant material should be used beneficially wherever possible, as opposed to disposing of it at a landfill site where it takes up valuable airspace, or let it further propagate on unchecked, vacant land.
- ❖ Woody and dry material, provided no seeds are present, can be chipped and used as mulch or made available to the local community for firewood.
- ❖ Wet material and aquatic weeds should be combined with other organic matter and composted. Alternatively, it may be possible to use it for basket making, animal feed or other uses.
- ❖ Burning of alien vegetation waste material is prohibited.
- ❖ Burying of alien vegetation waste material in or near the stream, drainage lines, dams, wetlands and their buffer zones is prohibited.

- ❖ Any vegetation which is not viable for use must be disposed of at a registered disposal unit.

12. Species Planting List

Potential planting list (please consult a botanist for confirmation):

Vegetation and Flora of Erf 2003, Wilderness, George District 37

Appendix 2: Checklist of plant species found on site

Species	Category
Acokanthera oppositifolia	
Aloe arborescens	PROTECTED WC
Asparagus aethiopicus	
Asparagus asparagoides	
Asparagus macowanii	
Asparagus setaceus	
Asplenium rutifolium	
Bonatea speciosa	PROTECTED WC
Canthium inerme	
Capparis sepia	
Carex lancea	
Carissa bispinosa	
Carpobrotus edulis	
Cassine peragua	
Curtisia dentata	PROTECTED
Cussonia thyrsoflora	
Cynanchum obtusifolium	
Dovyalis rhamnoides	
Ehrharta erecta	
Elaeodendron croceum	
Euphorbia kraussiana	
Gerbera cordata	
Grewia occidentalis	
Gymnosporia buxifolia	
Gymnosporia nemerosa	
Habenaria arenaria	PROTECTED WC
Hypoestes forskoolii	
Lauridia tetragona	
Liparis remota	PROTECTED WC
Mystroxydon aethiopicum	
Nidorella ivifolia	
Olea capensis	
Oxalis incarnata	
Pittosporum viridiflorum	PROTECTED
Polygala myrtifolia	
Pterocelastrus tricuspidatus	
Putterlickia pyracantha	
Rhoicissus digitata	

Rumohra adiantiformis	
Scolopia zeyheri	
Scutia myrtina	
Searsia chirindensis	
Searsia lucida	
Senecio angulatus	
Sideroxylon inerme subsp. inerme	PROTECTED
Stachys aethiopica	
Streptocarpus rexii	PROTECTED WC
Trichocladus crinitus	
Trimeria grandifolia	
Virgilia oroboides	

13. STAFF CONDUCT CONTROL AND INFORMATION SHEET

ALL STAFF MUST OBEY THE FOLLOWING RULES:	
1	DO NOT tamper with or destroy nesting sites, lairs or any other form of animal shelter.
2	DO NOT feed the native animals.
3	DO NOT leave the project site untidy and strewn with rubbish that will attract pests.
4	DO NOT bring any pets onto the project site.
5	DO NOT trespass onto private properties not linked to the project.
6	DO NOT carry a weapon onto the project site or in the vehicles transporting workers to and from the site.
7	DO NOT set fires.
8	DO NOT cause any unnecessary disturbing noise at the project site or at any designated worker collection/drop off points.
9	DO NOT drive a vehicle under the influence of alcohol.
10	DO NOT exceed the national speed limits on public roads or exceed the recommended speed limits in this management plan (where applicable)
11	DO NOT drive a vehicle that is generating excessive noise (noisy vehicles must be reported and repaired as soon as possible).
12	DO NOT litter along the roadsides, including both public and private roads.
13	DO NOT remove or destroy vegetation around the site without the prior consent of the site manager and Environmental Control Officer.
14	DO NOT tamper with, destroy or remove vegetation from any areas that have been fenced off or marked.
15	DO NOT pollute watercourses, whether flowing or not.
16	DO NOT drive through watercourses.
17	DO NOT operate critical items of mechanical equipment without having been trained and certified.
18	ALL employees must undergo the necessary safety training and wear the necessary protective clothing at all times.
19	NO unsocial behaviour will be permitted e.g., excessive shouting, hooting etc.
20	NO ad-hoc activities are to be undertaken e.g. fires for cooking, the use of surrounding bush as a toilet facility is strictly forbidden
21	NO trespassing on private / commercial properties adjoining the site is forbidden.
22	NO worker may be forced to do work that is potentially dangerous or for what he / she is not trained to do.

14. RESPONSIBILITIES

The "Responsibility" column is merely a guide and does not relieve the Proponent of his/her responsibilities in terms of overall compliance with the EA and EMPr.

FUNCTION	RESPONSIBILITY
Proponent	<ul style="list-style-type: none"> The Proponent is ultimately responsible for the ensuring compliance with all the requirements associated with the construction, operation, rehabilitation and decommissioning phases of the project.
Site Manager	<ul style="list-style-type: none"> The Site Manager is responsible to ensure that all necessary communication and submission of required documentation concerning this project is submitted to the relevant authorities. The site manager is required to adhere to the EMPr and is responsible to ensure that all staff appointed also adhere the EMPr. Ensures that all staff are made aware of the need to conduct activities in an environmentally responsible manner. (Site Manager) On instruction by the ECO, ensures that storm/surface water controls are established. Ensures prompt remediation of any sewage spills. Stockpiles are protected from aeolian effects, stormwater effects, or being driven over by workers. Ensures that a "clean-site" policy is applicable at all times. Ensures that all complaints by residents are dealt with promptly. Is responsible for any contravention/s by staff or any non-compliance with the EMPr.
Environmental Control Officer (ECO)	<ul style="list-style-type: none"> The ECO is to have access to the site at all times, for the purpose of inspections to ensure that the environmental conditions of the EMPr as well as the conditions stipulated to in the EA and the recommendations made in the EIR are being implemented and adhered to. The ECO must report on the environmental aspects of the project to the responsible person/authority at agreed intervals. The need for any deviations or variations in the environmental conditions must be reported to the DEA&DP for approval prior to these being undertaken. The ECO must be fully cognisant with the contents of the Environmental Authorisation as well as this EMPr and any other applicable legislation
Competent Authority	<ul style="list-style-type: none"> The Compliance Officer appointed by the Competent Authority is responsible for the ensuring that the Proponent, Site Manager and ECO are compliant with the provisions of the EA and EMPr.

ACKNOWLEDGEMENT FORM

Record of signatures providing acknowledgment of being aware of and committed to complying with the contents of this Environmental Management Programme (EMPr), which relates to the environmental mitigation measures for the project outlined below, and the environmental conditions contained in all other contract documents.

PROJECT NAME:

THE PROPOSED CONSTRUCTION OF A RESIDENTIAL DWELLING AND FOUR SELF-CATERING GUEST COTTAGES ON ERF 2003, WILDERNESS, WESTERN CAPE

PROPONENT:

Signed: Date:

SITE MANAGER:

Signed: Date:

ENVIRONMENTAL CONTROL OFFICER

Signed: Date:

Appendix A: CV of the EAP