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ENVIRONMENTAL CONSULTING

Environmental Management Programme

Proposed Additional Storage garages on Portion 6 of the Farm Stoffels Rivier No. 494, Stoffels Rivier, Malgas.

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STATEMENT OF INDEPENDENCE

Lornay Environmental Consultants nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any financial or other interest which may affect the independence of the author(s) or Lornay Environmental Consulting. The consultant fees paid to Lornay Environmental Consulting for the completion of this report is in line with standard professional fees and daily rates. The settling of the professional fee is not dependent on the outcome of the report.

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CONTENTS

1. INTRODUCTION 10
2. DEVELOPMENT PROPOSAL 11
3. TERMS OF REFERENCE 13
3.1. Scope of Application: 13
3.2. Binding Requirements: 13
3.3. Responsibilities and Accountability 13
3.4. Implementation and Compliance Monitoring 13
4. ENVIRONMENTAL CONTROL ON SITE 14
4.1. Approach 14
4.2. Organisational Structure and Responsibilities 14
4.3. Environmental Control Officer 14
4.4. Project Manager 16
4.5. Contractor 16
4.6. Site Documentation and Reporting 16
4.7. Homeowners association 17
5. CONDITIONS OF AUTHORISATION 17
6. ENVIRONMENTAL AWARENESS 17
6.1. Aim of the Environmental Awareness Plan 17
6.2. Environmental Awareness Training and content 17
7. CONSTRUCTION PHASE IMPACTS AND MITIGATIONS 18
7.1. Loss of Community type (Potberg Ferricrete Fynbos) 18
7.2. Loss of Species of Conservation Concern (SCC) and Protected Plant Species 18
7.3. Spread and/or Establishment of Invasive Alien Plant (IAP) Species 19
7.4. Reduced Ability to meet Conservation Obligations and Targets 19
7.5. Disruption of Broad-Scale Ecological Processes 20
8. POST-CONSTRUCTION PHASE IMPACTS AND MITIGATIONS 20
8.1. Re-establishment and spread of Invasive Alien Plants (IAP) Species 20
8. GENERAL CONSTRUCTION PHASE IMPACTS AND REQUIREMENTS 27
9.1 Contractors camp 27
9.2 Health and Safety 27
9.3 Fire risk management 27
9.4 Fuels and hazardous materials 28
9.5 Emergencies protocol 28
9.6 Site Demarcation 28
9.7 Stockpiles 29
9.8 General Wastes 29

9.9 Recreational / Eating areas....30
9.10 Construction water....30
9.11 Equipment maintenance....30
9.12. Stormwater Management....30
9.13. Topsoil Removal and Stockpiling....30
9.14. Erosion Control....30
9.15. Dust Control....31
9.16. Construction Traffic Management....31
9.17 Architecture / Design....31
9.18. Sustainable Building Guidelines and materials....31
9.19 . Site Clean Up and Rehabilitation....32
9. COMPLIANCE AND MONITORING....32
10.1. Non-compliance....32
10.2. Environmental Control Sheets....33
11. DECOMMISSIONING PHASE....44
12. ENVIRONMENTAL AUDITS....44
13. CONCLUSION....45
14. DECLARATION OF CONTRACTOR'S ACCEPTANCE....45

LIST OF APPENDICES

Figure 1. Preferred site layout plan

LIST OF TABLES

Table 1. Impact Management

Table 2. Activity specific impacts and mitigations

Table 3. Penalties Scheme

Table 4. Environmental Control Sheets

KEY TERMS AND ABBREVIATIONS

BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
DEA&DP	Department of Environmental Affairs and Development Planning (Western Cape)
EA	Environmental Authorisation
ECA	Environment Conservation Act (Act No. 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan

EMPr	Environmental Management Programme
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:BA	National Environmental Management Biodiversity Act (Act No. 10 of 2004)
NEM:WA	National Environmental Management Waste Act (Act No. 59 of 2008)
PPE	Personal Protective Equipment
SDS	Safety Data Sheets
SHE	Safety Health and Environmental

Basic Assessment - Process followed to receive Environmental Authorisation from the Competent Authority, necessitated by NEMA. The Basic Assessment Report (BAR) is drafted in line with the legislation.

Competent authority - The Department of Environmental Affairs and Development Planning (DEA&DP)

Contractor - the main or specialised contractors as appointed by the developer / applicant for the execution of the works, including all sub-contractors

Developer / Applicant – Breede Riverine Estate Body Corporate

Environmental Control Officer (ECO) - a suitably qualified person to be appointed by the Developer / Applicant, to oversee the implementation of the EMP and environmental agreement until the completion of works on the site

Environmental Management Plan / Programme (EMP/r) - this document, approved by the competent authority, to control the implementation of the works on the site in such a way as to ensure that they do not result in undue or reasonably adverse impacts on the environment.

General waste - Waste that does not pose an immediate hazard or threat to health or to the environment, and includes domestic waste, building and demolition waste, business waste and inert waste

Hazardous waste - Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

Project manager - Overall responsible and accountable person for the site during the construction, operation and decommissioning of the facility.

Project Management team - The responsibility of the EMP implementation resides with this team. This team includes a Project Manager and appointed contractors and consultants.

Safety, Health and Environmental Officer (SHE Representative) – Applicant / developer will appoint one Safety Health and Environmental Officer, assisting the construction manager on Safety, Health and Environmental aspects of the project on the construction site.

Site Manager **–** the employee of the main contractor responsible for the day-to-day control of all activities and operation on site.

Sub-contractor and Contractor - Any provider of services, goods or people to the Applicant / Developer, for the construction, operation or decommissioning.

LEGISLATIVE REQUIREMENTS

A Basic Environmental Assessment process is applicable in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) regulations (2014) (as amended). Appendix 4 of the NEMA EIA Regulations (GN. R982) sets out the minimum requirements for the drafting of an Environmental Management Plan (EMP). This EMP has been created in fulfilment of these prescribed requirements for the construction and post-construction phase of the activity applied for. The implementation of this EMP will be a condition of approval of the Environmental Authorisation (EA). Failure by the applicant, to comply with this EMP, will therefore constitute an offence, and the applicant and / or the appointed contractors can be held liable for penalties and / or legal action. It is therefore important that a copy of this EMP be issued to each contractor, preferably at the appointment stage, in order to allow for the costs of implementing the EMP, to be included in cost proposals. This will also ensure that the contractor is aware of his responsibilities prior to appointment and commencement. Each appointed contractor involved in the project, as well as the project manager (as applicable), will be required to sign for and thereby acknowledge contents of, the approved EMP and therefore abide by the specifications of the document and any amendments thereto.

Other applicable legislation

The Constitution of The Republic of South Africa (Act 108 of 1996)

The Constitution of the Republic of South Africa states that everyone has a right to a non-threatening environment and that reasonable measures are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

National Environmental Management Act (Act 107 of 1998)

The National Environmental Management Act (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant competent authorities. NEMA is a National Act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP).

National Environmental Management: Biodiversity Act (Act 10 of 2004)

Chapter 4 of the National Environmental Management: Biodiversity Act, 2004 (NEMBA) deals with threatened and protected ecosystems and species. The need to protect listed ecosystems is addressed (Section 54). Section 73 deals with Duty of Care relating to invasive species, while Section 76(2) calls for development of invasive species monitoring, control and eradication plans by all organs of state in all spheres of government, as part of environmental management plans required in terms of Section 11 of NEMA.

National Environmental Management: Waste Act (Act No. 59 of 2008)

The National Environmental Management: Waste Act (NEM:WA) provides for specific waste management measures (disposal and storage) and the remediation of contaminated land.

National Environmental Management: Air Quality Act (Act No. 39 of 2004)

Section 32 provides provision for the control of dust, section 34 provides provision for the control of noise and section 35 provides provision for the control of offensive odours, all which may be experienced during the construction or operation of an applicable development.

Environment Conservation Act (Act No. 73 of 1989)

The Environment Conservation Act (ECA) provides provision for the prevention of littering by employees and subcontractors during construction and the maintenance phases of development.

Occupational Health and Safety Act (Act No. 85 of 1993)

Section 8 outlines the general duties of employers to their employees and section 9 outlines the general duties of employers and self-employed persons, to persons other than their employees.

Hazardous Substances Act (Act No. 5 of 1973)

This Act provides for the definition, classification, use, operation, modification, disposal or dumping of hazardous substances.

National Water Act (Act 36 of 1998)

The NWA is South Africa's primary legislative framework for the protection, use, development, conservation, management, and control of water resources. The NWA establishes the national government as the public trustee of all water resources and prioritises the Reserve (ecological water requirements and basic human needs) above all other water uses. The proposed development is situated adjacent to the Breede River, which is a significant water resource and a FEPA river. The management measures in this EMPr include provisions to prevent the contamination of surface water and groundwater resources during both the construction and operational phases of the development, including controls on the management of construction waste, cement and concrete washings, hydrocarbon spills, and sediment runoff toward the river corridor.

1. INTRODUCTION

Breede Riverine Estate Body Corporate, herein referred to as the Applicant, has appointed Lornay Environmental Consulting (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to apply for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998) and the Environmental Impact Assessment Regulations (2014), as amended. This appointment relates to the application for environmental authorisation of listed activities associated with the Proposed Additional eight (8) Boat Garages for storage purposes on Portion 6 of the Farm Stoffels Rivier No. 494, Stoffels Rivier, Malgas.

The Environmental Management Programme (EMPr) presented in this document is a legally binding instrument applicable to the applicant, all successors in title, and any future developers or property owners, whether they assume ownership of the whole or any portion of the development. This EMPr governs the proposed development on the subject property, Portion 6 of the Farm Stoffels Rivier No. 494, as outlined in this application, including any future amendments to the approved layout or development plan. It further extends to all property owners within the development, ensuring a consistent and enforceable framework for environmental management.

This EMPr has been prepared and submitted as part of the Basic Assessment process, in accordance with the requirements of NEMA and its associated regulations. It serves as a comprehensive guideline for managing environmental impacts during both the construction and post-construction phases of the project. The scope of the development includes the establishment of eight (8) additional boat garages on Portion 6 of the Farm 494. The document is prescriptive in nature, detailing mitigation measures and assigning specific responsibilities to individuals or organizations tasked with implementing actions during the construction and post-construction phases.

The primary objective of this EMPr is to minimise or, where possible, entirely avoid potential environmental impacts arising from the proposed development. It addresses key activities such as vegetation clearing, civil works, residential construction, rehabilitation plans, while promoting sustainable development practices. As a dynamic document, the EMPr is designed to be adaptable, allowing for periodic updates to reflect changing site conditions or project requirements. While it is compiled as an integral component of the Basic Assessment process, this EMPr becomes legally enforceable upon approval by the Competent Authority, Department of Environmental Affairs and Development Planning (DEADP).

Compliance with the EMPr is critical throughout the construction and post-construction phases, particularly during activities such as vegetation clearing and the installation of civil services, road construction, and residential units. Upon completion of the construction phase, a completion audit is anticipated to be required, as may be stipulated in the Environmental Authorisation (EA). This audit will verify adherence to the EMPr and ensure that all environmental management commitments have been met.

This EMPr has been drafted in strict accordance with Section 24N of the National Environmental Management Act (NEMA, Act 107 of 1998), ensuring alignment with statutory requirements and best practices in environmental management. It reflects a commitment to balancing the developmental needs of the proposed residential project with the imperative to protect and preserve the natural environment of the subject properties and its surroundings.

2. DEVELOPMENT PROPOSAL

The property is located outside the urban edge and is currently zoned Agricultural Zone I, which permits agricultural activities and, under certain conditions, related uses. The surrounding properties are also zoned for agricultural purposes and have been transformed to support agricultural operations, contributing to the rural character and land-use pattern of the area. The property abuts Breede Rivier to the north, cultivated land to the east for agricultural purposes (farming) as well as a transformed portion of the properties situated to the south. The project involves the establishment of eight (8) additional boat garages, primarily concentrated within degraded areas limit environmental impact. The subject property is approximately 51.92 ha in extent.

The proposed development components, as indicated on the preferred layout plan (Alternative 2), are described below together with their respective footprint areas:

Proposed Development

- A total of eight (8) garage blocks is proposed, each comprising five (5) individual storage garage units, totalling forty (40) storage garages.
- The storage garages will each measure 25 m x 12 m.
- The garage blocks will be situated within a development area of approximately 13 000 m^2 (1.3 ha).
- Clearview fencing will be utilised to demarcate the approved development footprint, in order to prevent further encroachment of construction activities beyond the demarcated area.

Associated Infrastructure Access

- Access to the proposed storage garage blocks will be facilitated via an existing informal access route. No new road will be required for the construction of the boat garage blocks.
- No additional infrastructure, including sewage treatment or stormwater management facilities, water connection or electricity is required to facilitate the new proposed new storage units.



Figure 1: Prefered Site Developent Plan.

3. TERMS OF REFERENCE

The primary objective of this Environmental Management Programme (EMPr) is to identify, manage, and mitigate any potential negative environmental impacts that may arise during the construction and post-construction phases of the proposed residential development and associated infrastructure. The EMPr serves as a guiding document to ensure that the construction and post-construction phases of the development are carried out in an environmentally responsible manner, in compliance with relevant legislation and best practices.

3.1. Scope of Application:

- This EMPr applies to all construction and post-construction / operational activities associated with the proposed development, including site preparation, building construction, access roads, service infrastructure and any associated infrastructure.
- It must be made available to all contractors, subcontractors, and relevant stakeholders involved in the project, ensuring that it forms an integral part of all tender documentation and contracts.

3.2. Binding Requirements:

- The provisions of this EMPr are binding on the applicant/owner, all contractors, subcontractors, and any third parties acting on their behalf.
- The applicant/owner is responsible for ensuring that all contractors and subcontractors are fully informed of the environmental requirements contained within this document.
- Failure to comply with the EMPr's requirements by any party involved in the construction will result in appropriate penalties, and the contractor will be obligated to remedy any environmental damage caused by their actions or the actions of their subcontractors.

3.3. Responsibilities and Accountability

- The contractor is accountable for the environmental performance of the site and must ensure that all activities are conducted in accordance with the environmental standards and guidelines set out in the EMPr.
- The contractor must also take proactive steps to prevent environmental damage and address any environmental issues that may arise during construction.
- In the event of environmental harm or non-compliance, the contractor will be required to restore the affected areas and bear any costs associated with remediation or penalties imposed.

3.4. Implementation and Compliance Monitoring

- Regular site inspections and audits will be conducted to monitor compliance with the EMPr. Any non-compliance will be recorded, and corrective actions will be mandated to mitigate environmental risks.
- Contractors and subcontractors are required to cooperate fully during audits and inspections, and all personnel must receive appropriate environmental training to ensure adherence to the EMPr’s guidelines.

4. ENVIRONMENTAL CONTROL ON SITE

4.1. Approach

The Table below illustrates the various approaches to be undertaken to manage potential scenarios as a result of the activity on site:

Table 1: Impact management

Avoidance	Avoiding activities that could result in adverse impacts and/or resources or areas considered sensitive.
Prevention	Preventing the occurrence of negative environmental impacts and/or preventing such an occurrence having negative impacts.
Preservation	Preventing any future actions that might adversely affect an environmental resource.
Minimisation	Limiting or reducing the degree, extent, magnitude or duration of adverse impacts through scaling down, relocating, redesigning and/or realigning elements of the project.
Mitigation	Measures taken to minimise adverse impacts on the environment.
Enhancement	Magnifying and/or improving the positive effects or benefits of a project.
Rehabilitation	Repairing affected resources, such as natural habitats or water resources.
Restoration	Restoring affected resources to an earlier (possibly more stable and productive) state, typically, 'background' or 'pristine' condition. These resources may include soils and biodiversity
Compensation	Compensating for lost resources, and where possible, the creation, enhancement or protection of the same type of resource at another suitable and acceptable location.

4.2. Organisational Structure and Responsibilities

The Applicant and their appointed contractors will be responsible for the construction phase of the boat garages. All construction related staff are to be briefed on the requirements of the EA and EMP and copies of these documents are to be kept on site during all phases of construction. Long term management will be required in the post construction / operational phase, and this will be done in conjunction with the Home Owners Association / similar structure.

4.3. Environmental Control Officer

Due to the sensitivity of the site, it is recommended that an ECO be appointed for the construction phase of the development. ECO site visits should take place for the duration of the construction phase as per the

conditions of the Environmental Authorisation. This will ensure that the additional conditions contained in the EA, EMP and BAR are implemented.

It will be the ECO's responsibility to ensure that the mitigation / rehabilitation measures and recommendations referred to in the EA (still to be issued) are implemented and complied with by the owner.

The applicant (owner/holder) will be responsible for the remuneration of the ECO and any other expenses encountered in the process of environmental monitoring of the construction. The proposed development

Roles and Responsibilities of an ECO

The responsibilities of the ECO during the construction and operational phase of the project, will include, but not be limited to, the following:

- → Ensure compliance with the EMPr at all times during the pre-construction and construction phase;
- → Ensure compliance with relevant management conditions of the EA during the preconstruction and construction phase;
- → Meet with the contractors to set out the environmental parameters within which they must work (pre-construction and construction phase);
- → To environmentally educate and raise the awareness of the Contractors and their staff and to target responsible individuals as key players for environmental education and to facilitate the spread of the correct environmental attitude during the contract work.
- → Approve the previously disturbed areas set out;
- → Indicate where all no-go areas are to be demarcated and to ensure adherence to these delimitations at the induction session BEFORE any construction or site clearance commences on-site (pre-construction phase).
- → Must inspect the construction footprint on a weekly basis during construction of these elements of the development; and must take immediate measures to address unforeseen disturbances to the river and its associated buffer area.
- → Must check the non-perennial stream as well as the recommended buffer area for erosion damage and sedimentation weekly and after every heavy rainfall event.
- → To review method statements and to determine the most environmentally sensitive options
- → To oversee the implementation of environmental procedures set out in this document
- → Indicate where plant rescue may be necessary, and what species should be rescued on this site (pre-construction phase)
- → Advise on rehabilitation/landscaping measures to be implemented.
- → Ensure that the correct earthworks practices are adhered to; e.g. no encroachment into the surrounding vegetation, separation of topsoil and subsoil, correct stockpiling and stripping of topsoil);
- → To attend site contractor's meetings, as required and report on environmental issues.
- → To receive notices and minutes of all site meetings.
- → To maintain an open and direct channel of communication with the construction team and site manager
- → To take immediate action on site where clearly defined no-go areas are violated, or in danger of being violated, and to inform the site manager immediately, of the documents and the action taken.
- → To keep an up-to-date record of works on site, as they relate to environmental issues in the site diary.

- → To be contactable by the public regarding matters of environmental concern during the construction phase.
- → The ECO is to submit a completion report to the competent authority (DEADP) and applicant upon completion of the construction phase and before the EA lapses.

4.4. Project Manager

In addition to the ECO, the Project Manager will be responsible for the following:

- → All activities relating to the construction phase
- → Delegate activities in accordance with the EMP
- → Communicate design changes and technical issues to the team timeously
- → Ensure that all contractors are managing their team adequately and abiding by the conditions of the EMP and EA
- → Ensuring that the Contractors are aware of the conditions of the EMP and EA

4.5. Contractor

The Contractor (including sub-contractors) will be responsible for:

- → Familiarising themselves with the EIA and EMP
- → Complying with the EMP and EA commitments and any other legislative requirements as applicable
- → Adhering to any instructions issued by the Project Manager or the Safety, Health and Environmental (SHE) Officer, if applicable
- → Submitting an environmental report at designated site meetings on the environmental incidents that have occurred, if applicable
- → Arranging that all employees and those of the subcontractors receive appropriate training prior to the commencement of construction, taking cognisance of this EMP and EA

4.6. Site Documentation and Reporting

Site logbook

A logbook should be kept on a construction site for the purposes of recording on-site instructions and as a general record of environmental issues. The logbook should be kept for a minimum of two years after the activity is completed for the relevant authority to review if deemed necessary. A photographic record of before and after construction should also be kept for visual reference purposes. The logbook should also contain the following sections:

Environmental Site Instruction

The Environmental Site Instruction section will be used for the recording of general site instructions relating to the protection of environmentally sensitive or potentially impacted areas or features on the site as applicable, by the ECO / site manager / construction team.

Site Diary

The purpose of this section will be to record the comments of the ECO / site manager / contractor etc., as they relate to activities on the site. The diary should also hold the complaints register, received from onsite personnel and the general public, Environmental Incident Register, disposal certificates for waste and sewage, non-conformance information, and written corrective active instructions.

Monitoring Section

The purpose of this section will be to record the comments of the ECO / site manager / contractor, during construction, relating to the implementation of the mitigation measures as well as waste, recycling, landscaping and renewable energy measures used during the construction. The findings of all inspections and internal audits should be structured into instructive reporting, providing information to all responsible personnel. Corrective actions must be clearly defined where required. Within the reporting function a structured review component will be enforced. This review function will assist in prescribing necessary corrective actions. During construction, the ECO / Project management team, will be responsible for onsite monitoring to ensure that the contractor abides by the conditions of the EA and EMP.

The Environmental Authorisation (EA) as well as a copy of the approved Environmental Management Plan (EMP) for Construction, should also be accessible on site at all times.

4.7. Homeowners association

N/A.

5. CONDITIONS OF AUTHORISATION

The Environmental Authorisation (EA), once issued, will be included here and will be mandatory for all contractors, sub-contractors, agents, consultants, and construction personnel working on the property.

6. ENVIRONMENTAL AWARENESS

It is important to ensure that the contractors and employees associated with the proposed activity receive the appropriate level of training and awareness to ensure that continual environmental due diligence and conservation is applied at all levels of work carried out on site. Employees, contractors and sub-contractors must be made aware of their responsibilities in terms of relevant legislation, guidelines, as well as this EMP and EA.

The environmental conditions should be included in the contracts issued to the contractors, making them aware of the potential environmental impacts and risks associated with the proposed development as well as what measures are expected of them whilst conducting work on site. The importance of implementing the conditions in the EMP and the necessity of good housekeeping practices, will be made known to the contractors and employees.

6.1. Aim of the Environmental Awareness Plan

- → Promote environmental education and conservation on site
- → Inform employees and contractors on the applicable environmental procedures and plans

6.2. Environmental Awareness Training and content

- → All personnel should undergo induction, which as a minimum should include Safety, Health and Environmental awareness
- → All attendees should sign an acknowledgement register upon receiving and understanding the induction
- → Construction and operational staff should be trained on the implementation of emergency procedures where applicable
- → Definitions as used in this EMP should be provided
- → How and why environmental protection is necessary, should be explained
- → Management measures required to prevent environmental impacts should be outlined
- → Emergency and spills response procedures should be outlined

Environmental conditions in the induction should focus on the following:

- → Good house-keeping practices
- → Air quality (Dust)
- → Waste Management
- → Odour/vermin Control
- → Proper use of sanitation facilities; and
- → Chemicals and materials storage, use and handling.

Environmental training should be implemented at the onset of the construction and can be done verbally or in written format. Proof of training should be kept on record.

7. CONSTRUCTION PHASE IMPACTS AND MITIGATIONS

The assessment identified the following key potential impacts as well as mitigations measures for the management of impacts during the construction phase:

7.1. Loss of Community type (Potberg Ferricrete Fynbos)

Potential impacts

Direct loss of indigenous vegetation within the Critically Endangered Potberg Ferricrete Fynbos ecosystem during the clearance of vegetation for the establishment of the boat garages.

Mitigation measures:

- → Any landowners must adhere to their legal obligations to actively eradicate and manage alien vegetation infestations present on the applicable and surrounding properties.
- → SCC and/or protected plant species should be avoided wherever possible. If individuals cannot be avoided, then a permit for their destruction must be obtained from the relevant local authority.
- → No plant species, whether native or exotic, should be brought into, or removed from, the study area, to prevent the spread of exotic or invasive species or the illegal collection of plants.
- → No plants may be translocated or otherwise uprooted or disturbed for rehabilitation or other purposes without express permission from the Contractor's EO or without the relevant permits.
- → Blanket clearing of vegetation must be limited to the proposed footprint, and only where necessary; no clearing outside of permitted areas may take place.
- → Clearing of vegetation should be minimized and avoided where possible. Immediately rehabilitate all areas outside of the proposed development site that were disturbed and implement mitigation measures to prevent associated impacts from re-occurring.

7.2. Loss of Species of Conservation Concern (SCC) and Protected Plant Species

Potential impacts

Potential loss of plant SCC (including *Agathosma foetidissima*, *Adenandra gummifera*, *Agathosma minuta*, *Selago ramosissima*, *Ixia capillaris*, and *Massonia setulosa*) and provincially/nationally protected plant species may occur during the construction phase.

Mitigation measures

→ Any landowners must adhere to their legal obligations to actively eradicate and manage alien vegetation infestations present on the applicable and surrounding properties.
→ SCC and/or protected plant species should be avoided wherever possible. If individuals cannot be avoided, then a permit for their destruction must be obtained from the relevant local authority.
→ No plant species, whether native or exotic, should be brought into, or removed from, the study area, to prevent the spread of exotic or invasive species or the illegal collection of plants.
→ No plants may be translocated or otherwise uprooted or disturbed for rehabilitation or other purposes without express permission from the Contractor's EO or without the relevant permits.
→ Blanket clearing of vegetation must be limited to the proposed footprint, and only where necessary; no clearing outside of permitted areas may take place.
→ Clearing of vegetation should be minimized and avoided where possible. Immediately rehabilitate all areas outside of the proposed development site that were disturbed and implement mitigation measures to prevent associated impacts from re-occurring.

7.3. Spread and/or Establishment of Invasive Alien Plant (IAP) Species

Potential impacts

Disturbance during site preparation and construction creates opportunities for the establishment or spread of NEM:BA listed IAPs, such as *Acacia cyclops* (Red Eye), *Acacia saligna*, *Acacia mearnsii*, and *Eucalyptus conferruminate*.

Mitigation measures

→ IAPs, wherever present, must be cleared as per NEM:BA requirements where applicable and must not be allowed to spread.
→ Clearing methods should aim to keep disturbance to a minimum and must be undertaken in accordance with relevant guidelines.
→ Any area that is cleared of IAPs must receive regular follow-up treatments (preferably at least three follow-ups) to ensure that populations do not re-establish after such initial clearing efforts.
→ Any chemicals/herbicides used during clearing efforts must strictly be used only in accordance with the manufacture's guidelines.
→ Under no circumstances should unqualified persons be allowed to conduct IAPs clearing using chemicals/herbicides or dangerous equipment without supervision from a suitably qualified pest control officer. Such a qualified pest control officer must be present on site at all times during IAPs clearing.
→ No planting or importing of any alien species to the site for landscaping, rehabilitation, or any other purpose should be allowed.

7.4. Reduced Ability to meet Conservation Obligations and Targets

Potential impacts

The loss of vegetation types on a cumulative basis from the broader area negatively impacts provincial and national conservation targets.

Mitigation Measures

→ Avoid unnecessary damage to vegetation wherever possible.

- → Any signs of erosion resulting from the project activities must be rectified immediately and monitored thereafter to ensure that there is no re-occurrence.
- → All affected areas resulting from the proposed activities, and that are not part of the proposed activities, should be re-vegetated with locally occurring native species to bind the soil and limit erosion potential.
- → Avoid No-Go areas wherever possible.

7.5. Disruption of Broad-Scale Ecological Processes

Potential impacts

Habitat destruction and fragmentation can potentially disrupt the connectivity of the landscape for fauna and flora and impair their ability to respond to environmental fluctuations. It can also eventually lead indirectly to the loss of local plant community types, SCC, protected plant species, and genetic diversity, among other things, if these occur on a cumulative basis in the surrounding areas.

Mitigation Measures

- → Avoid unnecessary damage to vegetation wherever possible.
- → Any signs of erosion resulting from the project activities must be rectified immediately and monitored thereafter to ensure that there is no re-occurrence.
- → All affected areas resulting from the proposed activities, and that are not part of the proposed activities, should be re-vegetated with locally occurring native species to bind the soil and limit erosion potential.
- → Avoid No-Go areas wherever possible.

8. POST-CONSTRUCTION PHASE IMPACTS AND MITIGATIONS

8.1. Re-establishment and spread of Invasive Alien Plants (IAP) Species

Potential Impact

The study area has a history of dense infestation by *Acacia cyclops* (Rooikrans), along with *Acacia saligna* (Port Jackson), *Acacia mearnsii* (Black Wattle), and *Eucalyptus conferruminata* (Spider Gum). Soil disturbance during construction triggers the germination of long-lived, persistent alien seedbanks. Without active post-construction follow-up clearing, alien species will rapidly re-infest secondary plant communities and invade adjacent primary natural vegetation.

Mitigation Measures

- → IAPs, wherever present, must be cleared as per NEM:BA requirements where applicable and must not be allowed to spread.
- → Clearing methods should aim to keep disturbance to a minimum and must be undertaken in accordance with relevant guidelines.
- → Any area that is cleared of IAPs must receive regular follow-up treatments (preferably at least three follow-ups) to ensure that populations do not re-establish after such initial clearing efforts.
- → Any chemicals/herbicides used during clearing efforts must strictly be used only in accordance with the manufactures guidelines.
- → Under no circumstances should unqualified persons be allowed to conduct IAPs clearing using chemicals/herbicides or dangerous equipment without supervision from a suitably qualified pest control officer. Such a qualified pest control officer must be present on site at all times during IAPs clearing.

→ No planting or importing of any alien species to the site for landscaping, rehabilitation, or any other purpose should be allowed.

Table 2. Activity specific impacts and mitigations

PRE-CONSTRUCTION / CONSTRUCTION PHASE AND POST-CONSTRUCTION PHASE			
IMPACT	**DESCRIPTION**	**MITIGATION MEASURES**	**RESPONSIBLE PERSONS**
Socioeconomic Impacts	***Construction phase*** During the construction phase, the proposed development will require the employment of workers on site. This will contribute to short-term job creation, skills transfer, and local economic stimulation through wages and procurement of goods and services from local suppliers.	→ Prioritise employment of local labour from the Malgas/Stoffels Rivier area where suitably skilled or trainable individuals are available. → Implement a local procurement policy favouring local suppliers and contractors where feasible. → Provide on-the-job skills training and development opportunities where practical. → Maintain a transparent recruitment process (e.g. via the ward councillor or community liaison forum) to ensure equitable access to employment opportunities. → Ensure compliance with the Basic Conditions of Employment Act and fair labour practices.	Applicant Contractor ECO
Visual Impacts	***Construction phase*** During the construction phase of the development, the proposed development will contribute to the clearance of indigenous vegetation on an area which is currently vegetated. This clearance will contribute to a visible change in the landscape, which was previously vegetated; however, this change will be visually contained to the construction footprint and will be a precursor to the more permanent visual change associated with the operational phase structures.	→ Limit vegetation clearance strictly to the approved development footprint and demarcate "no-go" areas to prevent unnecessary clearing. → Phase site clearance to coincide with construction programme requirements, avoiding premature clearing of areas not yet under active construction. → Screen construction activities from public viewpoints where practical (e.g. using shade cloth screening or retaining vegetated buffers along site boundaries). → Stockpile cleared vegetation/topsoil in a manner that minimises visual prominence and enables later use in rehabilitation. → Maintain a tidy, well-managed construction site (e.g. controlled storage of materials, prompt removal of litter and waste) to reduce visual clutter. → Rehabilitate and re-vegetate disturbed areas not required for permanent infrastructure as soon as practicable following construction, using indigenous species appropriate to the surrounding vegetation type. → Restrict construction lighting to what is necessary for safety and security, directed away from surrounding properties and sensitive viewpoints, to limit visual/light spill impacts.	Applicant Contractor ECO

Dust Impacts	***Construction phase*** During the construction phase of the development, site clearance, excavation, earthworks, stockpiling of soil/sand, and vehicle movement on unpaved surfaces will generate dust emissions, particularly during dry and windy conditions.	→ Apply water suppression (dust suppression via water spraying) on exposed soil surfaces, stockpiles, and unpaved access roads during dry and windy conditions. → Restrict vehicle speeds on unpaved site roads to reduce dust generation. → Minimise the extent and duration of exposed/cleared soil areas clear only the area required for immediate construction activities (phased site clearance). → Cover or stabilise stockpiled soil/sand (e.g. with shade cloth, hessian, or vegetation) when not in active use. → Schedule dust-generating activities (e.g. excavation) to avoid periods of strong wind where practical. → Establish and maintain vegetated or physical buffers around stockpile areas where feasible. → Implement a complaints register/mechanism for nearby residents to report dust nuisance, with corrective action triggered accordingly. → Ensure the ECO monitors dust generation and suppression compliance during site inspections.	Applicant Contractor ECO
Noise Impacts	***Construction phase*** Generation of noise during construction activities, including site clearing, earthworks, delivery vehicles, use of construction machinery (e.g. excavators, compactors) and hand/power tools during erection of the ten garage blocks. This may cause temporary disturbance to nearby landowners, farm workers, and fauna utilising the adjacent Breede River riparian corridor and retained fynbos vegetation.	→ Restrict construction activities to normal working hours (weekdays only, with limited or no weekend/public holiday work unless otherwise agreed with the ECO). → Ensure all plant, machinery and vehicles are fitted with functioning silencers/mufflers and are properly serviced and maintained. → Switch off idling machinery and vehicles when not in active use. → Where practicable, schedule the noisiest activities (e.g. clearing, earthworks) for the middle of the day rather than early morning/late afternoon. → Maintain complaints register and respond to any noise-related complaints from neighbouring landowners within a reasonable timeframe.	Applicant Contractor ECO
Potential impacts on plant communities, and SCC and/or	***Construction phase*** Loss of plant community types, specifically Potberg Ferricrete Fynbos	→ Any landowners must adhere to their legal obligations to actively eradicate and manage alien vegetation infestations present on the applicable and surrounding properties.	Applicant Contractor ECO

protected plant species.	well as plants species as well as provincially or nationally protected flora associated with this vegetation type.	→ SCC and/or protected plant species should be avoided wherever possible. If individuals cannot be avoided, then a permit for their destruction must be obtained from the relevant local authority. → No plant species, whether native or exotic, should be brought into, or removed from, the study area, to prevent the spread of exotic or invasive species or the illegal collection of plants. → No plants may be translocated or otherwise uprooted or disturbed for rehabilitation or other purposes without express permission from the Contractor's EO or without the relevant permits. → Blanket clearing of vegetation must be limited to the proposed footprint, and only where necessary; no clearing outside of permitted areas may take place. → Clearing of vegetation should be minimized and avoided where possible. → Immediately rehabilitate all areas outside of the proposed development site that were disturbed and implement mitigation measures to prevent associated impacts from re-occurring	
Spread and/or establishment of alien and/or invasive species.	***Construction Phase*** Ground disturbance, topsoil movement, and heavy machinery operations during construction create ideal opportunistic conditions for the germination, establishment, and rapid spread of invasive alien plants (IAPs). If unmitigated, soil disturbance will trigger the germination of persistent, long-lived alien seedbanks, leading to re-infestation of secondary communities and competitive displacement of surrounding native vegetation.	→ IAPs, wherever present, must be cleared as per NEM:BA requirements where applicable and must not be allowed to spread. → Clearing methods should aim to keep disturbance to a minimum and must be undertaken in accordance with relevant guidelines. → Any area that is cleared of IAPs must receive regular follow-up treatments (preferably at least three follow-ups) to ensure that populations do not re-establish after such initial clearing efforts. → Any chemicals/herbicides used during clearing efforts must strictly be used only in accordance with the manufactures guidelines. → Under no circumstances should unqualified persons be allowed to conduct IAPs clearing using chemicals/herbicides or dangerous equipment without supervision from a suitably qualified pest control officer. → Such a qualified pest control officer must be present on site at all times during IAPs clearing. No planting or importing of any alien species to the site for landscaping, rehabilitation, or any other purpose should be allowed.	Applicant Contractor ECO
Reduced ability to meet conservation obligations and targets and Impacts on broad scale	***Construction Phase*** Unplanned or unmitigated habitat loss could further elevate the threat status of this Critically Endangered ecosystem.	→ Avoid unnecessary damage to vegetation wherever possible. → Any signs of erosion resulting from the project activities must be rectified immediately and monitored thereafter to ensure that there is no re-occurrence.	Applicant Contractor ECO

ecological processes.		→ All affected areas resulting from the proposed activities, and that are not part of the proposed activities, should be re-vegetated with locally occurring native species to bind the soil and limit erosion potential. → Avoid No-Go areas wherever possible.	
Fauna and Habitat	****Construction Phase*** Construction activities, including vegetation clearance, earthworks, and increased human presence and noise on site, may result in the displacement, disturbance, or injury/mortality of fauna utilising the site and adjacent Breede River riparian corridor and retained fynbos habitat.	→ Conduct a pre-clearance walk-down with a suitably qualified specialist/ECO to search for and safely relocate slow-moving fauna (e.g. reptiles, amphibians) ahead of vegetation clearance. → Restrict clearing and earthworks to the demarcated construction footprint to limit disturbance to adjacent habitat. → Educate construction staff on the presence of sensitive faunal species on site and appropriate response protocols should fauna be encountered. → Report any injured or trapped fauna to the ECO immediately for appropriate action.	Applicant Contractor ECO

8. GENERAL CONSTRUCTION PHASE IMPACTS AND REQUIREMENTS

9.1 Contractors camp

Responsibility – Contractor / ECO / owner

The contractor shall comply will all relevant laws and regulations concerning water provision, sanitation, wastewater discharge and liquid and solid waste handling and disposal during the construction phase. The contractor is referred to the requirements of the NEMA and the NEM:WA and related regulations. The contractor shall not locate the camp, or sanitation facilities, in any areas that can cause nuisance or safety hazards to surrounding land users, inhabitants or the general public. Suitable temporary toilet facilities should be provided to the construction team. These facilities should be emptied and cleaned on a regular basis by a registered contractor and the waste is to be removed by contractor to a registered facility. The contractor shall at all times carefully consider the machinery required for the desired task while minimizing the extent of environmental damage. The contractor shall keep construction campsites clean and tidy at all times. The contractor shall not leave domestic waste uncontained, and temporary storage shall be enclosed to keep out people and animals. No permanent domestic waste disposal shall be permitted. All domestic refuse is to be removed to an existing licensed landfill site. The contractor shall take specific measures to prevent the spread of veld fires, which may be caused by activities at the camp. These measures may include appropriate instruction of employees about the fire risks and the construction of firebreaks around the site perimeter, as required. The contractor shall prevent accelerated erosion from the construction campsite and shall not discharge polluted runoff into the environment. Adequate firefighting equipment shall be made available and maintained on site. the contractors camp should be located in area proposed for development, in order to reduce impacting undisturbed areas. No overnighting will be permitted at the contractors camp, unless specifically arranged or required. Decommissioning of the campsite will involve removal of all compacted platforms, equipment machinery, tools, waste, etc.

9.2 Health and Safety

Responsibility - Project Manager / Contractor / ECO / owner

Correct Personal Protective Equipment (PPE) must be worn at all times by the personnel on site. Personnel must be trained on the use of PPE. The applicant will appoint one safety officer for the activities. Suitable warning and information signage should be erected at the commencement of construction. The handling of hazardous materials should only be done by trained personnel. Safety Data Sheets (SDSs) must be readily available for all hazardous substances on site and employees should be aware of the risks associated with any hazardous materials used. All provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with. In the event of an emergency relating to a hazardous substance, procedures detailed in the SDSs should be immediately implemented.

9.3 Fire risk management

Responsibility - Project Manager / Contractor / ECO / owner

The Applicant / Project manager / contractor should identify a Fire Officer who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Fire Officer shall ensure that there is basic fire-fighting equipment available on site at all times. Any fires should be reported to the fire officer immediately.

9.4 Fuels and hazardous materials

Responsibility - Project Manager / Contractor / owner

Fuels and flammable materials are to be suitably stored, inside the contractor's camp or as appropriate. Impervious materials are to be used in these storage areas to prevent contamination of the ground in the event of spillages or leaks. Quantities of fuels and hazardous materials stored on site should be appropriate to the requirement for these substances on site.

Bulk fuel depots, if required, should be placed within bunded areas to prevent soil contamination in the event of leaks of spills. Bunded areas are to have a holding capacity equal to 110% of the largest fuel container. The relevant Health and Safety requirements for the hazardous materials and fuels should be kept on site in the event of an emergency.

9.5 Emergencies protocol

Responsibility - Project Manager / Contractor / owner

Fire: The fire officer / suitable other person should be notified of any fires. Employees should be aware of the procedure to be followed in the event of a fire.

Hydrocarbon (fuel & oil) leaks and spillages: Employees should be aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the project manager / contractor. All vehicles leaking fuel or other liquids should immediately be removed to the maintenance area and repaired. In the event of a hydrocarbon spillage, the soil must be excavated and treated and adequately disposed. The necessary materials and equipment for dealing with spills and leaks are present on site at all times. The clean-up of sewerage spills and any damage caused by the spill or leak shall be for the applicant's account. The applicant shall ensure that the Health and Safety officer is available for the duration of the construction period.

Raw Sewerage spills (from portable toilets): Employees are to be aware of the procedure to be followed for dealing with spills and leaks. All the necessary materials and equipment for dealing with spills and leaks are present on site at all times. The clean-up of sewerage spills and any damage caused by the spill or leak shall be for the Applicant's account or applicable contractor.

Sudden illness in member of team: emergency numbers should be readily available on site in case of a sudden illness or injury to a construction team member.

Snake bite: Emergency contact numbers must be kept on site in case of a snake siting or snakebite.

9.6 Site Demarcation

Responsibility - Project Manager / Contractor / ECO / owner

Prior to any construction commencing, the boundaries of the site and / or the footprints of each dwelling should be appropriately indicated or fenced off by the contractor. Natural areas that should be retained should also be indicated at this stage. Following this, all construction works, as well as the storage or preparation of any materials must be within the demarcated boundaries of the construction zone. No Go areas are to also be demarcated at this stage. The permanent delineated wetland must be clearly demarcated and made a no-go area, this should apply to the temporary wetland zones too, as far as possible.

In accordance with the findings and recommendations of the botanical specialist, the intact primary natural Potberg Ferricrete Fynbos patch situated on the western portion of the property is formally designated as a strict, permanent No-Go area. Prior to site establishment, this western primary fynbos fragment must be physically demarcated and barricaded with visual fencing and warning signage. Under no circumstances may construction personnel, vehicles, machinery, building materials, soil stockpiles, or waste be permitted within or near this No-Go zone.

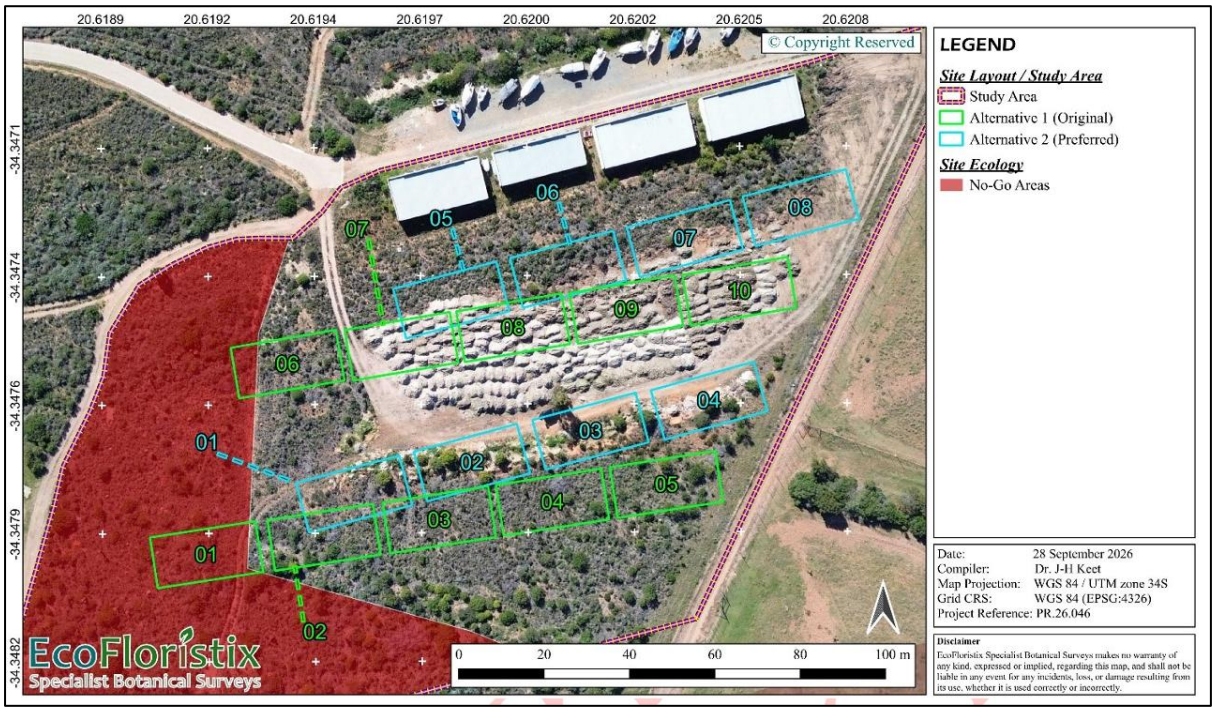


Figure 2: No-go areas identified by the botanical specialist.

Special demarcation measures must also be implemented to protect the confirmed individual specimen of the nationally protected tree *Sideroxylon inerme* subsp. *inerme* (White Milkwood), located outside the building footprint on the western portion verified as a Critical Biodiversity Area (CBA1). This tree must be fenced off with a protective barrier prior to construction to prevent accidental physical damage, root compaction, or material stockpiling under its canopy.

9.7 Stockpiles

Responsibility - Project Manager / Contractor / ECO / owner

The contractor and / or project manager should identify sites for the stockpiling of building materials and excavated material. Stockpile sites should preferably be in areas with a gentle gradient. Stockpiles should be stabilised as required and monitored for dust blow and runoff / erosion.

9.8 General Wastes

Responsibility - Project Manager / Contractor / ECO / owner

Refuse refers to all construction debris (cement bags, rubble, timber, cans, nails, wire, spilt bitumen, glass, packaging, plastic, organic matter, etc.). Refuse generated during the construction phase should be stored in an appropriate area on site, should be watertight and wind proof, and removed on a regular basis for disposal at a permitted disposal site. Waste bins should be labelled for their designated use. No burning or

burying of general refuse on site should be permitted. Recycling and sorting of waste, at the source, is encouraged. Disposal certificates should be kept.

9.9 Recreational / Eating areas

Responsibility - Project Manager / Contractor / ECO / owner

If construction workers are permitted to eat on the development site, other than within the contractor's camp, the Contractor shall provide adequate refuse bins at all such places and ensure that they are used. Bins are to be cleared on a daily basis. No rest areas are to be permitted in No Go areas.

9.10 Construction water

Responsibility - Project Manager / Contractor / ECO / owner

All cement effluent from mixer washings and run-off from batching areas, as well as other work areas, should be contained in suitable manner, these areas should be lined and allowed to dry from time to time in order to remove the solid materials. Care should be taken to prevent the runoff of construction water, to other areas on site or onto adjacent sites.

9.11 Equipment maintenance

Responsibility - Project Manager / Contractor / ECO / owner

All mechanical equipment and work vehicles which are present on-site during construction, are to be stored, serviced and refuelled only at designated areas or within the contractor's camp. Within these areas drip trays and other impervious materials, for example plastic or metal sheeting, must be used to prevent contamination of the ground. The project manager may order the removal of equipment that is causing continual environmental damage, until such equipment has been repaired.

9.12. Stormwater Management

Responsibility - Project Manager / Contractor / ECO / owner

Due to the small-scale nature of the construction, a Stormwater Management Plan is not required. however, Stormwater should be monitored regularly to ensure no environmental risk or unmanageable load to the existing infrastructure. The contractor must take suitable measures to prevent erosion resulting from a diversion, restriction or increase in flow of stormwater caused by construction. The open space erf will be used for stormwater retention.

9.13. Topsoil Removal and Stockpiling

Responsibility - Project Manager / Contractor / ECO / owner

Where services are to be extended or houses erected, topsoil is to be removed from the work areas, stockpiled separately from subsoil, and must be stabilised within a day of stockpiling. In general, stockpiles should be convex at the top to promote run- off, so that water is not able to accumulate and result in leaching of nutrients from the soil. Stockpiling areas should be determined in consultation with the ECO and only for short term.

9.14. Erosion Control

Responsibility - Project Manager / Contractor / ECO / owner

Action should be taken to prevent erosion of soils on the construction site. Should any erosion be detected on site, the cause of such erosion should be identified, and appropriate remedial action must be immediately implemented.

9.15. Dust Control

Responsibility - Project Manager / Contractor / ECO / owner

Appropriate action should be taken to minimise the generation of dust on the site. This can be done by applying appropriate stabilisation materials, such as straw or mulch or watering of exposed areas. Suppression methods not involving water, are preferred as far as possible.

9.16. Construction Traffic Management

Responsibility - Project Manager / Contractor / ECO / owner

All construction vehicles which carry construction materials, must use sheeting or a suitable cover, to prevent loss of load during travelling or due to wind or rain. Any spills should be cleaned immediately.

9.17 Architecture / Design

Responsibility - Project Manager / Contractor / ECO / owner

The architecture and design of the dwellings will be done in line with the general trend of the area. The houses should be designed to be in line with the surrounding architecture and cape vernacular style common to the area. Neutral colour palettes should be used which blend into the surrounds.

9.18. Sustainable Building Guidelines and materials

Responsibility - Project Manager / Contractor / ECO / owner

The houses should be designed in such a way as to create a sustainable living area. Ensure materials and orientation allow for an environmentally friendly design with lower operating costs, i.e natural ventilation, correct orientation, correct colours and roofing etc. Use recycled materials as far as possible.

Energy efficiency is also an important consideration and the following actions should be considered:

- → North orientation to ensure that as many well-used spaces face north as possible. Sun control is more difficult on East and West facing windows
- → Use of good insulation in the roof and walls to keep the inside temperature warm in winter or cool in summer
- → Solar water heaters to be included in the design phase
- → Suitable roof overhangs to let in the lower winter sun but provide shade from the summer sun
- → Sensible fenestration – let in the light and catch the winter sun, but not too much window area so that warmth or cool cannot be retained inside when needed. They can be combined with shading and reflecting devices - such as overhangs, screens, shutters, awnings, trees, planting and different glass types which will aid to control the amount, quality and time of daylight entering the building
- → Suitable ventilation for fresh air and cool breezes
- → Natural lighting through windows and light wells

Water conservation should be a priority in design of the dwelling. Rainwater tanks are recommended as far as possible. Optimally designed systems for grey water reuse should also be explored during the design phase in order to prevent the expense of retrofitting a system. Water wise and indigenous landscaping is

recommended and will reduce the water costs associated with maintaining gardens. Permeable paving is to be used in areas where paving is required. Low flow shower and heads and dual flushing systems should be fitted. Aerators on taps should also be fitted to reduce overall water demand.

Construction activities such as watering, mixing and cleaning should avoid water wastage. Dry brushing and trigger spray nozzles should be used. Reuse of construction water should also be implemented.

9.19 . Site Clean Up and Rehabilitation

Responsibility - Project Manager / Contractor / ECO/ owner

The following actions should be implemented once construction has concluded:

- → The construction footprint should be restored to the natural contours of the ground and shall allow normal surface drainage, as far as possible
- → No foreign matter such as rubble, waste or hazardous material will be mixed with the topsoil or used to backfill excavation.
- → All temporary works within the construction footprint, including fences, access, roads etc. disturbed by construction, should be restored to their original condition, as far as practical.
- → Compacted soils within the construction footprint should be loosened by means of a plough or scarified to aid revegetation.
- → Runoff and erosion, as a result of the construction phase, should be suitably managed to prevent long term impacts.
- → All structures, equipment, materials and facilities used or created on site for or during construction activities are removed once the project has been completed
- → Vegetation cover (using species appropriate to the local area) in all areas disturbed by the works should be reintroduced, as required.

9. COMPLIANCE AND MONITORING

10.1. Non-compliance

The Environmental Authorisation (EA) stipulates that, *"Non-compliance with a condition of this Environmental Authorisation and the EMP may render the holder liable to criminal prosecution."* It is therefore important that the conditions are adhered to as outlined in the EA and EMP. A Penalties scheme can be used during construction for transgressions.

Transgressions relate to actions by the contractor whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMP and EA have been infringed upon. In the instance of environmental damage, the damage is to be repaired and

rehabilitated using appropriate measures, as far as possible and as directed by appropriate specialists, if required. These remedial actions are for the account of the contractor or other guilty party as identified by the Project Manager, applicant or ECO. Where non-repairable damage is inflicted upon the environment or non-compliance with any of the EMP / EA obligations is registered, then the Contractor may face a monetary penalty to an amount specified by the Project manager / ECO. The Project manager / ECO reserves the right to implement a first offence warning.

If excessive infringement with regard to any of the specifications is registered, the applicant / project manager / owner reserves the right to terminate the contractor's contract.

Table 3. Penalties Scheme – to be reviewed by ECO if required

Table 3. Penalties Scheme — *to be reviewed by ECO if required*

Infringement	Description	Penalty
Hydrocarbon / fuel spill	Penalty to be issued when remediations not implemented timeously	R 5 000
Disturbance beyond approved footprint	Disturbance to vegetation beyond approved areas	R 5 000
Waste management	Inappropriate waste management	R 3 000 (dependent on extent)
Not adhering to conditions of EA	Not attending to specific EA conditions	R 3 000+ per condition

10.2. Environmental Control Sheets

Environmental Control Sheets should be used by the ECO on a weekly basis to monitor construction activities to ensure compliance with recommendations. The ECO should familiarise themselves with the full set of recommendations proposed by the specialists for the site and reasons for these recommendations, as well as understand the site and constraints analysis and be able to identify the constraints / No Go areas.

Table 4. Environmental Control Sheets — Record of Performance							
TASK	**ACTION REQUIRED / MITIGATION & METHOD FOR IMPLEMENTATION**	**FREQUENCY**	**TARGET / OUTCOME**	**RESPONSIBILITY**	**COMPLETED YES/NO**	**DATE**	**COMMENT**
PRE-CONSTRUCTION							
Procurement	EA and EMPr to be distributed to contractor at tender stage to include costing incurred due to compliance with EA and EMPr. METHOD: Distribute with tender documents.	As required	Contractors are aware of requirements in terms of NEMA and can budget accordingly.	Developer Project Manager			
Environmental File	To include EA, EMPr, site diary, and public complaints section. To be updated on a regular basis. Public complaints register to be kept on site at all times. METHOD: Issue all applicable documents to site manager.	As required	Construction team(s) and general public can access relevant information if and when required.	ECO Project Manager			
Environmental Awareness Training and Induction	All contractors to attend briefing prior to commencement of site works. Register to be signed as proof of attendance. METHOD: Briefing to be undertaken by project manager and/or ECO.	As required	Construction team(s) informed of all requirements in terms of EMPr and EA.	ECO Project Manager			
Method Statements	Contractors to submit method statements seven working days prior to commencement on site. Method statements to contain clear methods for pollution control measures during construction, including hazardous waste, runoff, general waste, etc.	As required	ECO and project manager to be well informed of methods for construction.	Contractor			

	METHOD: Request for method statements to be contained in tender documents.						
Site Definition and Demarcation	Site survey and pegging. Site demarcation and fencing (mark construction areas — all other areas are No-Go). Access roads for construction vehicles to be clearly indicated, with consideration given to turning circles. Review of specialist input to familiarise with mitigation measures. Buffer areas to be indicated and demarcated as No-Go. METHOD: Demarcation to be undertaken as outlined in EMPr, suitable to the environment and semi-permanent to last as long as possible during construction phase; to be checked regularly.	As required; to be repeated regularly if demarcations shift or are disturbed by operators or weather.	A well-demarcated site with well-defined No-Go areas and construction zones.	ECO Project Manager Contractor			
Pre-Construction site walk	A formal pre-construction site walk must be undertaken jointly by the ECO, Project Manager, and Contractor prior to commencement of any site works. The site walk must confirm the following: - the location and demarcation of the approved development footprint and No-Go areas; - the position and extent of sensitive features (including retained vegetation, watercourses, and buffer areas) relative to the approved layout; - that access routes, construction camp siting, and stockpile areas are appropriately located outside sensitive/No-Go areas; and	Once-off, prior to commencement of any site works; to be repeated should there be a significant delay between authorisation and construction start, or a change in site conditions.	A verified preconstruction understanding of the site sensitivities, demarcation requirements, and mitigation measures among all parties, reducing the risk id non-compliance once all works commence.	ECO Project Manager Contractor			

	- that all mitigation measures and specialist recommendations applicable to the site are understood and practically achievable prior to works commencing. Any discrepancies identified between the approved plans and site conditions must be recorded and resolved with the Applicant and relevant specialist(s) before construction proceeds. **METHOD:** Joint walk-down of the site by the ECO, Project Manager, and Contractor, with findings recorded in writing (site walk checklist/report) and retained in the Environmental File.						
Construction Traffic	All construction vehicles carrying materials must use cover sheeting to prevent loss of loads due to wind or rain. Maximum speed limits to be enforced. Movement of construction vehicles must be limited to approved haul and access routes and existing tracks. METHOD: To be monitored by ECO, project manager, and construction team leaders.	Duration of construction	A safe working environment with minimal impact on No-Go areas; minimal dust impact; minimal loss of load; minimal impact on the general public.	Project Manager Contractor			
Emergency Protocol	Staff to be aware of actions to be taken in the event of a natural or medical emergency. Applicable health and safety requirements in terms of the OH&S Act to be implemented. METHOD: OH&S officer to be appointed; appropriate signage to be implemented.	Duration of construction	A safe working environment with minimal incidences.	Project Manager Contractor			
Fire	Fire management recommendations to be implemented.	Duration of construction	A safe working environment with minimal	Project Manager Contractor			

	Required firefighting equipment to be available on site and in working order. No open fires to be lit on site without approval of the ECO and site manager. METHOD: To be checked by ECO and project manager and implemented by the contractor.		incidences and an action plan in the event of a fire.				
Contractor's Camp	Contractor's camp to be located at the most suitable site as identified by the ECO and site manager, preferably in areas to be developed or already transformed. Contractor team to be briefed regarding dos and don'ts of camp and site in general. Suitable toilet facilities to be provided for all staff; ablutions restricted to facilities provided. Toilets to be kept in a hygienic condition and emptied regularly. Recommendations by the freshwater specialist to be implemented. METHOD: Site to be determined in conjunction with project manager and ECO; to be well demarcated with appropriate signage, serviced, and cleaned regularly; to be checked by ECO.	Duration of construction	A well-placed and functional contractor's camp to minimise impacts on other areas on site.	Project Manager Contractor			
CONSTRUCTION							
Topsoil Removal and Stockpiling	Topsoil to be replaced immediately after works where required. Topsoil removed from direct work areas to be stockpiled separately from subsoil and reused as far as possible. Stockpiles to be suitably shaped to prevent leaching of nutrients and stabilised to prevent dispersal by wind or rain.	Duration of construction	Reusable sand and soil stockpiles to facilitate rehabilitation of the site.	Project Manager Contractor			

	Stockpiles to be monitored for dispersal by rain and wind. METHOD: Implement conditions outlined in EMPr for stockpiling and topsoil removal.						
Earthworks	Works to be restricted to the construction area only. Bulldozer/heavy machinery operators to be under constant supervision, particularly at onset of works. Use and excessive movement of heavy machinery to be avoided in areas of environmental sensitivity or high erosion potential. Trenching to be undertaken in a phased manner. Fill material to be replaced in the same work area from which it originated and compacted to its approximate original density. METHOD: Construction zone to be clearly demarcated; stockpiling instructions to be implemented; operators to be briefed prior to works.	Duration of construction	Minimal disturbance to sensitive zones and vegetation.	Project Manager Contractor ECO			
Material Handling, Dispatching and Storage	Fuels and hazardous materials to be stored in suitably equipped storage areas in the contractor's camp, approved by the ECO. Strict measures to be in place for use and storage of hazardous materials on site. Disposal to licensed facility only. Storage areas to comply with fire safety requirements. Impervious materials to be used to prevent ground contamination in the event of spillage or leaks. Construction materials spilled on public or private roads to be immediately cleaned up. No storage outside the contractor's camp.	Duration of construction	Minimal disturbance to sensitive zones including non-perennial drainage lines; minimal incidences.	Project Manager Contractor			

	METHOD: Undertake regular inspections of areas and procedures.						
Stockpiles	Sites for stockpiling as identified by the contractor to be marked on a plan and approved by the ECO and site manager. Stockpiles to be suitably stabilised where necessary. METHOD: Undertake regular checks of stockpiles to ensure methods outlined in the EMPr are implemented.	Duration of construction	Reusable sand and soil stockpiles to facilitate rehabilitation of the site.	Project Manager Contractor ECO			
Waste Management	All waste to be stored in an appropriate contained area on site and protected against wind, rain, and animal dispersal. Waste to be removed weekly for disposal at a permitted disposal site. No burning or burying of refuse on site is permitted. Eating areas to be demarcated and provided with suitable refuse collection facilities. METHOD: Waste areas to be correctly designed, wind- and weatherproof, and emptied regularly.	Duration of construction	A clean waste collection point serviced on a regular basis.	Project Manager Contractor ECO			
Construction Wastewater	Careful runoff management required, particularly during construction. No contaminated water to be allowed to seep into the ground or run off the construction site. All runoff from batching plants, work areas, and mixer washings to be contained in suitably lined sedimentation ponds. Ponds to be allowed to dry out regularly; solid waste to be removed and disposed of at a site approved by the local authority.	Duration of construction	A clean site post construction.	Project Manager Contractor ECO			

	METHOD: Wastewater areas to be suitably designed and inspected regularly.						
Maintenance of Equipment	All mechanical equipment and work vehicles to be stored, serviced, and refuelled at designated areas in the contractor's camp. Major services to take place off site. Drip trays or impervious materials to be used to prevent ground contamination. METHOD: Regular inspections to be undertaken.	Duration of construction	A clean site post construction.	Project Manager Contractor ECO			
Stormwater	Suitable measures to be in place to prevent erosion resulting from diversion, restriction, or increase in stormwater runoff. Measures to be taken to prevent stormwater from flowing from excavated areas or stockpiles. Stormwater containing harmful substances to be contained and removed from site. METHOD: Regular inspections to be undertaken.	Duration of construction	A clean site post construction, avoiding additional impact on surrounds.	Project Manager Contractor ECO			
Erosion	Stormwater channels to be kept clear of soil and debris. Erosion or stormwater damage resulting from contractor's operations to be suitably repaired. Suitable stabilisation measures to be implemented wherever works are taking place. Where erosion is detected, suitable mitigation methods to be employed as soon as possible. METHOD: Regular visual inspections to be undertaken.	Duration of construction	A clean site post construction, avoiding additional impact on surrounds.	Project Manager Contractor ECO			

Dust	Sand stockpiles to be covered with hessian, shade cloth, or DPC plastic. Stockpiles to be located in sheltered areas with the useable face orientated away from the prevailing wind. During excavation and transport of erodible material in high wind conditions, water dampening or cessation of activities required. Certain components of work to be stopped if conditions are unfavourable. Vehicles must not exceed 40 km/h on gravel roads. If roads generate unacceptable dust levels, suppression measures to be introduced. If water is used, only critical areas to be watered by cart or hand to avoid unnecessary runoff, erosion, or misuse. METHOD: Areas and activities of possible dust generation to be inspected regularly; strategies to address dust to be reviewed.	Duration of construction	A clean site post construction, avoiding impact on surrounds and the general public.	Project Manager Contractor ECO			
Site Clean-up and Rehabilitation	All structures, equipment, materials, and facilities to be removed from site on completion of the project. Construction site to be cleared and cleaned to the ECO's satisfaction. Site rehabilitation to be conducted in line with recommendations herein. Specialist advice to be sought where required. No waste or remaining materials to be buried on site. In line with the NEMBA, all alien invasive plant species (AIPS) listed under the amended AIPS Lists (DFFE: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must be compiled which includes measures to control and prevent	Duration of construction	A functional ecosystem post construction, suitably rehabilitated as required.	Project Manager Contractor Applicant ECO			

	the proliferation of AIPS during the construction phase. METHOD: Inspected upon site closure/suspension of works; rehabilitation methods contained in EMPr to be implemented.						
Alien Invasive Plant Species (AIPS) Clearing	Plants to be removed by digging out all rhizomes and stolons. In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DFFE: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. METHOD: Regular monitoring of rehabilitation progress, alien plant regrowth, and faunal presence to be conducted during and after the construction phase. Adaptive management practices to be applied to address emerging issues and ensure long-term ecological integrity of the site.	Construction and post-construction phase	Long-term ecological integrity and restoration of vegetation on site.	Project Manager Applicant Contractor ECO			
Terrestrial Biodiversity	Development activities must be strictly confined to the approved secondary/degraded footprint under Preferred Alternative 2 (within a 1.3 ha layout envelope). Before any site preparation or earthworks commence, the intact primary natural Potberg Ferricrete Fynbos fragment on the western section (True CBA1 / Very High SEI) must be physically demarcated and fenced off with temporary Clearview or visual barricade fencing as a permanent No-Go area. No personnel, vehicles, soil stockpiles, or building materials may enter or disturb this zone. A formal pre-construction site walkdown must be undertaken by the Environmental Control Officer (ECO) or botanical specialist ahead of vegetation clearance to inspect the footprint, mark plant						

	Species of Conservation Concern (SCC) and protected flora, and identify individuals suitable for rescue/relocation under permit. The single specimen of the nationally protected tree *Sideroxylon inerme* subsp. *inerme* (White Milkwood), located outside the development footprint, must be fenced and protected from indirect damage or root compaction during construction. All listed Invasive Alien Plant Species (AIPS)—predominantly *Acacia cyclops* (Rooikrans), *Acacia saligna*, *Acacia mearnsii*, and *Eucalyptus conferruminata*—must be systematically removed by digging out rhizomes/stolons in compliance with NEM:BA A&IS Regulations. Herbicide application must strictly follow manufacturer guidelines under the supervision of a registered Pest Control Officer No plant species (native or exotic) may be brought onto or removed from the site, and no alien species may be used for landscaping or rehabilitation. All construction margins temporarily disturbed outside the structural footprint must be immediately stabilized and re-vegetated using locally occurring, native Potberg Ferricrete Fynbos species. METHODS: Pre-construction joint walkdown by the ECO and Contractor; physical installation and weekly inspection of No-Go perimeter fencing; verification of flora permits; regular ECO site audits during earthworks;						

11. DECOMMISSIONING PHASE

Not Applicable to this development.

12. ENVIRONMENTAL AUDITS

The purpose of auditing is to determine and monitor compliance with the EMP and EA and measure its effectiveness in mitigating environmental impacts. In terms of Regulation 34 of the NEMA EIA Regulations, 2014, the holder of the EA must conduct environmental audits in order to determine compliance with the conditions of the EA and EMP. Environmental Audit Reports should be submitted to the Competent Authority or as stipulated in the EA. The audit reports should be prepared by an independent person. The audit report should also provide recommendations regarding the need to amend the EMP.

The objective of the environmental audit report is to:

- → Report on the level of compliance with the conditions of the EA and the EMP
- → Report on the extent to which the avoidance, management and mitigation measures outlined in the EMP, achieve the objectives and outcomes of the EMP
- → Identify and assess any new impacts and risks as a result of the activity
- → Evaluate the effectiveness of the EMP
- → Identify shortcomings in the EMP
- → Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMP

An environmental audit report should contain the following:

- → Details and expertise of the independent person who prepared the environmental audit report
- → A declaration that the auditor is independent
- → An indication of the scope of, and the purpose for which, the environmental audit report was prepared
- → A description of the methodology adopted in preparing the environmental audit report
- → An indication of the ability of the EMP to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity as well as to ensure compliance with the provisions of environmental authorisation and EMP.
- → A description of any assumptions made, and any uncertainties or gaps in knowledge
- → A description of any consultation process that was undertaken during the course of carrying out the environmental audit report if required
- → A summary and copies of any comments that were received during any consultation process
- → Any other information requested by the competent author

13. CONCLUSION

An EMP has been developed as part of the Basic Assessment process to ensure that mitigation and management measures are enforced during the construction phase of the development, and that the conditions of the EA are upheld. The EMP should guide all phases of the project to minimize possible negative impacts and assign responsibility for environmental controls. The EMP provides a tool to recognise the needs of the environment and is intended to be utilised in conjunction with the Environmental Authorisation.

14. DECLARATION OF CONTRACTOR'S ACCEPTANCE

CONTRACTOR ACKNOWLEDGEMENT OF ENVIRONMENTAL MANAGEMENT PLAN

To be completed and signed by each contractor prior to commencement of site works

I, _____ (full name), representing _____ (company name),

have read and understood the above Environmental Management Plan and hereby acknowledge its contents and requirements as a framework for my company's environmental performance during the applicable development.

Signature:

_____

Date:

_____

Designation / Title:

_____

Contractor Company Stamp:

A signed copy of this acknowledgement must be retained in the Environmental File on site at all times.