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ENVIRONMENTAL CONSULTING

Environmental Management Programme

Proposed Consolidation, Rezoning, and Subdivision for the Establishment of a Residential Development on Erven 1469, 1470, 1471, 1473, and 1479, Vandyskbaai,

July 2025

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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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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 – as per EA

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.

1. INTRODUCTION

Lornay Environmental Consulting (Pty) Ltd has been appointed by JP Gemert Testamentary Trust (hereafter referred to as "the applicant") to facilitate compliance with the National Environmental Management Act (NEMA, Act 107 of 1998), as amended, and the Environmental Impact Assessment (EIA) Regulations of 2014, as amended. This appointment relates to the application for environmental authorisation of listed activities associated with the Proposed Consolidation, Rezoning, and Subdivision for the Establishment of a Residential Development on Erven 1469, 1470, 1471, 1473, and 1479, Van Dyksbaai.

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 residential development on Erven 1469, 1470, 1471, 1473, and 1479, 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 roads, bulk services, residential homes, and associated infrastructure on Erven 1469, 1470, 1471, 1473, and 1479. 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 and the installation of services, 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). It should be read in conjunction with the attached Stormwater Management Plan and Wetland Offset, Rehabilitation and Management Plan, which provides additional context of the site and specifications for the development.

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 proposed project involves the consolidation, rezoning, and subdivision of five properties: Erven 1469, 1470, 1471, 1473, and 1479, located in Vandyskbaai, near Kleinbaai and Franskraal within the Overstrand Local Municipality. The primary objective of the proposal is to establish a low-density residential development that is environmentally responsive, spatially efficient, and aligned with the planning objectives of the municipality.

The development has been designed to accommodate approximately 123 residential erven, with supporting infrastructure such as internal access roads, stormwater drainage systems, water and sewer pipelines, and public open space. The planning and layout of the site have taken into account environmental sensitivities, including the presence of indigenous vegetation and ecological support areas, as well as the need for connectivity between open space areas.

Key components of the proposed development include:

Residential Erven:

- Approximately **67,400 m² (6.74 ha)** will be developed for single residential use. Each erf will be serviced with water, sewer, and electricity connections, and will comply with local building regulations and design guidelines.

Internal Road Network:

- A network of private access roads will provide internal circulation within the development and access to each residential erf. These roads will also house underground services and will be designed to maintain the natural topography where possible.

Open Space:

- **Five erven**, covering approximately **26,665 m² (2.7 ha)**, will be designated as **public open space**. These areas will remain undeveloped to preserve natural vegetation, maintain faunal movement corridors, and serve as buffer zones. They will also offer passive recreational opportunities for residents.

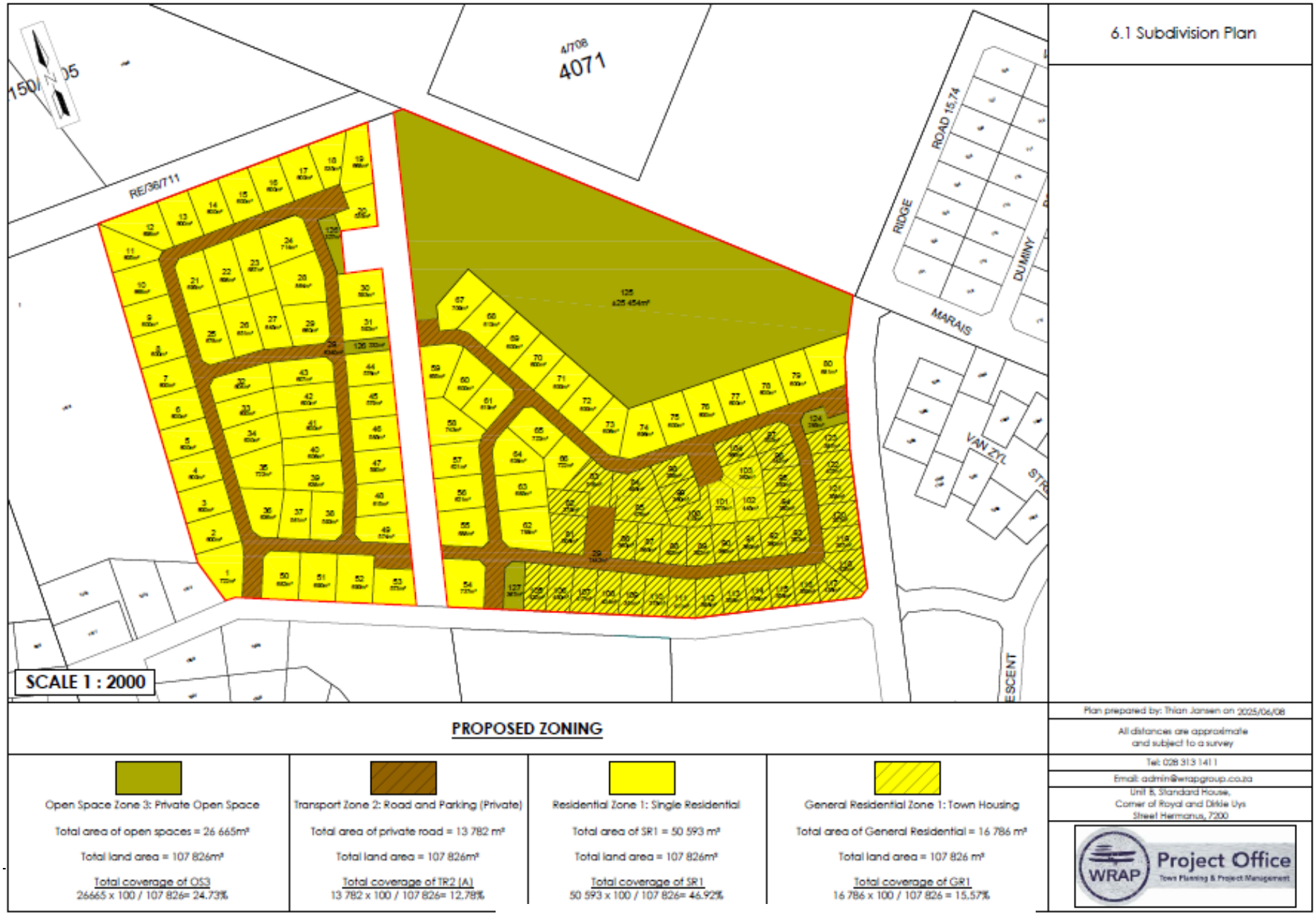

Figure 1: Proposed site development plan

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 each house, internal and access roads and associated infrastructure. 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.

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 estuary 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

A Homeowners Association or similar structure is required to implement and manage the long-term management actions required on site.

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

7.1 Terrestrial Biodiversity Impact Assessment

The Terrestrial Biodiversity Impact Assessment identified the following key potential impacts as well as mitigations measures for the management of impacts during the construction phase:

***Potential impacts**:*

- → Loss of Overberg Dune Strandveld (EN)
- → Loss of plant SCC
- → Fragmentation of vegetation and disruption of ecosystem processes
- → Introduction and spread of weeds and alien plant species.
- → Loss of a portion of the Walker Bay Key Biodiversity Area
- → Loss of a portion of CBA: terrestrial
- → Loss of faunal habitat, including faunal SCC
- → Disturbance to faunal species and their livelihood due to project related activities.
- → Mortality of faunal species due to earthworks, roadkill and persecution

Management of impacts and Mitigation measures:

- → Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint.
- → Topsoil (20 cm, where possible) must be collected and stored in an area of low (preferable) and medium sensitivity and used to rehabilitate impacted areas that are no longer required during the operational phase (e.g. laydown areas).
- → Only indigenous species must be used for rehabilitation.
- → Lay down areas must be located within the project footprint and must not encroach into the surrounding vegetation, particularly to the north of the site.
- → Employees must be prohibited from making open fires during the construction phase to prevent uncontrolled run-away fires.
- → The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them.

- → Employees must be prohibited from collecting plants. It is recommended that spot checks of pockets and bags are done on a regular basis to ensure that no unlawful harvesting of plant species is occurring.
- → If Option C (preferred Alternative) is approved, the near-intact Overberg Dune Strandveld within the Open Space Area must be maintained and considered a no-go area. Construction activities cannot encroach into this no-go area.
- → Mitigation measures listed under impact 1 above must be implemented.
- → Where populations of these species can't be avoided, a translocation plan to move these species must be implemented. This plan must identify the number of individuals that will be impacted and identify a suitable receiving environment where they can be moved. Included in this plan, must be a monitoring program to monitor the success of the translocation of these species.
- → If option C (preferred Alternative) is approved, SCC should be translocated into the designated Open Space Area.
- → Where translocation of plant species is required, this must be undertaken by a qualified botanist or horticulturalist.
- → Permits for all protected species must be obtained prior to construction commencing. A Search and Rescue Plan to move protected species must be drafted and implemented.
- → It is recommended that SCC and protected species that need to be moved are used as far as is feasible to rehabilitate areas impacted on during construction but not required during the operational phase.
- → The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them.
- → Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme.
- → Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds.
- → No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping.
- → The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- → An alien invasive method statement must be incorporated into the EMPr.
- → All construction and construction related activities (including parking of vehicles and machinery) must remain within the approved project footprint and must not encroach into areas outside the project footprint. To facilitate this, the boundaries of the development footprint areas must be clearly demarcated and communicated to all on-site personnel during induction.
- → Temporary infrastructure (laydown areas, widened roads, etc.) must be rehabilitated and rehabilitation efforts must provide habitat for faunal species. Rocks and logs removed during clearing of the project footprint must be stacked, ideally, in previously disturbed areas or within the temporary footprint to provide shelter E.g. Rock stacks and stumperies but must not disrupt adjacent habitat to create these.
- → Draft a translocation SOP for the Southern Adder (VU) and Cape Dwarf Chameleon (NT) and implement immediately prior to construction. A permit from Cape Nature will be required to relocate this species.
- → A clause must be included in contracts for ALL personnel (i.e. including contractors) working on site stating that: “no wild animals will be hunted, killed, poisoned or captured. No wild animals will be imported into, exported from or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass unless they have been appointed to implement the Carcass Management Plan or Animal Relocation Plan.”
- → In addition, a clause relating to fines, possible dismissal and legal prosecution must be included should any of the above transgressions occur for SCC.

- → The ECO should appoint a member of staff to walk ahead of construction machinery directly prior to vegetation clearance. Should any faunal species be identified during the walk through, these should be allowed to move out of harm's way prior to vegetation clearance.
- → The ECO must create a list with accompanying photographs of possible faunal SCC that could occur in the project area prior to construction. This photo guide must be used to determine if faunal SCC are encountered.
- → Should any fauna SCC be encountered during construction and operation, these must be recorded (i.e. be photographed, GPS co-ordinates taken) and information placed on iNaturalist
- → In the unlikely event that bird SCC inhabit the site to breed, all site personnel are not to disturb them, even approaching nests of SCC is considered harmful to the success of breeding. Should an active breeding nests (eggs, nestlings, fledglings) be discovered in or near construction areas prior to or during the construction phase:
    - These must be reported to ECO.
    - Where deemed necessary an appropriate buffer should be placed around the nest. If uncertain on the size of such a buffer, the ECO may contact an avifaunal specialist for advice.
    - No construction activity should occur within the buffer and the nest must be monitored.
- → Once birds have finished nesting and the fledglings left the nest construction can recommence within the buffer zone.
- → It is recommended that vegetation clearance takes place gradually, commencing from eastern side of the project area and methodically advancing towards the western side to encourage the movement of any faunal species to the natural area.
- → Dust suppression measures must be implemented in the dry and/or windy months.
- → All machinery, vehicles and earth moving equipment must be maintained and the noise these create must meet industry minimum standards. e.g. the sound generated by a machine must be below a certain decibel as prescribed in the relevant noise control regulations.
- → No construction night lighting must be allowed. If required, minimise lighting in open space areas within development and any external lights must be down lights placed as low as possible and installation of low UV emitting lights.
- → Steep sided drains, gutters, canals and open pits/trenches must be covered with mesh (5mm x 5mm) or sloped to prevent fauna falling in and getting stuck. No unnecessary structures that would act as pitfall traps for animals must be constructed.
- → Permeable internal and external fences/walls (after construction is completed) must be implemented to allow for the movement of small faunal species through the development, particularly fencing surrounding the Open Space Area. These must have ground level gaps of 10cm x 10cm at 10m intervals. These gaps must be kept free of obstructions, including plant growth and debris.
- → No night driving should be permitted, if unavoidable, this must be restricted, and speed limits adhered to.
- → Speed restrictions within the development for construction vehicles (40km/h is recommended) should be in place to reduce the incidence of faunal mortality on project roads.
- → A trained snake handler must be on call during construction to remove any snakes within construction areas.
- → A clause relating to fines, possible dismissal and legal prosecution must be included in all contracts for ALL personnel (i.e. including contractors) working on site should any speeding or persecution of animals occur.
- → Induction material must iterate safety to fauna and personnel through avoidance of wildlife. For example, snakes tend to only strike if threatened (cornered or attacked).
- → It is strongly recommended that rodenticides not be used at any the newly established buildings or around auxiliary infrastructure on the project site. While pest control of this nature may be effective,

even so-called "environmentally friendly" rodenticides are toxic and pose significant secondary poisoning risk to predatory avifauna, especially owls.

7.2 Heritage Impact Assessment

Palaeontological Impacts

The large bones of elephant, rhino, and hippo who died in the Strandveld Fm. dunes have occasionally been uncovered during sand quarrying and developments but are apparently rare finds.

A field survey is precluded by the formation being mainly beneath the thickly vegetated Strandveld Fm. dune sands and fossil bones may only be exposed during vegetation clearing and the Construction Phase earthworks. It is therefore assumed that the proposed development will result to loss of fossil bones and archaeological material from excavations in the loose Strandveld Fm. dunes and upper Waenhuiskrans Fm. aeolianite.

Archaeological impacts

Unmarked Khoisan burials and shell midden deposits may be uncovered or intercepted during excavations for building foundations and services (water, stormwater, sewerage, etc.)

Mitigation measures recommended by the specialist

- → Test pits in the southeastern corner of the proposed development site must be conducted to establish the presence/absence of any potentially important sub surface archaeological deposits, prior to construction excavations commencing
- → A walk down survey of the proposed development site must be conducted after the site has been cleared of vegetation.
- → If any unmarked human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist.
- → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.

Mitigation measures as per HWC Permit

Heritage Western Cape issued a final comment on 8 April 2025, **endorsing the HIA** as having met the provisions of Section 38(3) of the NHRA. In addition to the above recommendations, HWC has included the following conditions in the permit:

- → Archaeological monitoring should occur during vegetation clearing as there might be surface remains that are impacted during the clearing. A work Plan must be submitted for the Archaeological monitoring to HWC for the endorsement.
- → Test excavations in the southeastern corner of Erf 1473 must be conducted to establish the presence/absence of any sub surface archaeological deposits, prior to construction excavations commencing.
- → A walk down survey of the development site must be conducted after the site has been cleared of vegetation.
- → If any unmarked human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan

Kaplan 082 321 0172) [and Heritage Western Cape. Human remains must not be removed or disturbed without required approvals from the heritage authority].

→ A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.

7.3. Palaeontological Impact Assessment

A field survey is precluded by the formation being mainly beneath the thickly vegetated Strandveld Fm. dune sands and fossil bones may only be exposed during vegetation clearing and the Construction Phase earthworks. It is therefore assumed that the proposed development will result to loss of fossil bones and archaeological material from excavations in the loose Strandveld Fm. dunes and upper Waenhuiskrans Fm. aeolianite.

Mitigation measures as recommended by the specialist:

→ The possible presence of fossils in the subsurface does not have an *a priori* influence on the decision to proceed with the proposed development. However, mitigation measures are essential. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended below, to be followed during the vegetation clearing and Construction Phases.

→ Although the inspection of construction excavations may be specified in the Archaeological Impact Assessment, it is not feasible for a specialist monitor to be continuously present during the Construction Phases, when fossils may be unearthed at any time. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging.

→ For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made.

→ It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.

→ The Fossil Finds Procedure included as Appendix 2 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the building foundations, infrastructure trenches and stormwater drainage must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby archaeologist or palaeontologist on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.

→ If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups.

→ A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.

8. POST-CONSTRUCTION PHASE IMPACTS AND MITIGATIONS

8.1 Terrestrial Biodiversity Impact Assessment

Potential impacts:

- → Spread of weeds and alien plant species.
- → Disturbance to faunal species and their livelihood due to project related activities.

Mitigation measures recommended by the specialist

- → The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them.
- → Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme.
- → Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds.
- → No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping.
- → An alien invasive method statement must be incorporated into the EMPr to ensure that these species do not spread onto neighbouring properties.
- → Speed restrictions within the development for all vehicles (40km/h is recommended) should be implemented to reduce the possibility of collisions and roadkill.
- → Do not place lighting on the exterior of the boundary wall (i.e. pointing into the Nature Reserve).
- → Ideally, residents must not have pets that can leave their premises and enter the surrounding natural area. i.e. Domestic cats should not be permitted and if they are, they must wear a bell. Fines should be issued by the Body Corporate if not adhered to.
- → Restrictions can be placed on noise to minimise impact. Body Corporate to establish a noise policy and associated fines.
- → External lights that are used in the mixed-use development must be down lights placed as low on the wall as possible and installation of low UV emitting lights, such as most LEDs. Minimise lighting in open space areas within development.
- → Ensure all vehicles adhere to the relevant noise restrictions.
- → Create faunal micro habitats within developed area e.g. rocky outcrops, corridors of shrubbery, stumperies.
- → Body corporate and Estate Agents to ensure potential buyers and residents are aware of the restrictions placed on lighting, noise and pets based on living in an area bordering an ecological corridor.
- → No feeding of wildlife is permitted, including bird feeders.
- → No pesticides may be used to control pests, especially rodents, as poisoned rodents are often eaten by predatory birds (e.g., owls) that result in the owl dying. If pesticide is required only 'Eco Rat Rodenticide' may be used.
- → Occupants of the residential units must be made aware of the current legislation applicable to all fauna in the project area: "no wild animals will be hunted, killed, poisoned, or captured. No wild animals will be imported into, exported from, or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass."

Table 2. Activity specific impacts and mitigations

PRE-CONSTRUCTION/ CONSTRUCTION PHASE AND POST-CONSTRUCTION PHASE			
IMPACT	**DESCRIPTION**	**MITIGATION MEASURES**	**RESPONSIBLE PERSONS**
Loss of Overberg Dune Strandveld (EN)	*Construction* Loss of 6.12 ha (0.0612 km2) of Overberg Dune Strandveld, representing a loss of 0.02% of the total remaining extent of this vegetation type.	- Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint. - Topsoil (20 cm, where possible) must be collected and stored in an area of low (preferable) and medium sensitivity and used to rehabilitate impacted areas that are no longer required during the operational phase (e.g. laydown areas). - Only indigenous species must be used for rehabilitation. - Lay down areas must be located within the project footprint and must not encroach into the surrounding vegetation, particularly to the north of the site. - Employees must be prohibited from making open fires during the construction phase to prevent uncontrolled run-away fires. - The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them. - Employees must be prohibited from collecting plants. It is recommended that spot checks of pockets and bags are done on a regular basis to ensure that no unlawful harvesting of plant species is occurring. - If Option C (preferred Alternative) is approved, the near-intact Overberg Dune Strandveld within the Open Space Area must be maintained and considered a no-go area. Construction activities cannot encroach into this no-go area.	Applicant Contractor ECO
Loss of plant SCC	*Construction* During the field survey, four (4) plant SCC were recorded including three (3) Vulnerable (VU) species (*Lampranthus fergusoniae, Cynanchum zeyheri, and Athanasia quinquedentata subsp. rigens*), and one Near Threatened (NT) species (*Asparagus lignosus*). The clearance of vegetation for the	- Mitigation measures listed under impact 1 above must be implemented. - Where populations of these species can't be avoided, a translocation plan to move these species must be implemented. This plan must identify the number of individuals that will be impacted and identify a suitable receiving environment where they can be moved. Included in this plan, must be a monitoring program to monitor the success of the translocation of these species. - If option C (preferred Alternative) is approved, SCC should be translocated into the designated Open Space Area.	Applicant Contractor ECO

	construction of the proposed development will result in the loss of some individuals of these species.	- Where translocation of plant species is required, this must be undertaken by a qualified botanist or horticulturalist. - Permits for all protected species must be obtained prior to construction commencing. A Search and Rescue Plan to move protected species must be drafted and implemented. - It is recommended that SCC and protected species that need to be moved are used as far as is feasible to rehabilitate areas impacted on during construction but not required during the operational phase.	
Fragmentation of vegetation and disruption of ecosystem processes	*Construction* Site clearance, infilling, and compaction will result in alteration of the flow regime of wetland area on the site. Hardened catchment area would result in increased stormwater runoff, velocity and increased flood peaks within the wetland and would also likely result in sedimentation and erosion. *Post-construction* Site clearance, infilling and compaction will result in alteration of the flow regime for the UVBW. Site clearance, infilling, and compaction will result in alteration of the flow regime of wetland area. Hardened catchment area would result in increased stormwater runoff, velocity and increased flood peaks within the wetland and would also likely result in sedimentation and erosion.	- Designate the wetland area as a No Go for construction activities (for both the residential development and the replacement / upgrade of the sewer pipeline). - The status quo in terms of hydrological connection from Erf 1486 to the downstream system must be maintained / should not be impacted because of the proposed development. - If possible, conduct construction activities of dwellings, associated stormwater infrastructure and any rehabilitation activities during summer months (November to March). - Ensure that effective stormwater management measures are implemented during construction. Stormwater management must ensure that no runoff, which will impair the water quality and lead to increased sedimentation, may enter the downstream wetland area. Additionally, clean SW which does enter the downstream wetland system should do so in a manner that ensures no erosion occurs, specifically during storm events, such as through vegetated swales. - Appropriately designed raft foundations for residential dwellings may significantly reduce the impact on subsurface flow and therefore reduce this impact / risk. - Rainwater harvesting schemes may reduce runoff intensity and thereby mitigate the impact of catchment hardening. - The alien invasive vegetation present within the wetland area must be removed and replanted with indigenous wetland vegetation. - An Offset, Rehabilitation and Management Plan must be drafted by a suitably qualified specialist.	Applicant Contractor ECO
Introduction and spread of weeds and alien plant species.	*Construction* There are currently eleven (11) alien plant species within the project area, three (3) of	- The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them. - Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme.	Applicant Contractor ECO

	which are listed as invasive. Construction activities, such as ground disturbance and equipment movement, could spread alien invasive species, like Acacia cyclops, beyond the project area. If not managed, construction could exacerbate the spread of invasive species, displacing indigenous flora and further degrading local ecosystems.	- Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds. - No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping. - The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present. - An alien invasive method statement must be incorporated into the EMPr.	
Loss of a portion of the walker bay key biodiversity area	*Construction* The proposed residential development will impact a small portion (0.11 km² = 0.03%) of the Walker Bay Key Biodiversity Area (KBA), located on its edge and adjacent to existing residential development. While the overall footprint of the development is minimal in relation to the KBA, the project may lead to habitat fragmentation, disturbance to local wildlife, and potential pressure on the surrounding natural areas	- Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint. - Topsoil (20 cm, where possible) must be collected and stored in an area of low (preferable) and medium sensitivity and used to rehabilitate impacted areas that are no longer required during the operational phase (e.g. laydown areas). - Only indigenous species must be used for rehabilitation. - Lay down areas must be located within the project footprint and must not encroach into the surrounding vegetation, particularly to the north of the site. - Employees must be prohibited from making open fires during the construction phase to prevent uncontrolled run-away fires. - The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them. - Employees must be prohibited from collecting plants. It is recommended that spot checks of pockets and bags are done on a regular basis to ensure that no unlawful harvesting of plant species is occurring. - If Option C (preferred Alternative) is approved, the near-intact Overberg Dune Strandveld within the Open Space Area must be maintained and considered a no-go area. Construction activities cannot encroach into this no-go area. - Mitigation measures listed under impact 1 above must be implemented. - Where populations of these species can't be avoided, a translocation plan to move these species must be implemented. This plan must identify the number of individuals that will be impacted and identify a suitable receiving environment where they can be moved. Included	Applicant Contractor ECO

		in this plan, must be a monitoring program to monitor the success of the translocation of these species. - If option C (preferred Alternative) is approved, SCC should be translocated into the designated Open Space Area. - Where translocation of plant species is required, this must be undertaken by a qualified botanist or horticulturalist. - Permits for all protected species must be obtained prior to construction commencing. A Search and Rescue Plan to move protected species must be drafted and implemented. - It is recommended that SCC and protected species that need to be moved are used as far as is feasible to rehabilitate areas impacted on during construction but not required during the operational phase.	
Loss of a portion of cba: terrestrial	*Construction phase*: Consultation of the WCBSP (2023) confirmed that the entire project area falls within a CBA: Terrestrial (Threatened Ecosystem: Overberg Dune Strandveld). The classification of this area as a CBA is due to the presence of Overberg Dune Strandveld, which is assessed in impact 1 above. Development within the project area will result in the loss of a portion of this CBA but is unlikely to impact on the overarching management objectives of the CBA given the project area is located on the edge of the CBA and within the urban edge.	- Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint. - Topsoil (20 cm, where possible) must be collected and stored in an area of low (preferable) and medium sensitivity and used to rehabilitate impacted areas that are no longer required during the operational phase (e.g. laydown areas). - Only indigenous species must be used for rehabilitation. - Lay down areas must be located within the project footprint and must not encroach into the surrounding vegetation, particularly to the north of the site. - Employees must be prohibited from making open fires during the construction phase to prevent uncontrolled run-away fires. - The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them. - Employees must be prohibited from collecting plants. It is recommended that spot checks of pockets and bags are done on a regular basis to ensure that no unlawful harvesting of plant species is occurring. - If Option C (preferred Alternative) is approved, the near-intact Overberg Dune Strandveld within the Open Space Area must be maintained and considered a no-go area. Construction activities cannot encroach into this no-go area. - Mitigation measures listed under impact 1 above must be implemented. - Where populations of these species can't be avoided, a translocation plan to move these species must be implemented. This plan must identify the number of individuals that will be impacted and identify	Applicant Contractor ECO

		a suitable receiving environment where they can be moved. Included in this plan, must be a monitoring program to monitor the success of the translocation of these species. - If option C (preferred Alternative) is approved, SCC should be translocated into the designated Open Space Area. - Where translocation of plant species is required, this must be undertaken by a qualified botanist or horticulturalist. - Permits for all protected species must be obtained prior to construction commencing. A Search and Rescue Plan to move protected species must be drafted and implemented. - It is recommended that SCC and protected species that need to be moved are used as far as is feasible to rehabilitate areas impacted on during construction but not required during the operational phase.	
Loss of faunal habitat	*Construction phase* Proposed development will result to permanent loss of habitat (6.12 ha of Overberg Dune Strandveld). The vegetation and soil provide habitat to faunal species that depend on it for shelter, breeding and foraging.	- All construction and construction related activities (including parking of vehicles and machinery) must remain within the approved project footprint and must not encroach into areas outside the project footprint. To facilitate this, the boundaries of the development footprint areas must be clearly demarcated and communicated to all on-site personnel during induction. - Temporary infrastructure (laydown areas, widened roads, etc.) must be rehabilitated and rehabilitation efforts must provide habitat for faunal species. Rocks and logs removed during clearing of the project footprint must be stacked, ideally, in previously disturbed areas or within the temporary footprint to provide shelter E.g. Rock stacks and stumperies but must not disrupt adjacent habitat to create these.	ECO, Contractor Applicant
Loss of faunal SCC	*Construction* Two SCC have a high likelihood of occurrence in the project area; the Southern Adder (VU) and Cape Dwarf Chameleon (NT). The clearance of vegetation for the construction of the proposed development may result in the loss of some individuals of these species.	- Draft a translocation SOP for the Southern Adder (VU) and Cape Dwarf Chameleon (NT) and implement immediately prior to construction. A permit from Cape Nature will be required to relocate this species. - A clause must be included in contracts for ALL personnel (i.e. including contractors) working on site stating that: “no wild animals will be hunted, killed, poisoned or captured. No wild animals will be imported into, exported from or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass	ECO, Contractor Applicant

		unless they have been appointed to implement the Carcass Management Plan or Animal Relocation Plan." - In addition, a clause relating to fines, possible dismissal and legal prosecution must be included should any of the above transgressions occur for SCC. - The ECO should appoint a member of staff to walk ahead of construction machinery directly prior to vegetation clearance. Should any faunal species be identified during the walk through, these should be allowed to move out of harm's way prior to vegetation clearance. - The ECO must create a list with accompanying photographs of possible faunal SCC that could occur in the project area prior to construction. This photo guide must be used to determine if faunal SCC are encountered. - Should any fauna SCC be encountered during construction and operation, these must be recorded (i.e. be photographed, GPS co-ordinates taken) and information placed on iNaturalist - In the unlikely event that bird SCC inhabit the site to breed, all site personnel are not to disturb them, even approaching nests of SCC is considered harmful to the success of breeding. Should an active breeding nests (eggs, nestlings, fledglings) be discovered in or near construction areas prior to or during the construction phase: o These must be reported to ECO. o Where deemed necessary an appropriate buffer should be placed around the nest. If uncertain on the size of such a buffer, the ECO may contact an avifaunal specialist for advice. o No construction activity should occur within the buffer and the nest must be monitored. - Once birds have finished nesting and the fledglings left the nest construction can recommence within the buffer zone.	
Disturbance to faunal species and their livelihood due to project related activities.	*Construction phase* Faunal species may be disturbed during construction due to increased noise levels and vibrations from construction machinery. Night lighting disrupts nocturnal faunal species activities and may attract them to the construction site.	- It is recommended that vegetation clearance takes place gradually, commencing from eastern side of the project area and methodically advancing towards the western side to encourage the movement of any faunal species to the natural area. - Dust suppression measures must be implemented in the dry and/or windy months. - All machinery, vehicles and earth moving equipment must be maintained and the noise these create must meet industry minimum	ECO, Contractor Applicant

	Faunal Species that vacate the immediate area, may return following completion of construction or new individuals or species may inhabit the area.	standards. e.g. the sound generated by a machine must be below a certain decibel as prescribed in the relevant noise control regulations. - No construction night lighting must be allowed. If required, minimise lighting in open space areas within development and any external lights must be down lights placed as low as possible and installation of low UV emitting lights. - Steep sided drains, gutters, canals and open pits/trenches must be covered with mesh (5mm x 5mm) or sloped to prevent fauna falling in and getting stuck. No unnecessary structures that would act as pitfall traps for animals must be constructed. - Permeable internal and external fences/walls (after construction is completed) must be implemented to allow for the movement of small faunal species through the development, particularly fencing surrounding the Open Space Area. These must have ground level gaps of 10cm x 10cm at 10m intervals. These gaps must be kept free of obstructions, including plant growth and debris. - No night driving should be permitted, if unavoidable, this must be restricted, and speed limits adhered to.	
Mortality of faunal species due to earthworks, roadkill and persecution	*Construction phase*	- Speed restrictions within the development for construction vehicles (40km/h is recommended) should be in place to reduce the incidence of faunal mortality on project roads. - A trained snake handler must be on call during construction to remove any snakes within construction areas. - A clause relating to fines, possible dismissal and legal prosecution must be included in all contracts for ALL personnel (i.e. including contractors) working on site should any speeding or persecution of animals occur. - Induction material must iterate safety to fauna and personnel through avoidance of wildlife. For example, snakes tend to only strike if threatened (cornered or attacked). - It is strongly recommended that rodenticides not be used at any the newly established buildings or around auxiliary infrastructure on the project site. While pest control of this nature may be effective, even so-called “environmentally friendly” rodenticides are toxic and pose	ECO, Contractor Applicant

		significant secondary poisoning risk to predatory avifauna, especially owls.	
Spread of weeds and alien plant species.	*Post-construction phase* There are currently eleven (11) alien plant species within the project area, three (3) of which are listed as invasive. If impacted areas that do not form part of the development footprint are not rehabilitated, these disturbed areas can become places for alien invasive species to establish. If left unmitigated, these species can spread and establish themselves in intact vegetation in surrounding intact ecosystems, resulting in the displacement of indigenous species and possible local extinctions of SCC.	- The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them. - Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme. - Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds. - No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping. - An alien invasive method statement must be incorporated into the EMPr to ensure that these species do not spread onto neighbouring properties.	ECO, Contractor Applicant
Disturbance to faunal species and their livelihood due to project related activities.	*Post-construction phase* The operation of the development will result in a level of disturbance to the project area that currently experiences some disturbance. expected disturbance includes: • the increase in the number of people and vehicles accessing the area will likely introduce noise. • the residence could introduce a barrier to faunal movement not previously present. • night lighting could disturb diurnal faunal species and disrupt normal nocturnal faunal species activities. e.g., insects attracted to infrastructure lighting will likely attract small nocturnal predators (e.g., genets, bats, rodents, etc.). • building/s may offer habitat to generalist and invasive species.	- Speed restrictions within the development for all vehicles (40km/h is recommended) should be implemented to reduce the possibility of collisions and roadkill. - Do not place lighting on the exterior of the boundary wall (i.e. pointing into the Nature Reserve). - Ideally, residents must not have pets that can leave their premises and enter the surrounding natural area. i.e. Domestic cats should not be permitted and if they are, they must wear a bell. Fines should be issued by the Body Corporate if not adhered to. - Restrictions can be placed on noise to minimise impact. Body Corporate to establish a noise policy and associated fines. - External lights that are used in the mixed-use development must be down lights placed as low on the wall as possible and installation of low UV emitting lights, such as most LEDs. Minimise lighting in open space areas within development. - Ensure all vehicles adhere to the relevant noise restrictions. - Create faunal micro habitats within developed area e.g. rocky outcrops, corridors of shrubbery, stumperies.	ECO, Contractor Applicant

	• domestic pets, especially cats, can be detrimental to wildlife either by catching and killing prey (birds, reptiles, rodents, etc.) or by chasing native fauna and causing stress which may lead to certain fauna not breeding.	- Body corporate and Estate Agents to ensure potential buyers and residents are aware of the restrictions placed on lighting, noise and pets based on living in an area bordering an ecological corridor. - No feeding of wildlife is permitted, including bird feeders. - No pesticides may be used to control pests, especially rodents, as poisoned rodents are often eaten by predatory birds (e.g., owls) that result in the owl dying. If pesticide is required only 'Eco Rat Rodenticide' may be used. - Occupants of the residential units must be made aware of the current legislation applicable to all fauna in the project area: "no wild animals will be hunted, killed, poisoned, or captured. No wild animals will be imported into, exported from, or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass."	
Heritage Impacts	*Construction phase* <u>Archaeology</u> Unmarked Khoisan burials and shell midden deposits may be uncovered or intercepted during excavations for building foundations and services (water, stormwater, sewerage, etc.) <u>Palaeontology</u> A field survey is precluded by the formation being mainly beneath the thickly vegetated Strandveld Fm. dune sands and fossil bones may only be exposed during vegetation clearing and the Construction Phase earthworks. It is therefore assumed that the proposed development will result to loss of	- Test pits in the southeastern corner of the proposed development site must be conducted to establish the presence/absence of any potentially important sub surface archaeological deposits, prior to construction excavations commencing - A walk down survey of the proposed development site must be conducted after the site has been cleared of vegetation. - If any unmarked human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. - A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.	ECO, Contractor Applicant

	fossil bones and archaeological material from excavations in the loose Strandveld Fm. dunes and upper Waenhuiskrans Fm. aeolianite		
Palaeontological Impacts	*Construction phase* Loss of fossil bones and archaeological material from excavations in the loose Strandveld Fm. dunes and upper Waenhuiskrans Fm. aeolianite	- The possible presence of fossils in the subsurface does not have an a priori influence on the decision to proceed with the proposed development. However, mitigation measures are essential. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended below, to be followed during the vegetation clearing and Construction Phases. - Although the inspection of construction excavations may be specified in the Archaeological Impact Assessment, it is not feasible for a specialist monitor to be continuously present during the Construction Phases, when fossils may be unearthed at any time. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. - For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made. - It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development. - The Fossil Finds Procedure included as Appendix 2 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the building foundations, infrastructure trenches and stormwater drainage must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby archaeologist or palaeontologist on the nature of the find and suitable consequent actions such as immediate site inspection, application for a	ECO, Contractor Applicant

		palaeontological collection permit and drafting of a work plan for the collection of the find. - If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups. - A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.	
Noise	*Construction* Noise generated from vehicles and machinery during the construction phase.	- Limit noise levels (e.g. install and maintain silencers on machinery). - Provide protective wear for workers i.e. ear plugs. - Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. - Restrict construction to normal working hours	ECO, Contractor Applicant
Visual impacts	*Construction* Visual impacts of construction site and construction activities.	- Good housekeeping of construction site and working areas. - Screen the visual elements of the site camp with netting. - Locate the site camp in a transformed area. - Site officer to walk the site on a daily basis to check for visual impacts and general site aesthetics, particularly prior to weekends and holidays - Officer to ensure that waste and batching areas are correctly screened and secured to prevent spread by wind, rain or animals.	ECO, Contractor Applicant

		- Implement landscaping strategies to minimize the visual impact of construction and operational activities. - Incorporate green design principles into the development to enhance aesthetics and mitigate negative visual effects. - Communicate with the community to ensure understanding and acceptance of the changes in the visual character. - Consider the use of native vegetation in landscaping to maintain a natural feel and reduce visual disruptions.	
Socioeconomic impacts	*Construction* Job creation during the development /construction phase of the Erven *Post-construction* Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area.	- Ensure labour force is sourced locally as far as possible. - A gender balance to be considered during employment.	

9. 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.

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.

BUILDING PARAMETERS

Residential zone 1: single residential (SR1)

Coverage:

- As per the development parameters of the Overstrand Municipality Land Use Scheme, 2020.

Building lines:

- Street building line 4 m

- Lateral and rear building lines 2 m

The parameters of the Overstrand Municipality Land Use Scheme, 2020 will be applicable.

Height of dwelling and out-buildings:

Double storey dwellings with a maximum height according to the Overstrand Municipality Land Use Scheme, 2020, are permitted.

Homeowners are encouraged to consider building single storey dwellings on the erven to enhance the overall appeal of the development.

Parking:
A minimum of 2 parking bays per erf to be provided and clearly marked on the drawings.

General residential zone 1: town housing erven:

Coverage:

According to development parameters of the Overstrand Municipality Land Use Scheme, 2020.

Building lines:
According to development parameters of the Overstrand Municipality Land Use Scheme, 2020.

Street building line for garage with direct access from road – 5 m from the curb.

Portions 81, 82 and 83

1m from the perimeter boundary line adjacent to the Single Residential properties.

Height of dwelling and out-buildings:

Double storey dwellings are permitted with the maximum height according to the Overstrand Municipality Land Use Scheme, 2020 development parameters.

Homeowners are encouraged to consider building single storey dwellings on these erven to enhance the overall appeal of the development according to the Overstrand Municipality Land Use Scheme, 2020 parameters.

Parking:

Minimum of 2 parking bays per site to be provided and clearly marked on the drawings.

BUILDING DESIGN PARAMETERS

Plan form:

Plan form to be clean simple lines composed of rectangular or square forms with minor elements flowing from this.

Dwellings are to be constructed parallel to the orientation of the Erven and Development in general. No organically shaped walls and buildings will be permitted.

Building width:

- Maximum width of living area element 7,0 m (with mono pitch roof).
- Maximum width of bedroom element 7,0 m (with mono pitch roof).
- Maximum width of garage element 7,0m (with mono pitch roof).
- Verandah: max width of 4,0m (with a flat 3° pitch lean-to roof).

Building elements, structures or pergolas flowing from the primary elements, must be secondary in scale. The HOA decision on this will be final and binding.

Roof pitch:

The roofs over primary elements must have a simple gable roof projecting higher than secondary elements. Secondary elements and the garage must have a simple mono pitch roof with angle running down from primary element.

Roof over connecting elements and porch to be flat concrete or boarded roof.

Gable roofs to have a pitch between 15° and 25° Mono pitch roofs to have a pitch between 5° and 17½°.

Tertiary elements e.g but not limited to porch and room extensions leading off elements to have flat concrete or boarded roof designs with no visible pitch.

Verandah lean-to roof with max pitch of 3°.

Roof material and colour

The HOA's decision on this will be final and binding.
The following roof coverings will be allowed:

- Klip-Lock and Diamond Deck zincalume colourbond pre-coated sheeting for gable, mono pitch and lean-to roofs.
- No uncoated sheeting will be permitted for painting afterwards.
- White or clear poly carbonate sheeting in limited panel sizes will be permitted within the verandah roof.
- Flat concrete roofs & Flat boarded roofs to the secondary connecting & elements (excl. verandahs).

Permitted colours for roof sheeting

- African grey
- Ore grey

Eaves to pitch roofs:

- Roofs to project over the walls on both the gutter end and ridge end by a minimum of 300 mm and a max of 500 mm.
- Roofs to project over the walls at gable ends by a minimum of 100 mm and a maximum of 200 mm.
- Eaves are to be open with exposed roof sprockets. The sheeting visible from below.
- Alternatively, a soffit may be installed between the rafters to the underside of the purlins.

- Exposed eaves rafters to be a max depth of 220 mm reduced in dimension at gutter line to a max 150 mm depth.
- Fascias at gutter end and gable ends are compulsory with a max fascia size of 150 mm in depth exposing a section of the roof sprocket.

Eaves/ overhang to flat roofs:

- All concrete or boarded flat roofs to project over the outer walls or support below by a min of 100 mm and a maximum of 300 mm. Depth of flat roof projection to not exceed 300mm in total from soffit to top of upstand or parapet.
- Stormwater run-off contained within extent of the flat roof and must be disposed of by means of full-bore outlets or similar. No exposed gutters to the edge of flat roofs will be considered.

Gutters and downpipes:

- Seamless aluminium Ogee profile gutters.
- Exposed visible downpipes for all roofs other than concrete or boarded roofs to be extruded aluminium.
- Colour of gutters and downpipes to be Dove grey or Charcoal grey.
- Down pipes to flat roofs to be concealed within brick work.

Walls:

The following wall finishes will be allowed:

- Plastered and painted (smooth wood float finish).
- Bagged but must include plaster bands and panelled plaster surrounds to windows or doors, combining window and/or doors to form a grouped element.
- Plaster bands form an integral part of all facades. Particular attention should be given to the proportion and scale of plaster panel designs around windows and doors as large plaster panels combining groups of windows and doors are encouraged.

The following wall finishes will not be allowed:

- Face Brick Artificial cladding.
- Unpainted bagged brick work Metal sheeting cladding Fibre cement cladding.
- Clearvue fencing, gates or screens.

The stone wall panels will be allowed in moderation.

The HOA decision on this will be binding and final:

- Natural stone in a random pattern may be used. A sample must be submitted to the HOA for approval.
- Extent of stonework limited to feature walls and chimneys Gabions can be used to retain terracing.

Boundary Walls:

Boundary walls are compulsory between all Erven and are to be completed in conjunction with the dwelling. This is applicable to residential Zone 1 erven and Group housing erven. Boundary walls on the internal road are not compulsory but permitted.

Height of boundary walls: Between properties up to and in line with the extent of the building footprint on the internal road façade:

- Min of 1200 mm
- Max of 2100 mm

Internal road facing boundary walls and lateral walls between Erven up to the start of the building footprint:

- Max of 1200 mm

Walls to be plastered and painted both sides.

Plaster bands to top edge of boundary walls are compulsory size 80 mm x 100 mm.

In the event that enclosures to erven are higher than 1200 mm as described above are required, the raising of the wall enclosure will be permitted using the following materials/construction - natural Balau, Belian or Garappa or similar type of timber secured within a supporting framework of unpainted galvanized steel.

Windows, Doors and Shutters:

- Windows & door shapes are to be square or rectangular in shape.
- Clerestory windows are permitted in square or rectangular shapes.
- No triangular gable windows will be permitted.
- Functional aluminium shutters are permitted and must match the colour of the windows & doors.
- Window and door frames must be powder coated aluminium.
- Entrance doors are permitted to be either aluminium, timber or steel to HOA approval.
- Garage doors to be up to 2.5 m in height.

Aluminium colours permitted:

- Matt light grey ANP37035.
- Matt silk grey ITC37044.
- Matt stone grey ANP37030.
- Matt graphite grey ITC37024.

Balconies, Verandahs and Pergolas:

Balconies:

- First floor balconies are not intended to dominate the facade of the house designs.
- The proportion of balconies should be considered in relation to the scale of the dwelling. The HOA on this will be final and binding.
- Balconies may not be constructed on common boundaries with the Overstrand Municipality Land Use Management Scheme, 2020 development parameters being applicable.
- Balconies to be constructed in concrete or alternately a steel framework with timber decking.
- Balcony supports to be either bagged or plastered brick or GMS posts size 100 mm x100 mm.
- Balustrades constructed in stainless steel or GMS with a horizontal or vertical design.

The following balustrades will not be considered:

- Frameless glass
- Decorative or ornate designs
- Fibre cement
- Solid walls

Verandahs:

- Verandahs are to be constructed with a max 3° pitch lean-to roof supported by GMS posts min 100 mm x 100 mm.
- No timber or round pole supports will be considered.
- Max depth of verandahs 4,0 m.

Pergolas:

- Pergolas are to be constructed in either natural or stained timber with similar materials for the posts. No shade cloth or polycarbonate covering will be permitted on top of pergolas.

Chimneys and braais:

Chimneys are not to extend more than 1,2 m above the eave's height, or 1m where the height restriction according to the Overstrand Municipality Land Use Scheme, 2020 parameters become applicable, motivated by the designer and approved by the HOA.

Pools:

- Pool filtration to be screened and enclosed from view from adjoining properties and all road ways.
- Pools and decks not to project more than 1,5 m above natural ground level.
- The Overstrand Municipality Land Use Management Scheme, 2020 parameters take precedent with the building line zones. This is only permitted within the building line.
- Pool fencing and pool safety must comply with SABS0400 Part D.

Garages and carports:

Garages constructed on the common lateral boundary, must conform to the

Overstrand Municipality Land Use Scheme, 2020 parameters.

Carports are not encouraged, but will be considered by the HOA with a strong motivation by the property owner with the following restrictions:

- Conforming to the Overstrand Municipality land Use Scheme, 2020 parameters.
- Will not be permitted in front of garages facing the internal road.
- Must be accommodated at the side of the property and extend from the street facade towards the rear of the property.
- Must have a flat roof construction as described under "roofs".
- Will be limited to 3500 mm in width x 6500 mm in length. No shade cloth to be allowed.
-

Awnings:

- Sun control should be by means of overhangs, shutters or planting. No-clip on aluminium or canvas awning systems may be used over doors or windows.
- A horizontal sliding fabric type shading system attached to the underside of pergolas will be permitted but may not be a fixed shading element. Fabric may not have striped or vibrant colours and should be limited to white, grey or earthy shades of beige.

Kitchen yards:

- Kitchen yards are compulsory with access to the street and must be enclosed with walls to screen bins and washing areas.
- These kitchen yards should, where possible, be used to include gas bottle storage, heat pumps and air conditioning condensers.
- The position of kitchen yards with wall heights to be indicated on drawings for approval by HOA.

Water Tanks:

- Water tanks with a max capacity of 3500 l will be permitted (1 per erf) and must not be in any street view.
- Colour of water tanks to be grey.

Paving materials:

The following paving materials are encouraged:

- Grass blocks
- Exposed aggregate pavers (grey/charcoal)
- Cement based paver products in shades of charcoal or grey. No autumn hues, yellow or red pavers will be considered.

Painting:

Painting of the dwelling and boundary walls as a whole is compulsory with the following restrictions applicable:

- Dwelling walls and plaster band detailing as per the colours approved by the HOA. Fascias, soffits, gable fascias and exposed sprockets –
    - Painted a shade of grey as determined by the HOA Timber entrance doors.
- Natural or stained Steel entrance doors.
- Painted a shade of grey as determined by the HOA or sealed natural steel Pergola timbers.
- Natural or stained Balau, Belain or Garappa untreated.

Colours:

- External colours must reflect shades of grey with an earthy but live undertone.
- Similar colours will be considered by the HOA with the following "Dulux" colours being recommended.
- The HOA reserves the right to change the specified colours below from time to time or as the need arises to ensure a harmonious integrated and pleasing colour scheme for the development as a whole.

Boundary wall colour

- All boundary walls are to be uniform in colour ad no individual boundary wall colours will be permitted.
- The HOA will determine the colour of the boundary walls which will be applicable on all the erven.

Walls

- Ghost Grey 17GY 68/005.
- Alloy Touch 21BG 45/002.
- Snow Field 00NN 72/000.
- Universal Grey 00NN 62/100.
- Veil 00NN 53/000.
- Light Charcoal 88BG 62/005.
- Silky Stone 49GG 52/001

Bands and/or plaster surrounds

- Ghost Grey 17GY 68/005.
- Alloy Touch 21BG 45/002.
- Snow Field 00NN 72/000.
- Universal Grey 00NN 62/100.
- Veil 00NN 53/000.
- Light Charcoal 88BG 62/005.
- Silky Stone 49GG 52/001.
- Granite Grey 00NN37/000.
- Grey Coutoure 53BB 36/004.
- The HOA reserves the right to change this colour from time to time and all property owners will be required to adhere to the chosen colour when re-painting their boundary walls.
- The HOA reserves the right to approve colours outside of this range. Colour samples to be presented to the HOA for approval.

General

Plumbing:

Exposed plumbing other than ground floor stub-stacks is discouraged. If plumbing is to be exposed, it must not be visible from any of the internal or perimeter roads.

Air conditioners:

Air conditioners and/or heat pumps may not be visible from the roads and should preferably be accommodated within the kitchen yard space or concealed behind screens.

Alternative energy:

- Installation of gas geysers for hot water heating is encouraged.
- Solar geysers are permitted with a maximum of 2 panels per erf.
- The solar panels for hot water heating must be indicated on the drawings.

- The water reservoir may not be mounted on the roof surface and must be concealed within the roof space.
- The position and extent of any solar panels for alternative energy supply must be indicated on the drawings and approved by the HOA and where deemed necessary by any adjoining effected property owner.
- Distinctions must be made between solar panels for hot water supply and alternative energy supply.

Gas bottle enclosure:

- Gas bottles to be stored out of view from any road.
- Gas bottles enclosed within a lockable galvanized cage and must conform to all gas Regulations.

External lighting:

External lighting should be low voltage and energy efficient and must be directed downwards to avoid the glare from affecting neighbouring properties.

Prohibited building materials:

Although individual architectural designs within the theme will be encouraged, the following building materials may not be used:

- Unpainted plaster or off-shutter concrete.
- No precast concrete walls will be allowed nor any face brick or unplastered boundary walls.
- Unpainted reflective metal roof sheeting Wood or PVC panel fencing.
- Thatch roof lapas.
- Unpainted galvanized sheet metal or flashing.

BUILDING PLAN SUBMISSION

The following must be adhered to before building plans will be considered for inspection:

- A plan scrutiny fee is payable on submission of plans to the appointed consulting Architectural firm.
- A building performance deposit of R6 000 (Six Thousand Rand) must be paid to the HOA before construction commences and it will be held in trust (interest fee) by the HOA.
- The deposit amount will be used in the event of a breach of non-performance to remove rubble or make good any damage caused by the contractor or his sub-contractors or suppliers, including kerbing, landscaping, community services, roads, irrigation etc. and for any outstanding spot fines.
- The building performance deposit shall be released by the HOA subject to the submission to the Architect the Local Authority's Certificate of Completion and Occupancy and shall only be refunded within 14 days once all of the above documents are correctly completed and submitted. The HOA is not to release the deposit without the approval, stamp and signature of the HOA Architectural Consultant.
- All plans necessary for Council approval must be submitted together with an extra rendered paper copy to be kept for record purposes by the HOA. Plan approval fees is for the owners own account.
- The following items must be clearly shown on the plans:
    - A fully coloured in site plan, plans and elevations.
    - Area of dwelling including patios and outbuildings.
    - Coverage (%).
    - Correct building lines.
    - All external finishes including colour specification.

- If colours and materials/finishes are not available with submission, a full colour palette to be submitted to the HOA prior to ordering of any relevant materials or finishes.
- Boundary wall/fence details including elevations.
- Drainage layout and how it will be concealed where visible to the roads.
- Position of driveway and all paving on street facing sides of the property.

RESPONSIBILITY

This document is to be read in conjunction with:

- The Homeowners Association Constitution for Erven 1469, 1470, 1471, 1473 & 1479 Van Dyksbaai.
- The Regulations and Code of Conduct Governing "Building Contractor Activity"

This document is considered supplementary and does not take precedence over :

- Any claims in the sales agreement.
- Any statutory requirements.

The HOA, in evaluating the aesthetics of submissions will not take responsibility for technical, structural, health and safety standards or for non-compliance with any statutory requirements.

- Any decision by the HOA shall be final and binding on all parties.
- The above document must be fully understood and the contractor and owner undertake to comply with the above points, in addition to any further controls which may be instituted by the HOA of the developer from time to time in the form of a written notification and to ensure compliance by any subcontractors employed by the contractor, and any suppliers to either contractors, subcontractors or owners.

In the case where the property is sold or leased, the seller or lessor must ensure that the buyer or lessee receives a cope of these guidelines and that is binding on the buyer or lessee.

These guidelines do not absolve the house owner from complying with the National Building Regulations and the requirements of the Local Authority. Approval of the drawings by the HOA does not absolve the owner from complying with the standards set by the Architectural Guidelines.

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.

10. 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

Infringement	Description	Penalty
Hydrocarbon / fuel spill	Penalty to be issued when remediations not implemented timeously	R 5000
Disturbance beyond approved footprint	Disturbance to vegetation beyond approved areas	R 5000
Waste management	Inappropriate waste management	R 3000 dependent of extent
Not adhering to conditions of EA	Not attending to specific EA conditions	R 3000 + 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 3. 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 EMP to be distributed to contractor at tender stage to include costing incurred due to compliance with EA and EMP 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, EMP, site diary, public complaints section → To be updated on a regular basis → Public complaints register → 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 f 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 / ECO	As required	Construction team(s) informed of all requirements in terms of EMPr and EA	ECO Project Manager			

Method Statements	- Contractors to submit MS seven working days prior to commencement on site - MS to contain clear methods for pollution control measures during construction including hazardous waste, run off, general waste etc. METHOD: Request for method statements to be contained in tender documents	As required	ECO and project manager to be well informed in terms of methods for construction	Contractor			
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, consideration to be 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 methods to be undertaken as outlined in EMP, suitable to the environment and semi-permanent to last as long as possible during construction phase, to be checked on a regular basis	As required and to be repeated on a regular basis in the event that demarcations shift or disturbed by operators, weather etc.	A well demarcated site Well-defined No-Go areas Well defined construction zones	ECO Project Manager Contractor			
Construction traffic	- All construction vehicles carrying materials must use cover sheeting to prevent loss of loads due to wind or rain - Maximum speed to be enforced	Duration of Construction	A safe working environment with minimal impact on No Go areas, minimal dust impact, minimal loss of load and minimal general public impact	Project Manager Contractor			

	- Movement of construction vehicles must be limited to approved haul and access routes and existing tracks METHOD: To be monitored by ECO and project manager as well as construction team leaders						
Emergencies protocol	- Staff to be aware of actions to be taken in the event of a natural or medical emergency - Applicable Health and Safety required in terms of OH&S Act 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 - Required firefighting equipment is available on site, and in working order - No open fires are lit on site without approval of the ECO and Site Manager METHOD: To be checked by the ECO and project manager and implemented by the contractor	Duration of Construction	A safe working environment with minimal incidences Action plan in the event of a fire	Project Manager Contractor			
Contractors camp	- Contractor's Camp is located at the most suitable site as identified by the ECO and Site Manager, preferably in areas to be developed or used (i.e roads or house footprints) or already transformed areas	Duration of Construction	A well placed and functional contractors camp to minimise impacts on other areas on site	Project Manager Contractor			

	- Contractor team to be briefed regarding Do's and Don'ts of camp and site in general - Suitable toilet facilities are provided for all staff - Ablutions are to be restricted to the facilities provided - Toilets are to be kept in a hygienic condition and emptied regularly - Recommendations by Freshwater specialist will be implemented METHOD: Site to be determined in conjunction with project manager and ECO, to be well demarcated with appropriate signage, serviced and cleaned on a regular basis, checked by ECO						

CONSTRUCTION							
TASK	**ACTION REQUIRED / MITIGATION & METHOD FOR IMPLEMENTATION**	**FREQUENCY**	**TARGET / OUTCOME**	**RESPONSIBILITY**	**COMPLETED YES/ NO**	**DATE**	**COMMENT**
Topsoil removal and stockpiling	- Replaced immediately after works where required - Topsoil which is required to be removed from direct work areas, should be stockpiled separately from subsoil and reused as far as possible - Stockpiles should be suitably shaped to prevent leaching of nutrients, and stabilized, or dispersal by wind or rain - Stockpiles to be monitored for dispersal by rain and wind METHOD: Implement conditions outlined in EMP for stockpiling and topsoil removal	Duration of Construction	Reusable sand and soil stockpiles to facilitate rehabilitation of the site	Project Manager Contractor			
Earthworks	- Works to be restricted construction area only - Bulldozer/ heavy machinery operators to be under constant supervision particularly at onset of works	Duration of Construction	Minimal disturbance to sensitive zones, minimal disturbance to vegetation	Project manager Contractor ECO			

	- 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 same work area from which it originated - Fill material to be compacted to its approximate original density METHOD: Construction zone to be clearly demarcated, instruction for stockpiling to be implemented, operators to be briefed prior to works						
Material handling, dispatching and storage	- Fuels and hazardous materials to be stored in suitably equipped storage areas in the Contractor's camp and approved by the ECO - Strict measures to be put in place for the use and storage of hazardous materials on site - Disposal to licenced facility only - These areas shall comply with fire safety requirements - Impervious materials are to be used to prevent contamination of the ground in the event of spillages or leaks - Construction materials spilled on public or private roads to be immediately cleaned - No storage other than contractor camp METHODS: Undertake regular inspections of areas and procedures	Duration of Construction	Minimal disturbance to sensitive zones including non-perennial drainage line Minimal incidences	Project Manager Contractor			

Stockpiles	- Sites for stockpiling as identified by the Contractor are to be marked on a plan, and approved by the ECO and Site Manager - Stockpiles must be suitably stabilized where necessary METHODS: Undertake regular checks of stockpiles to ensure methods outlined in the EMP and Dune EMP 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 on a weekly basis for disposal at a permitted disposal site - No burning or burying of refuse on site is allowed - Eating areas must be demarcated and provided with suitable refuse collection areas METHOD: Waste areas to be designed correctly and be wind and weatherproof and emptied on a regular basis	Duration of Construction	A clean waste collection point which is serviced on a regular basis	Project Manager Contractor ECO			
Construction wastewater	- Careful runoff management will be required particularly during construction. No contaminated water should be allowed to seep into the ground or runoff the construction site - All runoff from batching plants, work areas and mixer washings to be contained in sedimentation ponds, which are suitably lined	Duration of Construction	A clean site post construction	Project Manager Contractor ECO			

	- Ponds must be allowed to dry out regularly, and solid waste removed and disposed of at a site approved by the local authority. METHOD: Wastewater areas to be suitably designed and inspected on a regular basis						
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 contamination of ground METHOD: Regular inspections undertaken	Duration of Construction	A clean site post construction	Project Manager Contractor ECO			
Stormwater	- Suitable measures must be in place to prevent erosion resulting from diversion, restriction or increase in stormwater runoff - Measures must 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 undertaken	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds	Project Manager Contractor ECO			
Erosion	- Stormwater channels are to be kept clear from soil and debris - Erosion or stormwater damage resulting from Contractor's operations to be suitably repaired	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds	Project Manager Contractor ECO			

	- Suitable stabilization measures are to be implemented wherever works are taking place as outlined in this document - Where erosion is detected, suitable mitigation methods are to be employed as soon as possible METHOD: Regular visual inspections undertaken						
Dust	- Sand stockpiles are to be covered with Hessian, shade cloth or DPC plastic - Stockpiles are to be located in sheltered areas and the useable face to be orientated away from the prevailing wind - Excavation and transporting erodible material during high wind conditions - water dampening measures or cessation of activities should be required - If necessary, certain components of the work should be stopped until conditions are more favourable - Vehicles must not exceed 40 km/h along gravel roads - If roads generate unacceptable levels of dust, suppression measures should be introduced - If water is used only the critical areas should be watered by cart or hand to avoid unnecessary run-off, erosion or misuse METHOD: Areas and activities of possible dust generation to be	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds, avoidance of impacts on general public	Project Manager Contractor ECO			

	inspected on a regular basis, as well as strategies to address dust						
Site clean-up and rehabilitation	- All structures, equipment materials and facilities are to be removed from site on completion of the project - Construction site shall be cleared and cleaned to the ECO's satisfaction - Site / Area Rehabilitation to be conducted in line with recommendations herein - Specialist advice to be sort where required - No waste or remaining materials to be buried on site - In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase. METHOD: Inspected upon site closure / suspension of works, rehabilitation methods contained in EMP and Dune EMP to be implemented	Duration of Construction	A functional ecosystem post construction, suitably rehabilitated as required	Project Manager Contractor Applicant ECO			

Alien Clearing	- An AIPS control plan must be compiled which includes measures to control and prevent the proliferation of AIPS during the operational phase. - The plants should be removed by digging out all rhizomes / stolons. - In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase. METHOD: Regular monitoring of rehabilitation progress, alien plant regrowth, and any faunal presence should be conducted during and after the construction phase. Adaptive management practices should be applied to address emerging issues and ensure that the long-term ecological integrity of the site is maintained.	Construction and Post-construction phase	Long term ecological integrity and restoration of vegetation onsite.	Project Manager Applicant Contractor ECO			
Terrestrial Biodiversity Specialist	- Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint. - Topsoil (20 cm, where possible) must be collected and stored in an area of low (preferable) and medium sensitivity and used to rehabilitate impacted areas that	Construction and Post-construction phase	Long-term ecological integrity, protection and restoration of indigenous vegetation.	Project Manager Applicant Contractor ECO			

	are no longer required during the operational phase (e.g. laydown areas). - Only indigenous species must be used for rehabilitation. - Lay down areas must be located within the project footprint and must not encroach into the surrounding vegetation, particularly to the north of the site. - Employees must be prohibited from making open fires during the construction phase to prevent uncontrolled run-away fires. - The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them. - Employees must be prohibited from collecting plants. It is recommended that spot checks of pockets and bags are done on a regular basis to ensure that no unlawful harvesting of plant species is occurring. - If Option C (preferred Alternative) is approved, the near-intact Overberg Dune Strandveld within the Open Space Area must be maintained and considered a no-go area. Construction activities cannot encroach into this no-go area.						

	- Mitigation measures listed under impact 1 above must be implemented. - Where populations of these species can't be avoided, a translocation plan to move these species must be implemented. This plan must identify the number of individuals that will be impacted and identify a suitable receiving environment where they can be moved. Included in this plan, must be a monitoring program to monitor the success of the translocation of these species. - If option C (preferred Alternative) is approved, SCC should be translocated into the designated Open Space Area. - Where translocation of plant species is required, this must be undertaken by a qualified botanist or horticulturalist. - Permits for all protected species must be obtained prior to construction commencing. A Search and Rescue Plan to move protected species must be drafted and implemented. - It is recommended that SCC and protected species that need to be moved are used as far as is feasible to rehabilitate areas impacted on during construction but not						

	required during the operational phase. - The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them. - Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme. - Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds. - No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping. - The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present. - An alien invasive method statement must be incorporated into the EMPr. - All construction and construction related activities (including parking of vehicles and machinery) must remain within the approved project footprint and must not						

	encroach into areas outside the project footprint. To facilitate this, the boundaries of the development footprint areas must be clearly demarcated and communicated to all on-site personnel during induction. - Temporary infrastructure (laydown areas, widened roads, etc.) must be rehabilitated and rehabilitation efforts must provide habitat for faunal species. Rocks and logs removed during clearing of the project footprint must be stacked, ideally, in previously disturbed areas or within the temporary footprint to provide shelter E.g. Rock stacks and stumperies but must not disrupt adjacent habitat to create these. - Draft a translocation SOP for the Southern Adder (VU) and Cape Dwarf Chameleon (NT) and implement immediately prior to construction. A permit from Cape Nature will be required to relocate this species. - A clause must be included in contracts for ALL personnel (i.e. including contractors) working on site stating that: “no wild animals will be hunted, killed, poisoned or captured. No wild animals will be imported into, exported from or transported in or through the						

	province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass unless they have been appointed to implement the Carcass Management Plan or Animal Relocation Plan." - In addition, a clause relating to fines, possible dismissal and legal prosecution must be included should any of the above transgressions occur for SCC. - The ECO should appoint a member of staff to walk ahead of construction machinery directly prior to vegetation clearance. Should any faunal species be identified during the walk through, these should be allowed to move out of harm's way prior to vegetation clearance. - The ECO must create a list with accompanying photographs of possible faunal SCC that could occur in the project area prior to construction. This photo guide must be used to determine if faunal SCC are encountered. - Should any fauna SCC be encountered during construction and operation, these must be recorded (i.e. be photographed,						

	GPS co-ordinates taken) and information placed on iNaturalist - In the unlikely event that bird SCC inhabit the site to breed, all site personnel are not to disturb them, even approaching nests of SCC is considered harmful to the success of breeding. Should an active breeding nests (eggs, nestlings, fledglings) be discovered in or near construction areas prior to or during the construction phase: - These must be reported to ECO. - Where deemed necessary an appropriate buffer should be placed around the nest. If uncertain on the size of such a buffer, the ECO may contact an avifaunal specialist for advice. - No construction activity should occur within the buffer and the nest must be monitored. - Once birds have finished nesting and the fledglings left the nest construction can recommence within the buffer zone. - It is recommended that vegetation clearance takes place gradually, commencing from eastern side of the project area and methodically advancing towards the western side to encourage the movement of any faunal species to the natural area.						

	- Dust suppression measures must be implemented in the dry and/or windy months. - All machinery, vehicles and earth moving equipment must be maintained and the noise these create must meet industry minimum standards. e.g. the sound generated by a machine must be below a certain decibel as prescribed in the relevant noise control regulations. - No construction night lighting must be allowed. If required, minimise lighting in open space areas within development and any external lights must be down lights placed as low as possible and installation of low UV emitting lights. - Steep sided drains, gutters, canals and open pits/trenches must be covered with mesh (5mm x 5mm) or sloped to prevent fauna falling in and getting stuck. No unnecessary structures that would act as pitfall traps for animals must be constructed. - Permeable internal and external fences/walls (after construction is completed) must be implemented to allow for the movement of small faunal species through the development, particularly fencing surrounding the Open Space Area. These must have ground level gaps						

	of 10cm x 10cm at 10m intervals. These gaps must be kept free of obstructions, including plant growth and debris. - No night driving should be permitted, if unavoidable, this must be restricted, and speed limits adhered to. - Speed restrictions within the development for construction vehicles (40km/h is recommended) should be in place to reduce the incidence of faunal mortality on project roads. - A trained snake handler must be on call during construction to remove any snakes within construction areas. - A clause relating to fines, possible dismissal and legal prosecution must be included in all contracts for ALL personnel (i.e. including contractors) working on site should any speeding or persecution of animals occur. - Induction material must iterate safety to fauna and personnel through avoidance of wildlife. For example, snakes tend to only strike if threatened (cornered or attacked). - It is strongly recommended that rodenticides not be used at any the newly established buildings or around auxiliary infrastructure on						

	the project site. While pest control of this nature may be effective, even so-called "environmentally friendly" rodenticides are toxic and pose significant secondary poisoning risk to predatory avifauna, especially owls. - The site must be checked regularly for the presence of alien invasive species and weeds. When alien invasive species are found, immediate action must be taken to remove them. - Alien Invasive Plant Species and Weeds must be disposed on in line with the recommendations outlined in the Working for Water Programme. - Any equipment brought onto site must be clean to ensure no transfer or introduction of seeds. - No exotic species are permitted to be planted on site. Only indigenous plant species can be used for rehabilitation/landscaping. - An alien invasive method statement must be incorporated into the EMPr to ensure that these species do not spread onto neighbouring properties. - Speed restrictions within the development for all vehicles (40km/h is recommended) should be implemented to reduce the possibility of collisions and roadkill.						

	- Do not place lighting on the exterior of the boundary wall (i.e. pointing into the Nature Reserve). - Ideally, residents must not have pets that can leave their premises and enter the surrounding natural area. i.e. Domestic cats should not be permitted and if they are, they must wear a bell. Fines should be issued by the Body Corporate if not adhered to. - Restrictions can be placed on noise to minimise impact. Body Corporate to establish a noise policy and associated fines. - External lights that are used in the mixed-use development must be down lights placed as low on the wall as possible and installation of low UV emitting lights, such as most LEDs. Minimise lighting in open space areas within development. - Ensure all vehicles adhere to the relevant noise restrictions. - Create faunal micro habitats within developed area e.g. rocky outcrops, corridors of shrubbery, stumperies. - Body corporate and Estate Agents to ensure potential buyers and residents are aware of the restrictions placed on lighting, noise and pets based on living in an						

	area bordering an ecological corridor. - No feeding of wildlife is permitted, including bird feeders. - No pesticides may be used to control pests, especially rodents, as poisoned rodents are often eaten by predatory birds (e.g., owls) that result in the owl dying. If pesticide is required only 'Eco Rat Rodenticide' may be used. - Occupants of the residential units must be made aware of the current legislation applicable to all fauna in the project area: "no wild animals will be hunted, killed, poisoned, or captured. No wild animals will be imported into, exported from, or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass."						
Heritage Impact Assessment	- Test pits in the southeastern corner of the proposed development site must be conducted to establish the presence/absence of any potentially important sub surface archaeological deposits, prior to construction excavations commencing.	Construction	To prevent the loss of archaeological and/or palaeontological finds during the construction phase is to ensure the protection and preservation of South Africa's cultural and heritage resources. These resources are often non-renewable and irreplaceable, and once disturbed or destroyed, the historical and scientific information they hold is permanently lost.	Project Manager Applicant Contractor ECO			

	- A walk down survey of the proposed development site must be conducted after the site has been cleared of vegetation. - If any unmarked human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. - A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations. -						
Palaeontological Impact Assessment	- The possible presence of fossils in the subsurface does not have an a priori influence on the decision to proceed with the proposed development. However, mitigation measures are essential. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended below, to be	Construction	To prevent the loss of archaeological and/or palaeontological finds during the construction phase is to ensure the protection and preservation of South Africa's cultural and heritage resources. These resources are often non-renewable and irreplaceable, and once disturbed or destroyed, the historical and scientific information they hold is permanently lost.	Project Manager Applicant Contractor ECO			

	followed during the vegetation clearing and Construction Phases. - Although the inspection of construction excavations may be specified in the Archaeological Impact Assessment, it is not feasible for a specialist monitor to be continuously present during the Construction Phases, when fossils may be unearthed at any time. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. - For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made. - It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development. - The Fossil Finds Procedure included as Appendix 2 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the building foundations, infrastructure trenches and stormwater drainage						

	must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby archaeologist or palaeontologist on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find. - If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups.						

	- A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.						

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 authority.

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

I, _____ (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.

Signed: _____ Date: _____