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Version 1

FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

In terms of
the National Environmental Management Act, 1998 (Act 107 of 1998, as amended)
2008 and the Environmental Impact Assessment Regulations 2014 (as amended)

**For the Development of the Garden Walk on the Remainder of Portion 58 of the Farm
Hartenbosch 217, Hartenbos**



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EMPr:

**For the proposed Development of the Garden Walk on the Remainder of Portion 58 of the
Farm Hartenbosch 217, Hartenbos**

Submitted for:

Final EMPr submitted to DEADP following EA

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National Environmental Management Act

An EMPr must comply with Section 24N of NEMA and the Environmental Impact Assessment Regulations 2014 (GN 982 Appendix 4) which requires that it must include the following:

REQUIREMENTS	REPORT SECTION
(a) details of- (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Annexure G
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 2
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	Annexure B
(d) a description of the impact management [objectives] outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including- (i) planning and design; (ii) pre-construction activities; (iii) construction activities; (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities;	Section 4, 5 and 6
(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 4, 5, 6 and 9
(f) a description of proposed impact management actions, identifying the manner in which the impact management [objectives and] outcomes contemplated in paragraph (d) [and (e)] will be achieved, and must, where applicable, include actions to – (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) comply with any prescribed environmental management standards or practices; (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provision for rehabilitation, where applicable;	Section 4, 5, 6 and 9
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 3.3 and 7
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f)	Section 3.3 and 7
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 5, 6 and 9
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 3.3, 5, 6 and 9

(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 3.3, 5, 6 and 9
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 3.3, 5, 6 and 9
(m) an environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 3
(n) any specific information that may be required by the competent authority.	N/A

1 INTRODUCTION

HillLand Environmental, independent Environmental Assessment Practitioners (EAP), been appointed by the applicant, **Coral Investments 4 (Pty) Ltd**, to ensure compliance with the regulation contained in the *National Environmental Management Act, 1998* (NEMA, Act no. 107 of 1998) and Environmental Impact Assessment Regulations, 2014 (as amended) for the proposed development of Garden Walk on RE/ portion 58 of Farm 217, Hartenbos.

This Environmental Management Programme (EMPr) was developed as part of the requirements of the amendment of the Environmental Authorisation (EA) of NEMA.

This EMPr is binding on the applicant and ALL successors in title / future developers in full or in part for the proposed development of the Garden Walk as contemplated in this application and any future amendments to the approved layout / development plan.

The monitoring of compliance with the EMPr is mandatory in terms of the construction phase and compliance reporting is required at the **end** of the construction phases:

- installation of all **civil** services;
- construction of top structures as per the development programme and approved SDP.

This EMPr, in terms of the NEMA "duty of care", also includes the operational and rehabilitation phases that were highlighted as part of the process and it will be the **Developer's responsibility** to ensure compliance with the operational phases as they fall outside the scope of the Listed Activities to be authorized in terms of NEMA.

The report is divided to provide a clear distinction between the construction phase(s) and the ongoing operational aspects of the development.

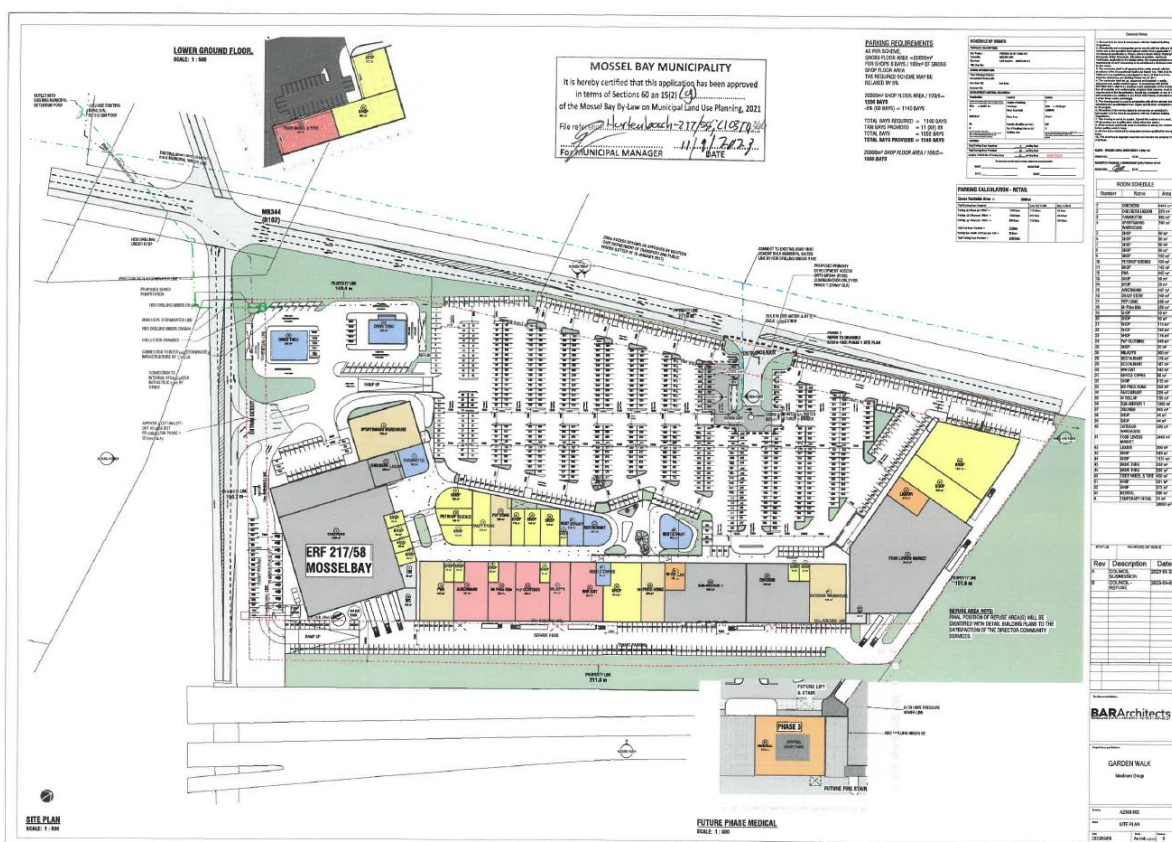
This EMPr **must be included in the tender documents** of **all** prospective contractors and must also be included in the final contract awarded. **The EMPr is binding on all contractors, sub-contractors, agents, consultants and construction staff on the property.**

The full and approved EMPr will be made available to all contractors working on the project. Certain fundamental aspects are therefore of importance:

- The EMPr and these requirements are binding on all contractors and their sub-contractors.
- **It is the responsibility of the applicant/ holder /developer /owner** to ensure that his/her main contractor and any sub-contractors are made aware of the environmental requirements for working on the estate.
- The contractor(s) will be required to make good any damage caused through their actions or the actions of their sub-contractors (in addition to any penalties for non-compliance issued).

2 DEVELOPMENT PROPOSAL

The Garden Walk development includes a commercial and retail development with associated infrastructure and parking on the Remainder of Portion 58 of Farm 217, Hartenbos.



Proposed new SDP for Portion 58 of Farm 217 (As approved by the Municipality) (BAR Architects, 2023)

Development description
Development area of approximately 6.8ha including earthworks over the entire site in the form of bulk terraces to facilitate the access, parking and flow of traffic and buildings
Commercial precinct with a village atmosphere design finalized as approved by the municipality.
1 st phase – convenience and general retail.
Initial phase retail – 250m ²
Balance of phase retail - Individual buildings linked by covered walkways to form a portion of the shopping centre.

+/- 3450m ²
2 nd phase – general retail Open air play area Garden centre (possible) Restaurants Home improvement stores Arts and crafts demo area +/- 7070m ²
Office component (including medical) – first floor of the commercial . Approx. 800m ²
Two access points off Divisional road 6804 and the R102 (opposite Hartenbos Lifestyle Village)

Compliance with the EMPr is required for the construction phase for both civil services and buildings as the case may be.

Any changes to, or deviations from the scope of the alternative described above must be accepted or approved, in writing, by the Competent Authority before such changes or deviations may be implemented.

Recommendations made by the visual statement (BAR Architects):

“The strategic positioning of the main building is a key aspect of this approach, set approximately 20 meters from the eastern boundary (N2 Highway) and around 16 meters from the other boundaries, which is within the land use parameters permitting 15–20-meter building setbacks. This placement is complemented by the decision to reduce the building's prominence in the landscape by excavating into the natural ground level, achieving an overall maximum height of 12meters as permitted.

To shield the development from the view from the adjacent highway, a 7.5-meter-high embankment will be formed along the eastern boundary. This barrier is designed to obscure any direct views into the development's yard, enhancing privacy for both the development and adjacent area. The decision to introduce indigenous trees in the parking area on the western portion of the site underscores a commitment to minimizing disruption to the landscape and neighbouring vistas.

Addressing concerns regarding potential light pollution and visual clutter, the development plan includes a decision not to install any brightly illuminated signage or corporate branding on the southern, northern, and western facades of the main building. This restraint ensures that the building blends more harmoniously into its environment, especially during evening hours.

The building will be painted in natural tones to not create a stark contrast with the environment but rather blend with the surrounding nature and natural context, in consideration for the comfort and well-being of the community.

The location of the water tanks in the southern lower ground level was intentionally placed below the mass of the building to minimise the visual impact of these structures. The constrained placing of window fenestration and/or elevated staff areas on the southern and eastern facades, further minimizes the impact on the privacy of neighbouring properties. To conceal any potentially unsightly elevated plant areas, the development will incorporate screening measures such as perforated brick walls or louvre screens, emulating from established practices in the Mosselbay and Hartenbos surrounding area.

These design choices collectively represent a comprehensive strategy to integrate the Garden Walk development into its setting with minimal visual intrusion, prioritizing both aesthetic appeal and neighbourly consideration."

3 TERMS OF REFERENCE

The main terms of reference of this EMPr are to highlight and mitigate any potential negative environmental impacts be associated with the construction of the Garden Walk development.

The full and approved EMPr must be made available to all contractors working on the project and must be included in all tender documentation. Certain fundamental aspects are therefore of importance:

The EMPr and these requirements are **binding** on all contractors and their sub-contractors.

It is the responsibility of the developer / owner to ensure that any contractor(s) or sub-contractor(s) is made aware of the environmental requirements.

The contractor will be required to make good any damage caused through their actions or the actions of their sub-contractors (in addition to any penalties for non-compliance issued).

The development is subject to the following Environmental Authorisation (EA) once issued.

3.1 CONDITIONS OF THE ENVIRONMENTAL AUTHORISATION (EA)

EA details:

EIA REFERENCE NUMBER: 16/3/3/5/D6/18/0006/24

NEAS REFERENCE: WCP/EIA/AMEND/0000847/2024

DATE OF ISSUE: 07 November 2024

This environmental authorisation is binding on the applicant, developer, owner, and all contractors, sub-contractors, agents, consultants and construction staff on the property.

Please refer to annexure H for the EA issued by DEADP. All conditions included in the EA need to be adhered to.

3.2 ENVIRONMENTAL CONTROL OFFICER (ECO)

An environmental control officer (ECO) must be appointed to oversee the installation of services during **civil and top structure construction** on-site, ensure compliance with the Environmental Authorisation (EA) and the Environmental Management Programme (EMPr) and to assist with issues as they may arise on site. **Any phase will be regarded as complete once the associated communal landscaping for that area is complete.**

It will be the ECO's responsibility to ensure that the mitigation / rehabilitation measures and recommendations referred to in the EA are implemented and complied with by the owner / developer as the case may be.

The **applicant/developer** will be responsible for the remuneration of the ECO and any other expenses encountered in the process of environmental monitoring of the construction.

3.3 SELECTION OF THE ECO

The appointed ECO must be able to demonstrate that (s)he is of sufficient competency to undertake the required task. This includes:

- Previous experience of environmental control of similar sites.
- Working experience with contractors.
- Knowledge of the particular project and expected areas of concern.

3.4 ROLES AND RESPONSIBILITIES OF THE ECO

The ECO will undertake the following tasks:

- Ensure **compliance** with the EMPr at all times during the pre-construction and civil construction phase;
- Ensure compliance with relevant management **conditions** of the EA during the pre-construction and civil construction phase;
- To work in close co-operation with the resident engineer, contractors, and management of the site;
- Meet with the contractors to set out the environmental parameters within which they must work (pre-construction and civil construction phase);
- Provide an **Environmental Induction (Environmental Education)** with all contractors **prior** to the commencement of any work (pre-construction phase (civil building));
- Indicate where all no-go areas are to be demarcated and to ensure adherence to these delimitations at the induction session **BEFORE** any construction commences on-site (pre-construction phase);

- Indicate where **plant rescue** may be necessary, and what species should be rescued on this site (pre-construction phase);
- Indicate where **erosion** protection and siltation prevention measures are required or need to be supplemented and to ensure correct implementation;
- Advice on **rehabilitation** measures according to the different areas;
- Check up on general environmentally friendly construction practices (e.g. no littering, safe and secure environment, contamination risks, etc.);
- Ensure that the correct earthworks practices are adhered to; e.g. no encroachment into the surrounding vegetation/areas, separation of topsoil and subsoil, correct stockpiling and stripping of topsoil);
- Provide a report back at site meetings (during the pre-construction, civil and top structure construction phases) to report on and assess the success of the environmental control and to determine any further environmental control measures which may be necessary;
- The ECO should visit the site **weekly** during the **initial construction phase**. The frequency may be increase to weekly site inspections. The ECO is to be available at any time as required by the contractors, resident engineer or authorities;
- The ECO should conduct inspections **every two weeks** during the **rehabilitation phase** following civil construction to ensure success until the area is suitably reinstated and secure;
- The ECO has the discretion to undertake more frequent visits if he/she feels this is justified due to the actions of the contractors and to make ad hoc visits in order to ensure compliance;
- The ECO is to keep a site diary; a photographic record of activities taking place on-site as well as copies of all monthly reports submitted to the Department, a schedule of current site activities including the monitoring of such activities and complaints register of all public complaints and the remedies applied to such complaints;
- **During civil and building construction phase: Monthly monitoring reports** must be compiled submitted to the developer (team), local authority and submitted to DEADP **quarterly (every three months)**, except when there is non-compliance observed.
- **During rehabilitation phase: Monthly monitoring reports** must be compiled submitted to the developer (team), local authority and DEADP.
- The ECO is to submit a **completion report** to the competent authority (**DEADP-George Office**) and **applicant** at the following stages:
 - upon completion of the civil construction phase
 - upon completion of the top structure construction phasethese reports need to be submitted **before** the EA lapses;
- It must be noted that the **ECO HAS THE AUTHORITY TO SUSPEND WORK ON SITE FOR ANY ACTION BEING UNDERTAKEN THAT DOES NOT COMPLY WITH THE**

ENVIRONMENTAL REQUIREMENTS OF THE SITE. Such a stop order has immediate effect and will be communicated through the resident engineer to the contractor responsible.

4 MANAGEMENT OBJECTIVES AND OUTCOMES

The following objectives were identified:

Objective: Prevention of soil erosion

Impacts to avoid:

- Unnecessary disturbance of soil
- Unnecessary disturbance of vegetation
- Loss of soil on disturbed areas

Management actions:

- Areas susceptible to erosion must be covered / protected and erosion mitigation measures must be implemented
- Only undertake bulk earthworks for the areas that are to be immediately developed in the phase under construction. Minimum vegetation clearance must be done (restricted to development footprint of the phase under construction)
- Silt screens should be employed on areas that become exposed to trap any runoff water.
- Regular clearing of silt fences to ensure that there is no build up of silt in the stormwater system.
- Immediately rehabilitate areas where construction is complete
- Rehabilitation must be done following construction and to the satisfaction of the ECO
- As per the visual assessment, indigenous plants will be used in the landscaping and parking.

Management Outcome:

- Soil erosion will be kept to a minimum and maintenance during the operational phase will ensure that erosion does not become a problem.
- Landscape with indigenous species

Objective: Prevention of pollution

Impacts to avoid:

- Potential leaks from vehicles/construction machinery
- Spillages of hazardous substances
- Leakage of chemical ablution facilities
- Contamination run-off from the construction site especially from cement mixing or concrete mixing and clearing of equipment.
- Waste, such as construction materials etc., which may be blown / washed away into the surrounding environment

Management actions:

- Vehicles and machinery must be well-maintained
- Drip-trays must be used for vehicles / machinery
- Ablution facilities must be well-maintained and regularly emptied
- Litter control essential throughout construction and operational phases
- Cement / concrete must be mixed on an **impermeable surface or concrete batching areas must have surrounding bunding to prevent the movement out of the area of spillage.**
- Monitoring by contractor and ECO

Management Outcome:

- No contamination of the environment on site or off site

Objective: Prevention of Construction phase disturbances such as noise, minor traffic congestion and dust

Impacts to avoid:

- Unnecessary elevated noise
- Unnecessary disruption to the traffic
- Increase in dust generated from the construction activities

Management actions:

- Construction activities should be restricted to normal working hours
- Installation of adequate signage
- Implementation of dust mitigation measures which can include spraying of bare areas with water or other similar practices to reduce dust

Management Outcome:

- Limited noise, dust and traffic impacts during the construction phase

Objective: Prevention of loss of indigenous vegetation

Impacts to avoid:

- Loss of indigenous vegetation that can be transplanted from within the development footprint and used in the landscaping.

Management actions:

- Search and rescue to be done prior to the commencement of vegetation clearance
- Transplanting of rescued vegetation to within landscaping areas and screening berms
- Stripping of topsoil within footprint areas, storing and use in rehabilitation

Management Outcome:

- Reuse of species that can be transplanted (Aloes and succulents)
- Conservation of topsoil for use in landscaping and berm creation with local seed in the topsoil.

Objective: Prevention of potential impact of stormwater outlets

Impacts to avoid:

- Erosion as a result of stormwater outlets

Management actions:

- Stringent erosion control will be implemented where necessary during the operation of the development
- Ongoing maintenance will ensure that any localised erosion will be rehabilitated before it becomes problematic. The stormwater control philosophy is one of reducing concentration. Protection of the off-site municipal detention pond will be important.

Management Outcome:

- No soil erosion and or damage to surrounding areas as a result of stormwater outlets

Objective: Prevention of impact of potential heritage resources

Impacts to avoid:

- Damage to potential heritage resources on the property

Management actions:

- If any archaeological material is discovered during earthmoving activities all works will be ceased and the ECO is to notify HWC.

Management Outcome:

- Potential heritage impacts are mitigated and avoided

- Heritage resources are recorded and included within the narrative of the development

Objective: Prevention of impact of visual resources**Impacts to avoid:**

- Disturbance of the visual character of the area

Management actions:

- Building buffer lines as recommended 20m and 16m
- Screening berm as recommended by visual specialist (7.5m).
- Planting of indigenous trees in the parking and on the berm.

Management Outcome:

- Aesthetically pleasing landscape in and around the commercial centre and parking area.

5 SPECIFICALLY REQUIREMENT ENVIRONMENTAL MANAGEMENT PRACTICES

5.1 PRE-CONSTRUCTION PHASE

5.1.1 ENVIRONMENTAL INDUCTION

All civil construction staff should be briefed by the ECO in an environmental education programme regarding the environmental status and requirements of the site, **prior** to any activities commencing on site. This will include providing general guidelines for minimizing environmental damage during construction, as well as education with regards to basic environmental ethics, such as prevention of littering, the lighting of fires, etc. Records of environmental training (attendance register and training content) must be kept. Please refer to Annexure D of this EMPr.

Induction required for **all contractors** prior to them commencing on site.

5.1.2 METHOD STATEMENT

The contractor and Site Agent shall, **prior to the commencement** of such activity involving construction, maintenance or rehabilitation, give the ECO a written plan setting out the following:

- Location of the construction camp
- Stockpile site for topsoil
- Storage of construction materials and hazardous substances (if any)

- Solid waste
- Wastewater
- Erosion and sedimentation control
- Fire control
- Protection of natural features
- Cement and concrete batching

The ECO is to approve the method statement **before** the works may commence. A pro-forma method statement showing what is required is attached in Annexure E.

5.1.3 VEGETATION CLEARANCE AND PLANT RESCUE PROGRAMME

A record of the rescued plants must be kept (see table Annexure F).

Any transplantable species (tree seedlings, shrubs, succulents, geophytes etc.) which occur within the construction areas (development footprint) should be stored in an **on-site / off-site nursery** for later use in the landscaping phase. It will be the responsibility of the **management** to ensure that the transplanted plants are watered regularly. For successful transplant a sod including the desired plant with its roots intact should be removed and replanted. Plants that are to be kept within the temporary nursery should be planted into black plastic bags and watered.

Temporary nursery (if required)

Plants that are to be kept within the temporary nursery should be planted into black plastic bags. The nursery must provide sufficient coverage (species dependent) and must be well maintained. Watering of the plants is essential (species dependent) and it will be the responsibility of **management** and ECO to inspect.

Should any endangered species or protected species listed in Schedule 3 and 4, in terms of the Western Cape Nature Conservation Laws Amendment Act, 2000 (Act No. 3 of 2000) or Protected Tree Species in accordance with the National Forests Act, 1998 (Act No.84 of 1998) be discovered during vegetation clearance, it may **not** be removed without the relevant **permit** and licensing. Please see Annexure G for this list of species as adapted from these Acts.

The removal, pruning, transplant and / or disturbance of the protected Milkwood tree will require a Section 15 NFA licence (one (1) Milkwood tree recorded by the specialist).

The approved licence needs to be in place prior to the transplant/pruning/removal of the tree. The permit application needs to be conducted by the ECO with the Municipal approved building plans (developer to supply to the ECO) and Environmental Authorisation (EA).

Please note, in accordance with normal procedures, a NFA Licence may take 30 - 90 days to be approved and will require a site inspection by the DFFE official (Forestry Department). Application for the licence can only be made on approved building plans. Licence application form is attached to this EMPr, it will be the ECO's responsibility to ensure that the latest form is used for the application.

Cut vegetation can be chipped and used as mulch or disposed of according to the municipal requirements.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Pre-construction and Construction phases							
Clearance of vegetation	Garden Walk Development	Plant rescue programme must be implemented prior to the commencement of vegetation clearing as per the EMPr If required, cuttings from shrubs can be made and propagated in the on-site nursery (to be used in rehabilitation of open space areas and / or used within landscaping areas. Vegetation clearing must be limited to the footprint areas (as per SDP) Require permits / licence must be in place prior to the disturbance, transplant and / or removal of any protected tree and / or plant species	During the design and pre-construction of the proposed development	ECO, contractor and applicant to inspect the property prior to the setting out of the proposed development on-site to determine non-sensitive sites Plant rescue to be conducted in conjunction with the ECO prior to the commencement of vegetation clearance	Inspection of the layout of the construction area (to be done by the ECO, contractor(s) and applicant) prior to vegetation clearance. Inspection of pre-construction activities (vegetation clearing) will be required	Applicant. Contractor. ECO.	ECO to monitor and sign off on the plant rescue, transplant and / or the establishment of an on-site nursery. To be included in the monthly monitoring report

5.1.4 PROTECTION OF FAUNA

- The removal, damage or disturbance of animals must be avoided.
- Should any animal be caught up or trapped in the construction area, the ECO should be requested to assist (e.g., relocate snakes trapped in the construction trench etc.)

- The contractor(s) shall be responsible for ensuring all employees are aware of the need to prevent any harmful effects on wildlife on or around the construction site as a result of their activities.
- The contractor(s) shall ensure that no hunting, trapping, shooting, poisoning or otherwise disturbance of any fauna takes place.

5.1.5 SOIL MANAGEMENT

- As topsoil is a valuable resource, it **must be stripped to stockpile from all construction areas before work commences in that specific area**. Landscape architect / ECO to advise as to where to stockpile.
- Disturbance of vegetation and topsoil is only to take place according to a programme in approved construction areas as the work in that area is due to begin – this is to avoid large areas being exposed to erosion risk when work is not taking place in that area.
- The topsoil must be stockpiled for use in rehabilitation and landscaping and must **not** be contaminated with other building materials and / or subsoil. The landscape architect / ECO will indicate the position of the topsoil stockpile berms over the site.
- Where possible, topsoil can be placed directly into the required landscaping areas or swales so that they have time to settle and so the soil does not have to be double handled. Where landscape berms / swales are created, they need to be shaped to their final shape immediately prior to the soil settling and becoming hard and difficult to move.
- Such landscape berms or swales must be vegetated with a cover crop to prevent movement and thereafter be planted with the desired indigenous landscaping material as directed by the Landscape Architect
- Topsoil can only be removed from the site with the written approval of the ECO / landscape architect.
- The vegetation roots and any surface organic matter are to be removed together with the topsoil and are to be stockpiled for use during the rehabilitation phase.
- The stockpiles must be protected against erosion including wind (vegetation can be permitted to grow on the stockpile to keep it secure and prevent wind movement. No alien invasive plants may grow on the stockpile).
- The soil removed for construction of **services** (which will all be underground such as the sewage / water network, stormwater outlet structures etc.) must not be removed, but placed to the side of the trench, while the sub-soil is placed to the other side. The soil is returned in the same order with the vegetated topsoil closing the trench and stimulating re-growth.
- No topsoil stripping is to take place prior to the completion of the plant rescue programme.
- Any surplus subsoil that needs to be stockpiled for cut and fill operations must be

stockpiled in an approved stockpile area as agreed to by the ECO.

- Stockpiles must be screened and protected from wind and water erosion
- Silt fencing needs to be installed where indicated by the ECO.

5.1.6 DISCOVERY OF HERITAGE RESOURCES

Although not anticipated, should it be suspected that an object or structure of heritage value has been uncovered during earthworks or the clearing of vegetation (including but not limited to bones, burial sites, structures older than 50 years, stone tools, shell middens, pottery etc.), then all work is to immediately **cease**, and the ECO is to be contacted to inform Heritage Western Cape (HWC). Work shall not recommence until HWC have visited the site, inspected the object in question and advised on how to proceed. If the object requires removal by a trained archaeologist, this process will be at the expense of the developer. It is the contractor's responsibility to ensure all staff on site is aware of this procedure.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Pre-construction and Construction phases							
Clearance of vegetation and earthworks required during the construction phase (civil and construction on the property)	Garden Walk Development	Should any object or structure of heritage value be discovered, work is to cease , ECO is to be contacted and advise accordingly	Pre-construction and construction phase	ECO to monitor compliance during the pre-construction and construction phase	Continual monitoring of compliance	Contractor to ensure that work ceases should any object or structure of heritage value be discovered, and the ECO should be contacted The ECO is to contact HWC and advise accordingly	To be included in compliance monitoring report

5.2 GENERAL CONSTRUCTION REQUIREMENTS

5.2.1 ACCESS TO THE SITE AND TRAFFIC REQUIREMENTS

Primary access has been approved from the MR344 (R102) at a point approximately 280m north-east of the intersection between the R102 (MR344) and DR6804. The access is depicted on the SDP. Construction vehicles and operation of Garden Walk will use this access. Any alternative construction access is to be approved by the ECO and local authority prior to being used.

The following will be of importance:

- Movement of construction vehicles must be **restricted** to the designated roads only - any temporary haul roads must be approved by the ECO.

- Access to the area is to be monitored during construction.
- The contractor(s) must ensure that vehicles leaving the site are clean and, wherever possible, do not deposit mud, any other earth material and concrete on the road surface. Where this is unavoidable, it must be cleaned on a daily basis and may not be permitted to enter the storm water system.
- During the construction, it is essential that traffic flow is **correctly managed**. This implies appropriate signage and visible demarcation of the work area and the areas which traffic must adhere to.

5.2.2 SITE AGENT

- The main contractor shall appoint a responsible agent to ensure that they comply with this EMP and all its conditions. This party is to report directly to the ECO and will need to attend the induction and be briefed on the requirements by the ECO.

5.2.3 USE OF LOCAL LABOUR

- It is strongly recommended that local labour is used for the construction phase of this project. "Local" implies people within the Mossel Bay area.
- Records are to be kept of all personnel and subcontractors employed by the contractor. The main contractor is to provide the breakdowns of their various subcontractors. **Where required by the ECO, records are to be provided to the ECO by the contractor(s) on a monthly basis.**

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							
Socio-economic benefits through the creation of short- and long-term employment	Construction and operation of the development	The use of local labour to maximise positive benefit to the local area	During the construction and operational phase of the development	ECO inspections and contractor and management/ developer to ensure compliance	Monthly monitoring of submission of records by the contractor(s)	Management. Contractor. ECO.	ECO to monitor. To be included in the monthly monitoring report

5.2.4 DEMARCATION OF NO-GO AREAS

The entire Remainder of Portion 58 of Farm 217 will be regarded as the working zone. All areas outside of the property will be regarded as 'no-go' areas (except where installation of services will be required).

All people working on site must be made aware of the boundaries in which work is to be done.

The following applies:

- **Civil contractors** - all areas **outside** that of the defined works (roads and pipeline routes) are deemed no-go areas.
- Disturbance within the work area is to be kept to the minimum, as all disturbed areas will require rehabilitation (placing topsoil and re-seeding to ensure vegetative cover) on completion of the work by the contractor.
- **Storage sites for construction material and access must be approved by the ECO prior to commencing (and areas will require rehabilitation after use).**
- No-Go areas will be required to be demarcated by the contractor to ensure that they are visible at all times, to all personnel.
- Methods of demarcation will be agreed with the ECO and may include danger tape, rope, fencing, shade cloth, mulch bags, wire fencing etc.
- In light of the above should access be required through a no-go area, permission must be obtained from the ECO in writing prior to the use of such an area.
- **The areas of special consideration may relate to the external service lines entering and leaving the development area, e.g. the sewage line. All such activities must first be approved by the ECO prior to the commencement of activities. Special conditions will be applied to each of these cases.**
- Adjacent properties to the construction site may not be entered by any construction staff if permission is not granted by the owner in writing.
- A spot fine will be imposed against the contractor in the event of contravention of the no-go policy up to a maximum of R5 000 per incident).

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							
Demarcation of no-go areas and protection of sensitive areas	Garden Walk development	The contractor is to comply with the requirements of the EMPr Visual screening and demarcation of working areas is required by means of shade netting (around residential erven) and danger tape / netting (civil construction and trenches)	During the construction of the proposed development (civil and building construction)	ECO and contractor to continually monitor compliance during construction	ECO to conduct inspections of construction works	Contractor to implement no-go demarcation ECO and contractor to monitor the site	ECO to monitor during the construction phase. To be included in the monthly monitoring report

5.2.5 CONSTRUCTION SITE CAMP

- The area must be indicated and approved by the ECO (through the submission of

the **method statement** by the contractor).

- Ablution facilities (chemical toilets) are to be provided at the campsite for use of the staff (one toilet per 15 people) – **to be in place prior to commencement of activities on site.**
- A dedicated area must be created within the campsite for refuse and waste management. These are to be disposed of at the various approved waste disposal sites.
- **No** accommodation with the exception of a night watchman is permitted on site by contractors or their staff during the construction period.
- **No open fires are to be permitted. The storage of any potential ignition sources on the property must be removed from site at end of day.**
- Storage of all materials required for the contract must occur within this campsite, or otherwise approved area (by the ECO).
- **Any concrete batching plant areas** are to be approved by the ECO prior to utilisation and must be equipped with suitable settling ponds and trapping mechanisms to ensure that contaminated water does not leave the restricted area.
- No ready-mix trucks are permitted to rinse their tanks on site or along the access roads to and from the site. **Any spillage is to be immediately cleaned by the responsible contractor / supplier / owner.**
- **No** temporary diesel storage tanks may be brought to the site.
- Adequate signage must be erected at the construction site to ensure that safety regulations are adhered to.

5.2.6 STORAGE OF CONSTRUCTION MATERIAL

The following must be adhered to:

- All stockpile sites to be approved by the ECO and/or landowner, **prior** to the commencement of stockpiling.
- All stockpile sites within the development area are to be demarcated with silt-fences and/or danger tape, where necessary.
- Silt protection measures around stockpile sites may be required.
- All construction material should be stored within the site camp / boundary (if space allows it).
- **No** construction material is to be stored outside of the site camp / development area without written permission from the appropriate landowner and ECO.
- No hazardous materials to be stored on site like diesel, petrol etc. without written approval by DEADP.
- Any material removed from bulk earthworks that is not going to be used as part of the cut and fill, **MUST** be removed from site to an approved disposal site immediately. Temporary storage of cut material for future fill **MUST** be agreed by the ECO and **MAY NOT** be beyond the development footprint.

5.2.7 FIRE PROTECTION

- The contractor must take all reasonable and active steps to avoid increasing this risk of fire (especially to prevent damage to surrounding properties and vegetation). **No** open fires or naked flames for heating or cooking shall be allowed anywhere on site. The contractor shall ensure that all personnel are aware of the fire risk and the need to extinguish cigarettes before disposal. Cigarettes may **not** be disposed of onsite and must be disposed of properly in receptacles for this purpose.

No burning of waste on ANY PART of the site should be permitted.

- The contractor shall identify the authorities responsible for fighting fires in the area and shall liaise with them regarding procedures should a fire start. The contractor shall ensure that his staff are aware of the fire danger at all times and are aware of the procedure to be followed in the event of a fire. The contractor shall also ensure that all the necessary telephone numbers etc. are posted at conspicuous and relevant locations in the event of an emergency. The contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.

5.2.8 HEALTH AND SAFETY

- The Occupational Health and Safety Act (Act number 85 of 1993) must be complied with.
- The H&S Officer is to copy the ECO in on his/her reports for record purposes.

5.2.9 WASTE MANAGEMENT

- It is recommended that an integrated waste management approach must be used that is based on waste minimisation and must include reduction, recycling, re-use and disposal where appropriate. Only approved waste disposal methods are allowed. The contractor shall ensure that all site personnel are instructed in the proper disposal of all waste. The contractor shall ensure that **sufficient disposal facilities** are available.
- **Recycling** must be encouraged on-site and recycling bins must be provided and clearly marked.
- Disposal of all waste materials must be done at suitable facilities. **No dumping** of any waste material on or off-site is permitted.
- Documentary evidence of all disposed contaminated products, waste or residues, which have been generated during the construction phase must be kept.

- The contractor shall ensure that the site is maintained in a **neat and tidy** condition and kept **free of litter (including the open space area)**. Measures must be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work, the contractor shall provide **litter bins, containers** and **refuse collection facilities** for later disposal. Litter to be removed from the site on a **daily** basis (through daily litter picking before the site is closed for the day). Rubbish bins must be provided on-site and regularly cleaned / emptied.
- **Solid waste** may be temporarily stored on-site in a **designated area** approved by the ECO prior to collection and disposal. Solid waste must be removed on a **weekly basis** to a licensed municipal waste site.
- Waste storage **containers** shall be covered, tip-proof, weatherproof and scavenger proof. The **waste storage area** shall be **fenced off** to prevent wind-blown litter.
- The contract staff must be clearly briefed on the 'no litter policy'. **The site is to be kept clean of litter, even if it is not caused by the contractor staff.**

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							
Construction of buildings and associated waste	Garden Walk development	Waste management should be done in accordance with the EMPr	During the construction of the development (civil and building(s) construction)	ECO and contractor to continually monitor the site during construction	ECO to conduct inspections of construction works	Contractor to implement sound waste management ECO and contractor to monitor the site	ECO to monitor during the construction phase. To be included in the monthly monitoring report

5.2.10 ABLUTION FACILITIES

- Ablution facilities must be provided for all contraction staff working on site (this includes during pre-construction activities).
- Contractors must provide chemical ablution facilities for all construction personnel working on the site. The number of chemical toilets required must adhere to the H&S requirements applicable at the time of the contract.
- Toilets shall be of a **neat** construction and shall be provided with doors and locks and shall be secured to prevent them from blowing over.
- Sanitation provision and servicing shall be to the satisfaction of the environmental control officer (ECO).

- The contractor shall ensure that the toilet(s) are emptied **regularly** and also **before** weekends and public holiday periods.
- Failure to use the chemical toilet provided and making use of the vegetation either on or off-site **will result in maximum penalty fine being awarded in addition to requiring the contractor to clean up.**

5.2.11 GEOTECHNICAL RECOMMENDATIONS (STRENG CONSULT)

The Bulk earthworks methodology can therefore be summarised as follows.

- All topsoil on the site will be stripped at least 200mm Deep, 2500m³ of topsoil will be retained on site for future use in the landscaping area where landscaping according to the LDP plan will be reinstated.
- The In-situ soil will be shaped to create level terraces for the building platforms and parking areas will be shaped to accommodate on grade parking along the buildings and to drain stormwater away from the building aprons.
- All external areas are shaped for stormwater to drain to the Southwestern side of the site including piped stormwater as no site attenuation is required but the Site stormwater is drained towards the Council Attenuation system directly on the south-western side of Development Area B (*Garden Walk*).
- The proposed bulk earthworks would be optimised to ensure a balance or near balance scenario to minimise the spoil of material as far as possible.
- Layerworks for the parking area will be imported to create sound Engineered layers for parking areas in conjunction with landscaping layouts and green areas.
- Tree rings of minimum 1m in diameter would be allowed for in-between parking's for trees in the parking.

5.2.12 SOIL EROSION AND STORMWATER MANAGEMENT

- Stringent mitigation measures must be imposed during construction to minimise runoff, possible silt run-off and contamination of water leaving the site, with the use of silt-fencing, rows of onion bags, mulch, brushwood, sandbags and deflection berms (the choice depending on the situation). These mitigation measures are essential in all exposed areas. Special care must be taken when any excavations are done in close proximity to any non-perennial watercourse and the ECO is to provide recommendations on the installation of silt fencing, sandbags (as the case may be) prior to the commencement of any work.
- **Areas requiring erosion control mechanisms are to be identified by the contractor and ECO. Instructions by the ECO are to be given to the contractor as required.**
- **Before** any stormwater outlets are constructed, the area must be inspected by the ECO and the contractor's method statement for work agreed to by the ECO.
- Silt fencing **must** be installed at the stormwater outlet point until the site is re-vegetated and silt is no longer evident.

- In the event of erosion damage or silt movement, the **contractor** will be liable for a fine and is responsible for the clean-up and required to reinstate the conditions to normal as determined by the ECO.
- To decrease the risk of water pollution, all construction materials must be **secured** (e.g. only stockpiling at a pre-determined site, around which there must be a silt protection boundary) so that there is no wash away.
- **In the case of contaminated water run-off, silt can be stopped by means of sandbags and following the rain the contaminated area should be cleaned. All measures must be taken to avoid contaminated water entering any water bodies in any way.**
- It is the responsibility of the **contractor** working inside any trench at any specific time to ensure that their works are protected from damage which may be caused through runoff of rainwater inside the trench. The use of sandbags, mulch bags or any other appropriate methods of slowing down the flow of water within a trench is required.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							
Potential erosion during the construction of the proposed development.	Garden Walk development	The contractor is to comply with the EMP requirements regarding erosion prevention. Emergency erosion protection materials (sandbags, geotextile fabric, shade cloth and/or biddum) are to be kept on-site to treat erosion area as soon as it appears	During the construction of the proposed development (civil and building construction)	ECO and contractor to continually monitor the site during construction for signs of potential erosion	ECO to conduct inspections of construction works	ECO and contractor to monitor the site	ECO to monitor during the construction phase. To be included in the monthly monitoring report.

5.2.13 CONCRETE AND CEMENT WORKS

- Mixing areas must be defined on-site and **clearly** demarcated.
- Cement powder has a high alkalinity pH rating, which can contaminate and affect both soil and water pH dramatically. A shift in pH can have serious consequences on the functioning of the soil, water organisms and plants.
- All concrete must be mixed on trays / on thick plastic and not on the soil.
- **Bunding** through the use of sandbag walls around any mixing areas is recommended.

- When using Readymix concrete, care must be taken to prevent spills from the trucks while offloading.
- **Cement contaminated water may not enter any open space areas (beyond the property) or water bodies.**
- The contractors and sub-contractors need to ensure that the used cement bags do not create a litter problem.
- Where cement is placed directly on the ground, the contaminated soil must be removed and disposed of appropriately.
- Excess or spilt concrete should be disposed of at a suitable registered landfill site.
- No water for the mixing of cement may be sourced from the river system.
- **No** construction equipment may be cleaned near a water body (in a designated cleaning area that is well bunded only).
- **No** mixing to be done in environmentally sensitive areas or areas where there is a high risk of cement contaminated water entering the stormwater system.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							
Cement and concrete works	Garden Walk Development	Cement and concrete works are to comply with the EMPr Appropriate bunding and mixing on impermeable surfaces must be implemented	During the construction of the proposed development (civil and building construction)	ECO and contractor to continually monitor the site during construction	ECO to conduct inspections of construction works	Contractor to implement mitigation measures as per the EMPr ECO and contractor to monitor the site	ECO to monitor during the construction phase. To be included in the monthly monitoring report

5.2.14 NOISE, DUST MANAGEMENT AND NUISANCE MEASURES

- During civil construction, work is limited to normal working hours as dictated by the local authority.
- The building(s) should comply with the normal Municipal building control requirements.
- Dust mitigation measures should be implemented as required. This will include spraying of water on gravel roads or exposed areas that generate dust or covering haul roads / exposed areas with wood chip to reduce the generation of dust.
- Dust management includes the management of dust off any stockpile sites
- Temporary stockpile sites may not be placed in areas that are going to result in a nuisance or eyesore to neighbours.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction phase							

Construction of residential development	Garden Walk Development	Contractor to comply with SANS 10400 regulations pertaining to noise creation. Dust mitigation measures must be implemented as necessary	During the construction of the development (civil and building construction)	ECO and contractor to continually monitor the site during construction	ECO to conduct inspections of construction works	Contractor to implement mitigation measures as per the EMPr ECO and contractor to monitor the site	ECO to monitor during the construction phase. To be included in the monthly monitoring report
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5.2.15 STABILIZATION REQUIREMENTS (AFTER CONSTRUCTION)

- Stabilization of disturbed area as a result of civil construction must be rehabilitated to the satisfaction of the ECO. This will include, but is not limited to the following:
 - use of sandbags, mulch bags as erosion minimisation measures, seeding of bare areas with an indigenous grass seed mixture / the use of indigenous grass sods (ECO to advise) etc.
- The ECO is to advise on the rehabilitation measure that should be implemented as it will be case specific.
- No bare or exposed areas are to be left for a period of more than 2 months (if construction is due to commence on that exposed area within 2 months no rehabilitation is required, if construction is to commence after a 2-month period, the area must be immediately rehabilitated and must remain stabilized until the future construction works commence).
- It is anticipated that landscaping is part of each construction phase.
- The stormwater system must be protected through the installation of additional silt-fencing and re-vegetation of exposed areas. All stormwater flow must be protected against erosion and continual maintenance thereof will be required as the surface runoff will change as the construction progresses.
- Any silt traps need to be cleared on a weekly basis during the construction phase to ensure that silt traps remain effective.

5.3 BUILDING CONSTRUCTION PHASE

Retail/commercial-buildings - The total footprint of a building zone / phase should be demarcated with 1.5 m (height) shade cloth for the **entire** period of the construction to prevent unnecessary disturbance. All areas outside this demarcation must be considered **no-go areas for all construction staff**.

It is recommended that all buildings follow the construction phase requirements of this EMPr while building to ensure no adverse impact on the surrounding areas.

5.3.1 IMPLEMENTATION OF ENERGY AND WATER SAVING TECHNIQUES

Water savings and energy saving measures to be applied wherever possible.

The use of low flow water fittings, installation of rain water harvesting tanks to be applied wherever possible.

6 REHABILITATION / LANDSCAPING PHASE

The holder must finalise the post construction rehabilitation and landscaping and monitoring requirements within a period of **3-months** from the date the development activity (construction phase) is concluded.

Any damage to private property or open space areas must be reinstated to the state it was before construction commenced and must be done to the satisfaction of the landowner and ECO.

Rehabilitation of damaged areas (development area) will include, but is not limited to the following:

- All building rubble must be completely removed and disposed of at an approved landfill site;
- Compacted topsoil must be raked loose;
- Contaminated soil must be disposed of at an approved landfill site;
- Return topsoil to the area;
- Reinstatement of the vegetation in accordance with the Landscape Master Plan;
- Implementation of additional erosion control methods as required – instructed by the ECO;
- Maintenance of stormwater system at all times.
- All landscaping areas to be planted and maintained

7 MONITORING REQUIREMENTS AND REPORTS

- An **induction** meeting with the ECO and the contractor (**civil and building**) to ensure that they are aware of the requirements of this EMP and the EA before the commencement of the installation of services or building works.
- Induction registers to be kept for all contractors on site.
- The ECO must inspect work areas prior to civil installations and demarcate no-go areas or indicated areas of sensitivity.
- The ECO is to do a site inspection **weekly during civil installations** and submit a **monthly** compliance monitoring report to the applicant, developer, contractor and DEADP. The ECO may reduce the frequency to every 2nd week once there

is comfort that the works are being undertaken to the satisfaction of the ECO and as reported to DEADP.

- The ECO is to monitor the **building works** on a **weekly basis** and submit a compliance monitoring report every second month to the applicant, developer and DEADP as the case may be while construction is in progress.
- The ECO **monitoring reports** are to advise on any remedial actions or changes that are required to the method statements in order to ensure that the impacts identified and any that may become evident are mitigated and managed. Should it be necessary the EMPr must be updated / amended to take these into account if they cannot be adequately handled in a revised method statement.
- Upon **completion of construction (or a construction phase)**, a **final monitoring report** must be submitted by the ECO to sign-off compliance with environmental requirements. The report must be submitted to DEADP, the applicant, the developer, management as the case may be.
- On **completion the buildings (top structures)** the ECO is to issue a **completion report** prior to occupation certificates being issued. This may be done in phases based on the developer's programme.
- Once **all phases are completed** the ECO is to issue **the final monitoring report** to DEADP, the applicant, the developer, management.
- Copies of all compliance reports should be sent to DEADP for record purposes.

8 AUDITING REQUIREMENTS

Note that audits must be undertaken by an independent person (i.e. not the EAP and appointment ECO).

In accordance with condition 20 of the EA:

20. The frequency of auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr, must adhere to the following programme:

20.1. Auditing during the non-operational phase (construction activities):

20.1.1. During the period which the development activities have been commenced with on the site, the Holder must ensure annual environmental audit(s) are undertaken and the Environmental Audit Report(s) submitted annually to the Competent Authority.

20.1.2. A final Environmental Audit Report for the construction phase (non-operational component) must be submitted to the Competent Authority within three (3) months of completion of the construction phase.

- This audit must be **undertaken prior to the completion date of the EA.**
- Auditing requirements are to cover **ONLY the Construction phase for Civil services and Buildings** and does not extend to the operational phase of the development.

Specific dates referenced in the EA

Date of issue of EA:	07 November 2024
Conclusion date, refer to condition 1 of the EA	12 November 2029

Additional environmental auditing may be undertaken as required within the EA or as determined by the Environmental Regulations applicable at the time. The audit report must adhere to the requirements of the applicable legislation and / or regulations at the time.

9 OPERATIONAL PHASE

The developer/management of the Garden Walk development is bound by their general Duty of Care, as stated in Section 28 of the National Environmental Management Act, 1998 (as amended). As such it is recommended that the Operational phase monitoring should be conducted by the developer/management (who may appoint an ECO to assist and offer advice as required by the developer/management).

As construction is a primary source of disturbance and damage to the environment, any contractors working for the developer/management (doing alterations etc.) should comply with the general conditions above in relation to building contractors.

The EA for the development covers the initial construction, installation of services and construction of all the top structures. At that point the final audit is undertaken, and the EA is regarded as having been concluded.

The operational phase of the development is not subject to NEMA unless any specific items that trigger NEMA are undertaken.

The Developer will commence with the various activities on the site and the management will take over the long-term implementation and maintenance of the development.

9.1 INTERNAL LANDSCAPING

The developer/management is encouraged to plant water-saving, local indigenous plants within the landscape areas.

Listed invasive species are prohibited and must be removed as observed.

The use of indigenous trees and shrubs as screening plants, such as along the boundaries of the development areas, will result in the formation of bush clumps or pockets of thicket vegetation, which will once again provide food and shelter to the local fauna and birdlife as well as maintain a natural landscape.

Rainwater harvesting is recommended for landscaping purposes.

9.2 STORMWATER MANAGEMENT

The incorporation of detention and retention ponds will allow stormwater to dissipate naturally into the environment. Stringent erosion control will be implemented where necessary and ongoing maintenance will be required to ensure that any localised erosion will be rehabilitated before it becomes problematic. The stormwater control philosophy is one of reducing concentration and encouraging spread and infiltration into the natural vegetation.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Operational phase							
Operation of stormwater outlets	Stormwater outlets installed	The proposed stormwater outlets will be located close to the development footprint in order to limit disturbance. The incorporation of detention and retention ponds will allow stormwater to dissipate naturally into the environment. Stringent erosion control will be implemented where necessary during the operation of the development. Ongoing maintenance will ensure that any localised erosion will be rehabilitated before it becomes	During the operational phase of the development	Management / developer to monitor and implement mitigation measures ECO to monitor during operation of the development	Management / developer to implement mitigation measures and conduct regular inspections ECO to conduct inspections as required	Management / developer and appointed contractor to implement and monitor ECO to monitor	ECO to monitor To be included in the yearly monitoring report.

		problematic. The stormwater control philosophy is one of reducing concentration and encouraging spread and infiltration into the natural vegetation.					
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9.3 EROSION MANAGEMENT

The development area must be regularly monitored by management, during the operation of the development, to identify areas susceptible to erosion. The required erosion control measures must be implemented within these areas. The erosion protection measures that are to be implemented must be approved and signed-off by the ECO prior to the commencement.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Operational phase							
Potential erosion during the operation of the proposed development.	Operation of the development	Management is to comply with the EMPr requirements regarding erosion prevention. Emergency erosion protection materials (sandbags, geotextile fabric, shade cloth and/or biddum) are to be kept on-site to treat erosion area as soon as it appears. Revegetating disturbed areas as soon as possible.	During the operation of the proposed development	Management to continually monitor the site during operation of the development for signs of potential erosion. ECO is to monitor as required.	Management is to conduct monthly inspection and ECO to conduct inspections as required.	Management. ECO to monitor.	Management to monitor during the operational phase. ECO to monitor as required. To be included in the monitoring report.

9.4 WASTE MANAGEMENT

The development's refuse is collected by the local authority – please comply with their collection requirements. Tenants must be encouraged to re-use, reduce and recycle.

NO Dumping on site is permitted.

Sewage pump station

Regular maintenance of the sewage pump stations will be required and should a breakdown of the sewage pump ever occur, all measures must be taken to avoid the

pollution of the open space and non-perennial watercourses. This will include but is not limited to, the use of sandbags, throwing of lime etc. It is recommended that the sewage pump should have a back-up, non-electrical sewage pump available and sufficient bunding to hold any spillage.

9.5 FIRE MANAGEMENT

Firebreaks are a legal requirement in terms of the National Veld and Forest Act, 1998 (NVFA), therefore a firebreak must be created and maintained as required by the Municipality / Southern Cape Fire Protection Association (SCFPA).

9.6 INVASIVE ALIEN CONTROL

In terms of the Alien and Invasive Species Regulations, NEM:BA, 2014 specific alien plant species are prohibited and should be removed (by implementing approved methods). All measures should be taken to ensure that the site is rehabilitated to a natural or near-natural state.

Any alien invasive species germinating must be removed immediately for the life of the development.

10 DECOMMISSIONING PHASE

Should there ever be a need for decommissioning, decommissioning activities need to adhere to the applicable legislation at the time. All material foreign to the site must be removed from the site and must be disposed of at an approved waste disposal site.

Any material that can be recycled should be recycled.

11 LEGISLATIVE REQUIREMENTS

11.1 NOISE

Comply with the regulations pertaining to noise - SANS 10400 is applicable.

11.2 SOLID WASTE

National Environmental Management: Waste Amendment Act 2014 (Act 26 of 2014), consists of the regulations regarding waste management. The developer must adhere to the regulations regarding solid waste management under this act.

11.3 NATIONAL WATER ACT

Should there be the need for any activity within a watercourse the applicability of the National Water Act must be determined and if necessary, a Water Use Licence obtained or a General Authorisation confirmed and registered.

11.4 PENALTIES FOR NON-COMPLIANCE

Penalties in terms of Chapter 9 of the Western Cape Bill on Planning and Development as published in the Extraordinary Provincial Gazette No 5183, 3 October 1997, are applicable for any action, which leads to damage to the natural environment.

In addition to the penalties in terms of the Act (NEMA), spot fines up to a maximum value of R10 000 per offence can be instituted at the discretion of the ECO for any breach or non-compliance in terms of the EMPr and EA (FINES ISSUED WILL INCREASE EXPONENTIALLY FOR REPEAT OFFENCES).

In the event of damage being caused, the contractor will be responsible for the cost of cleanup, repair or rehabilitation as necessary, as well as being liable for the fine.

A fund is to be established for the collection of fines and the spending of this fund is to be at the discretion of the ECO for environmental rehabilitation of the area.

12 CONCLUSION

This EMPr is binding on all contractors on site and constitutes Best Practice for construction activities. This EMPr may be updated with specific conditions required by the Environmental Authorisation (EA, once issued).