

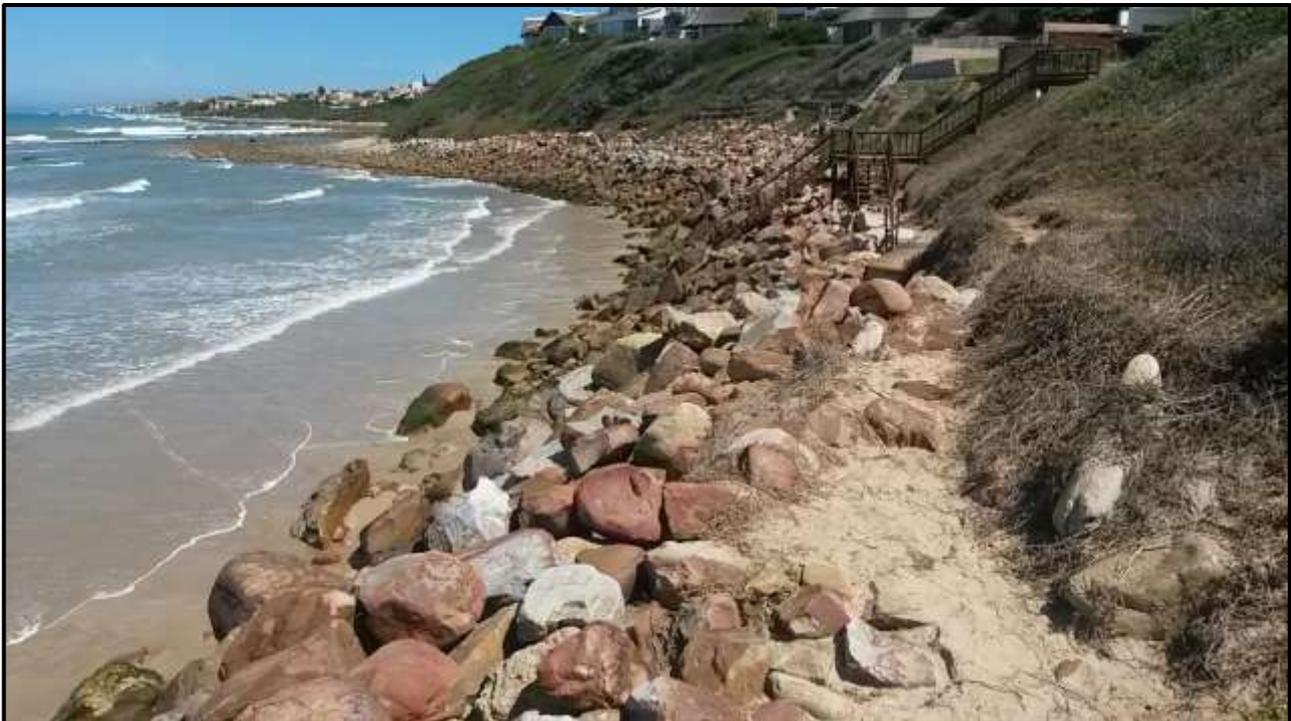


ECO ROUTE ENVIRONMENTAL CONSULTANCY

DRAFT MAINTENANCE MANAGEMENT PLAN

The Construction of a Boardwalk to Connect Granny's Pool to Main Beach, St Francis Bay, Eastern Cape

DEDEA EIA REF: EC08/C/LN1&3/M/31-2019



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This MMP will need to be amended to contain specific conditions if Environmental Authorisation is granted.

1. INTRODUCTION

Eco Route Environmental Consultancy have been appointed as independent environmental practitioners by the proponent, Kromme Enviro-Trust to prepare a Maintenance Management Plan / MMP for the future repairs and maintenance needed for the boardwalk from Granny's Pool to Main Beach.

The purpose of this MMP:

- To ensure the anticipation and prevention of negative impacts and risks;
- Highlight and address possible mitigation measures to avoid, minimize, rehabilitate, and/or remedy negative impacts;
- Avoid and reduce unnecessary maintenance;
- Introduce management actions to prevent further deterioration to the affected environment;
- Stipulate responsible parties;
- Stipulate reporting parties; and
- Provide a process of continuous management improvements i.e. Planning, Implementing; Monitoring; Corrective Action.

This MMP is required to be approved by the Department of Economic Development, Environmental Affairs and Tourism / DEDEA.

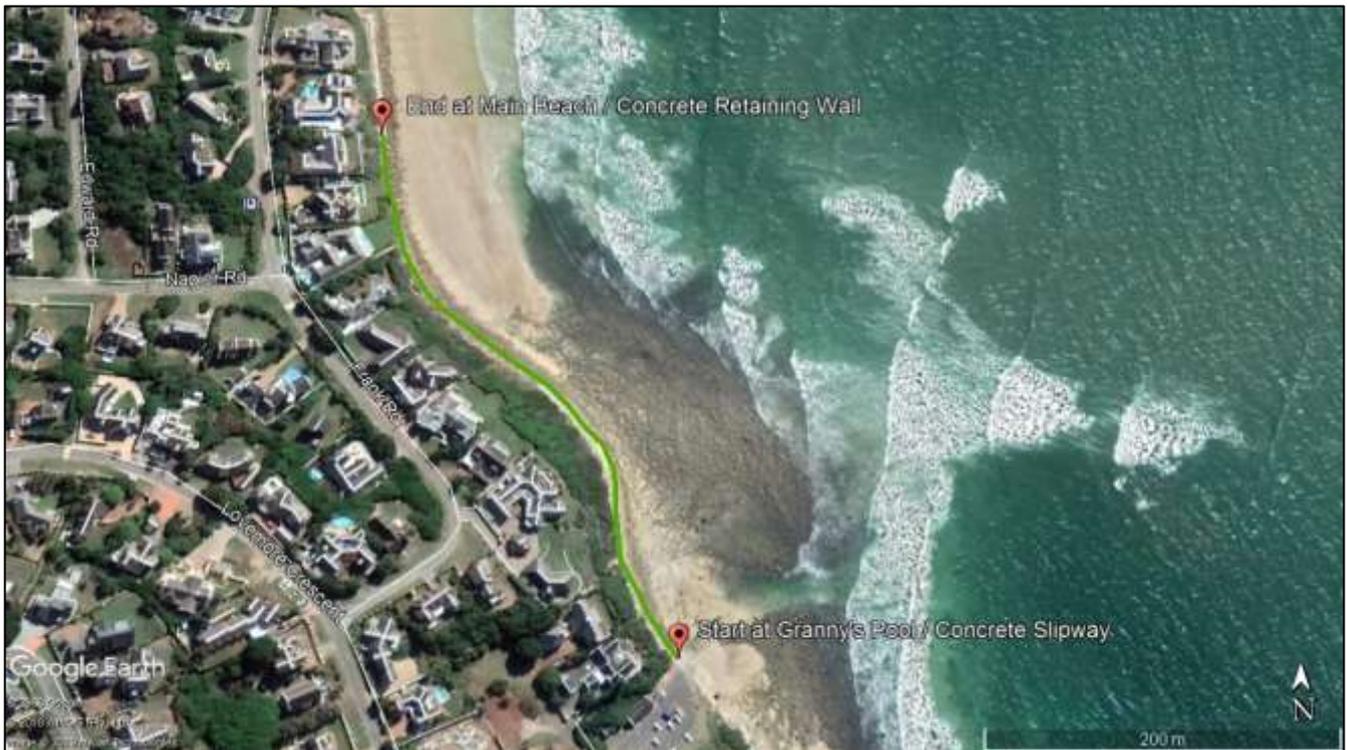
It is suggested that this MMP be reviewed on a 5 yearly basis. Should any repairs need to be made during the operational phase, written authorisation should be obtained from DEDEA prior to repairing damage to the boardwalk.

2. PROJECT DETAILS

The proposed boardwalk falls within 100m from the high-water mark of the sea which indicates that the development occurs within the coastal protection zone. The proposed development would also occur in the littoral active zone as defined in the Integrated Coastal Management Act, 2008 (Act 24 of 2008) as: "any land forming part of, or adjacent to, the seashore that is- (b) characterised by dunes, beaches, sand bars...etc."

The proposed will be the construction of a timber-based boardwalk which is approximately 333 metres in length and 1.2 metres wide, with a guardrail of 0.9 metres in height. Included in the design will be two fishing / viewing platforms (GPS coordinates: 34°10'6"S 24°49'56"E; 34°10'3.06"S 24°49'54.59"E).

The boardwalk will begin at the level of the existing concrete slipway at Granny's Pool (GPS coordinates: 34° 10' 11.89"S, 24° 50' 0.61"E) and end at the existing concrete retaining wall at Main Beach (GPS coordinates: 34°10' 2.96"S, 24°49' 54.58"E) .



Map 1 Locality / route map of the boardwalk

The construction method proposed is as follows:

- No sand will be excavated; hence no plant/equipment will require access to the area. All work will be done by hand.
- Overgrown vegetation will need to be periodically trimmed back. No vegetation will need to be removed.
- A set of columns supporting horizontal beams will be positioned on level concrete screeds placed directly on / in-between rocks along the edge of the Spring High Tide level.
- Once in position and vertically aligned, a concrete encasement weighing approximately 150kg is cast around the column base.
- These support columns are to be installed at regular intervals of 2200mm and 1170mm; alternatively, in elevated areas.
- For minimum height areas the spans will be increased to 2800mm and 1770mm respectively (The seaside leg will be longer than the landside due to the slope towards the sea).
- Column diameters will increase for longer poles. Cross bracing will be used where column heights exceed 2m to prevent swaying.
- Where practical water-jet probing will be done i.e. where boulders are small and can be rolled aside. In addition, the area must be reasonably flat with a high water table. Large boulders will be left in situ and pole footings positioned in-between. The idea is to **not** use heavy equipment (e.g. TLB) in this area and all work will be done manually. This will take longer but will be less invasive.

- In the dune area specifically between the public access way and the retaining wall, lateral tie-backs into the dune for each 4.2m section is to be provided. Cross bracing will also be required in this section.
- The walkway will be made up in lengths of 3.6m, 4.2m and 6.5m. These sections will be bolted together at the ends (bulkheads).
- The boardwalk will be widened from 1.2m to 2.4m where the viewing / fishing platforms have been provided as part of the preferred alternative. In alternative 2, the boardwalk will remain at a constant width of 1.2m with the same route, length, and handrail and decking plank design / dimensions as the preferred alternative.
- The footprint of the viewing / fishing platforms will be approximately 97.61m² each.
- Wooden staircases for Erf 1282, RE/ 3640, and Erf 243 will be incorporated into the proposed boardwalk.

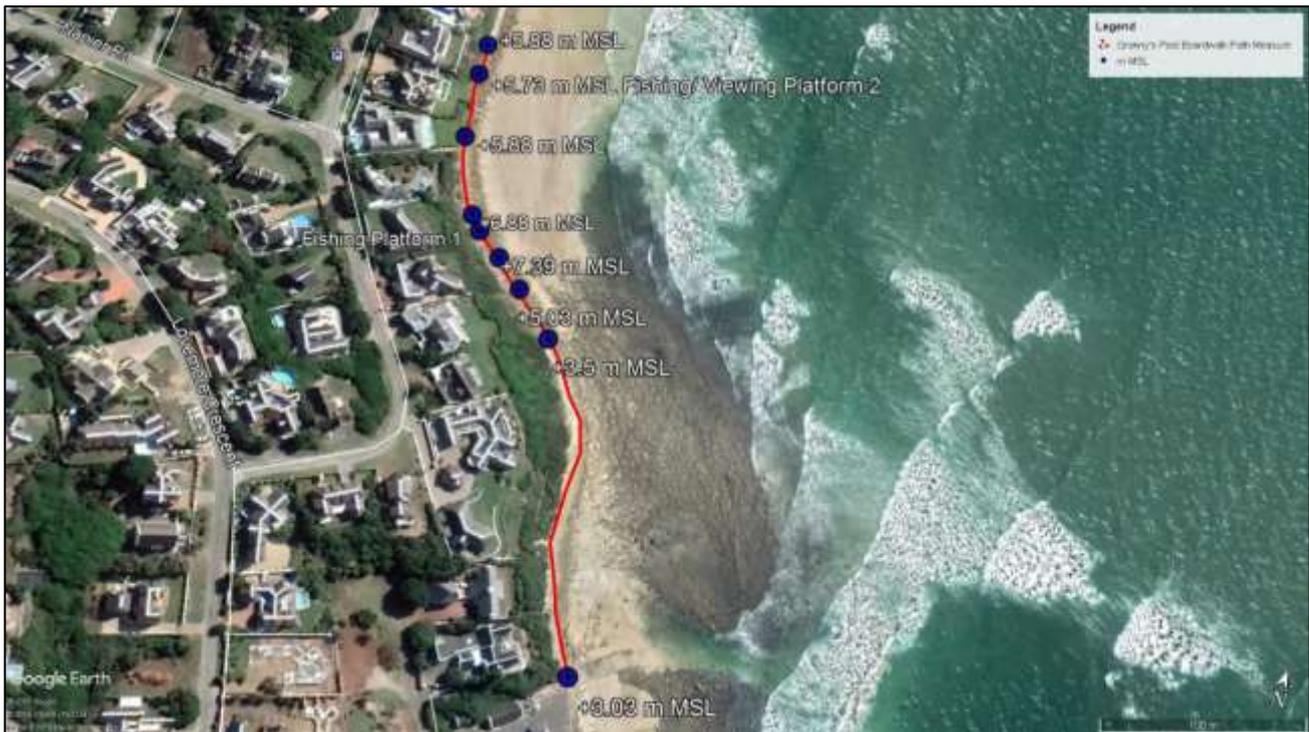


Map 2 showing even where wooden staircases will be positioned.

Elevation profile of the boardwalk:

- the boardwalk will start at level +3.03m MSL,
- after approximately 164m from the start of the boardwalk the level will increase to +3.5m MSL,
- 199 m from the starting point the boardwalk will rise to a viewing point at an elevation of +5.03m MSL,
- 218.5m from the start the boardwalk will rise again in elevation to +7.39m MSL,
- Thereafter, the boardwalk elevation decreases to +6.88m MSL at 272m,
- Over a distance of 61m the boardwalk passes existing beach access steps at an elevation of +5.88m MSL and a fishing/ viewing platform at +5.73m MSL,

- The boardwalk ends at a level of +5.88m MSL.



Map 3 showing the elevation profile of the boardwalk

Protection against storm surges:

The walkway is a minimum of 1m above the Spring High Tide level. Decking planks have 25mm to 30mm spacing between planks. This should minimize the uplift force of storm surges that exceed 1m. Each set of supports is weighted down by 2 x 150kg - 300kg blocks of concrete.

Alternatives

“Alternatives” are defined in the Regulations as different means of meeting the general purpose and requirements of the activity, which may include alternatives to: (a) the property on which or location where it is proposed to undertake the activity; (b) the type of activity to be undertaken; (c) the design or layout of the activity; (d) the technology to be used in the activity or process alternatives; (e) the operational aspects of the activity; and (f) the option of not implementing the activity.

At present the following **design** alternative is being considered for this project:

- Fishing / viewing platforms will **not** be included in the second alternative design of the boardwalk.

DESIGN SPECIFICATIONS:

Preferred alternative

| | |
|-----------------------------|--|
| Length of boardwalk: | 333 metres |
| Width of boardwalk: | 1.2 m extended to 2.4 m where the viewing / fishing platforms are included |
| Material type: | Timber – based with concrete casings / foundations |
| Railing: | Timber handrail – height: 0.9 m |

| | |
|-----------------------------------|---|
| Decking plank spacing: | 25 – 30 mm |
| Viewing / fishing platform | Yes – two platforms are proposed at coordinates: 34°10'6"S 24°49'56"E; 34°10'3.06"S 24°49'54.59"E |

Alternative 2:

| | |
|-----------------------------------|--|
| Length of boardwalk: | 333 metres |
| Width of boardwalk: | 1.2 m |
| Material type: | Timber – based with concrete casings / foundations |
| Railing type: | Timber handrail – height: 0.9 m |
| Decking spacing: | 25 – 30 mm |
| Viewing / fishing platform | No |

The design of the boardwalk is of a temporary nature due to the prevalence of sea storms and the damage experienced along this stretch of coastline. Therefore, timber was chosen as the best material to be used for such a structure as it has little impact on the receiving environment should the structure fail; as opposed to permanent structures of concrete and steel.



Map 4 conservation map of the area

3. IMPACTS AND MITIGATION MEASURES

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|--|---------------------|-----------|-----------|-------------|-------------------|---|-------------------|---|--|
| operational | Temporary design = decreased lifespan of the boardwalk due to storm surges | Limited to the site | Permanent | Medium | Definite | Barely reversible | Marginal loss, Significant loss or Complete loss of resources *dependent on scale of destruction | Low | Medium negative – the impact will have moderate negative effects and will require moderate mitigation High negative – the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact | <ul style="list-style-type: none"> Regardless of the temporary design, the design must include stabilization measures to somewhat increase the lifespan of the boardwalk – without compromising the stability of the surrounding environment. |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|---|-----------------------------------|-----------------------|---------------|----------------------------|-----------------------|----------------------------------|-------------------|---|---|
| | | | | | | | | | *dependent on scale of destruction | |
| operational | Connection to existing walkways along the coastline | Local | Long term - Permanent | Low | Definite | Completely reversible | No loss of resources | Medium - High | Medium positive – the impact will have moderate positive effects High positive – the impact will have significant positive effects | <ul style="list-style-type: none"> Walkways must be monitored and maintained regularly to keep this connection. |
| operational | Risk of increasing criminal activity | Limited to the site and surrounds | Long term – Permanent | Medium - High | Highly Probable - Definite | Partly reversible | Marginal loss - Significant loss | Medium- High | Medium negative – the impact will have moderate negative effects and will require moderate mitigation High negative – the impact will have significant | <ul style="list-style-type: none"> Back railings, lockable gates, signage, and security companies assigned to patrol the boardwalk would all be measures put in place to keep criminal activity at bay. However, this is not guaranteed to reduce criminal activity. |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|---|---------------------|------------|---------------|---------------------|---------------------------------------|--|-------------------|--|---|
| | | | | | | | | | effects and will require significant mitigation measures to achieve an accepted level of impact | |
| operational | The proposed boardwalk foundation risks being undercut and destabilized during large storms | Limited to the site | Short term | Medium - High | Probable - Definite | Partly reversible - Barely reversible | Marginal loss - Complete loss of resources | Medium | <p>Medium negative – the impact will have moderate negative effects and will require moderate mitigation</p> <p>High negative – the impact will have significant effects and will require significant mitigation</p> | <ul style="list-style-type: none"> • Due to the temporary based design of the boardwalk no mitigation exists to stop this impact from taking place. • Concrete foundations will need to be replaced should this impact take place – this could be costly. |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|---|--|------------|--------------|-------------|---|---------------------------------|-------------------|---|---|
| | | | | | | | | | measures to achieve an accepted level of impact | |
| operational | Damage to coastline features by the boardwalk | Limited to the site and its immediate surroundings | Short term | Low - Medium | Probable | Completely reversible – Partly reversible | Marginal loss | Low | Low negative—where it would have negligible effects and would require little or no mitigation | <ul style="list-style-type: none"> • Very little impact to the surrounding environment is envisioned. • Monitoring of the surrounding environment will need to take place regularly in order to mitigate any negative impacts that may arise. • The use of “tie-backs” should either be negated (if possible) or the number of tie-backs used should be reduced to minimise tampering with the |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|--|--|------------------------|------------|----------------------------|-------------------|---------------------------------|-------------------|---|---|
| | | | | | | | | | | coastal dune. |
| operational | Waste pollution on the boardwalk and surrounding environment | Limited to the site and its immediate surroundings | Short term - Permanent | Low - High | highly probable - Definite | Partly reversible | Marginal loss | Medium | Medium negative – the impact will have moderate negative effects and will require moderate mitigation | <ul style="list-style-type: none"> • The supply of waste bins along the boardwalk would expectantly reduce the amount of waste being thrown into the sea and surrounds. • However, the Kromme Enviro-Trust is expected to maintain the volume of waste pollution along this stretch of coastline. • Waste will be collected by the Kouga Municipality on a weekly basis. |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|---|--|-----------------------|--------------|-------------|---------------|---------------------------------|-------------------|---|---|
| operational | Noise pollution due to boardwalk users | Limited to the site and its immediate surroundings | Permanent | Low - Medium | Definite | Irreversible | No loss of resources | Low | Low negative – where it would have negligible effects and would require little or no mitigation | <ul style="list-style-type: none"> No mitigation measures exist to reduce public noise experienced during the day. The boardwalk will be closed to the public after sunset. |
| operational | Attraction to coastal amenities offered in St Francis Bay | Local | Long term | Low | Probable | n/a | n/a | Low | Low positive – the impact will have minor positive effects | <ul style="list-style-type: none"> No mitigation exists. |
| operational | Accessibility between Granny's Pool and Main Beach | Local | Long term – Permanent | Low | Definite | n/a | n/a | Medium - High | <p>Low positive – the impact will have minor positive effects</p> <p>Medium positive – the impact will have moderate positive effects</p> | <ul style="list-style-type: none"> No mitigation exists. |

| PHASE | NATURE OF IMPACT | EXTENT | DURATION | INTENSITY | PROBABILITY | REVERSIBILITY | IRREPLACEABLE LOSS OF RESOURCES | CUMULATIVE EFFECT | SIGNIFICANCE | PROPOSED MITIGATION |
|-------------|--|--------|-----------|-----------|-------------|---------------|---------------------------------|-------------------|--|---|
| operational | Permanent employment opportunities relating to the maintenance and security of the boardwalk | Local | Long term | Low | Definite | n/a | n/a | Low | Low positive – the impact will have minor positive effects | <ul style="list-style-type: none"> No mitigation exists. |

4. LEGISLATIVE REQUIREMENTS

4.1 Signing of the MMP

The acknowledgement form at the back of the approved MMP is to be signed by the holder of the Environmental Authorisation (the Proponent), the Site Manager and the ECO; acknowledging that all parties are familiar with the requirements of the MMP.

4.2 Legislation

The National Environmental Management Act, (Act 107 of 1998) as amended -

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

Duty of care and remediation of environmental damage

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

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

| LEGISLATION | ADMINISTERING AUTHORITY |
|---|---|
| CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA. (ACT 108 OF 1996) | Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities. |
| ENVIRONMENTAL CONSERVATION ACT (ACT 73 OF 1989) | Department of Environmental Affairs, Republic of South Africa. |
| NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) | Department of Economic Development, Environmental Affairs and Tourism |
| NATIONAL ENVIRONMENTAL MANAGEMENT AMENDMENT ACT (ACT 62 OF 2008) | Department of Economic Development, Environmental Affairs and Tourism |
| NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT NO 10 OF 2004) | Department of Economic Development, Environmental Affairs and Tourism |

| | |
|--|--|
| NATIONAL ENVIRONMENTAL MANAGEMENT: INTEGRATED COASTAL MANAGEMENT ACT (ACT NO 24 OF 2008) | Department of Environment, Forestry and Fisheries: Oceans & Coasts / Department of Economic Development, Environmental Affairs and Tourism |
| NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT 57 OF 2003) | Department of Economic Development, Environmental Affairs and Tourism |
| SEA SHORE ACT (ACT 21 OF 1935) | Department of Environment, Forestry and Fisheries: Oceans & Coasts / Department of Economic Development, Environmental Affairs and Tourism |
| CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983) | Department of Agriculture and Rural Development |
| NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999) | Eastern Cape Provincial Heritage Resources Authority |
| OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) | Department of Health |

4.3 Project Responsibilities

Responsibility for the implementation of the MMP lies with the Proponent who must retain the services of a suitably experienced Environmental Control Officer (ECO) who will monitor the operational processes and maintenance work periodically.

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

- ❖ Secure the protection and rehabilitation of the environment.
- ❖ Guide, advise and consult the relevant authority on environmental issues during operation and maintenance activities.
- ❖ Guide, advise and consult any sub-contractors, suppliers etc. who will be involved in the maintenance and management of this project.
- ❖ Revise the MMP as required and inform the relevant parties of the changes.
- ❖ Ensure that the MMP has been accepted and understood as a contractually binding document on all parties involved with this project.
- ❖ Ensure that staff operating equipment are adequately trained, certified and sensitised to any potential hazards associated with their tasks.

- ❖ Educate staff as to the need to refrain from indiscriminate waste disposal and/or pollution of local soil and water resources, ensure that they (the staff) have received the necessary safety training, and are aware of the importance of a “clean-site policy.”

5. REPORTING PROCEDURES DURING MAINTENANCE WORKS

5.1 Documentation

The following documentation must be kept on site during all maintenance activities in order to record compliance with the MMP:

An Environmental File which includes:

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

5.2 Environmental Register

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

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

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

5.3 Non-Conformance Report

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

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

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

5.4 Environmental Emergency Response

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

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

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

Please Note: Cement is the only hazardous substance that may be used on the site, however no mixing of cement may be done on the site. Due to the sensitivity of the site, no other hazardous substances may be used.

6. COMPLIANCE WITH THE MMP

6.1 Monitoring and Compliance

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

- ❖ The ECO has the authority to instruct the Proponent to cease a particular operation causing or liable to cause significant environmental damage, and issue fines or penalties for non-compliance of the Maintenance Management Plan/ MMP.
- ❖ An Environmental Control Officer (ECO) must during the **operational phase**, monitor and audit the site **once a month for the first 6 months and twice a year thereafter** to monitor the success of the project.
- ❖ An Environmental Control Officer (ECO) must during all **maintenance work**, monitor and audit the site **twice a week until the work is complete, thereafter resuming the monitoring and auditing as per the operational phase.**
- ❖ The holder of the environmental authorisation (the Proponent) is responsible to ensure that an environmental audit report is submitted to the Department of Economic Development, Environmental Affairs and Tourism (DEDEA) each time the ECO completes an audit.

6.3 Auditing Process

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

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

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

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

6.4 Non-Compliance

Definition

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

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

Types of non-compliances issued

Two types of non-compliances may be issued:

A. Stop Works Non-Compliance

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

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

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

B. General Non-Compliance

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

6.5 Issuing a Non-Compliance

Non-compliance may be issued to:

- ❖ The Proponent
- ❖ Any representative of the Proponent

6.6 Process of Issuing Non-Compliance

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

6.7 Failure to complete corrective actions

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

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

The DEDEA office is responsible for resolving the impasse with the Proponent.

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

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

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

Penalties for Non-Compliance

Penalties associated with a non-compliance is not a set amount but will depend on the nature and extent of the impact. The cost of any soil and /or groundwater monitoring and any soil and /or groundwater remediation required by authorities will be to the Proponent's account.

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

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

6.8 Unlawful Activity/ies

Section 28 (15) of NEMA entitles authorities to administer a fine not exceeding R 1 million or to imprisonment for a period not exceeding 1 year or both such a fine and imprisonment.

Section 31N of NEMA entitles environmental authorities to administer a fine not exceeding R 5 million or 10 years imprisonment and/or a fine and imprisonment for a person guilty of an unlawful activity. The Act makes allowance for the rectification of unlawful activity and may charge up to R1 million administration fees over and above the remediation costs.

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

7. ENFORCING THE MMP

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

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

TABLE OF RESPONSIBLE PARTIES BELOW:

| Responsibility | Name of Responsible Party |
|---|----------------------------------|
| Proponent | Kromme Enviro-Trust |
| Environmental Control Officer/ ECO | To be appointed |
| Site Manager | To be appointed |

8. MAINTENANCE MANAGEMENT PLAN

8.1 POSSIBLE FUTURE MAINTENANCE WORK

- Inspect and remove any loose pieces of the concrete encasings;
- Ensure that all components are connected using s/s screws, coach screws and bolts;
- Disassemble the boardwalk into workable sizes by unscrewing connectors;
- Replace damaged decking planks, cross bracing, handrails, connecting components etc.;
- Inspect for holes in the timber and repair;
- Re-apply environmentally friendly wood treatment;
- Install new concrete encasings; and
- Reassemble boardwalk.

8.2 OPERATIONAL PHASE

- **MONITORING**

- Walkways must be monitored regularly to ensure that this connection is kept intact and safe for the public.
- Back railings, lockable gates, and signage must be inspected once a week.
- The boardwalk integrity i.e. impacts that the sea may have on the boardwalk must be monitored by the Proponent once a week.
- The surrounding environment must be monitored for impacts that may be caused by the boardwalk.

- **WASTE POLLUTION AND WASTE REMOVAL**

- The Proponent must ensure that waste pollution of the boardwalk and surrounding environment does not occur.
- The Proponent must ensure that waste is collected once a week by the Kouga Municipality.

8.3 CONSTRUCTION REQUIREMENTS FOR MAINTENANCE

- **AUTHORISATIONS, PERMITS, AND METHOD STATEMENTS**

An Environmental Control Officer / ECO must be appointed by the Proponent prior to the start of all maintenance work.

All necessary authorisations, permits, and licences must be obtained by the Proponent prior to the commencement of construction.

The following Method Statements must be provided by the Contractor:

- Details on the design and construction of maintenance areas.

- Details on the location, layout and maintenance of the construction storage area.
- Details on the location, layout and preparation of cement / concrete mixing activities / areas.
- Fire Management Plan

- **ENVIRONMENTAL AWARENESS TRAINING**

- Construction staff must be adequately educated by the ECO as to the provisions included in the MMP and in terms of general environmentally-friendly practice.

- **ENVIRONMENTAL PROTECTION**

- All “No Go Areas” must be demarcated and no activity of any kind will be allowed in the demarcated areas.
- Killing, poaching and harassment of all animals is strictly prohibited. All possible care should be taken to minimize the impact on wildlife in the area.
- Vegetation shall not be unnecessarily disturbed and damaged.
- No Indigenous plants may be cut or removed without a permit from the Department of Agriculture, Forestry and Fisheries.
- A contingency plan must be established to cope with the event of a fire, soil erosion, or accidental pollution.
- No fires may be lit by the contractor or employees.
- The use of water from the sea is not permitted.
- All cement must be mixed on an impermeable surface. Any spills must be collected immediately and replaced with clean sand.
- No hazardous spills will be permitted.
- No pollution of the surrounding environment will be permitted.
- Timber may not be treated on-site.

- **SITE DEMARCATION**

- The boundary of the site must be agreed with the ECO and demarcated; all activities must be conducted within this area.
- Construction and other activities, such as eating, washing and ablution will be restricted to special demarcated areas i.e. at the car park site.
- The contractor must ensure that all his machinery and materials remain within the demarcated site boundaries.
- No heavy machinery is permitted on the site.

- **RESTRICTED AREAS**

- The contractor must limit all movement (vehicle and pedestrian) to the demarcated access routes.
- All other areas outside of the construction area are classified as “restricted”.
- No members of the public or any unauthorised persons should gain access to the site without seeking permission from the Kromme Enviro-Trust.
- No vehicular access to the beach, other than for emergency vehicles, is permitted.

- **CONTRACTOR'S OFFICE AND BUILDING MATERIAL DEPOT**

- The contractor's site must be situated in an accessible and non-sensitive area i.e. the car park area. It must be demarcated, security fenced and fully rehabilitated after the completion of the general contract.
- The office and depot areas must be located within easy access from the proposed boardwalk site and in a non-sensitive part of the property.
- The contractor shall ensure that all delivery drivers are informed of all procedures and restrictions applicable to them and that the deliveries of materials are supervised during the offloading by the site manager who has read and understands the MMP.
- All building materials brought on site must be stored in the contractor's camp and if necessary out of the rain and wind to prevent sedimentation and spillage onto the site.

- **FACILITIES**

TOILETS

- Sufficient toilet facilities (1 toilet per 15 workers) must be made available by the contractor and sited in approved locations according to the ECO.
- Toilets may not be placed within 32m of the beach.
- The toilets must be placed out of the public eye and be of a transportable nature.
- Chemical toilets are preferable, and the toilets must be regularly (once a week) and efficiently serviced and kept in a hygienic state.
- Adequate toilet paper must be provided.
- Discharge of toilet waste into or onto the environment is strictly prohibited.

REFUSE

- The contractor must prevent the spread of refuse within and beyond the site.
- Refuse includes all solid waste such as cement, rubble, timber, other building material off cuts and waste. As well as food packaging, cans, plastic etc.
- All waste must be collected, contained and removed.
- An integrated waste management approach, which is based on waste minimisation and incorporates reduction, recycling, re-use and disposal, where appropriate, must be employed.
- Waste bins / containers must be used, and these must be provided with lids.
- The contractor must ensure that his employees deposit all waste in the waste bins.
- Bins must be emptied on a weekly basis.
- All waste must be disposed of off-site at the Municipal facilities.

POLLUTION CONTROL

- No diesel or petrol to be stored on site.
- In case of changing oil or lubricants on site, the contractor shall have drip trays available to collect any oil, fluid, etc.

- The contractor shall remove all oil-petrol and diesel-soaked sand immediately and discard of it as hazardous waste.
- Any hazardous waste substances must be disposed of off-site at a licensed landfill site equipped to deal with hazardous waste.
- Cement and concrete are regarded as highly hazardous to the natural environment, due to the very high pH of the material, and the chemicals contained therein. The contractor shall therefore ensure that:
 1. Dry cement is stored above ground level and any spillage is immediately cleared.
 2. Concrete is mixed on mortar boards or any other impermeable surface.
 3. The visible remains of concrete are physically removed immediately and disposed of as waste.
 4. Washing of cement containers or waste water containers into the ground or throwing into the sea is prohibited.

- **EMERGENCY PROCEDURES**

- The contractor shall establish emergency procedures for events such as fire, leakage of chemicals or other harmful substances, high tides and storm surges.
- The contractor shall be responsible for training of all employees with regards to these procedures.

- **EROSION AND STORM WATER MANAGEMENT**

- Erosion prevention and control measures must be implemented. Sand bags and silt fences must be used to contain all sediment and prevent erosion during construction.
- The contractor must ensure that the existing storm water drainage system is not impaired in any way.
- Reasonable measures to control the damaging effects of storm water run-off must be taken.
- The contractor must ensure that erosion and or pollution of water does not occur as a result of site activities.
- The contractor shall ensure that polluted runoff is not discharged overland.
- Natural runoff shall be diverted away from the work site and storage areas.

- **EARTHWORKS**

- No earthworks are permitted for this activity.

- **ARCHAEOLOGY AND ARTEFACTS**

- Should any heritage resources, as defined in the Nation Heritage Resources Act (25 of 1999), be discovered during the course of construction activities all work is to cease and the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) are to be notified immediately. Construction activity may only re-commence once they have given the approval to do so. The ECO must be informed immediately should any such objects be seen or be suspected.

9. CONCLUSION

This MMP has been developed to ensure that the activities proposed for all maintenance work falls within the legal ambit of environmental law. It is also to ensure that no environmental resources in and around the site are negatively impacted. The requirements of this MMP are binding and will be adhered to for all maintenance work undertaken on the Boardwalk between Granny's Pool and Main Beach

ACKNOWLEDGEMENT FORM

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

PROJECT NAME:

THE MAINTENANCE MANAGEMENT PLAN FOR THE CONSTRUCTION OF A BOARDWALK TO CONNECT GRANNY'S POOL TO MAIN BEACH, ST FRANCIS BAY, EASTERN CAPE

PROPONENT:

Signed: Date:

SITE MANAGER:

Signed: Date:

ENVIRONMENTAL CONTROL OFFICER

Signed: Date:

APPENDIX A: SITE DEVELOPMENT PLAN

APPENDIX B: CONSTRUCTION METHODOLOGY

APPENDIX C: VEGETATION MAP

APPENDIX D: CONSERVATION

APPENDIX E: PROTECTED AREAS