

Version 1.2

FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

In terms of
Regulation 24 (n) of Government Notice No. R385 in terms of Chapter 5 of the
National Environmental Management Act, 1998 (Act 107 of 1998), July 2006 as
amended 2008 and the Environmental Impact Assessment Regulations 2014 (as
amended)

For

**THE RIVERBANK MAINTENANCE AT SAN MARINO, ERF 586, KEURBOOMSTRAND,
PLETTENBERG BAY**



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ISSUED BY:

HilLand Environmental
P.O. Box 590
George, 6530

Tel: 044 889 0229

Fax: 086 542 5248

E-mail: admin@hilland.co.za / cathy@hilland.co.za / environmental2@hilland.co.za

Web site: www.hilland.co.za

**ENVIRONMENTAL MANAGEMENT PROGRAMME
FOR**

THE RIVERBANK MAINTENANCE AT SAN MARINO, ERF 586, KEURBOOMSTRAND, PLETTENBERG BAY

DEADP Final Approval

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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 H And Section 1 Introduction
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 2 and Annexure B
(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;	No-Go map attached to Annexure C
(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 2.2
(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 2.2
(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 2.2, 5 and 8
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 5, 6, 7 and 8
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f)	
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	

(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 4.1, 5, 6, 7 and 8
(n) any specific information that may be required by the competent authority.	N/A
Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply.	N/A

1 INTRODUCTION

HillLand Environmental have been appointed as Independent Environmental Assessment Practitioners (EAP's) by the applicant, **San Marino Home Owners Association (HOA)**, represented by **Lawrence van Staden**, to ensure compliance with regulations contained in the National Environmental Management Act (NEMA Act No. 107 of 1998) and the Environmental Impact Assessment Regulations (2014), as amended, for the proposed riverbank maintenance and additional of floating jetties at San Marino, Erf 586, Keurboomstrand, Plettenberg Bay.

This Environmental Management Programme (EMPr) (as amended to include the conditions of the Environmental Authorisation (EA)) is binding on the applicant and ALL successors in title of the proposed activity - riverbank maintenance at San Marino.

This EMPr is applicable during the removal of the existing riverbank retaining structure, installation of the proposed design as well as for ALL future maintenance required for the operation of the structures.

This EMPr is submitted as per the requirements of a Basic Assessment in terms of NEMA.

The monitoring of compliance with the EMPr is **mandatory** during the pre-construction and construction phases and a **final compliance monitoring report** after the installation and initial rehabilitation phase is a requirement of the EA. This EMPr, in terms of NEMA "Duty of Care", also includes the rehabilitation and operational / maintenance phases that were highlighted as part of the process and it will be the HOA's responsibility to ensure compliance with the specific conditions as indicated in this EMPr.

This EMPr must be included in the tender documents of all prospective contractors (installation and maintenance phase) and must be included in the final contract awarded. **The EMPr must be regarded as binding the HOA and all contractors, sub-contractors agents, consultants and construction & maintenance 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/HOA to ensure that his/her main contractor and any sub-contractors are made aware of the environmental requirements for working on the property.
- The contractor(s) will be required to make good of any damage caused through their actions or the actions of their sub-contractors (in addition to any penalties for non-compliance issued).

Please note that this EMPr is a **dynamic** document, which will grow and be changed with new developments in the field as the need arises. Any further amendments to this EMPr, must be approved in writing by the relevant competent authority.

As per the EA, a copy of the environmental authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, audit reports and compliance monitoring reports must be kept at the site of the authorised activities and be made available to anyone on request, and where the Holder has a website, such documents must be made available on such publicly accessible website.

2 PROJECT DESCRIPTION

The activity will entail the replacement of the existing riverbank protection measures (retaining creosote-treated timber wall structure) which is reaching the end of its lifetime in front of San Marino. Please refer to the below site plan.

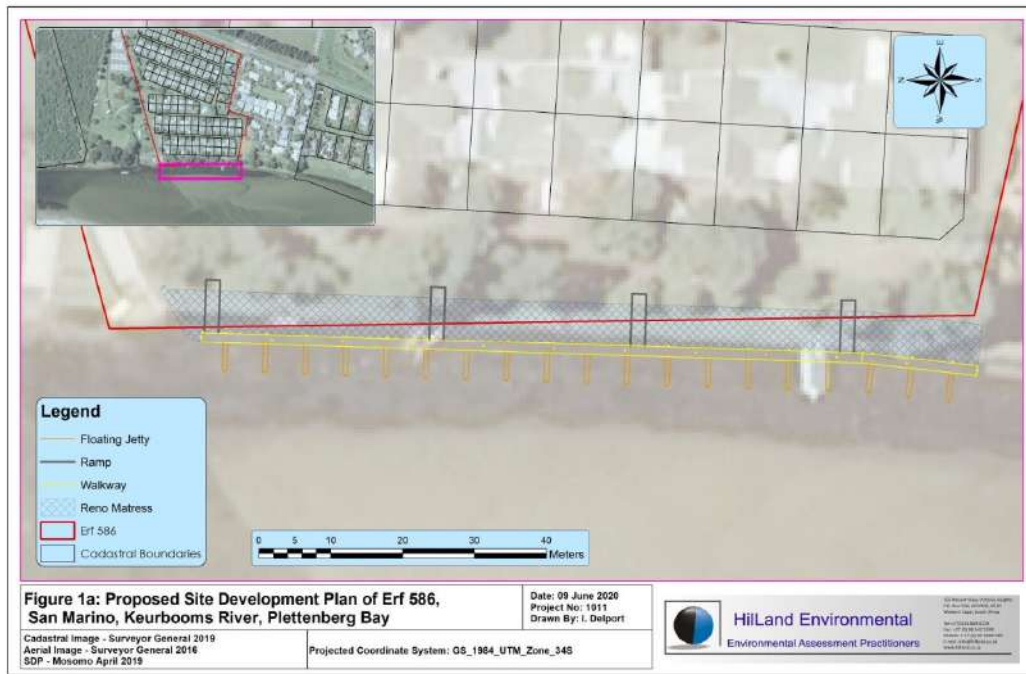


Figure 1: Site Plan for the riverbank maintenance at San Marino (please also see Annexure B)

The 120 m in length retaining structure will be replaced with a differently designed structure which is more ecologically acceptable with the addition of floating jetties will replace the current system of mooring boats along the riverbank. Please refer to the below design.

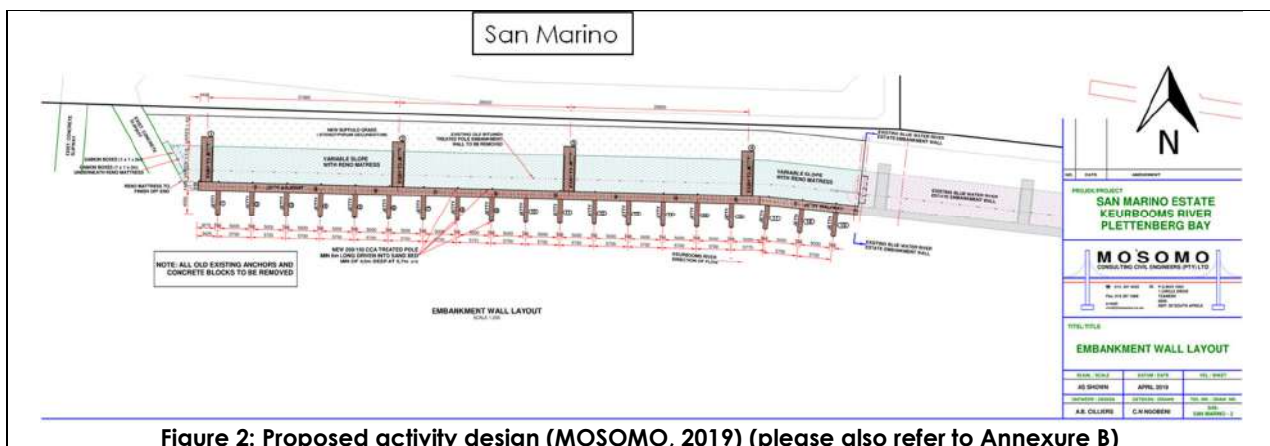


Figure 2: Proposed activity design (MOSOMO, 2019) (please also refer to Annexure B)

The newly designed structure will consist of a sloping stepped sandbag foundation covered by Reno Matress construction which will be re-vegetated with indigenous vegetation and Buffalo grass (*Stenotaphrum secundatum*) that occurs naturally in the intertidal estuary (based on natural zonation).

The reno-mattress will extend approximately 2-3 m beyond the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary (approximately 2 m beyond the line of the existing retaining wall). The toe of the reno-mattress will extend approximately 2.5 m further into the estuary to the floating jetty walkway running parallel to the riverbank (adjacent to the existing SANRAL slipway). The downstream bank will **tie in** with the bank stabilisation at Blue Water River Estate (located downstream of San Marino and which has the same design in place) to ensure that there is no erosion.

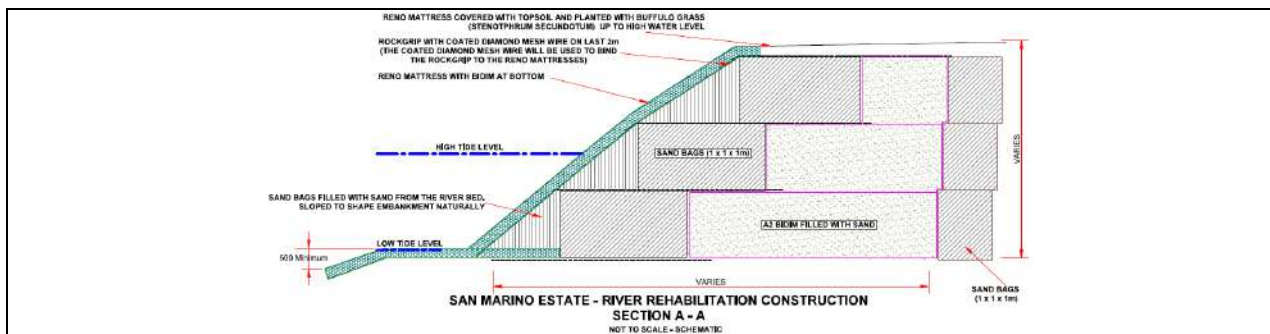


Figure 3: Cross-section of the proposed sloping stepped sandbag foundation covered by reno-mattress construction (MOSOMO, 2019) (please also refer to Annexure B)

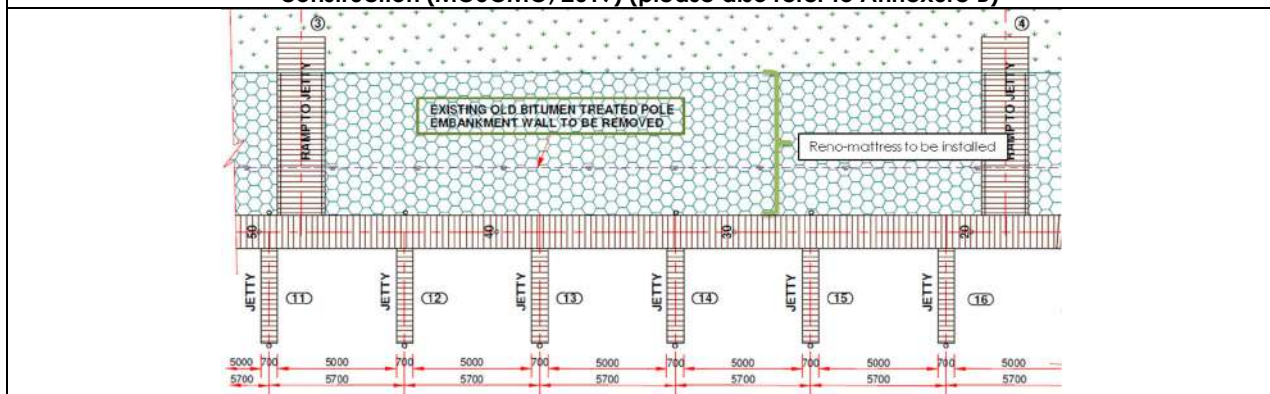


Figure 4: Figure showing the reno-mattress that will be installed and the line of the existing embankment wall (MOSOMO, 2019) (please also refer to Annexure B)

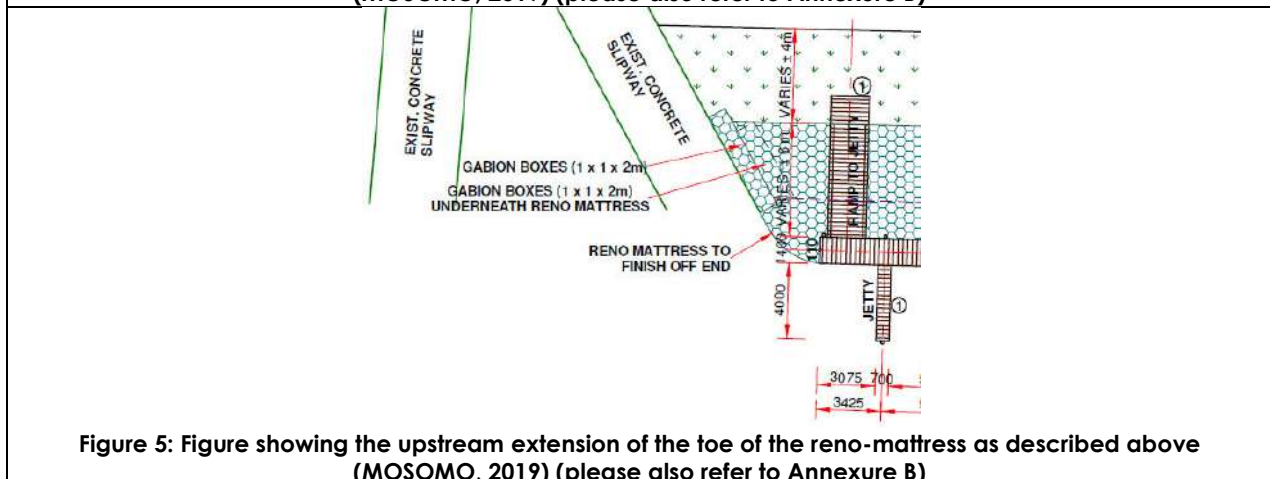
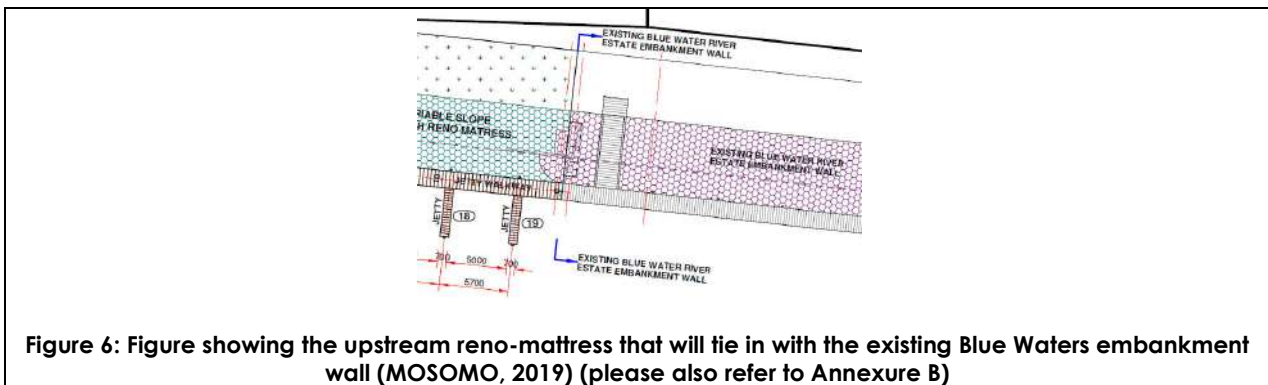
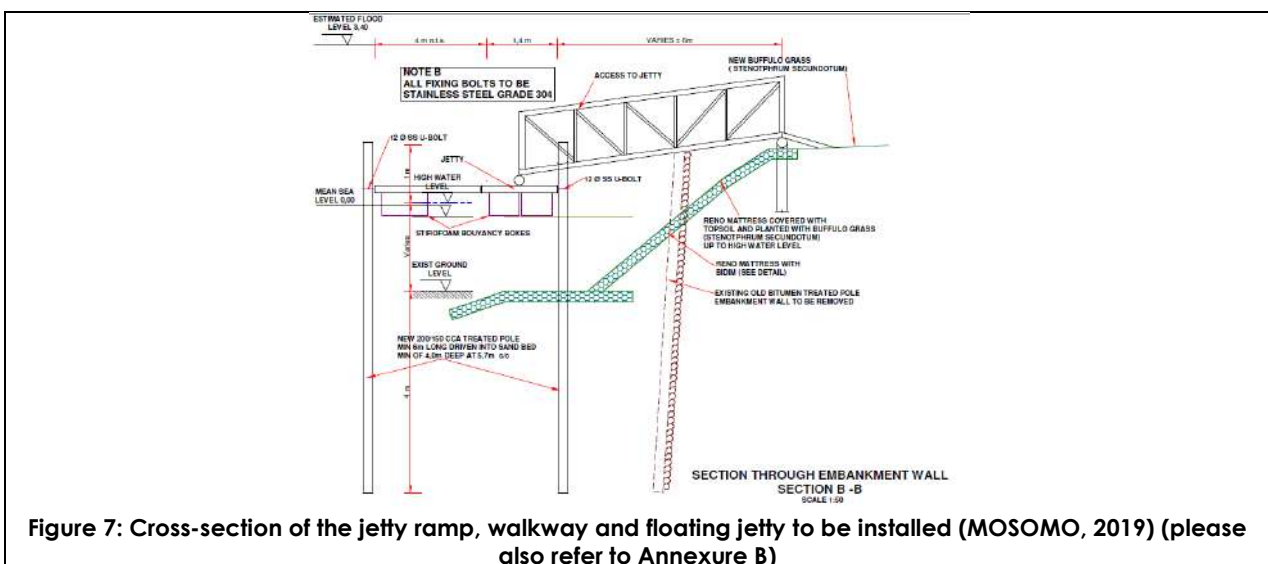


Figure 5: Figure showing the upstream extension of the toe of the reno-mattress as described above (MOSOMO, 2019) (please also refer to Annexure B)



The existing 19 moorings with rear buoy anchors will be replaced with a floating jetty on which the 19 moorings can be accommodated and which will be accessed by various gangplanks. The walkways and jetty will be anchored to a 6 m long CCA treated timber pole which will be driven into the sand bed (depth of 4 m). **As an alternative to CCA treated poles, the use of Accoya wood or polywood is to be used where feasible as it is more environmental friendly.**

The floating jetty removes the necessity of walking in the intertidal zone to access the boats.



Summary of the proposal and construction sequence (MOSOMO, 2019):

- **Replacement of the existing creosote-treated timber retaining wall with a sloping structure constructed from sandbags and geofabric covered with a reno-matress which will be re-vegetated with indigenous riparian vegetation.**
 - The reno-matress will extend from 2 to 3 metres behind the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary underwater (approximately 2 m beyond the line of the existing retaining wall);
 - The toe of the reno-matress will extend 2.5 m further into the estuary, terminating below the line of the floating jetties.

The following construction sequence will be followed:

1. Demarcate the working area

2. Rescue any *Zostera* rhizomes from within the working area and keep them in submerged bags made from 20% shade cloth outside the work area for rehabilitation after the work is complete.
3. Excavation for a level working platform will be done at low tide of the Keurbooms River (low water level mark);
4. A "Rockgrip" layer will be placed on the invert of the excavated area, which will ensure that the proceeding layer is fixed together for adequate stability. Diamond mesh will be fixed to the last 2 m of the "Rockgrip" for fixation to the Reno-mattresses;
5. Reno-mattresses will be placed on top to form the toe of the structure which will prevent the undermining of the embankment;
6. Two (2) rows of sandbags will be placed along the low tide water level contour to form the leading edge of protections against erosion;
7. One (1) row of sandbags will be placed at the back of the excavation area which will form an anchor for the sand fill which will follow;
8. A geotextile layer will form a container between the front and back row of the sandbags, forming a boundary into which the sand can be placed;
9. Sand excavated from the riverbank behind the retaining wall as well as eroded sandy material pumped from the river will be used to fill the geotextile containers which have been formed. Compaction of the soil (through the action of pumping water) will ensure the stability of the embankment;
10. A "Rockgrip" layer will be placed on the crest of the first layer to ensure that the proceeding layer is fixed together for adequate stability. Diamond mesh will be fixed to the last 2 m of the "Rockgrip" for fixation to the Reno-mattresses;
11. **Steps number 4 to 8** will be repeated until the top of the embankment is reached (naturally sloped);
12. Upon completion of the layers, sandbags will be placed on the steps. The bags will be filled with sand and shaped to form a smooth transition between the layers;
13. A geotextile layer will then be placed on the face of the newly shaped embankment (from the bottom of the reno-mattress to the top of the embankment);

A layer of reno-mattress will be placed on top of the geotextile and anchored vertically into the back of the embankment. A layer of organic material (recovered from the intertidal zone before commencement - salt marsh) will be placed on the mattresses in the inter-tidal zone and topsoil (from the excavations) will be placed on top of the remaining reno- mattresses.

14. Indigenous riparian vegetation will be used to vegetate the area to create a natural aesthetic.
- **The replacement of the existing mooring poles with either a Polywood pole or a CCA treated poles (six (6) metres in length) within a plastic sleeve to prevent wood-boring invertebrates from damaging new poles. The poles will be driven into the sand bed to a depth of approximately 4 m.**
 - **The installation of nineteen (19) narrow floating jetties (four (4) metre in length and five (5) metres apart), to be attached to the replaced mooring poles at water's edge where access will be gained from timber walkways (ramps) extending from the existing riverbank.**

As per the EA, condition 4, the works must be done in accordance with the design by MOSOMO (dated April 2019) Drawing Number 949-San-Marino-2. Any deviations from the description of the activity and site plan must be approved by the relevant competent authority before it may be implemented (refer to condition 7 of the EA).

2.1 LISTED ACTIVITIES ASSESSED IN THE BASIC ASSESSMENT REPORT (BAR)

National Environmental Management Act (Act No. 107 of 1998)(as amended):

In terms of Government Notice No. R. 327 and R. 324 and listed activities in terms of NEMA: EIA Regulations (2014, as amended) the following listed activities will require environmental authorisation. Only the approved listed activities may be undertaken.

Listed activities in terms of Listing Notice 1 (GN No. R 983):

Activity number	Listed activity description	Description of portion of the activity that relates to the listed activity
12	The development of - (ii) Infrastructure or structures with a physical footprint of 100 square metres or more; Where such development occurs - (a) within a watercourse; (b) in front of a development setback	The proposed activity will entail the establishment of a floating jetty and the replacement of the current riverbank protection. The footprint of the proposal exceeds 100 square metres. The area occurs within the built-up Urban Area of the Keurbooms Riverbank, however, all activities that take place within the estuary are included.
15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding— the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where <u>coral or</u> indigenous vegetation will not be cleared; or activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	Should the jetty be regarded as falling into the Coastal Public Property (CPP) they will need authorisation.
17	Development - (ii) in an estuary In respect of - (a) fixed or floating jetties and slipways	The proposed activity will entail the establishment of a floating jetty on the Keurboom Estuary. Although the proposed work falls within the existing built-up Urban Area of Plettenberg Bay (Keurboomstrand area), the Estuary and banks of the Keurbooms River are treated as non-urban therefore, this listing applies.
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;	The work involved will require movement of materials within a watercourse – the watercourse involved is the Keurbooms Estuary and as such activity 19A is applicable – see below.

	(d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	
19A	The infilling or depositing of any material of more than 5 cubic metres into, or dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater	The proposed works will require movement of the existing material in the bank to remove the existing timber walls and then fill the sandbags and install them at the new proposed slope. Pumping of mobile sand from the system to complete the work will be required. Bank shaping will be required to achieve the new slope as per the diagram. The bulk of this sand moved will come from the existing bank and estuarine system and is part of the normal erosion and accretion within the estuary.
54	The expansion of facilities - (ii) in an estuary In respect of- (a) fixed or floating jetties and slipways; (f) infrastructure or structures where the development footprint is expanded by 50 square metres or more	The replacement of the vertical timber pole retaining walls with a sandbag and reno-mattress bank protection will see the expansion of the physical footprint of a facility. The area (San Marino) occurs within the built-up Urban Area of the Keurbooms Riverbank, however, all activities that take place within the estuary are included as the estuary is non-urban.

Listed activities in terms of Listing Notice 3 (GN No. R. 985):

Activity number	Listed activity description	Description of portion of the activity that relates to the listed activity
14	The development of - (ii) infrastructure or structures with a physical footprint of 10 square metres or more Where such development occurs - (a) Within a water course; (b) In front of a development setback; or (c) If no development setback has been adopted , within 32 metres of a watercourse' measured from the edge of a watercourse	The installation of floating jetties (larger than 10 m ²) on the Keurbooms River to replace the existing moorings.
23	The expansion of - (ii) Infrastructure or structures where the physical footprint is expanded by 10 square metres or more Where such development occurs - (a) Within a water course; (b) In front of a development setback; or (c) If no development setback has been adopted , within 32 metres of a watercourse' measured from the edge of a watercourse	The replacement of the vertical timber pole retaining walls with a sandbag and reno-mattress bank protection will result in the expansion of the physical footprint of the current retaining structure. The area (San Marino) occurs within the built-up Urban Area of the Keurbooms Riverbank, however, all activities that take place within the estuary are included.

2.2 MANAGEMENT OUTCOMES AND OBJECTIVES FROM THE BAR

As per the EA, where an amendment to the impact management outcomes of an EMPr is required before and environmental audit is required in terms of the environmental authorisation, an EMPr may be amended on application by the Holder of the environmental authorisation.

The following management objectives and outcomes were assessed within the BAR and are, therefore, applicable to the outcome of the project:

Objective: Prevention of disturbance of bed sediment, sedimentation in estuary and disturbance to sediment regime

Impacts to avoid:

- Unnecessary erosion;
- Unnecessary mobilisation of sediment;

Impact management actions:

- Phased systematic construction to ensure the remaining portions of the riverbank is protected;
- Restricting excavations to behind the existing retaining wall and the retaining wall should remain in place until such time as the section has been excavated;
- Assemblage of structures on land (as far as possible);
- Clear demarcation of the working area;
- Restricting work to the low tide and not scheduled during high rainfall periods;
- Pumping of sand near the middle of the estuarine watercourse if necessary for the filling of the bags (if not sufficient material in situ);
- Tie in point with Blue Water Estate should follow a gentle, curved path to minimise localised disturbance to flow patterns and sedimentation transport

Impact management outcomes:

- No erosion of the riverbank;
- No transport of sedimentation downstream;
- No disturbance to flow patterns and sedimentation transport.

Objective: Prevention of pollution

Impacts to avoid:

- Contamination of water as a result of hydrocarbon leaks from heavy machinery;
- Unnecessary use of creosote poles

Impact management actions:

- Use of well-serviced machinery which is regularly inspected for leaks (maintenance, re-fuelling and parking should be done away from the water);
- Re-use removed creosote poles away from the water sources;

Impact management outcomes:

- No contamination of the estuary.

Objective: Prevent loss of estuarine habitat

Impacts to avoid:

- Unnecessary disturbance to eelgrass beds outside of the footprint area;
- Loss of remaining indigenous vegetation;

Impact management actions:

- Footprint of the reno-matress will be minimised as far as possible (setback into the existing riverbank) and disturbance should be restricted to the footprint area;
- Search and rescue to be done prior to the commencement of construction activities;
- Transplanting of rescued vegetation within temporary nursery or adjacent Landscaped areas;
- Stripping of topsoil within footprint areas (riverbank), storing and use in rehabilitation;
- Reducing the width of the jetties and increasing space between the planks as far as possible;
- Removal of existing steps leading into the estuary;

- Adherence to the 'no wake zone' and restrict the movement of the installed structures;
- Re-vegetation of the riparian zone with indigenous vegetation

Impact management outcomes:

- No loss of eelgrass beds which do not fall within the footprint area;
- No loss of indigenous vegetation which could have been transplanted;
- Conservation of riverbank topsoil;
- Rehabilitation of the intertidal zone and riverbank.

Objective: Prevention of impact of potential heritage resources**Impacts to avoid:**

- Potential damage to cultural and / or heritage resources.

Impact management actions:

- Inspection during excavations and work is to cease should any be discovered.

Impact management outcomes:

- Potential heritage impacts are mitigated and avoided;
- Heritage resources are recorded and included in the narrative of the activity.

3 CONDITION OF AUTHORISATION

The Environmental Authorisation (EA) has been granted in respect of the preferred alternative. The EA is **binding** on the applicant, contractors, sub-contractors, agents, construction / maintenance staff and consultants for the activity.

The relevant conditions of the EA have been listed below, however, this section must be read in conjunction with Annexure I.

E. CONDITIONS OF AUTHORISATION
Scope and Validity Period of authorisation
1. This Environmental Authorisation is granted for the period from date of issue until <u>30 September 2030:</u>
2. The non-operational component (construction phase) of the Environmental Authorisation is subject to the following: 2.1 The Holder must start with the physical implementation of all the authorised listed activities on the site within 24-months from the date of issue.
2.2 The Holder must conclude the physical implementation of all the authorised listed activities on the site by <u>31 March 2027.</u>
2.3 The holder must finalise the post construction rehabilitation and monitoring requirements within a period of 6-months from the date the development activity (construction phase) is concluded.
Note: Failure to complete the post construction rehabilitation and monitoring requirements at least six-months prior to expiry of the validity period of an environmental authorisation may result in the Holder not being able to comply with the environmental auditing requirements in time.
3. The post-construction and maintenance component (operational phase) of this Environmental Authorisation is granted until <u>31 March 2030</u> during which period maintenance to the reno-matresses and jetties and monitoring requirements and reporting must be finalised.
Note: The maintenance monitoring requirements should be completed at least six (6) months prior to expiry of the validity period of an environmental authorisation to ensure the Holder is able to comply with the environmental auditing requirements in time.

Failing which, this Environmental Authorisation shall lapse, unless the environmental authorisation is amended in accordance with the relevant process contemplated in the Environmental Impact Assessment Regulations promulgated under the National Environmental Management Act, 1998 (Act no. 107 of 1998).

4. The Holder is authorised to undertake the listed activities specified in Section B above in accordance with the Preferred Alternative described in the FBAR dated 5 November 2021 on the site as described in Section C above.

This Environmental Authorisation is only for the implementation of the Preferred Alternative for the site which entails:

The Holder is herein authorised to undertake the following activity that includes the listed activities as it relates to the replacement of existing creosote timber poles and mooring buoys with the development of a sloping stepped sandbag foundation with vegetated reno-mattresses within the Keurbooms River Estuary at the San Marino complex.

The proposed riverbank design will tie in with the existing embankment upgrade at Blue Waters River Estate and Silverstreams River Estate (located downstream of San Marino) and as such, will result in homogeneous riverbank protective measures with existing boat moorings on controlled floating jetty structures.

The authorisation is for the Preferred alternative which entails the infilling, depositing, excavation and moving of sand of more than 5m³ within 100 metres of the highwater mark of the estuary and the construction of structures and infrastructure for the purpose of:

The replacement of the existing creosote timber poles and vertical riverbank retaining wall with a different designed retaining structure consisting of a structure that will consist of a sloping stepped sandbag foundation covered by reno-mattress construction which will be re-vegetated with indigenous vegetation that occurs naturally in the intertidal zone of the estuary (based on natural zonation). The reno-mattress will extend approximately 2-3 m beyond the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary (approximately 2 m beyond the line of the existing retaining wall). The toe of the reno-mattress will extend approximately 2.5 m further into the estuary to the floating jetty walkway running parallel to the riverbank (adjacent to the existing SANRAL slipway). The downstream bank will tie in with the bank stabilisation at Blue Waters River Estate.

The existing 19 moorings (buoy anchor) will be replaced with a floating jetty with mooring points for 19 boats which will be accessed by a gang plank from the shore. The jetty will be anchored to a 6 m long CCA treated timber pole (or suitable alternative) which will be driven into the sand bed (depth of 4 m). The 4 m x 0.7 m "fingers" of the jetty will be spaced 5 m apart extending into the estuary with the walkway removing the necessity to walk in the intertidal zone to access the boats.

The works must be done in accordance with the design by MOSOMO (dated April 2019) Drawing number 949-San Marino-2 (Annexure 2).

5. This Environmental Authorisation may only be implemented in accordance with an approved Environmental Management Programme ("EMPr").

6. The Holder shall be responsible for ensuring compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the Holder.

7. Any changes to, or deviations from the scope of the alternative described in section B above must be accepted or approved, in writing, by the Competent Authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the Competent Authority may request information in order to evaluate the significance and impacts of

such changes or deviations, and it may be necessary for the Holder to apply for further authorisation in terms of the applicable legislation.

Notification and administration of appeal

8. The Holder must in writing, within 14 (fourteen) calendar days of the date of this decision– 8.1. notify all registered Interested and Affected Parties ("I&APs") of – 8.1.1. the decision reached on the application;

8.1.2. the reasons for the decision as included in Annexure 3;

8.1.3. the date of the decision; and

8.1.4. the date when the decision was issued.

8.2. draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the National Appeal Regulations, 2014 (as amended) detailed in Section G below;

8.3. draw the attention of all registered I&APs to the manner in which they may access the decision;

8.4. provide the registered I&APs with the: 8.4.1. name of the Holder (entity) of this Environmental Authorisation,

8.4.2. name of the responsible person for this Environmental Authorisation,

8.4.3. postal address of the Holder,

8.4.4. telephonic and fax details of the Holder,

8.4.5. e-mail address, if any, of the Holder,

8.4.6. contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and all registered I&APs in the event that an appeal is lodged in terms of the 2014 National Appeals Regulations (as amended).

8.5. The listed activities, including site preparation, must not commence within 20 (twenty) calendar days from the date the applicant notified the registered I&APs of this decision.

8.6. In the event that an appeal is lodged with the Appeal Authority, the effect of this Environmental Authorisation is suspended until the appeal is decided i.e. the listed activities, including site preparation, must not commence until the appeal is decided.

Written notice to the Competent Authority

9. Seven calendar days' notice, in writing, must be given to the Competent Authority before commencement of any activities. 9.1. The notice must make clear reference to the site details and EIA Reference number given above.

9.2. The notice must also include proof of compliance with the following conditions described herein: **Conditions no.: 8, 11 and 13.**

9.3. Seven calendar days' notice, in writing, must be given to the Competent Authority on the commencement of any maintenance activities to any structures during the period that the environmental authorisation is valid.

10. Seven calendar days' written notice must be given to the Competent Authority on completion of the construction activities.

Management of activity

11. The draft or Environmental Management Programme ("EMPr") submitted as part of the application for Environmental Authorisation must be amended and submitted to this Department prior to commencement of any activities on the site: 11.1. The EMPr must be amended to incorporate the following — 11.1.1. Incorporate all the conditions given in this Environmental Authorisation;

11.1.2. All monthly ECO reports to be submitted to the competent authority.

12. The EMPr must be included in all contract documentation for all phases of implementation.
Monitoring 13. The Holder must appoint a suitably experienced Environmental Control Officer ("ECO"), for the duration of the construction and rehabilitation phases of implementation contained herein. 14. The ECO must– 14.1. be appointed prior to commencement of any works (i.e. removal and movement of soil); 14.2. ensure compliance with the EMPr and the conditions contained herein; 14.3. keep record of all activities on the site; problems identified; transgressions noted and a task schedule of tasks undertaken by the ECO; 14.4. remain employed until all development activities are concluded, and the post construction rehabilitation and monitoring requirements are finalised. 15. A copy of the Environmental Authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, audit reports and compliance monitoring reports must be kept at the site of the authorised activities and be made available to anyone on request, and where the Holder has website, such documents must be made available on such publicly accessible website. 16. Access to the site referred to in Section C must be granted, and the environmental reports mentioned above must be produced, to any authorised official representing the Competent Authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein. Auditing 17. The Holder must, for the period during which the environmental authorisation and EMPr remain valid ensure the compliance with the conditions of the environmental authorisation and the EMPr, is audited. 18. 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: 18.1. Auditing during the non-operational phase (construction activities): 18.1.1. During the period which the development activities have been commenced with on site, the Holder must ensure annual environmental audit(s) are undertaken and the Environmental Audit Report(s) submitted annually to the Competent Authority. 18.1.2. 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 post construction rehabilitation and monitoring requirements. 18.2. Auditing during the operational phase (post construction and maintenance activities): 18.2.1. During the post-construction and maintenance phase, the Holder must ensure annual environmental audit(s) are undertaken following the completion of the construction phase/post construction rehabilitation and monitoring requirements and such Environmental Audit Report(s) must be submitted annually to the Competent Authority. Note: The final auditing requirements should be completed and submitted at least three months prior to expiry of the validity period of the environmental authorisation to ensure the Holder is able to comply with all the environmental auditing and reporting requirements and for the competent authority to be able to process it timeously.

19. The Environmental Audit Report(s), must– 19.1. be prepared and submitted to the Competent Authority, by an independent person with the relevant environmental auditing expertise. Such person may not be the ECO or EAP who conducted the EIA process;

19.2. provide verifiable findings, in a structured and systematic manner, on– 19.2.1. the level of compliance with the conditions of the environmental authorisation and the EMPr and whether this is sufficient or not; and

19.2.2. the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.

19.3. identify and assess any new impacts and risks as a result of undertaking the activity;

19.4. evaluate the effectiveness of the EMPr;

19.5. identify shortcomings in the EMPr;

19.6. identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;

19.7. indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;

19.8. indicate the date on which the maintenance/ rehabilitation was commenced with and the progress of the rehabilitation;

19.9. include a photographic record of the site applicable to the audit; and

19.10. be informed by the ECO reports.

20. The Holder must, within 7 calendar days of the submission of the audit report to the Competent Authority, notify all potential and registered I&APs of the submission and make the report available to anyone on request and on a publicly accessible website (if applicable).

Specific Conditions

21. Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains may only be disturbed by a suitably qualified heritage specialist working under a directive from the relevant Heritage Resources Authority.

Heritage remains include: meteorites, archaeological and/or paleontological remains (including fossil shells and trace fossils); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artefacts and bone remains; structures and other built features with heritage significance; rock art and rock engravings; shipwrecks; and/or graves or unmarked human burials including grave goods and/or associated burial material.

4 TERMS OF REFERENCE

The main terms of reference of this EMPr is to identify and mitigate any potential negative environmental impacts that may be associated with the construction and ongoing maintenance phase of the riverbank maintenance at San Marino.

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

4.1 ENVIRONMENTAL CONTROL OFFICER (ECO)

An Environmental Control Officer (ECO) **must** be appointed to oversee the installation of the riverbank maintenance structures during the construction phase and maintenance requirements during the operational phase, ensure compliance with Environmental Authorisation (EA) and Environmental Management Programme (EMPr) and to assist with issues as they may arise on-site.

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

Clear communication between San Marino (HOA) and appointed operational / maintenance phase ECO will be required. It will be the responsibility HOA to advise the ECO of any storm / flooding events and if any maintenance / rehabilitation of the riverbank stabilisation will be required.

The HOA (San Marino) will be responsible for the remuneration of the ECO and any other expenses encountered in the process of environmental monitoring of the construction phase and assistance provided throughout the operational / maintenance phase.

4.1.1 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.

4.1.2 ROLES AND RESPONSIBILITIES OF THE ECO

The ECO will undertake the following tasks:

- Ensure that all additional permit and registration requirements (such as OSCAE; lease agreement with CapeNature and registration of the floating jetties in terms of the Bitou By-law) are in place before work is to commence on-site;
- Ensure **compliance** with the EMPr at all times during the pre-construction and construction phase;
- Ensure compliance with relevant management **conditions** of the EA during the pre-construction and construction phase;
- To work in close co-operation with the engineer, contractors, management and HOA (San Marino) of the site;
- Meet with the contractors to set out the pre-construction requirements and construction environmental parameters within which they must work;
- Provide an **Environmental Induction (Environmental Education)** with all contractors, sub-contractors and staff **prior** to the commencement of any work (pre-construction phase);
- 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 (pre-construction phase);
- Rescued plants (eelgrass beds) should be transplanted to areas unaffected by the upgrade. These areas must be demarcated as **no-go areas** for boat traffic by means of buoys. Adherence to these no-go demarcations should be monitored;
- Indicate where **erosion** protection and sedimentation prevention measures are required or need to be supplemented and to ensure correct implementation;
- Approve the footprint of the reno-matress to ensure that the coverage of existing eelgrass beds are minimised;

- Check up on general environmentally friendly construction practices (e.g. no littering, safe and secure environment, contamination risks, etc.);
- Ensure that the careful excavation practices are adhered to and done correctly (in terms of locality and mitigation measures of the estuarine specialist);
- Ensure that all of the mitigation measures set out by the estuarine specialist are adhered to at all times;
- Provide a report back at site meetings (should there be any) and / or report to the HOA (San Marino) and contractor following an inspection, 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 construction phase of the installation of the riverbank maintenance, jetty and including the rehabilitation of the site following installation. The ECO is to be available at any time as required by the contractors, resident engineer or authorities;
- The ECO is to provide guidance and advice on the rehabilitation measures that should be implemented in accordance with the rehabilitation phase (as required following installation and maintenance in the long-term). The ECO should visit the site **monthly** during the rehabilitation phase until deemed sufficient by the ECO;
- The ECO should visit the site on a **yearly** basis for the first year after installation in order to determine if the riverbank rehabilitation is effective and to provide advice for any additional rehabilitation measures required to achieve good vegetation cover (riparian buffer).
- The ECO must be appointed for the operational phase of the structure to visit the site after any storm event to determine if any maintenance / riverbank rehabilitation measures are required and advise accordingly;
- 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;
- ECO to ensure that the site signage and demarcation is in place;
- The ECO is to keep a site diary; a photographic record of activities taking place on-site, 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;
- The ECO is to provide a **final completion report** following the installation of the riverbank maintenance and rehabilitation of the site. This report must be submitted within 6 months of the completion of the installation of the riverbank maintenance structures of the status of the riverbank rehabilitation. The report must be submitted to the competent authority (DEADP), the Bitou Municipality (Environmental control section) & applicant (HOA: San Marino);
- 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.

5 SPECIFICALLY REQUIRED ENVIRONMENTAL MANAGEMENT PRACTICES

5.1 CONSTRUCTION TIMEFRAMES

In accordance with the EA, seven calendar days' notice, in writing, must be given to the Competent Authority before the commencement of any activities.

The construction phase timeframes **must** be done in accordance with the mitigation measures set out by the estuarine specialist (Confluent Environmental, 2021):

- **"Excavations** should take place during **low tide** to minimise the mobilisation and transport of high volumes of sediment into the estuary.

- Excavation of the estuary bed and placement of sandbags and reno mattress should take place **systematically** (i.e. one section at a time) to avoid exposing sections of excavated bed or banks to fluctuating tide levels. **The excavation of a section of the bed and placement of sandbags should therefore be completed within a single low tide cycle**, before moving onto the next section. Excavation of the bank and placement of sandbags therefore needs to be **planned according to the time provided by the low tide cycle**.
- Construction activities should be timed to **avoid periods of high rainfall** and should be **avoided** during **wet** weather conditions.
- Construction activities should also be **timed in relation to potential rainfall** occurring **higher up** in the Keurbooms river catchment to mitigate against the effects of flooding in the estuary.
- The retaining wall could be kept in place until such time as the section of bank has been excavated, thereby acting as a physical barrier and limiting the transport of sediment into the estuary as much as possible" (Confluent Environmental, 2021).

Adherence to these timeframe mitigation measures will be the responsibility of the contractor and the HOA (San Marino) and ECO will need to sign off the scheduling before the commencement of activities.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Planning and design phase							
Commence ment of construction activities	Installation of the riverbank maintenance at San Marino	•"Excavations should take place during low tide to minimise the mobilisation and transport of high volumes of sediment into the estuary. •Excavation of the estuary bed and placement of sandbags and reno mattress should take place systematically (i.e. one section at a time) to avoid exposing sections of excavated bed or banks to fluctuating tide levels. The excavation of a section of the bed and placement of sandbags should therefore be completed within a single low tide cycle, before moving onto the next section. Excavation of the bank and placement of sandbags therefore needs to be planned according to the time provided by the low tide cycle. •Construction activities should be timed to avoid periods of high rainfall and should be avoided during wet weather conditions. •Construction activities should also be timed in relation to potential rainfall occurring higher up in the Keurbooms river catchment to mitigate against the effects of flooding in the estuary. •The retaining wall could be kept in place until such	To be taken into account during the planning and scheduling of the construction phase	ECO and HOA (San Marino) to sign off the schedule for the commencement of activities	Sign off (once) of the scheduling before any work are to commence on-site	Contractor to compile and plan schedule ECO, San Marino (HOA) and Engineer to sign off schedule	ECO to ensure that the schedule is signed off and ECO and HOA to ensure that no work are done within the restricted periods To be included in the compliance monitor report

		time as the section of bank has been excavated, thereby acting as a physical barrier and limiting the transport of sediment into the estuary as much as possible" (Confluent Environmental, 2021).					
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- Environmental induction (environmental education) should take place **prior** to the commencement of activities on-site (refer to Section 5.3);
- A method statement is to be provided to the ECO detailing the construction methods anticipated prior to the commencement (refer to Section 5.3).

Construction phase is anticipated to take 2-3 months.

5.2 REQUIRED REGISTRATIONS AND PERMITS

A **lease agreement** will need to be in place with CapeNature for the jetty in terms of the Sea Shore Act and the HOA will need to **comply with** and **register** for the Bitou By-Law for moorings.

An OSCAE application must be submitted to Bitou Municipality before the commencement of activities on-site. Any recommendations or conditions listed in the permit must be strictly adhered to. The HOA (San Marino) will be responsible for covering any costs associated with the OSCAE application, including covering the costs of the ECO.

Details of submission of the OSCAE application:

An OSCAE application in terms of Section 21 of the Environmental Conservation Act, 73 of 1989 and Regulation 3 of the Outeniqua Sensitive Coastal Area Extension regulations (R1526 of 27 November 1998) must be applied for and be issued prior to construction commencing.

Bitou Municipality: Environmental Management Officer	
Contact person	Anje Taljaard
Email	ataljaard@plett.gov.za
Tel	(044) 501 3318

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Planning and design phase							
Commencement of construction activities	Installation of the riverbank maintenance at San Marino	Activities on-site are to commence only once the required permits and registrations are in place Compliance with recommendation of conditions of the permits will be implemented and monitored	OSCAE permit application to be done following receipt of EA	ECO and HOA (San Marino) to ensure that the permit application is done HOA to ensure that the lease agreement and registration are done	OSCAE permit application done only following receipt of EA Lease agreement and registrations should be done prior to commencement	ECO and HOA (San Marino) to ensure that the registration, lease agreement and OSCAE permit are in place prior to commencement of activities on-site	ECO to ensure that permit is in place prior to commencement of activities on-site (construction phase) To be included in compliance monitoring report

As what will be required in the Environmental Authorisation (EA), the holder must ensure that the competent authority (CA) is notified one week in advance on the commencement of the activities on-site. As requested by SANRAL, this notification must be provided to Nicole Abrahams (WR) AbrahamsN@nra.co.za.

5.3 MATERIALS TO BE USED FOR FLOATING JETTIES AND MAINTENANCE

The design drawing specifies the use of Styrofoam covered float devices which will need to comply with the CapeNature specifications. The CapeNature approved method is for a high density foam with a fibre cement covering that protects the foam from damage and pollution into the system.

Any damaged cell needs to be taken out and replaced or repaired.

CapeNature recommend the manufacturer Sagex based in Gqeberha (PE) or similar approved product.

Where accidental external damage is caused to a float device need to be removed and repaired. The replacement of float devices within their expected lifespans will be required so that no deterioration and loss to the environment can take place.

5.4 PRE-CONSTRUCTION PHASE

5.4.1 ENVIRONMENTAL INDUCTION

All contractors, sub-contractors and 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 minimising 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 is required for **all contractors prior** to them commencing on site.

5.4.2 METHOD STATEMENT

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

- Construction methods anticipated
- Location of the construction camp (should it be required)
- Solid waste
- Wastewater
- Erosion and sedimentation / destabilisation control
- Access to the site (as per the EMPr)
- Fire control
- Signage

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

5.4.3 ESTABLISHMENT OF FOOTPRINT AREA

Work below the high-water mark must be limited and coverage of the existing beds by the reno-matress should be minimised wherever possible to ensure that the remaining stock of plants that could expand

in range post-construction. The final positioning of the sloping stepped sandbag foundation covered by reno-mattress should be approved by the ECO, HOA and engineer.

To ensure the potential improvement of the remaining patches of eelgrass to establish and spread over-time, a 5 m gap between each jetty will be required. The width of the jetties must be minimised as far as possible to reduce the effect of shading and the space between the planks of the walkways must be increased to improve light penetration beneath the jetties.

It is important to remove the existing steps leading from the bank into the estuary to restrict pedestrian access to the estuary.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Design phase, pre-construction and construction phase							
Setting out the final positioning of the sloping stepped sandbag foundation covered by reno-mattress	Installation of the riverbank maintenance at San Marino	The final positioning and design must be approved and signed-off by the ECO, HOA (San Marino) and engineer Existing steps into the estuary must be removed Clear demarcation of the working zone must be implemented	Final positioning of the riverbank maintenance must be established on-site before excavation works are to commence	Engineer and land-surveyor to establish final positioning ECO and HOA (San Marino) to sign-off the positioning Contractor and ECO to monitor adherence to the no-go demarcation to ensure that no activities infringe beyond the footprint area	Final positioning to be inspected once by the ECO, HOA, engineer and land-surveyor Contractor to monitor adherence to demarcation daily ECO to conduct weekly inspections during the construction phase	Engineer and land surveyor to set out final positioning ECO and HOA to inspect and sign-off final positioning and conduct construction phase monitoring to monitor compliance Contractor to maintain and monitor work within the demarcated areas	ECO to inspect and sign-off final positioning To be included in compliance monitoring report

5.4.4 VEGETATION CLEARANCE, PLANT RESCUE PROGRAMME AND PROTECTION OF FAUNA AND FLORA

Prior to commencement of construction and excavation activities to remove the existing timber wall the building footprint is to undergo an indigenous plant rescue survey together with the ECO. Any indigenous plants that are deemed worth rescuing are to be properly bagged, stored and maintained in a temporary nursery established on-site (to be used in rehabilitation) or the plants in question are to be immediately transplanted out of the building footprint. It will be the responsibility of the HOA (San Marino) to ensure that the rescued plants are watered as required. A record of each plant is to be maintained (see Annexure F).

Existing *Zostera capensis* (eelgrass) plants that are located within the footprint of the riverbank maintenance should be rescued if possible and transplanted to areas unaffected by the upgrade so as to establish new areas of growth. Boat traffic over these areas should be prevented (e.g. through the placement buoys indicating 'no-go' areas) until such time as the plants have established.

Method of transplanting eelgrass (Confluent Environmental, 2021 & Zhou et al., 2004):

Bundles of shoots and associated rhizomes structures (three shoots with rhizomes is recommended) should be bound to elongated stone (approximately 50 - 150 g) using biodegradable threat (e.g. cotton or hemp), which were then buried in the sediment (holes dug with a scoop so that the rhizomes are situated at a depth of 2 - 4 cm in the sediment). Please refer to the below figures adapted from Zhou et al., 2004.

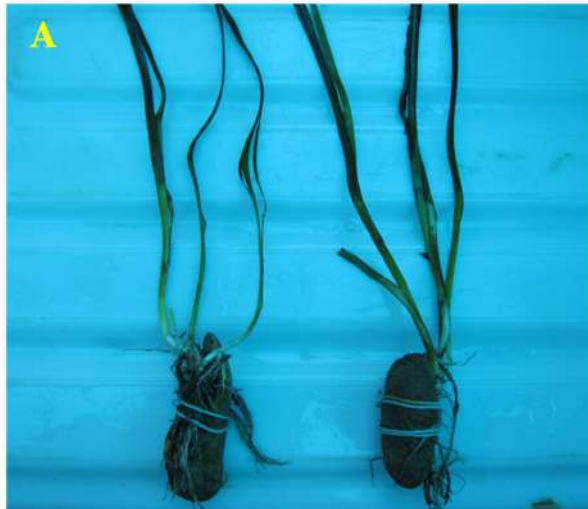


Figure 8: Photo A: Stones with three (3) shoots and rhizomes attached to elongated rocks with a cotton threat (Zhou et al., 2004)



Figure 9: Photo B: Stones with three (3) shoots and rhizomes attached to elongated rocks with a hemp threat (Zhou et al., 2004)

Disturbance (i.e. trampling, smothering etc.) of eelgrass beds that fall outside of the footprint area of the reno-matress should be minimised as far as possible to ensure that a stock of plants remaining that could expand in range post-construction. As such, the coverage of the existing beds by the reno-matress should be minimised wherever possible. The removal, damage or disturbance of flora and fauna is **forbidden** outside the immediate construction area without the written approval of the ECO. The Contractor shall ensure that **no** hunting, trapping, shooting, poisoning or otherwise disturbance of any fauna takes place.

It is suggested that lawn from the work areas be removed as sod to replace when work is complete in the garden areas to restore stockpile sites and areas where machinery has moved and damaged the lawns.

- 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.
- Should any protected trees be discovered (during the implementation of the plant rescue programme and / or vegetation clearing) that need transplant/pruning/removal a DAFF permit will be required in terms of the National Forest Act (NFA) (Act No.84 of 1998, as amended).

All cut vegetation shall be disposed of off-site at an approved disposal site. Stockpiling of cut vegetation shall only be permitted in areas indicated by the ECO. **No** cut vegetation shall be burnt on site.

The affected work area needs to be cleared of all listed invasive plants before construction is complete. Ongoing alien vegetation control should be implemented throughout the operational phase of the development.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Pre-construction and construction phase							
Inspection of the construction footprint before the commencement of construction activities	Installation of the riverbank maintenance at San Marino	Inspection of the site by the ECO prior to commencement of earthworks and the transplanting of eelgrass beds prior to commencement of work within the estuary No fauna and flora beyond the working zone may be affected, disturbed and / or removed - demarcation of working zone must be adhered to	Pre-construction phase: Prior to the commencement of activities on-site	ECO and contractor to ensure plant rescue are conducted and demarcation is in place prior to commencement of construction activities ECO inspections to ensure that no-go area are being adhered to and inspections of rescued vegetation	Inspection by the ECO of the site with the contractor to advise on plants that are to be rescued and ensure that eelgrass beds are transplanted correctly Weekly inspections by the ECO of the pre-construction and construction phase Contractor to monitor site daily	ECO and contractor to ensure that plant and eelgrass rescue are conducted HOA to provide approval of storage of rescued plants (if required) Contractor to monitor adherence to no-go demarcation and inspection of the site for any additional plant or animal rescue	ECO to monitor and sign-off plant-rescue and demarcation of the working zone To be included in compliance monitoring report

5.4.5 DEMARCATION OF THE WORKING AREA AND ACCESS

All working areas are to be restricted to the immediate bank and lawn areas. Stockpile sites for the sand and reno-mattresses must be agreed with the residents and the ECO. No work below the toe of the reno-mattress slope is permitted.

All people working on site must be made aware of the boundaries in which work is to be done. Those areas, in which no work is required, are to be considered as no-go areas. The following applies:

- Civil contractors - all areas outside that of the defined works is deemed a no-go area.
- All construction activities must be restricted to the demarcated areas to ensure that no further disturbance into the surrounding area occurs.
- No encroachment or activities may take place outside the work areas.
- No-Go areas will be required to be demarcated, where feasible, 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.
- Adjacent properties to the construction site may not be entered by any construction staff if permission is not granted by the owner. Access to Blue Waters River Estate (downstream) of San Marino may only be granted when the tie in section is being constructed.
- The ECO should monitor adherence to the No-Go area policy.
- Access into the No-Go areas by personnel is strictly forbidden (i.e. Work breaks such as lunch are not permitted outside the defined work area - no entry into the neighbouring properties or open space areas). 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).

Please see Annexure C for a schematic representation of definite no-go areas as determined during the assessment phase.

Additional no-go areas are to be determined in conjunction with the appointed ECO on-site and are to be adhered to by all contractor staff.

Access to the site may only be gained via the existing internal roads of San Marino. No new roads may be created.

5.5 GENERAL CONSTRUCTION REQUIREMENTS

5.5.1 SITE AGENT

The contractor shall appoint a responsible agent to ensure that they comply with this EMPr and all its conditions. This party is to report directly to the ECO and HOA (San Marino) and will need to attend the induction and be briefed on the requirements by the ECO. This party is to be part of the site team and report directly to the ECO, HOA and Engineer on all matters concerning the environment. It is recommended that this communication regarding queries, concerns and updates is done through phone calls, electronic photos, emails and reports. The site agent and will need to attend the induction and be briefed on the requirements by the ECO.

5.5.2 USE OF LOCAL LABOUR

It is strongly recommended that a local contractor using local labour is used for the construction phase of this project. "Local" implies people within the Plettenberg Bay / Keurbooms/ Crags 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 sub-contractors. **These records are to be provided to the ECO by the contractor(s) on a monthly basis.**

These are to be broken up into the following criteria:

Classification	Numbers & % Local to Plettenberg Bay area	Numbers and % from Southern Cape (excluding Plettenberg Bay area)	Number & % from outside Southern Cape
Semi-skilled			
Operators			
Artisans			
Management			
Professionals			
Other			

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Construction and operational (maintenance) phase							
Construction phase of the riverbank maintenance at San Marino	Installation of the of riverbank maintenance at San Marino	The use of local labour to maximise positive benefit to the local area	During the construction phase of the installation and maintenance of the structures	Contractor to ensure compliance and ECO to monitor compliance	Monthly monitoring of submission of records by the contractor(s) to the ECO	Contractor to employ local labour and submit records to ECO and applicant (HOA: San Marino)	ECO to monitor. To be included in the monthly monitoring report

The main contractor (not yet appointed) should implement the following requirements:

- The target would be to provide 100% of semi-skilled local labour from Plettenberg Bay. It is suggested that the total average local labour target (including Southern Cape) should be maintained above 80%. Where local expertise is either not available or where the local labour is not economically competitive, a skills transfer programme is suggested to compensate. All records are to be kept and available.
- Records should be submitted to the ECO on a **monthly** basis for monitoring purposes.

5.5.3 CONTRACTOR SITE CAMP AND STORAGE OF CONSTRUCTION MATERIAL

- If a camp site is to be set up, during construction it needs to be on the lawn adjacent to the work being undertaken as agreed to by the HOA and ECO.
- Ablution facilities (chemical toilets) are to be provided on-site for use of the staff. These are to be located away from the river, secured so that they cannot blow away and be serviced regularly.
- A fenced-off area / bin with a secure lid must be created within the camp site for refuse and waste management.
- Refuse is to be collected in two separate containers, one for recyclable materials (glass, metal, paper and plastic) and the other for non-recyclable materials. These are to be disposed of at the various approved waste disposal sites.
- Recycle - any timber poles that can be reused need to be stockpiled separately.
- 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.
- Storage of all materials required for the contract must occur within this camp site, or otherwise approved area (by the ECO).
- Appropriate signage must be erected at the construction site to ensure that safety regulations are adhered to.

The following must be adhered to with regards to the storage of construction material:

- The pre-determined location of stockpile sites to be approved by the ECO and landowner, **prior** to commencement of stockpiling.
- All stockpile sites to be properly demarcated.
- Silt protection measures around stockpile sites will be required where materials pose a risk of washing/ blowing into the Keurboom River.
- 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 / boundary without written permission from the appropriate landowner.
- No hazardous materials to be stored on-site like diesel, petrol etc. without written approval by DEADP.

5.5.4 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.

5.5.5 HERITAGE RESOURCES

Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains may only be disturbed by a suitably qualified heritage specialist working under a directive from the relevant Heritage Resources Authority.

Heritage remains include: meteorites, archaeological and/or paleontological remains (including fossil shells and trace fossils); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artefacts and bone remains; structures and other built features with heritage significance; rock art and rock engravings; shipwrecks; and/or graves or unmarked human burials including grave goods and/or associated burial material.

Activities	Size and Scale	Mitigation Measures	Timeframe for Implementation	Method of Monitoring Implementation	Frequency of Monitoring	Responsible Persons	Compliance Monitoring
Pre-construction and construction phase							
Clearance of vegetation and excavation associated with the riverbank maintenance	Installation of the riverbank maintenance at San Marino	If any historical/cultural items are uncovered, work is to immediately cease in order to contact HWC. The appointed ECO to advise further	Pre-construction and construction phase	ECO and contractor to monitor vegetation clearance, excavations and erosion	Contractor to monitor the site on a daily basis and monitor entire excavation process ECO to conduct weekly inspections during the construction phase	Contractor to ensure compliance and ECO to monitor compliance Contractor to notify ECO should any heritage resources be discovered	ECO to monitor To be included in compliance monitoring report

5.5.6 NOISE MANAGEMENT

The contractor must comply with the regulations pertaining to noise. SANS 10400 is applicable. Contractor and staff are only permitted to work Mondays to Fridays (07:00 – 17:00). No work on public holidays or weekends permitted to avoid disturbance to local residents and visitors.

The work will result in the occurrence of construction noise as well as resulting in a decrease in the sense of place from a visual perspective during the construction activities. This is to be anticipated and will be short term and temporary. Work hours will be determined by the tidal fluctuations and periods when the work area is accessible. Due consideration of neighbours and residents must be taken at all times.

The downstream tie in with Blue Waters River Estate needs to be undertaken in consultation with the neighbours.

5.5.7 WASTE MANAGEMENT

It is not anticipated that much waste will be generated on site, however, the following is recommended and needs to be adhered to by the contractor.

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 (to be located on San Marino's property and in close proximity of the working area). 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.**

The contractor shall ensure that the site is maintained in a **neat and tidy condition** and kept free of litter (it is very important that no litter enters the estuary). Measures must be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. 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. No burning, on-site burying or dumping of waste shall occur. No illegal dumping of construction material may take place. **All refuse bins** must be cleaned on a regular basis and before the start of the weekend (Friday afternoons - closing time).

Solid waste, only when absolutely necessary, may be temporarily stored within an approved locality (to be approved by the ECO, HOA and landowner (if applicable)). However, stored solid waste must be removed and disposed of at an approved landfill site as soon as possible and the contractor shall supply the ECO with certificated of disposal.

Creosote poles that will be removed from the existing structure are to be re-used on the premises or within the local area as fencing or for other appropriate uses (not to be used within any water resources). This keeps with the projects overall aim to re-use, reduce and recycle waste wherever possible. Should it be found necessary to dispose of any such treated poles, it must be noted that they are classified hazardous waste and must be transported to a hazardous waste dump approved by the local authority. Record of disposal/ alternative use of rotten creosote treated timber poles which includes photographic evidence where appropriate must be provided to the ECO.

5.5.8 ABLUTION FACILITIES

The contractor must provide a chemical ablution facility for construction personnel working on site. One (1) facility for every 15 persons on site is required. The positioning of the ablution facility must be approved by the ECO and San Marino HOA.

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 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.

5.5.9 FIRE PROTECTION

There is a relatively low risk of wild fires occurring on the site. However, the contractor should take all reasonable and active steps to **avoid** increasing this risk (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 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.

by the tidal fluctuation most mattresses will need to be pre-packed and lifted to position to make maximum use of the limited construction window due to the tides (refer to Section 5.1). As soon as the mattresses are placed they should be secured into position as directed.

5.6.4 TOPSOILING RENO-MATTRESS

The placement of topsoil over the reno-mattresses ensures that good vegetation cover can be achieved.

The stockpiled topsoil is to be placed over the reno-mattresses to a depth of 20 cm. This will subside into the mattresses over time, but plant roots will bind the soil and keep the mattresses covered. Topsoil, if not sufficient from the site, needs to be imported.

5.6.5 ASSEMBLAGE AND INSTALLATION OF FLOATING JETTY

The floating jetty structures should, as far as possible, be assembled on land to minimise the amount of time spent working within in the estuary and associated disturbance to the inter-tidal zone. The jetty installation sites should be clearly demarcated and accessed directly from the bank to avoid unnecessary trampling of inter-tidal areas that are not earmarked for jetty installation (Confluent Environmental, 2020/21/19).

5.6.6 ALIGNMENT WITH BLUE WATERS

"The southern-most end of the new bank construction must align with the existing Blue Water Estate. The transition from these "tie-in" points to the alignment of the new bank should follow a gentle, curved path to minimise localised disturbance to flow patterns and sediment transport" (Confluent Environmental, 2021).

5.6.7 HEAVY MACHINERY WORKS

- "All machinery should be readily serviced and inspected for leaks. Machinery needing repairs should not be used for construction at the site until repaired and fully operational.
- Any work or maintenance on the machinery should be done far away from the watercourse, preferably in a work yard or on a concrete surface.
- Refuelling of the machinery must take place away from the watercourse and on a concrete surface to prevent seepage.
- All machinery should be parked off-site, and away from the edge of the watercourse when not in use" (Confluent Environmental, 2021).

5.7 REHABILITATION PHASE

5.7.1 PLANTING OF THE RIVERBANK

Planting of indigenous plants to create a riparian zone along the reno-mattress construction will add further stability to the banks and improve the general biodiversity and ecological connectivity of the riverbanks. As such, the structure will have a positive impact upon the establishment of the intertidal habitat as well as the creation of an indigenous vegetation buffer along the riverbank suiting the salinity profile. The reno-mattress will provide an area for organisms to create an ecosystem and thus the overall biodiversity of the area will be increased.

The replanting needs to be done to ensure that the correct species are planted in the correct areas. Planting of the reshaped riverbank is to occur sequentially as that portion of the bank maintenance as been completed.

Salt Marsh type vegetation:

- To be sourced as cuttings locally
- These can be prepared in advance in seed trays so that rooted cuttings are available for planting as the sections of the bank are complete.
- To be planted into the areas from 1 m above the high water mark to the normal low tide mark.
- Zonation of the Keurbooms estuary salt marsh type plants must be used to guide the replanting. (i.e. plant the species in the same area along the salinity profile as the area from which the cuttings were sourced).
- No nursery-grown plants should be used to not introduce genetic variance to the system.

Riparian zone (above the normal high tide mark)

- Sod the bank from above the high water mark to the top of the existing river bank with a combination of *Stenotaphrum secundatum* (Buffalo Grass) and *Cynodon dactylon* (Kweek Grass) in order to ensure that there is a rapidly binding grass that can protect the topsoil while the more long term species establish themselves.
- The use of sod pegged onto the slope will ensure that the topsoil is protected from abnormally high tidal and wave action.
- The sods should **NOT** be mowed but must be allowed to grow naturally. A 2 m setback from the crest of the created slope should be instated wherein no mowing of the grasses may occur except to gain access to the jetties.
- Plant a selection of coastal forest and fynbos seedlings in clusters up the slope in order to create habitat without blocking views etc.
- Each bush clump should consist of approximately three (3) trees species and four to five (4 – 5) shrub species.
- **E.g. of species suited to bush-clump planting:**
 - *Sideroxylon inerme* (White milkwood)
 - *Pterocelastrus tricuspidatus* (Candlewood)
 - *Euclea racemosa* (Dune guarri)
 - *Searsia chirendensis* (Red crowberry)
 - *Searsia lucida* (Glossy crowberry)
 - *Searsia glauca* (Blue kunibush)
 - *Searsia crenata* (Dune crowberry)
 - *Cassine aethiopicum*
 - *Polygala myrtifolia* (September bush)
 - *Grewia occidentalis* (Crossberry)
 - *Halleria lucida* (Tree-fuchsia)
 - *Diospyros dichrophylla* (Star-apple)
 - *Olea europaea* subsp. *africana* (Wild olive)
 - *Metalasia muricata* (Coast metalasia)
 - *Phyllica* species
 - *Passerina rigida*
 - *Chironia baccifera* (Christmas berry)
 - *Geranium incanum* (Carpet geranium / Amarabossie)
 - *Pelargonium capitatum* (Coast pelargonium)
- The bush-clumps are to be spaced approximately 10 – 15 m apart within the 2 m setback from the crest of the slope and approximately 5 – 10 m apart along the riparian zone of the slope.

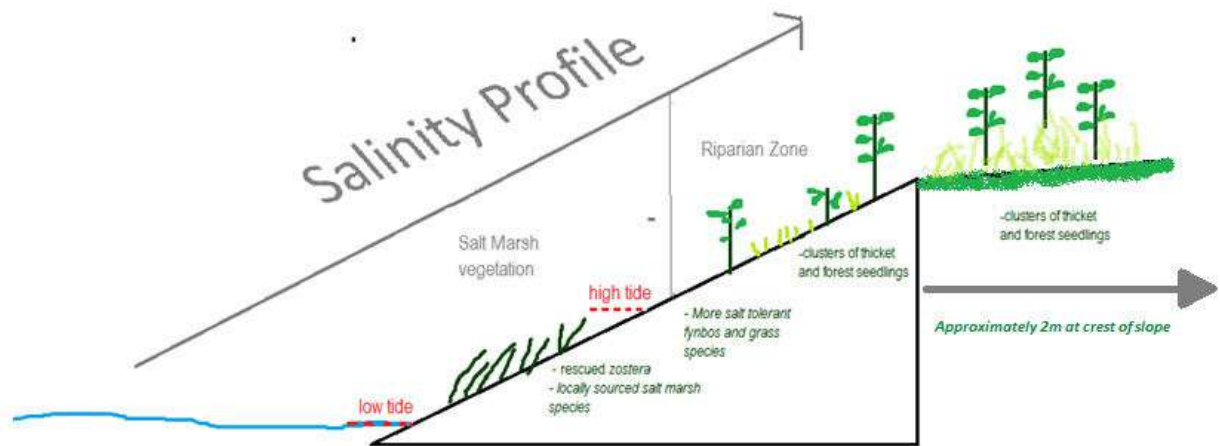


Figure 11: Diagram showing the salinity profile and suitable vegetation for rehabilitation of the sloped retainer bank

6 MONITORING REQUIREMENTS AND REPORTS

- An **induction** meeting with the ECO and the contractor to ensure that they are aware of the requirements of this EMPr and the EA before the commencement of the installation of the riverbank maintenance at San Marino. Induction registers to be kept for all contractors on site.
- The ECO must inspect the site prior to commencement of activities to identify plants to rescue (including eelgrass beds) and demarcate no-go areas.
- The ECO must inspect work zone prior to commencement of the activities and demarcate no-go areas or indicated areas of sensitivity.
- The ECO is to do a site inspection **once a week** during the construction and rehabilitation phase and submit a **monthly** compliance monitoring report to the applicant (HOA: San Marino), municipality (environmental department), SANRAL (Nicole Abrahams (WR) AbrahamsN@nra.co.za) and competent authority (DEADP, region 3 George).
- 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.
- Upon **completion** of the installation of the riverbank maintenance, addition of floating jetties and rehabilitation of the site, a **final compliance monitoring report** must be submitted by the ECO to sign-off compliance with environmental requirements. The report must be submitted to DEADP and the applicant (HOA: San Marino) within 6 months of the completion of the installation of the rock revetment (irrespective of the status of the rehabilitation).
- Ongoing monitoring by the ECO is required once a year after completion to assess rehabilitation success.
- The HOA needs to report to the ECO after every storm event in order to ascertain the degree of maintenance management and / or rehabilitation that is required.
- **In accordance with the EA, seven calendar days' written notice must be given to the Competent Authority on completion of the construction activities.**

7 AUDITING REQUIREMENTS

As per the EA, the holder must, for the period during which the environmental authorisation and EMPr remain valid ensure the compliance with the conditions of the environmental authorisation and the EMPr, is audited.

The frequency of auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr, must adhere to the programme as included in the EA.

- During the development activities have been commenced with on site the Holder must ensure annual environmental audit(s) are undertaken;
 - 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 post construction rehabilitation and monitoring requirements.
 - During post-construction and maintenance, the Holder must ensure **annual** environmental audit(s) are undertaken.
-
- The holder of the Environmental Authorisation (EA) must appoint a suitable and qualified **independent** EAP to conduct any Audits as required by DEADP in the EA.
 - The audit is to report on the success of the implementation of the EA and the EMPr as the case may be.

8 OPERATIONAL PHASE

The HOA of San Marino 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 (maintenance) phase monitoring should be conducted by the HOA (who must appoint an ECO to assist and offer advice as required by the HOA).

As the maintenance requirements of the riverbank maintenance could be a primary source of disturbance and damage to the environment, the HOA and maintenance contractor are bound by the following:

8.1 MAINTENANCE AND MANAGEMENT REQUIREMENTS

The "no-wake zone" rule should be strictly enforced to minimise the disturbance to the estuarine habitat and biota. The use of buoys to demarcate the areas is advised (Confluent Environmental, 2021).

The newly installed riverbank stabilisation and jetties must be visually assessed monthly regularly and at spring low-tide by the maintenance staff of San Marino. This must be done in terms of San Marino's duty of care and use of the CapeNature approved product. The findings must be recorded for each of the inspection on the attached Annual Visual Inspection Form (please refer to Annexure G).

If any damage is suspected or found it must be **immediately** investigated and repaired without delay (small repair jobs) or as soon as it is feasibly possible to acquire additional materials needed for such a repair. In this way, maintenance is to be a continuous process and the need for a large repair situation minimised. The nature of damages and repairs implemented are to be documented on the aforementioned sheet (Annexure G).

Where accidental external damage is caused to a float device need to be removed and repaired. The replacement of float devices within their expected lifespans will be required so that no deterioration and loss to the environment can take place. The replacement design and Styrofoam covered floating devices will need to comply with CapeNature specifications.

should a sever flood event result in damage to the floating jetty structures, the HOA will be required to arrange for the collection of any part of the structure that is washed away and deposited in the downstream environment.

The following should be taken into consideration during monthly inspections;

- Monitoring use of jetty and walkway as well as re-vegetation rate of re-sloped banks. If deemed necessary, temporary signage is to be erected to keep people off of the re-vegetated banks.
- Any areas of the new riverbank slope where the reno-mattresses become exposed, damaged or where vegetative growth is slow or has been lost to the river action need to be assisted as follows:
 - o Repair any damage to the reno-mattresses by hand;
 - o Re-secure reno-mattresses to each other should they shift apart;
 - o Replace any rockfill as necessary by hand;
 - o Replace topsoil or sand, as appropriate, that has been washed away from above the reno-mattress by hand;
 - o Reseed / sod according to the original specifications;
 - o Replant seedling / cuttings of salt marsh species as appropriate below the high tide mark;
 - o Planting indigenous terrestrial plants in clusters **above** the high tide mark (please also refer to the rehabilitation requirements under Section 5.6);
 - o Ensuring any alien species and weeds that germinate are removed from the site every 3 months.
 - o The salinity profile will determine the vegetation according to the natural zonation of riparian vegetation in this zone of the estuary.
 - o In the event of sever flooding and damage to the floating jetties, the HOA need to arrange for the collection of any part of the structure washed away and deposited in the downstream environment.

In addition to **bi-monthly inspections**, additional visual inspections and associated repairs need to be conducted after any and every flooding event. An **annual inspection** is also to be conducted together with a representative from CapeNature and CapeNature is to receive a copy of the **annual report** in the format of the annual visual inspection sheet. The date of said inspection is to be arranged between San Marino (HOA) and CapeNature at a time best suiting all representatives. These additional inspections are also to be recorded on the annual visual inspection form following the same prescribed layout as monthly inspections (see Annexure G).

If there is an imminent flood forecast, CapeNature will issue a warning. The correct protocols and appropriate steps regarding such an event, as recommended by CapeNature, are to be complied with in such an instance.

9 DECOMMISSIONING PHASE

Should there ever be a need for decommissioning, and the riverbank needs to be totally removed – all material foreign to the site must be removed and must be disposed of at an approved waste disposal site. The procedure for the decommissioning of the riverbank should be the same as that for the construction.

Any material that can be recycled should be recycled.

10 LEGISLATIVE REQUIREMENTS

10.1 SEA SHORE ACT (ACT 21 OF 1935)

A lease agreement will need to be in place with CapeNature for the jetties in terms of the Sea Shore Act. An annual inspection must be conducted with a CapeNature representative as indicated under Section 8.1.

10.2 BITOU BY-LAW

San Marino HOA must ensure that the moorings are registered in terms of the Bitou By-laws.

10.3 PENALTIES OF 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 (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 and / 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.

11 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).

ANNEXURE A
Locality Map

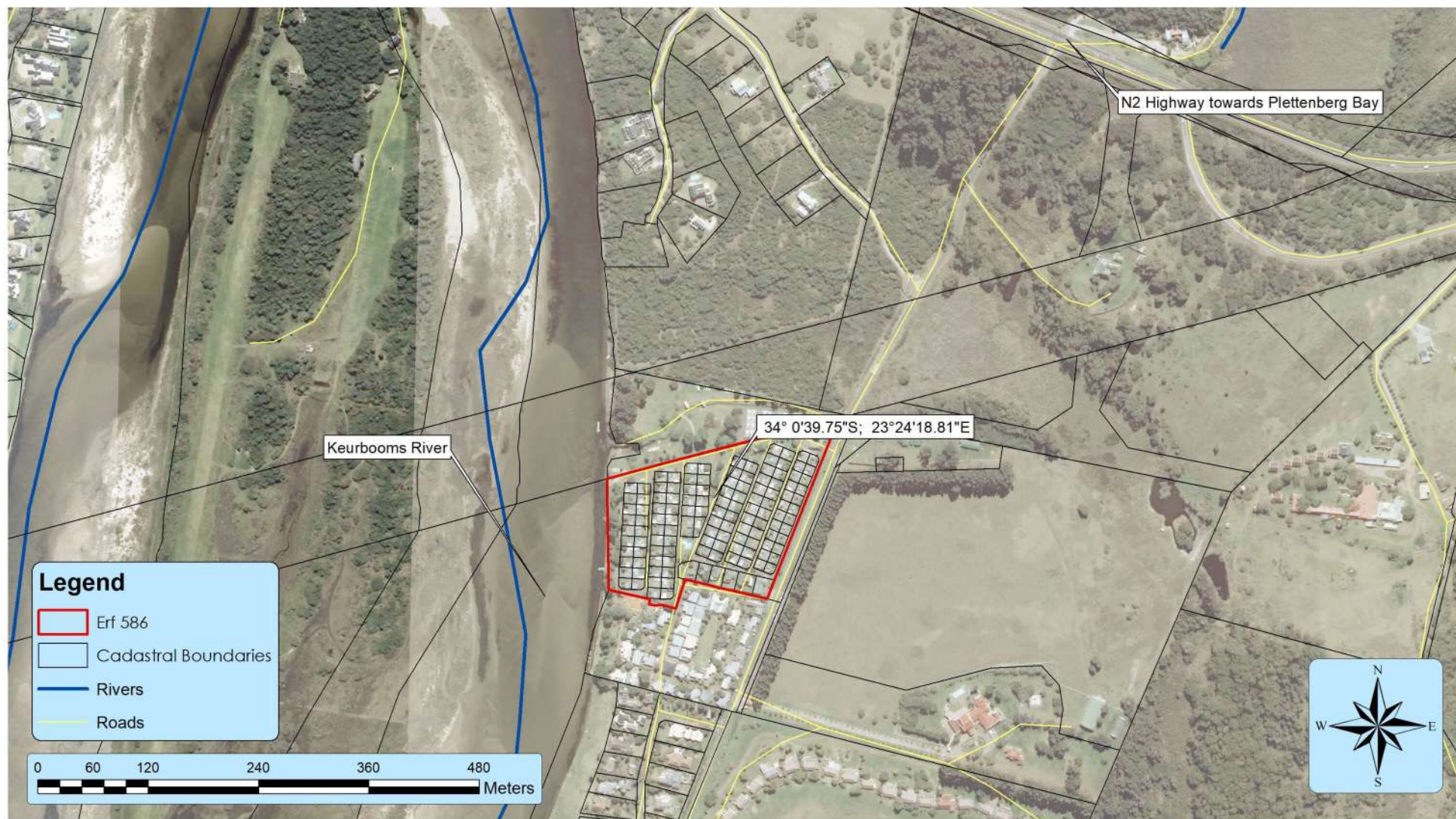


Figure 1: Locality Map of Erf 586, San Marino, Keurbooms River, Plettenberg Bay

Cadastral Data- Surveyor General 2019
Aerial Image - Surveyor General 2016
Scale: 1:2,000

Projected Coordinate System: GS_1984_UTM_Zone_34S
Prevailing wind direction: West

Date: 18 June 2020
Project No: 1011
Drawn By: S. Delpont



HilLand Environmental
Environmental Assessment Practitioners

166 Mount View, Victoria Heights
P.O. Box 595, GEORGE, 6530
Western Cape, South Africa
Tel: +27(0)44 809 0229
Fax: +27(0)44 842 5268
Mobile: +27(0)82 5586 586
E-mail: info@hiland.co.za
www.hiland.co.za

ANNEXURE B
Site Development Plans



**Figure 1a: Proposed Site Development Plan of Erf 586,
San Marino, Keurbooms River, Plettenberg Bay**

Cadastral Image - Surveyor General 2019
Aerial Image - Surveyor General 2016
SDP - Mosomo April 2019

Date: 09 June 2020
Project No: 1011
Drawn By: I. Delpont

Projected Coordinate System: GS_1984_UTM_Zone_34S



HilLand Environmental
Environmental Assessment Practitioners

166 Mount View, Victoria Heights
P.O. Box 599, GEORGE, 6530
Western Cape, South Africa
Tel: +27 (0) 44 809 0229
Fax: +27 (0) 86 542 5268
Mobile: +27 (0) 82 5586 589
E-mail: info@hiland.co.za
www.hiland.co.za

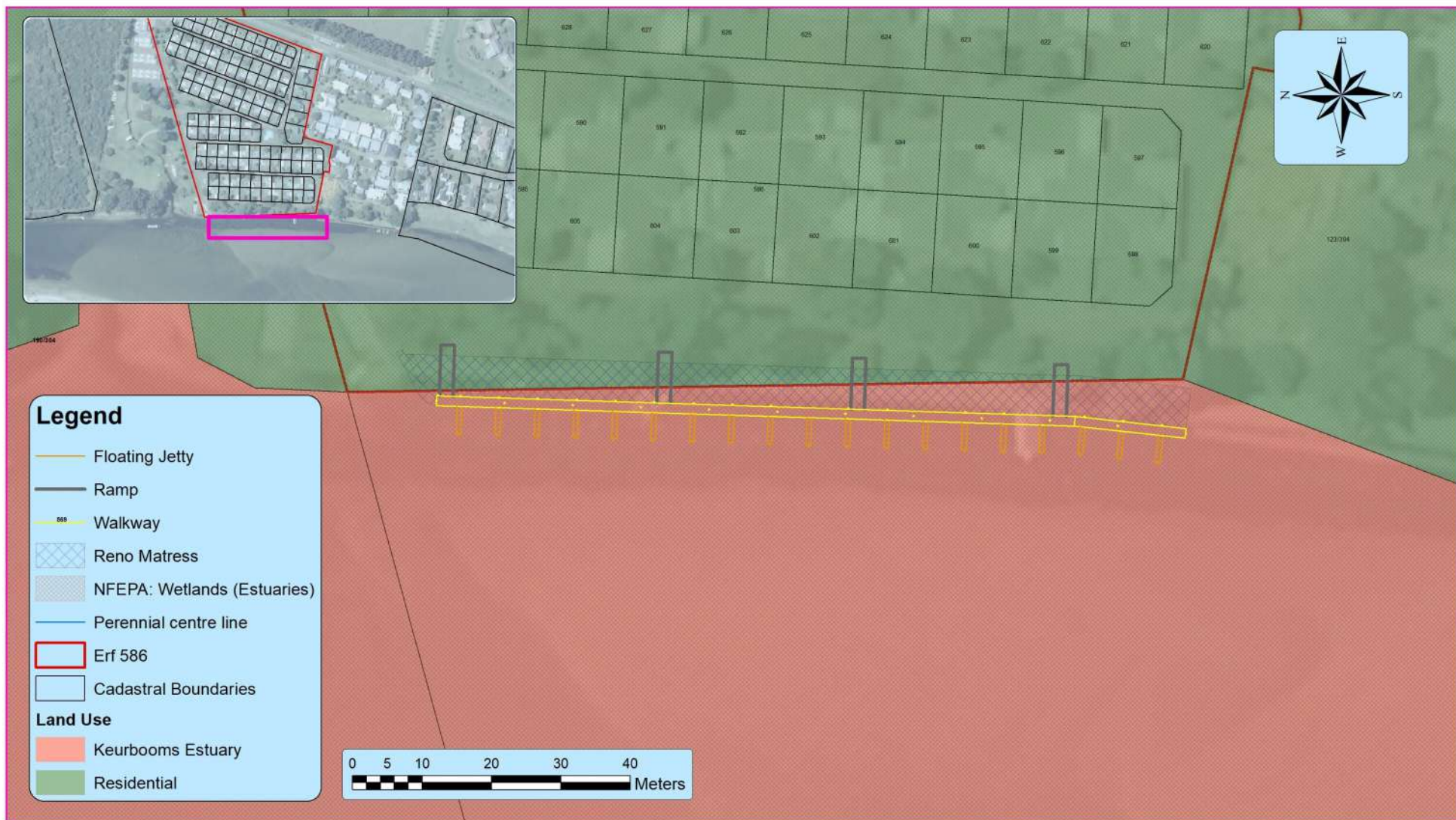


Figure 1a: Proposed Site Development Plan of Erf 586, San Marino, Keurbooms River, Plettenberg Bay

Cadastral Image - Surveyor General 2019
Aerial Image - Surveyor General 2016
SDP - Mosomo April 2019

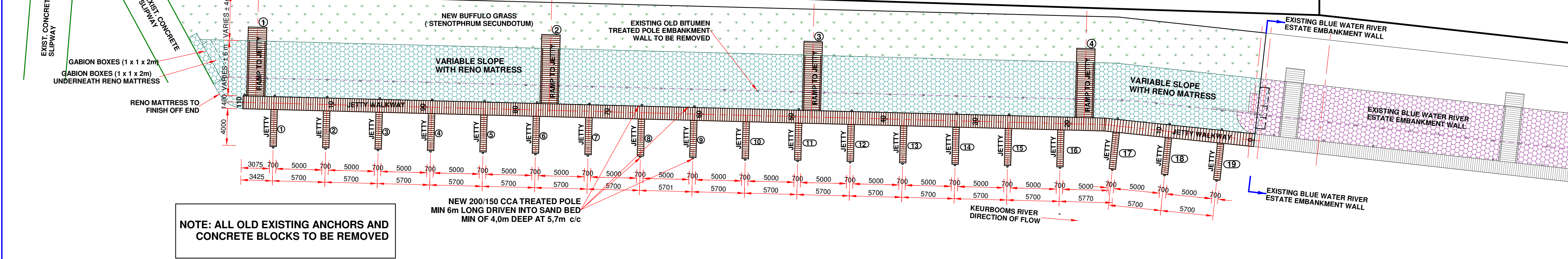
Projected Coordinate System: GS_1984_UTM_Zone_34S
Scale:1:265

Date: 09 June 2020
Project No: 1011
Drawn By: I. Delpoit

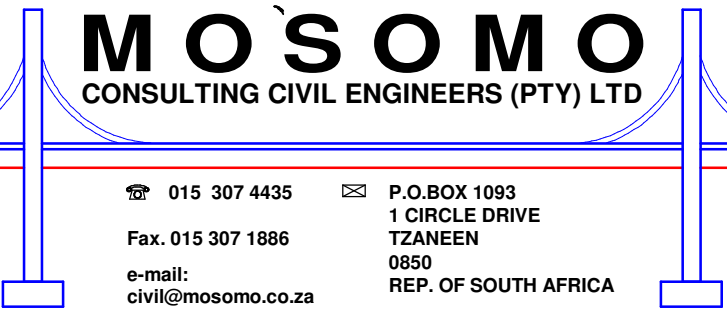


HilLand Environmental
Environmental Assessment Practitioners

166 Mount View, Victoria Heights
P.O. Box 599, GEORGE, 6530
Western Cape, South Africa
Tel: +27(0)44 809 0229
Fax: +27(0) 86 542 5268
Mobile: + 27 (0) 82 5586 589
E-mail: info@hiland.co.za
www.hiland.co.za



EMBANKMENT WALL LAYOUT
SCALE 1:250

NO.	DATE	AMENDMENT
PROJEK/PROJECT SAN MARINO ESTATE KEURBOOMS RIVER PLETTENBERG BAY		
 MOSOMO CONSULTING CIVIL ENGINEERS (PTY) LTD 015 307 4435 Fax: 015 307 1886 e-mail: civil@mosomo.co.za P.O. BOX 1093 1 CIRCLE DRIVE TZANEEN 0850 REP. OF SOUTH AFRICA		
TITEL/TITLE EMBANKMENT WALL LAYOUT		
SKAAL / SCALE	DATUM / DATE	VEL / SHEET
AS SHOWN	APRIL 2019	
ONTWERP / DESIGN	GETEKEN / DRAWN	TEK. NR. / DRAW. NR.
A.B. CILLIERS	C.N. NGOBENI	949- SAN MARINO - 2

ANNEXURE C
No-Go Map



Figure 1A: Schematic Representation of the Working Zone and Area where Sand may be Pumped to Fill the Sandbags

Cadastral Image - Surveyor General 2019
Aerial Image - Surveyor General 2016
SDP - Mosomo April 2019

Projected Coordinate System: GS_1984_UTM_Zone_34S
Scale:1:500

Date: 17 July 2020
Project No: 1011
Drawn By: I. Delpont



HilLand Environmental
Environmental Assessment Practitioners

166 Mount View, Victoria Heights
P.O. Box 595, GEORGE, 6530
Western Cape, South Africa
Tel: +27 (0) 82 809 0229
Fax: +27 (0) 82 542 5268
Mobile: +27 (0) 82 5586 586
E-mail: info@hiland.co.za
www.hiland.co.za

ANNEXURE D

Environmental Induction Sheet
and Register



Tel: +27 (0) 44 889 0229
Fax: +27 (0) 86 542 5248
Mobile: +27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

DATE:

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Tel: +27 (0) 44 889 0229
Fax: +27 (0) 86 542 5248
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BASIC RULES OF CONDUCT WITH REGARD TO ENVIRONMENTAL MANAGEMENT

The following list represents the basic Do's and Don'ts towards environmental awareness, which all participants in this project must consider whilst carrying out their tasks. These are not exhaustive and serve as a quick reference aid.

NOTE: **ALL new site personnel must be briefed on** environmental awareness. Please inform your foreman or manager if you have not attended such a presentation or contact the Environmental Control Officer (ECO).

DO:

- USE THE TOILET FACILITIES PROVIDED.
- CLEAR YOUR WORK AREAS OF LITTER AT THE END OF THE WEEK.
- STORE LITTER IN THE BINS PROVIDED FOR THIS PURPOSE.
- CONFINE WORK AND STORAGE OF EQUIPMENT TO WITHIN THE IMMEDIATE WORK AREA.
- USE ALL SAFETY EQUIPMENT AND COMPLY WITH ALL SAFETY PROCEDURES.
- PREVENT CONTAMINATION OR POLLUTION OF STREAMS AND WATER CHANNELS.
- REPORT ANY INJURY OF AN ANIMAL.
- PREVENT EXCESSIVE DUST AND NOISE.
- ENSURE THAT SIGNAGE AND OTHER SAFETY MEASURES ARE IN PLACE AND MONITORED.

DO NOT:

- REMOVE OR DAMAGE VEGETATION WITHOUT DIRECT INSTRUCTION.
- MAKE ANY FIRES – no open flames or naked flames for heating or cooking shall be allowed unless at designated braai areas.
- BURN WASTE ON ANY PART OF THE SITE.
- INJURE, TRAP, FEED OR HARM ANY ANIMALS – this includes birds, frogs, snakes, lizards etc.
- ENTER ANY FENCED OFF OR MARKED AREA.
- SPEED OR DRIVE RECKLESSLY.
- ALLOW WASTE, LITTER, OILS OR FOREIGN MATERIALS ANYWHERE ON SITE.
- LITTER OR LEAVE FOOD LYING AROUND.
- ENTER NO-GO AREAS.

Notes:

1. **Should any animals such as tortoises or snakes be encountered do not harm them. They will move away by themselves.** The harming of any animal will result in disciplinary action. If there is a snake that poses a threat to humans, CapeNature must be contacted for the safe capture and removal of the snake.
2. Ensure that vehicles and machinery do not leak fuel or oils. Refuelling or maintenance must be done within the site camp area only.

	Workers & equipment must stay inside the site boundaries at all times		Use the toilets provided Report full or leaking toilets
	Do not swim in or drink from streams Do not throw oil, petrol, diesel, concrete or rubbish in the stream Do not work in the stream without direct instruction Do not damage the banks or vegetation of the stream		Only eat in demarcated eating areas Never eat near a river or stream Put packaging & leftover food into rubbish bins
	Protect animals on the site Ask your supervisor or Contract's Manager to remove animals found on site		Do not litter - put all rubbish (especially cement bags) into the bins provided Report full bins to your supervisor The responsible person should empty bins regularly
	Do not damage or cut down any trees or plants without permission Do not pick flowers		Always keep to the speed limit Drivers - check & report leaks Ensure loads are secure & do not spill
	Put cigarette butts in a rubbish bin Do not smoke near gas, paints or petrol Do not light any fires without permission Know the positions of fire fighting equipment Report all fires		Know all the emergency phone numbers
	Work with petrol, oil & diesel in areas marked for this Report any petrol, oil & diesel leaks or spills Use a drip tray under vehicles & machinery Empty drip trays after rain & do not throw this water into a river		Spot fines of between R20 and R2000 Fines will be deducted from wages Removal from site Construction may be stopped
	Try to avoid producing dust - wet dry ground & soil		Report any breaks, floods, fires, leaks and injuries to your supervisor Ask questions!
	Do not make loud noises around the site, especially near schools and homes Report or repair noisy vehicles		
		CONSTRUCTION PERSONNEL INFORMATION BOARDS: DO'S AND DON'T'S	

ANNEXURE E
Method Statement Form

METHOD STATEMENT

CONTRACT:

DATE:

PROPOSED ACTIVITY (give brief description and reference number from CEMP)

WHAT WORK IS TO BE UNDERTAKEN? (give a brief description of the works)

WHERE ARE THE WORKS TO BE UNDERTAKEN? (where possible, provide an annotated plan and a full description of the extent of works)

START AND END DATE OF WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED

Start Date:

End Date:

HOW ARE THE WORKS TO BE UNDERTAKEN? (provide enough detail, including annotated sketches and plans where possible)

ANNEXURE F

List of Rescued Indigenous Plants



Tel: +27(0)44 889 0229
Fax: +27 (0) 86 542 5248
Mobile: + 27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

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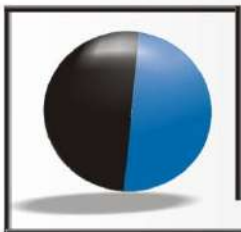
ANNEXURE G

Annual Visual Inspection Form

Annexure G – Annual Visual Inspection Form

Date (DD/MM/YYYY)	Inspector (Name and Signature)	Damages	Repairs made	Comments

ANNEXURE H
CVs of EAPs



HilLand Environmental

Environmental Assessment Practitioners

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Western Cape, South Africa

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Fax: +27 (0) 86 542 5248
Mobile: + 27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

CATHERINE AVIERINOS

1970/06/19

BSc(Hons) Rhodes University

cathy@hilland.co.za

CURRICULUM VITAE (Abbreviated)

Qualifications:

- 1991 Bachelor of Science (BSc.) Botany & Zoology, Rhodes University
- 1992 Bachelor of Science Honours (BSc Hons) Botany, Rhodes University
- Various LLB courses (Unisa)

Career:

- 1992 – present Founder member of HilLand Associates and HilLand Environmental, Environmental Management Consultants
- 1993 – 1995 Part time Lecturer in Conservation Development, Saasveld Campus of the Port Elizabeth Technicon (now NMMU).

Publication:

Over 800 reports commissioned as part of Environmental Impact Assessment Processes, Public Participation, Scoping, Environmental Management and specialist botanical reports.
Popular articles on Environmental Management.

Fields of Expertise:

27 years' experience in Vegetation Surveys, Vegetation Sensitivity Mapping, Biodiversity Assessments, Specialist Botanical Assessments, Environmental Impact Assessments, Environmental Impact Reports, Environmental Planning and Management, Rehabilitation, Environmental Management Plans & Frameworks, Strategic Conservation Planning with Multi Spectrum Participation, Environmental compliance monitoring and auditing, Public participation and facilitation.

Projects:

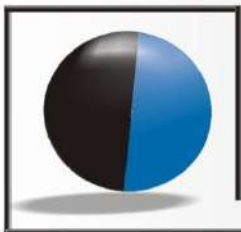
Leading and participating in over 900 projects in terms of ECA and NEMA on a variety of Development Projects within Southern Africa.
Various Research Projects focusing on environmental management, planning and rehabilitation.

Conferences & Associations:

- Participant in various National Conferences.
- Member of the International Association of Impact Assessors South Africa (IAIAsa).
- Founder chairperson of the Southern Cape branch of IAIAsa.
- Botanical Society of South Africa.
- South African Association of Botanists.

Celebrating 27 years of environmental consulting

HilLand Environmental Consultants cc - Trading as HilLand Environmental



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Mobile: + 27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

INGE DELPORT

1993/09/23

BSc(Hons) Stellenbosch University

environmental2@hilland.co.za

CURRICULUM VITAE (Abbreviated)

Qualifications:

- 2014 Bachelor of Science (BSc.) Biodiversity & Ecology, Stellenbosch University
- 2015 Bachelor of Science Honours (BSc Hons) Biodiversity & Ecology, Stellenbosch University

Career:

- | | |
|---------------------------------|--|
| June 2018 – present: | Junior Environmental Consultant at HilLand Environmental Consultants, George |
| November 2016 – June 2017: | Guide, animal handler and assistant reservationist at The Ann van Dyk Cheetah Centre, Hartbeespoort. |
| December 2015 – September 2016: | Assistant Lodge and Reserve Manager at Fathala Wildlife Reserve, Senegal, West Africa |

Publication:

Several reports commissioned as part of Environmental Impact Assessment Processes, Public Participation and Environmental Management.

Fields of Expertise:

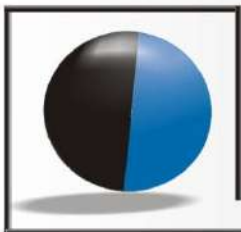
1 years' experience in Vegetation Sensitivity Mapping, Biodiversity Assessments, Environmental Impact Assessments, Environmental Impact Reports, Environmental Planning and Management, Rehabilitation, Environmental Management Plans & Frameworks, Environmental compliance monitoring and auditing, Public participation and facilitation.

Projects:

Leading and participating in projects in terms of NEMA on a variety of Development Projects within the Southern Cape.

Celebrating 27 years of environmental consulting

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Western Cape, South Africa

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Fax: +27 (0) 86 542 5248
Mobile: + 27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

STEFAN DELPORT

1992/09/02

BSc Stellenbosch University

environmental@hilland.co.za

CURRICULUM VITAE (Abbreviated)

Qualifications:

2015 Bachelor of Science (BSc) Conservation Ecology and Entomology, Stellenbosch University

Career:

February 2018 – present:	Junior Environmental Consultant at HilLand Environmental Consultants, George
November 2016 – June 2017:	Guide and animal handler at The Ann van Dyk Cheetah Centre, Hartbeespoort.
December 2015 – September 2016:	Assistant Reserve and Day Centre Manager at Fathala Wildlife Reserve, Senegal, West Africa

Publication:

Several reports commissioned as part of Environmental Impact Assessment Processes, Public Participation and Environmental Management.

Fields of Expertise:

1 years' experience in Vegetation Sensitivity Mapping, Biodiversity Assessments, Environmental Impact Assessments, Environmental Impact Reports, Environmental Planning and Management, Rehabilitation, Environmental Management Plans & Frameworks, Environmental compliance monitoring and auditing, Public participation and facilitation.

Projects:

Leading and participating in projects in terms of NEMA on a variety of Development Projects within the Southern Cape.

Celebrating 27 years of environmental consulting

HilLand Environmental Consultants cc - Trading as HilLand Environmental

ANNEXURE I

Environmental Authorisation (EA)

REFERENCE: 16/3/3/1/D1/6/0014/20
NEAS REF NO: WCP/EIA/0000960/2021
DATE OF ISSUE: 14 MARCH 2022

The Chairperson
SAN MARINO HOMEOWNERS ASSOCIATION
P.O. Box 1303
PLETTENBERG BAY
6600

Attention: Mr. L.Q. van Staden

E-mail: stadens@telkomsa.net

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014: THE PROPOSED RIVERBANK MAINTENANCE AT SAN MARINO, ERF 586, KEURBOOMSTRAND, PLETTENBERG BAY

1. With reference to the aforementioned application, the Department hereby notifies you of its decision to **grant Environmental Authorisation in respect of the activity applied for**, attached herewith together with the reasons for the decision.
2. In terms of Regulation 4 of the Environmental Impact Assessment Regulations, 2014, you are instructed to ensure, within 14 days of the date of the Environmental Authorisation, that all registered interested and affected parties ("I&APs") are provided with access to and reasons for the decision, and that all registered I&APs are notified of their right to appeal.
3. Your attention is drawn to Chapter 2 of the Appeal Regulations, 2014, which prescribes the appeal procedure to be followed. This procedure is summarized in the attached Environmental Authorisation.

Yours faithfully

Gavin Benjamin

Digitally signed by Gavin Benjamin
Date: 2022.03.14 11:42:41
+02'00'

DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 3)
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

Copied to:

EAP: *HillLand Environmental* % Mrs Cathy Avierinos
Bitou Municipality % Ms Anje Taljaard
DEA&DP: Coastal Management % Ms leptieshaam Bekko
CapeNature % Megan Simons

E-mail: cathy@hilland.co.za
E-mail: ataljaard@plett.gov.za
E-mail: leptieshaam.Bekko@westerncape.gov.za
E-mail: msimons@capenature.co.za

EIA REFERENCE NUMBER: 16/3/3/1/D1/6/0014/20
NEAS REFERENCE: WCP/EIA/0000960/2021
DATE OF ISSUE: 14 MARCH 2022

ENVIRONMENTAL AUTHORISATION

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014: THE PROPOSED RIVERBANK MAINTENANCE AT SAN MARINO, ERF 586, KEURBOOMSTRAND, PLETTENBERG BAY

With reference to your application for the abovementioned, find below the outcome with respect to this application.

DECISION

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and the Environmental Impact Assessment ("EIA") Regulations, 2014, the Competent Authority herewith **grants Environmental Authorisation** to the applicant to undertake the listed activities specified in section B below with respect to **the Preferred Alternative**, described in the Final Basic Assessment Report ("FBAR"), dated 5 November 2021 as prepared and submitted by *HillLand Environmental*, the appointed environmental assessment practitioner ("EAP").

The applicant for this Environmental Authorisation is required to comply with the conditions set out in section E below.

A. DETAILS OF THE APPLICANT FOR THIS ENVIRONMENTAL AUTHORISATION

SAN MARINO HOMEOWNERS ASSOCIATION
% Mr L.Q. van Staden
P.O. Box 1303
Plettenberg Bay
6600

Mobile: 081 355 3284
E-mail: stadens@telkomsa.net
Website: <http://www.sanmarino.co.za/>

The abovementioned applicant is the holder of this Environmental Authorisation (hereinafter referred to as "**the Holder**").

B. LIST OF ACTIVITIES AUTHORISED

Listed Activities	Activity/Project Description
Environmental Impact Assessment Regulations Listing Notice 1 of 2014, Government Notice No. 983 of 4 December 2014	
Activity Number: 12 Activity Description: The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.	The proposal will entail the development of floating jetties and the replacement of the current riverbank stabilisation structures that will exceed 100 m² within the Keurbooms River Estuary.
Activity Number: 15 Activity Description: The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding— (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	The proposal will entail the development of floating jetties and the replacement of the current riverbank stabilisation structures that exceed 50 m² within the Keurbooms River Estuary and Coastal Public Property (CPP). The jetty is regarded as falling into the CPP and will provide restricted public access and replace the current moorings and access to moored boats.
Activity Number: 17 Activity Description: Development— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or	The proposal will entail the development of floating jetties and the replacement of the current riverbank stabilisation structures that will exceed 50 m² within the Keurbooms River Estuary.

(v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures with a development footprint of 50 square metres or more — but excluding— (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (dd) where such development occurs within an urban area.	
Activity Number: 19 Activity Description: The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	The proposed works will require movement of the existing material in the bank to remove the existing timber walls and then fill the sandbags and install them at the new proposed slope. Pumping of mobile sand from the system to complete the work will be required (as per specialist recommended area). Bank shaping will be required to achieve the new slope. The bulk of this sand moved will come from the existing bank and estuarine system and is part of the normal erosion and accretion within the estuary.
Activity Number: 19A Activity Description: The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing, dredging, excavation, removal or moving—	The proposed works will require movement of the existing material in the riverbank to remove the existing timber walls and then fill the sandbags and install them at the new proposed slope. Pumping of mobile sand from the system to complete the work will be required (as per specialist recommended area). Bank shaping will be required to achieve the new slope. The bulk of this sand moved will come from the existing bank and estuarine system and is part of the

(a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	normal erosion and accretion within the estuary.
Activity Number: 54 Activity Description: The expansion of facilities— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures where the development footprint is expanded by 50 square metres or more, but excluding— (aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; or (bb) where such expansion occurs within an urban area.	The replacement of the vertical timber pole retaining walls with a sandbag and reno-mattress bank protection will see the expansion of the physical footprint of the structures by more than 50m².
Environmental Impact Assessment Regulations Listing Notice 3 of 2014, Government Notice No. 985 of 4 December 2014	
Activity Number: 14 Activity Description: The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour i. Western Cape	The installation of floating jetties and bank stabilisation measures (larger than 10 m²) on the Keurbooms River to replace the existing moorings.

i. Outside urban areas: (aa) A protected area identified in terms of NEMPAA, excluding conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ee) Sites or areas listed in terms of an international convention; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (gg) Core areas in biosphere reserves; or (hh) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.	
Activity Number: 23 Activity Description: The expansion of— (i) dams or weirs where the dam or weir is expanded by 10 square metres or more; or (ii) infrastructure or structures where the physical footprint is expanded by 10 square metres or more; where such expansion occurs— (a) within a watercourse; (b) in front of a development setback adopted in the prescribed manner; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; excluding the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour. i. Western Cape i. Outside urban areas: (aa) A protected area identified in terms of NEMPAA, excluding conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ee) Sites or areas listed in terms of an international convention; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (gg) Core areas in biosphere reserves; or	The replacement of the vertical timber pole retaining walls with a sandbag and reno-mattress bank protection will result in the expansion of the physical footprint of the current retaining structure.

(hh)	Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.	
------	--	--

The abovementioned list is hereinafter referred to as **"the listed activities"**.

The Holder is herein authorised to undertake the following activity that includes the listed activities as it relates to the replacement of existing creosote timber poles and mooring buoys with the development of a sloping stepped sandbag foundation with vegetated reno-mattresses within the Keurbooms River Estuary at the San Marino complex.

The proposed riverbank design will tie in with the existing embankment upgrade at *Blue Waters River Estate* and *Silverstreams River Estate* (located downstream from San Marino) and as such, will result in homogeneous riverbank protective measures with existing boat moorings on controlled floating jetty structures.

The authorisation is for the Preferred alternative which entails the infilling, depositing, excavation and moving of sand of more than 5m³ within 100 metres of the highwater mark of the estuary and the construction of structures and infrastructure for the purpose of:

The replacement of the existing creosote timber poles and vertical riverbank retaining wall with a different designed retaining structure consisting of a structure that will consist of a sloping stepped sandbag foundation covered by reno-mattress construction which will be re-vegetated with indigenous vegetation that occurs naturally in the intertidal zone of the estuary (based on natural zonation). The reno-mattress will extend approximately 2-3 m beyond the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary (approximately 2 m beyond the line of the existing retaining wall). The toe of the reno-mattress will extend approximately 2.5 m further into the estuary to the floating jetty walkway running parallel to the riverbank (adjacent to the existing SANRAL slipway). The downstream bank will tie in with the bank stabilisation at Blue Water River Estate.

The existing 19 moorings (buoy anchor) will be replaced with a floating jetty with mooring for 19 boats which will be accessed by a gang plank from the shore. The jetty will be anchored to a 6 m long CCA treated timber pole (or suitable alternative) which will be driven into the sand bed (depth of 4 m). The 4 m x 0.7 m "fingers" of the jetty will be spaced 5 m apart extending into the estuary with the walkway removing the necessity to walk in the intertidal zone to access the boats.

The works must be done in accordance with the design by MOSOMO (dated April 2019) Drawing number 949-San Marino-2 (Annexure 2).

C. SITE DESCRIPTION AND LOCATION

San Marino (Erf 586) is located on the eastern bank of the Keurbooms River (Estuary) in Plettenberg Bay. The activities will be conducted on the eastern bank of the river in front of San Marino.

Coordinates of the works to be undertaken at San Marino:

Position:	Latitude (South)	Longitude (East)
Middle Point	34° 0' 40.68"	23° 24' 14.4"

SG digit code of Erf 586: C03900040000058600000

Refer to Annexure 1: Locality Plan of this Environmental Authorisation.

The above is hereinafter referred to as "**the site**".

D. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

HILLAND ENVIRONMENTAL

% Ms Cathy Avierinos

P.O. Box 590

GEORGE

6530

Tel: 044 889 0229

E-mail: cathy@hilland.co.za

Website: www.hilland.co.za

E. CONDITIONS OF AUTHORISATION

Scope and Validity Period of authorisation

1. This Environmental Authorisation is granted for the period from date of issue until **30 September 2030**:
2. The non-operational component (construction phase) of the Environmental Authorisation is subject to the following:

- 2.1 The Holder must start with the physical implementation of all the authorised listed activities on the site within 24-months from the date of issue.
- 2.2 The Holder must conclude the physical implementation of all the authorised listed activities on the site by **31 March 2027**.
- 2.3 The holder must finalise the post construction rehabilitation and monitoring requirements within a period of 6-months from the date the development activity (construction phase) is concluded.

Note: Failure to complete the post construction rehabilitation and monitoring requirements at least six-months prior to expiry of the validity period of an environmental authorisation may result in the Holder not being able to comply with the environmental auditing requirements in time.

3. The post-construction and maintenance component (operational phase) of this Environmental Authorisation is granted until **31 March 2030** during which period maintenance to the reno-mattresses and jetties and monitoring requirements and reporting must be finalised.

Note: The maintenance monitoring requirements should be completed at least six (6) months prior to expiry of the validity period of an environmental authorisation to ensure the Holder is able to comply with the environmental auditing requirements in time.

Failing which, this Environmental Authorisation shall lapse, unless the environmental authorisation is amended in accordance with the relevant process contemplated in the Environmental Impact

Assessment Regulations promulgated under the National Environmental Management Act, 1998 (Act no. 107 of 1998).

4. The Holder is authorised to undertake the listed activities specified in Section B above in accordance with the Preferred Alternative described in the FBAR dated 5 November 2021 on the site as described in Section C above.

This Environmental Authorisation is only for the implementation of the Preferred Alternative for the site which entails:

The Holder is herein authorised to undertake the following activity that includes the listed activities as it relates to the replacement of existing creosote timber poles and mooring buoys with the development of a sloping stepped sandbag foundation with vegetated reno-mattresses within the Keurbooms River Estuary at the San Marino complex.

The proposed riverbank design will tie in with the existing embankment upgrade at Blue Waters River Estate and Silverstreams River Estate (located downstream of San Marino) and as such, will result in homogeneous riverbank protective measures with existing boat moorings on controlled floating jetty structures.

The authorisation is for the Preferred alternative which entails the infilling, depositing, excavation and moving of sand of more than 5m³ within 100 metres of the highwater mark of the estuary and the construction of structures and infrastructure for the purpose of:

The replacement of the existing creosote timber poles and vertical riverbank retaining wall with a different designed retaining structure consisting of a structure that will consist of a sloping stepped sandbag foundation covered by reno-mattress construction which will be re-vegetated with indigenous vegetation that occurs naturally in the intertidal zone of the estuary (based on natural zonation). The reno-mattress will extend approximately 2-3 m beyond the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary (approximately 2 m beyond the line of the existing retaining wall). The toe of the reno-mattress will extend approximately 2.5 m further into the estuary to the floating jetty walkway running parallel to the riverbank (adjacent to the existing SANRAL slipway). The downstream bank will tie in with the bank stabilisation at Blue Waters River Estate.

The existing 19 moorings (buoy anchor) will be replaced with a floating jetty with mooring points for 19 boats which will be accessed by a gang plank from the shore. The jetty will be anchored to a 6 m long CCA treated timber pole (or suitable alternative) which will be driven into the sand bed (depth of 4 m). The 4 m x 0.7 m "fingers" of the jetty will be spaced 5 m apart extending into the estuary with the walkway removing the necessity to walk in the intertidal zone to access the boats.

The works must be done in accordance with the design by MOSOMO (dated April 2019) Drawing number 949-San Marino-2 (Annexure 2).

5. This Environmental Authorisation may only be implemented in accordance with an approved Environmental Management Programme ("EMPr").
6. The Holder shall be responsible for ensuring compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the Holder.

7. Any changes to, or deviations from the scope of the alternative described in section B above must be accepted or approved, in writing, by the Competent Authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the Competent Authority may request information in order to evaluate the significance and impacts of such changes or deviations, and it may be necessary for the Holder to apply for further authorisation in terms of the applicable legislation.

Notification and administration of appeal

8. The Holder must in writing, within 14 (fourteen) calendar days of the date of this decision–
- 8.1. notify all registered Interested and Affected Parties ("I&APs") of –
 - 8.1.1. the decision reached on the application;
 - 8.1.2. the reasons for the decision as included in Annexure 3;
 - 8.1.3. the date of the decision; and
 - 8.1.4. the date when the decision was issued.
 - 8.2. draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the National Appeal Regulations, 2014 (as amended) detailed in Section G below;
 - 8.3. draw the attention of all registered I&APs to the manner in which they may access the decision;
 - 8.4. provide the registered I&APs with the:
 - 8.4.1. name of the Holder (entity) of this Environmental Authorisation,
 - 8.4.2. name of the responsible person for this Environmental Authorisation,
 - 8.4.3. postal address of the Holder,
 - 8.4.4. telephonic and fax details of the Holder,
 - 8.4.5. e-mail address, if any, of the Holder,
 - 8.4.6. contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and all registered I&APs in the event that an appeal is lodged in terms of the 2014 National Appeals Regulations (as amended).
 - 8.5. The listed activities, including site preparation, must not commence within 20 (twenty) calendar days from the date the applicant notified the registered I&APs of this decision.
 - 8.6. In the event that an appeal is lodged with the Appeal Authority, the effect of this Environmental Authorisation is suspended until the appeal is decided i.e. the listed activities, including site preparation, must not commence until the appeal is decided.

Written notice to the Competent Authority

9. Seven calendar days' notice, in writing, must be given to the Competent Authority before commencement of any activities.
- 9.1. The notice must make clear reference to the site details and EIA Reference number given above.
 - 9.2. The notice must also include proof of compliance with the following conditions described herein:
Conditions no.: 8, 11 and 13.
 - 9.3. Seven calendar days' notice, in writing, must be given to the Competent Authority on the commencement of any maintenance activities to any structures during the period that the environmental authorisation is valid.
10. Seven calendar days' written notice must be given to the Competent Authority on completion of the construction activities.

Management of activity

11. The draft or Environmental Management Programme ("EMPr") submitted as part of the application for Environmental Authorisation must be amended and submitted to this Department prior to commencement of any activities on the site:
 - 11.1. The EMPr must be amended to incorporate the following —
 - 11.1.1. Incorporate all the conditions given in this Environmental Authorisation;
 - 11.1.2. All monthly ECO reports to be submitted to the competent authority.
12. The EMPr must be included in all contract documentation for all phases of implementation.

Monitoring

13. The Holder must appoint a suitably experienced Environmental Control Officer ("ECO"), for the duration of the construction and rehabilitation phases of implementation contained herein.
14. The ECO must—
 - 14.1. be appointed prior to commencement of any works (i.e. removal and movement of soil);
 - 14.2. ensure compliance with the EMPr and the conditions contained herein;
 - 14.3. keep record of all activities on the site; problems identified; transgressions noted and a task schedule of tasks undertaken by the ECO;
 - 14.4. remain employed until all development activities are concluded, and the post construction rehabilitation and monitoring requirements are finalised.
15. A copy of the Environmental Authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, audit reports and compliance monitoring reports must be kept at the site of the authorised activities and be made available to anyone on request, and where the Holder has website, such documents must be made available on such publicly accessible website.
16. Access to the site referred to in Section C must be granted, and the environmental reports mentioned above must be produced, to any authorised official representing the Competent Authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein.

Auditing

17. The Holder must, for the period during which the environmental authorisation and EMPr remain valid ensure the compliance with the conditions of the environmental authorisation and the EMPr, is audited.
18. 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:
 - 18.1. Auditing during the non-operational phase (construction activities):
 - 18.1.1. During the period which the development activities have been commenced with on site, the Holder must ensure annual environmental audit(s) are undertaken and the Environmental Audit Report(s) submitted annually to the Competent Authority.

18.1.2. 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 post construction rehabilitation and monitoring requirements.

18.2. Auditing during the operational phase (post construction and maintenance activities):

18.2.1. During the post-construction and maintenance phase, the Holder must ensure annual environmental audit(s) are undertaken following the completion of the construction phase/post construction rehabilitation and monitoring requirements and such Environmental Audit Report(s) must be submitted annually to the Competent Authority.

Note: The final auditing requirements should be completed and submitted at least three months prior to expiry of the validity period of the environmental authorisation to ensure the Holder is able to comply with all the environmental auditing and reporting requirements and for the competent authority to be able to process it timeously.

19. The Environmental Audit Report(s), must–

19.1. be prepared and submitted to the Competent Authority, by an independent person with the relevant environmental auditing expertise. Such person may not be the ECO or EAP who conducted the EIA process;

19.2. provide verifiable findings, in a structured and systematic manner, on–

19.2.1. the level of compliance with the conditions of the environmental authorisation and the EMPr and whether this is sufficient or not; and

19.2.2. the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.

19.3. identify and assess any new impacts and risks as a result of undertaking the activity;

19.4. evaluate the effectiveness of the EMPr;

19.5. identify shortcomings in the EMPr;

19.6. identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;

19.7. indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;

19.8. indicate the date on which the maintenance/ rehabilitation was commenced with and the progress of the rehabilitation;

19.9. include a photographic record of the site applicable to the audit; and

19.10. be informed by the ECO reports.

20. The Holder must, within 7 calendar days of the submission of the audit report to the Competent Authority, notify all potential and registered I&APs of the submission and make the report available to anyone on request and on a publicly accessible website (if applicable).

Specific Conditions

21. Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains may only be disturbed by a suitably qualified heritage specialist working under a directive from the relevant Heritage Resources Authority.

Heritage remains include: meteorites, archaeological and/or paleontological remains (including fossil shells and trace fossils); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artefacts and bone remains; structures and other built features with heritage significance; rock art and rock engravings; shipwrecks; and/or graves or unmarked human burials including grave goods and/or associated burial material.

F. GENERAL MATTERS

1. Notwithstanding this Environmental Authorisation, the Holder must comply with any other statutory requirements that may be applicable when undertaking the listed activities.

Amendment of Environmental Authorisation and EMPr

2. If the Holder does not start with all listed activity and exceed the threshold of the listed activity within the period referred to in Section E, this Environmental Authorisation shall lapse for that activity, and a new application for Environmental Authorisation must be submitted to the relevant Competent Authority.

Where a validity period has been specified for operational aspects, the onus is on the Holder to ensure the activities are always undertaken in terms of a valid environmental authorisation.

If the Holder wishes to extend a validity period specified in the Environmental Authorisation, an application for amendment in this regard must be made to the relevant Competent Authority prior to the expiry date of such a period.

Note:

- (a) Failure to lodge an application for amendment prior to the expiry of the validity period of the Environmental Authorisation will result in the lapsing of the Environmental Authorisation.
 - (b) It is an offence in terms of Section 49A(1)(a) of NEMA for a person to commence with a listed activity if the competent authority has not granted an Environmental Authorisation for the undertaking of the activity.
3. The Holder is required to notify the Competent Authority where any detail with respect to the Environmental Authorisation must be amended, added, substituted, corrected, removed or updated.

In assessing whether to amend or correct the EA, the Competent Authority may request information to evaluate the significance and impacts of such changes or deviations, and it may be necessary for the Holder to apply for further authorisation in terms of the applicable legislation.

The onus is on the Holder to verify whether such changes to the environmental authorisation must be approved in writing by the relevant competent authority prior to the implementation thereof.

Note: An environmental authorisation may be amended or replaced without following a procedural requirement contained in the Regulations if the purpose is to correct an error and the correction does not change the rights and duties of any person materially

4. The manner and frequency for updating the EMPr is as follows:
 - (a) Any further amendments to the EMPr, other than those mentioned above, must be approved in writing by the relevant competent authority.
 - (b) An application for amendment to the EMPr must be submitted to the Competent Authority if any amendments are to be made to the impact management outcomes of the EMPr. Such amendment(s) may only be implemented once the amended EMPr has been approved by the competent authority.

The onus is however on the Holder to confirm the legislative process requirements for the above scenarios at that time.

5. Where an amendment to the impact management outcomes of an EMPr is required before an environmental audit is required in terms of the environmental authorisation, an EMPr may be amended on application by the Holder of the environmental authorisation.

Compliance with Environmental Authorisation and EMPr

6. Non-compliance with a condition of this environmental authorisation or EMPr is an offence in terms of Section 49A(1)(c) of the National Environmental Management Act, 1998 (Act no. 107 of 1998, as amended).
7. This Environmental Authorisation is granted for a set period from date of issue, during which period all the listed activities must be commenced with and concluded, including the post-construction rehabilitation; monitoring requirements and environmental auditing requirements which must be concluded.

The validity period and conditions of the environmental authorisation has been structured to promote the effective administration of the environmental authorisation and guidance has been provided to ensure the compliance thereof within the validity period, for example:

- ❖ Failure to complete the post construction rehabilitation and monitoring requirements at least six months prior to expiry of the validity period of an environmental authorisation may result in the Holder not being able to comply with the environmental auditing requirements in time.
 - ❖ Failure to complete the final auditing requirements at least three months prior to expiry of the validity period of the environmental authorisation may result in the Holder not being able to comply with all the environmental auditing and reporting requirements and may result in the competent authority not being able to process the audit timeously.
8. This Environmental Authorisation is subject to compliance with all the peremptory conditions (**i.e. 8, 11 and 13**). Failure to comply with all the peremptory conditions prior to the physical implementation of the activities (including site preparation) will render the entire EA null and void. Such physical activities shall be regarded to fall outside the scope of the Environmental Authorisation and shall be viewed as an offence in terms of Section 49A(1)(a) of NEMA.

9. In the event that the Environmental Authorisation should lapse, it is an offence in terms of Section 49A(1)(a) of NEMA for a person to commence with a listed activity, unless the competent authority has granted an Environmental Authorisation for the undertaking of the activity.
10. Offences in terms of the NEMA and the Environmental Impact Assessment Regulations, 2014, will render the offender liable for criminal prosecution.

G. APPEALS

1. An appellant (if the holder of the decision) must, within 20 (twenty) calendar days from the date the notification of the decision was sent to the holder by the Competent Authority –
 - 1.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and
 - 1.2. Submit a copy of the appeal to any registered I&APs including any Organ of State with interest in the matter; and
 - 1.3. Submit a copy of the appeal to the decision-maker (i.e. the Competent Authority that issued the decision) at:
Gavin.Benjamin@westerncape.gov.za and copied to
DEADPEIAadmin.George@westerncape.gov.za
2. An appellant (if NOT the holder of the decision) must, within 20 (twenty) calendar days from the date the holder of the decision sent notification of the decision to the registered I&APs–
 - 2.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and
 - 2.2. Submit a copy of the appeal to the holder of the decision and any registered I&AP including any Organ of State with an interest in the matter; and
 - 2.3. Submit a copy of the appeal to the decision-maker (i.e. the Competent Authority that issued the decision) at:
Gavin.Benjamin@westerncape.gov.za and copied to
DEADPEIAadmin.George@westerncape.gov.za
3. The holder of the decision (if not the appellant), the decision-maker that issued the decision, the registered I&AP and the Organ of State must submit their responding statements, if any, to the appeal authority and the appellant within 20 (twenty) calendar days from the date of receipt of the appeal submission.
4. The appeal and the responding statement must be submitted to the Appeal Administrator at the address listed below:

By post: Western Cape Ministry of Local Government, Environmental Affairs and
Development Planning
Private Bag X9186
CAPE TOWN
8000

By facsimile: (021) 483 4174; or

By hand: Appeal Administrator

Attention: Mr Marius Venter (Tel: 021 483 3721)
Room 809
8th Floor Utilitas Building, 1 Dorp Street, Cape Town, 8001

Note: For purposes of electronic database management, you are also requested to submit electronic copies (Microsoft Word format) of the appeal, responding statement and any supporting documents to the Appeal Authority to the address listed above and/ or via e-mail to DEADP.Appeals@westerncape.gov.za.

5. A prescribed appeal form as well as assistance regarding the appeal processes is obtainable from the Appeal Administrator at: Tel. (021) 483 3721, E-mail DEADP.Appeals@westerncape.gov.za or URL <http://www.westerncape.gov.za/eadp>.

H. DISCLAIMER

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this Environmental Authorisation shall not be responsible for any damages or losses suffered by the Holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Your interest in the future of our environment is appreciated.

Yours faithfully

Gavin
Benjamin

Digitally signed by
Gavin Benjamin
Date: 2022.03.14
11:42:24 +02'00'

MR. GAVIN BENJAMIN

DIRECTOR: DEVELOPMENT MANAGEMENT (REGION3)

WCG: DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

DATE OF DECISION: **14 MARCH 2022**

FOR OFFICIAL USE ONLY:

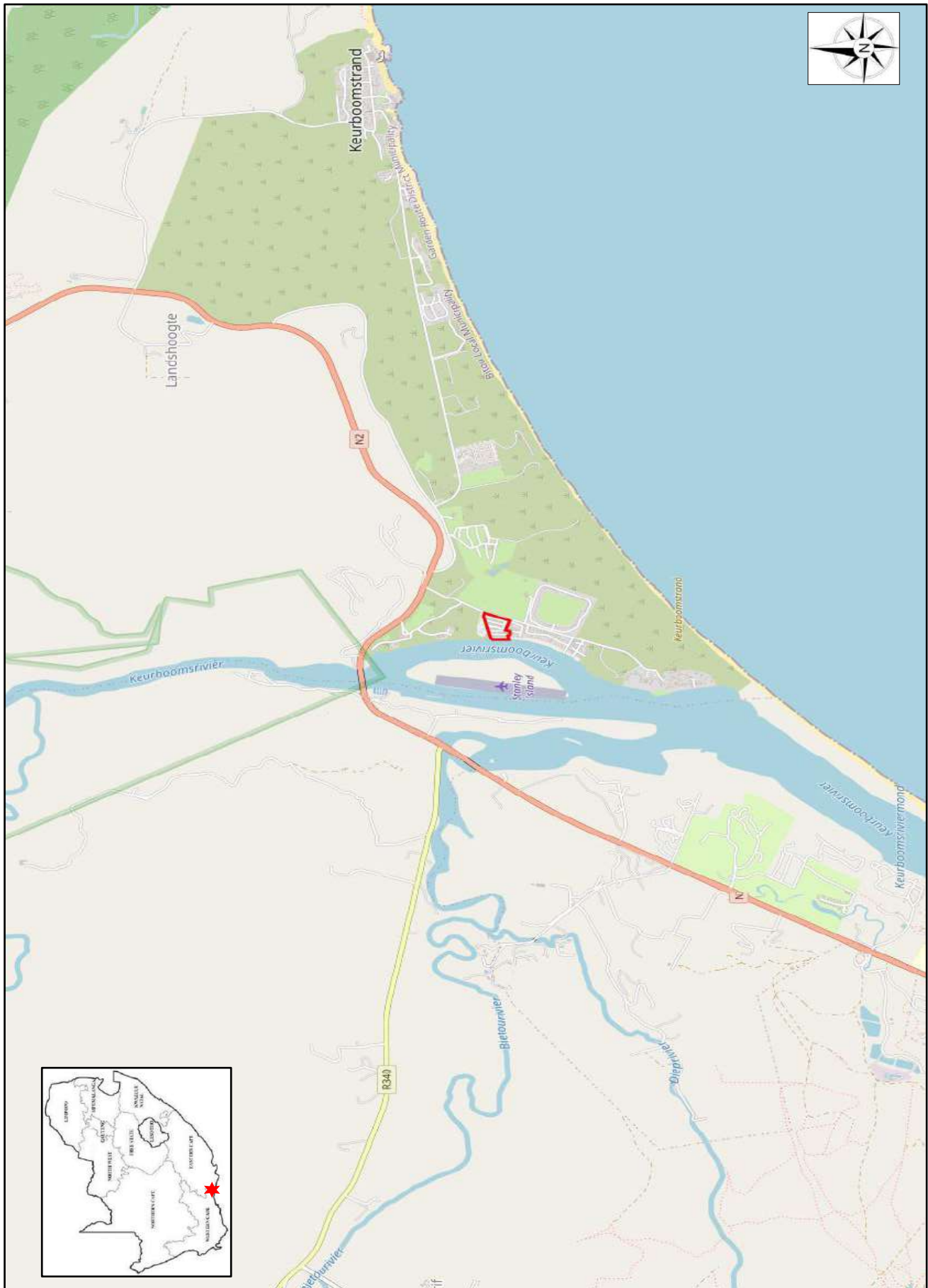
EIA REFERENCE NUMBER:

16/3/3/1/D1/6/0014/20

NEAS REFERENCE:

WCP/EIA/0000960/2021

ANNEXURE 1: LOCALITY MAP



ANNEXURE 2: SITE DEVELOPMENT PLANS



ANNEXURE 3: REASONS FOR THE DECISION

In reaching its decision, the Competent Authority considered, *inter alia*, the following:

- a) The information contained in the Application Form received on 6 August 2021, the Final Basic Assessment Report (FBAR) and EMPr submitted together with the FBAR on 5 November 2021;
- b) Relevant information contained in the Departmental information base, including the Guidelines on Public Participation, Alternatives (dated March 2013);
- c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998);
- d) The comments received from I&APs and responses to these, included in the FBAR dated 5 November 2021;
- e) The balancing of negative and positive impacts and proposed mitigation measures; and
- f) A site inspection was not conducted by the Directorate as the case officer knows the area and the environment aspects of the site.

All information presented to the Competent Authority was taken into account in the consideration of the application for Environmental Authorisation. A summary of the issues that were considered to be the most significant for the decision is set out below.

1. Public Participation

A public participation process was undertaken, and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulation 2014 for public involvement. The public participation process was performed in accordance with the Public Participation Plan agreed to by this Department.

The following Organs of State provided comment on the proposal:

- ❖ *Bitou Municipality;*
- ❖ *Department Forestry, Fisheries and Environment – Oceans and Coasts Section;*
- ❖ *Breede-Gouritz Catchment Management Agency;*
- ❖ *Heritage Western Cape; and*
- ❖ *CapeNature.*

The following registered I&APs provided comment:

- ❖ *Strandmeer HOA Trustees*
- ❖ *Plettenberg Bay Community Environmental Forum*
- ❖ *Mr. David Scott*
- ❖ *Mr Werner Illenberger*

All the comments and issues raised by the respective *Organs of State and I&APs* that were captured in the Basic Assessment Report were responded to by the EAP. The Competent Authority is satisfied with the responses from the EAP to the I&APs comments and concerns.

2. Alternatives

Development proposal (Herewith Approved):

The Holder is herein authorised to undertake the following activity that includes the listed activities as it relates to the replacement of existing creosote timber poles and mooring buoys with the development of a sloping stepped sandbag foundation with vegetated reno-mattresses within the Keurbooms River Estuary at the San Marino complex.

The proposed riverbank design will tie in with the existing embankment upgrade at Blue Waters River Estate and Silverstreams River Estate (located downstream of San Marino) and as such, will result in homogeneous riverbank protective measures with existing boat moorings on controlled floating jetty structures.

The authorisation is for the Preferred alternative which entails the infilling, depositing, excavation and moving of sand of more than 5m³ within 100 metres of the highwater mark of the estuary and the construction of structures and infrastructure for the purpose of:

The replacement of the existing creosote timber poles and vertical riverbank retaining wall with a different designed retaining structure consisting of a structure that will consist of a sloping stepped sandbag foundation covered by reno-mattress construction which will be re-vegetated with indigenous vegetation that occurs naturally in the intertidal zone of the estuary (based on natural zonation). The reno-mattress will extend approximately 2-3 m beyond the line of the existing retaining wall sloping downwards into the estuary, meeting the bed of the estuary (approximately 2 m beyond the line of the existing retaining wall). The toe of the reno-mattress will extend approximately 2.5 m further into the estuary to the floating jetty walkway running parallel to the riverbank (adjacent to the existing SANRAL slipway). The downstream bank will tie in with the bank stabilisation at Blue Waters River Estate.

The existing 19 moorings (buoy anchor) will be replaced with a floating jetty with mooring for 19 boats which will be accessed by a gang plank from the shore. The jetty will be anchored to a 6 m long CCA treated timber pole (or suitable alternative) which will be driven into the sand bed (depth of 4 m). The 4 m x 0.7 m "fingers" of the jetty will be spaced 5 m apart extending into the estuary with the walkway removing the necessity to walk in the intertidal zone to access the boats.

The works must be done in accordance with the design by MOSOMO (dated April 2019) Drawing number 949-San Marino-2 (Annexure 2).

"No-Go" Alternative

The no-go alternative entails the replacement of the existing timber wooden retaining wall and no change to the mooring system will be done.

According to the estuarine specialist, the no-go alternative will result in the ongoing trampling of the eelgrass beds and benthic sediment habitat as users need to wade through estuarine habitat to reach the moored boats. As such, it will have an ongoing negative impact on the estuarine habitat. Additionally, only the replacement of the timber retaining wall will not remove the risk of structural failure and associated impacts and no improvement on the water quality will occur.

3. Impact Assessment and Mitigation Measures

3.1 Activity Need and Desirability

The existing structure at Blue Waters Estate is in need of replacement due to instability and the wood decaying / disintegrating. The proposed design is considered a better environmental alternative as to replacing the retaining structure with heavily treated wood. In addition, it will give the riverbank a natural appearance and also allow for the re-establishment of a riparian buffer of natural vegetation, which will ultimately prevent erosion of the riverbank. This will directly benefit landowners in terms of protection of their property/assets. It will further benefit society in general through the ecological services of the riparian zone restoration.

3.2 Biophysical Impacts

☐ *Aquatic environment:*

A specialist estuarine assessment was conducted by *Confluent Environmental* and the findings of this report indicates that given the minor to negligible impacts on aquatic biota and the high potential for recovery, the cumulative impact of the bank and jetty upgrade on the greater Keurbooms Estuary is likely to be positive overall. Improved bank stabilization and flood protection over the existing vertical retaining wall design will reduce the potential for flood damage and erosion at the San Marino Estate which is of benefit to the broader Keurbooms system. Also, the enhanced biodiversity and ecological connectivity associated with the development of a riparian buffer established with indigenous plants will occur.

3.3 Aspects related to coastal activities:

When any listed activities are to be carried out within the coastal zone which require an environmental authorisation in terms of the NEMA, the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (NEM:ICMA) provides for additional criteria which must be considered when evaluating an application for an activity which will take place within the coastal zone.

In terms of the NEM:ICMA, specifically Sub-section 15(2) which deals with measures affecting erosion and accretion, *"No person may construct, maintain or extend any structure, or take other measures on coastal public property to prevent or promote erosion or accretion of the seashore except as provided for in this Act, the National Environmental Management Act or any other specific environmental management Act."*

A portion of the proposed development along San Marino waterfront occurs within the Coastal Public Property (CPP) but it will be limited to the toe of the reno-mattress structure and the addition of the floating jetties. The design was set back as far as possible into the existing riverbank to minimise the impact on the estuary and also to tie in with the same designed structure at the neighbouring estate, Blue Waters River Estate. As such, both of the structures are designed to protect the CPP in terms of erosion protection that will be offered by the reno-mattress and the protection of the intertidal riparian and re-established indigenous vegetation (biodiversity) offered by the addition of the floating jetties.

The information which has been provided in the Final BAR and specialist study, has satisfactorily addressed the additional aspects which should be considered in terms of s63(1) of NEM:ICMA. The Specialist has also adequately demonstrated the likely impact of coastal environmental processes on the proposed activity which is a specific aspect to be considered in this decision in terms of section 63 of the NEM:ICMA.

The Keurbooms-Bitou Estuarine Management Plan (draft 2021) was consulted to ensure that the proposed development is in line with the objectives highlighted in said plan.

3.4 Heritage / Archaeological Aspects

Heritage Western Cape (HWC) confirmed that no further impact assessment or action will be required. The competent authority is satisfied that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of the National Heritage Resources Act, 1999 and the comments and recommendations of the relevant heritage resources authority with regard to the proposed development have been taken into account.

3.5 Other Impacts

No other impacts of significance are anticipated for the area that has been authorised in this Environmental Authorisation.

Considering the findings of the impact assessment and proposed mitigation measures to address the aforementioned impacts this Department is satisfied that the activity will not negatively impact on the receiving environment, subject to strict implementation of conditions of this EA and the mitigation measures proposed in the EMPr.

4. Scope and Validity Period of authorisation

This environmental authorisation does not define specific operational aspects other than maintenance to the structures that will be developed. The environmental authorisation's validity period has been granted for a period of eight and a half (8.5) years, during which period the construction activities and maintenance activities must commence and be concluded, including the post-construction rehabilitation and monitoring and submission of the final environmental audit reports for the non-operational phase (construction phase) and the operational phase. In light of the proposed implementation programme, the monitoring and post-construction rehabilitation can be adequately incorporated in the construction phase. The Holder is required to commence, substantially implement the proposal and conclude the construction phase within a period of 5 years after the environmental authorisation is issued. This is in order to limit the impact on the environment the FBAR reported that the duration of the impact to the environment would be less than 5 years. Prolonging the conclusion of the construction, knowingly increases the extent and duration of the impact to the system.

Where the activity has been commenced with, the EIA Regulations, 2014 allow that (upon application) the period for which the environmental authorisation is granted may be extended for a further period of 5-years. Any further maintenance actions which need to be performed to keep the structures or system functioning or in service on the same location, capacity and footprint may be proposed in terms of a management plan (i.e. MMP) and defined or adopted by the competent authority for maintenance purposes.

5. National Environmental Management Act Principles

The National Environmental Management Principles (set out in section 2 of the NEMA, which apply to the actions of all organs of state, serve as guidelines by reference to which any organ of state must exercise any function when taking any decision, and which must guide the interpretation, administration and implementation of any other law concerned with the protection or management of the environment), *inter alia*, provides for:

- the effects of decisions on all aspects of the environment to be taken into account;
- the consideration, assessment and evaluation of the social, economic and environmental impacts of activities (disadvantages and benefits), and for decisions to be appropriate in the light of such consideration and assessment;
- the co-ordination and harmonisation of policies, legislation and actions relating to the environment;
- the resolving of actual or potential conflicts of interest between organs of state through conflict resolution procedures; and
- the selection of the best practicable environmental option.

6. Conclusion

After consideration of the information and factors listed above, the Department made the following findings:

- (a) The identification and assessment of impacts are detailed in the FBAR dated 5 November 2021 and sufficient assessment of the key identified issues and impacts have been completed.
- (b) The procedure followed for the impact assessment is adequate for the decision-making process.

- (c) The proposed mitigation of impacts identified and assessed, curtails the identified negative impacts.
- (d) The EMPr proposed mitigation measures for the pre-construction, construction and rehabilitation phases of the development and were included in the FBAR. The mitigation measures will be implemented to manage the identified environmental impact during the construction phase.

Due consideration is also given to the person's duty of care described in Section 28 of NEMA:

"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 reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment".

In view of the above, the NEMA principles, compliance with the conditions stipulated in this Environmental Authorisation, and compliance with an approved EMPr, the Competent Authority is satisfied that the proposed listed activities will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and that any potentially detrimental environmental impacts resulting from the listed activities can be mitigated to acceptable levels.

----- **END** -----