CONCEPT ENVIRONMENT MANAGEMENT PLAN

OLD BAR
EROSION PROTECTION WORKS

prepared for

MERIDIAN RESORT

by

INTERNATIONAL COASTAL MANAGEMENT
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1. INTENT OF CONCEPT CONSTRUCTION MANAGEMENT PLAN

This Concept Construction Management Plan is intended to provide an indication of how works may be undertaken by the contractor, likely environmental impacts and intended control measures.

The contractor is to prepare a final construction management plan prior to commencing works. The contractor’s methodology, plant, equipment, scheduling etc may vary from that indicated here. Any changes to the intended methodology that may increase the impact of the works is not to be implemented without further discussion with relevant agencies.

2. DESCRIPTION AND PURPOSE OF WORKS

The beach at Old Bar is subject to long-term erosion and characterized by high scarps which are progressively encroaching on private property and threatening residences. The works include the construction of a sand-filled geotextile container seawall to provide effective erosion protection that is generally consistent with the recommendations of the Coastal Management Study by Worley Parsons.

Figure 1 Site Locality
3. CONSTRUCTION

Construction Methodology:

- Create correct profile by excavation, as required
- Fill geotextile containers with imported sand using excavator
- Place geotextile underlayer
- Place containers using excavator
- Once completed, reinstate sand over structure to original profile levels
• Revegetate as required

Equipment anticipated to be used through the works included:
• 30t Excavator

Construction from the top of the scarp is very difficult and introduces significant safety concerns. As such, while the finished structure is to be entirely within private property, it will be necessary to construct the wall from the foreshore (designated “Crown Road”). Construction works within Crown Road will include temporary excavation and presence of construction equipment for the short duration of the project. Suitable access for equipment to the foreshore is anticipated to be available to the north, although this will be at the discretion and arrangement of the Contractor.

It is noted that the works may be weather- and tide-dependent depending on access and available high tide beach width at the time of the construction.

4 SUMMARY OF KEY ENVIRONMENTAL ISSUE

The following outlines potential impacts of the works. Works are to be undertaken in such a way that impacts are minimized wherever possible.

4.1 Water Quality

The works themselves will primarily be restricted to the top of the beach above MHWS with access to the site potentially limited during higher tides or large wave conditions. As such, potential impacts on water quality are expected to be fairly low.

Equipment is to be clean and well maintained at all times during the works. The Contractor is to implement an Oil Spill Management Plan and have an Oil Spill Kit on site for the duration of the works.

4.2 Noise

Works are generally to be limited to 6am – 6pm daily.
There are residences in close proximity to the proposed works. Due consideration is to be given wherever possible to minimise any impact on residents. Any complaints are to be recorded and are to be investigated as required.

Excavator used is to be well-maintained at all times. An aural inspection is to be undertaken daily and if any issues are identified or complaints are made regarding noise levels, noise monitoring compared to nominated levels is to be undertaken if works are to continue in this area.

4.3 Flora & Fauna

Due to the level of erosion at Old Bar, there are no marine plants present on the foreshore itself. The construction of the returns requires some excavation and this will result in the removal of approx. 180m² of grasses and garden shrubs.

Backfilled areas are to be suitably revegetated to stabilise against wind erosion as well as to offset any impact on vegetation as a result of the excavation at the returns.

No fauna area expected to be impacted.

4.4 Acid Sulphate

Previous sediment testing indicated that the material is typically sandy with a clay horizon at approximately -3m AHD (substantially below the proposed works). As such, acid sulphates are not expected to be a significant issue for the proposed works. In addition, the material is highly mobile and will likely become naturally exposed as erosion continues in any case. Excavated material is to be reinstated to original profiles and levels following construction.

In the event that excavation reveals fine silty material or indications of the presence of acid sulphates are revealed (e.g. observations of iron staining), geotechnical experts are to be consulted.

4.5 Sediment Erosion and Control

Works are to be progressively backfilled to ensure that open excavations do not concentrate flows stockpiled material to be placed with due consideration to tidal movement to limit loss of sediment.

4.6 Cultural Heritage

Given the level of erosion, it is considered unlikely that the works will reveal any culturally significant items.

If any potentially culturally significant items are found, the contractor will cease works immediately and advise the Superintendent. The Superintendent will notify the traditional owners to seek their advice before works in that area can continue.

4.7 Waste Management

Waste (rubbish etc) is to be stored on site either at the designated access point or at the top of the scarp. The Contractor is responsible for ensuring that all waste is disposed of at suitable onshore facilities. Every effort is to be made to ensure that litter and other debris does not enter the waters. Visual monitoring is to be undertaken. The foreshore is to be to a satisfactory standard prior to disestablishment.

The contractor is to implement an oil spill management plan.

4.8 Air Quality Management

Air emissions from plant and equipment are to be monitored visually to ensure air quality is acceptable throughout the works. Exhaust is to be within the specifications of the equipment and all required maintenance is to be undertaken.
4.9 Social

Any complaints are to be investigated and responded to in a prompt manner. A suitable complaint register is to be kept.

4.10 Flammable and Combustible Materials

A list of all flammable and combustible materials, chemicals or any other potentially hazardous substances is to be noted on the MSDS register.

4.11 Greenhouse Gas Emissions

All machinery is to be regularly maintained and operated in accordance with specifications to minimise possible greenhouse gas emissions.

5  ENVIRONMENTAL MANAGEMENT MONITORING REQUIREMENTS

Monitoring requirements are to be as below, in addition to any ERA License requirements.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Monitoring</th>
<th>Frequency/Timing</th>
<th>Performance Criteria</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality</td>
<td>Visual Inspection</td>
<td>Daily</td>
<td>No visible oil, grease, floating scum or litter</td>
<td>Contractor</td>
</tr>
<tr>
<td>Noise</td>
<td>Aural inspection of equipment for excessive noise</td>
<td>Daily</td>
<td>Noise levels in accordance with equipment specification.</td>
<td>Contractor</td>
</tr>
<tr>
<td></td>
<td>Investigation of noise complaints</td>
<td>As required in response to any noise complaints</td>
<td>Complaints responded to within 24 hours</td>
<td>Contractor</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Visual inspection for excess machinery exhaust emissions</td>
<td>Daily</td>
<td>No excess machinery exhaust</td>
<td>Contractor</td>
</tr>
<tr>
<td>Waste Management</td>
<td>Visual inspection</td>
<td>Daily</td>
<td>No uncontained litter waste</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

6  CONTINGENCY PLANS & EMERGENCY PROCEDURES

Should any non-confirming results be observed or recorded, works are to suspended immediately and the Superintendent is to be notified. A procedure for non-conformance is prepared for each Project. This procedure incorporates:

- Work Instructions issued
- Non Conformance Report Form
- Reporting Procedure
- Corrective Action

A number of specific detailed contingency plans are to be prepared and include an oil spill management plan and a waste management plan.