

Construction Methodology Statement

Geo-bag wall extension

	Name	Company	Date
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Project Summary

This construction methodology has been developed for the extension of the existing geo-bag seawall at Elements of Byron Resort, Belongil. Works are to be constructed as per report & drawings prepared by Gerg Britton c/- Royal Haskoning DHV 29th May 2023

The proposed extension works are required due to the recent severe erosion at Elements of Byron Resort Lot 1 DP215893 & Crown Land Lot 407 DP729057.

Note: The Development Application (DA) lodged for the proposal to make Temporary Coastal Protection Works (TCPW) permanent at Lots 10 and 11 DP243218 and Lots 16-23 Section 6 DP1623 Bayshore Drive, Belongil. This DA was received by the NSW Coastal Panel on 9 January 2017. (LVQS understand there are No changes to this TCPW).

Construction Methodology and Staging

Stage 1 – Pre-planning Activities and Install Environmental Controls

- A staging area is to be established, landward of the proposed seawall extension, within Lot 1 DP215893. See Figure 1.
- Flagging, fencing & safety signage to be installed around the perimeter of the works zone.
- Elements of Byron Resort will close the workzone & staging area throughout the period of construction works and this will limit public interaction with the works site.
- Sediment management controls are to be implemented throughout works.
- All excavators that are accessing the site are to be clean prior to reaching site. Spill kits to be kept on site.
- The alignment extension is to be set out prior to construction activities starting and located using RTK GPS.



Figure 1. Works Zone constructed from above proposed geobag wall and Staging Area at existing geobag stockpile.

Stage 2 - Excavation of seawall construction batter

- A construction batter area of 1v:2h, or suitable equivalent benching area, is to be prepared for safe work access from behind the seawall. See Figure 1 & Figure 2.
- Excavated sand is to be suitably stockpiled within Lot 1 DP215893
- Working around suitable low tides for installation of toe geo-bags will be used as a means of avoiding dewatering.
- Note; Royal Hakoning DHV report dated 29th May 2023 has Greg Britton noting but not limited to some key requirements of the Code of Practice were to adhere to and as snipet follows:
- sandbags comprising the works must be placed and maintained in a manner that minimizes the likelihood of the collapse of the escarpment.
- excavation of the escarpment for the placement of the works is not permitted with the exception that, when placing sandbags, limited excavation of the beach (other than the escarpment) may be undertaken to enable the bottom layer of sandbags to be placed approximately horizontally. Any excavated sand is to be placed elsewhere on the beach.
- the height of the works must not exceed 1.5m from the base (or toe) of the escarpment.

- the works must be placed against the seaward side of the escarpment and be within 4m of the escarpment; the slope of the face of the works must not exceed 34 degrees from the horizontal plane (1 Vertical : 1.7 Horizontal, or 1V:1.7H);
- emergency coastal protection works must not be placed at any location where other coastal protection works (whether lawfully placed or not) exist.
- works damaged by tides or waves during a storm are to be repaired or removed as soon as practicable after the storm conditions cease. 1 Australian Height Datum is approximately the level of Mean Sea Level at present.



Figure 2. Typical section showing proposed seawall extension and temporary excavation batter / benching area.

Stage 3 – Filling of Geo sand bags

- Filling of geo-bags will occur in the Staging Area (See Figure 1)
- Geo-bags to be filled using cradles as per manufacturers installation guidelines
 <u>https://www.geofabrics.co/sites/default/files/safetydata/Elcorock-75m3-containers-installation-guide-2015.pdf</u>
- Sand for geo-bags to be sourced from Belongil Beach.

Stage 4 – Placement of Geo sand bags.

- One x 19m Longreach Excavator will be used for minimal disturbance of the site.
- One x Posi-track Loader will transport filled geo-bag to the Longreach excavator which will be sitting at current seawall position.
- Longreach excavator to place geo-bag in it's specified location using slings.
- Location to be confirmed for geobags (vertical and horizontal) using RTK GPS Rover.
- Coastal Engineer to provide supervision throughout works to ensure construction is in accordance with the Drawings.

Stage 5 – Backfill and revegetation.

- Where seawall is exposed, backfill using stockpiled beach sand to achieve a safe profile of 1v:1.5h, sloping landward from the crest of the seawall. (Figure 1)
- Where seawall footprint was previously buried under existing dune, dune is to be backfilled to previous

level. (Figure 3)

• Revegetation of dune areas to be undertaken using suitable plant and dune species as advised by specialist.



Figure 3. Seawall buried into dune

Stage 6 – End of Job and Site Clean Up.

• Removal and tidy up of work zone back to original condition.

Design Drawings for Extension to Existing Coastal Protection Works