

COASTAL INFORMATION SHEET

Coastal Development Issues: Oceanfront Boulder Walls

- December 2001 -

Introduction

Provision 13.17.1 of the Gold Coast Planning Scheme requires that development on sites that front an ocean beach does not commence until an oceanfront boulder wall is constructed. The boulder wall is constructed along the Oceanfront A-Wall line in accordance with a standard plan. Following construction dunes are restored in accordance with Council Policy for the Management of Coastal Dune Areas. The purpose of the construction of the boulder walls is to protect buildings from coastal erosion.

Background

There were cyclones in 1954 and 1967 that seriously damaged some beachfront buildings as can be seen in Figure 1 below. In an attempt to protect such structures, residents constructed protective walls on the existing erosion scarp with such materials as car bodies, rocks and sand bags.



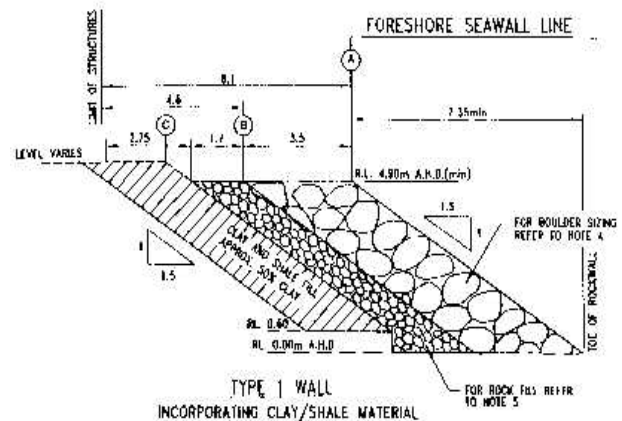
Figure 1 – Structural damage caused by Cyclonic Activity, Mermaid Beach 1967.

It was not until the early 1970's that a detailed study was undertaken on the potential effects of cyclonic erosion on Gold Coast beaches. Consequently to provide for the stabilisation of the beach area, a standard design for the construction of protective boulder walls was developed and an alignment was determined for walls to be constructed upon.

Boulder Wall Design

There are two standard types of oceanfront boulder walls (see Figure 2):

1. Type 1 Wall incorporating clay-shale material; and



2. Type 2 Wall incorporating geotextile material.

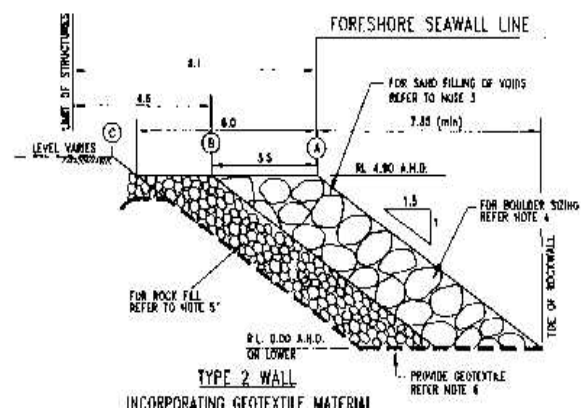


Figure 2 – Boulder Wall Designs

The clay-shale backed wall is the preferred boulder wall design as it is easier to achieve a good quality filter layer with the clay shale. Therefore, it is recommended that only when there is not enough room to safely excavate for the placement of clay-shale should the geotextile design be used.

Boulder walls are designed to be buried in sand during periods of calm weather and only be exposed during storm conditions. Unfortunately some Gold Coast beaches do not have adequate sand reserves to fully bury the boulder wall.

The construction of boulder walls must be completed prior to the commencement of building work on an oceanfront site. The boulder wall must also be certified by a registered engineer as meeting the required structural standard.

A security deposit of \$2,500 is held during construction and is used as security for satisfactory restoration of the dune vegetation and beach.

Residents are required to build the boulder walls along the A wall alignment. On public land such as street ends it is the responsibility of the Gold Coast Council to construct boulder walls.

Figures 3, 4 and 5 show the various stages of boulder wall construction.



Figure 3, 4 & 5 – Boulder Wall construction at Seashell Avenue Street End, Mermaid Beach