

GEOFABRICS CASE STUDY



ELCOROCK SAND CONTAINERS SAVE THE MAROOCHY FROM ROCKING

PRODUCTS USED

ELCOROCK® GEOSYNTHETIC SAND CONTAINER

- Made in Australia with Texcel geotextile - a unique staple fibre blend of polyester and polypropylene, providing flexibility and allowing the product to resist the natural forces of the marine environment
- Filled with sand and used to form a stabilising and defensive barrier against erosion in harsh coastal environments by building breakwaters, sea walls, revetments, groyne and artificial reefs
- Highly resistant to abrasion, hydrocarbon, impact damage and UV degradation
- Precise size and shape can be made to meet site specific requirements



SIMON RESTALL
COASTAL CONSULTANT

✉ s.restall@geofabrics.com.au
📍 ORMEAU, QLD, AU

PROJECT DESCRIPTION

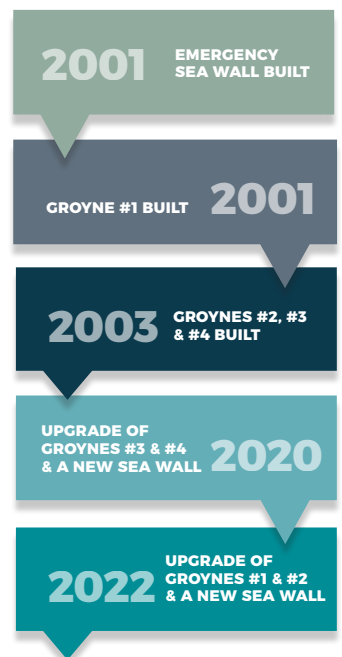
Geofabrics Elcorock geosynthetic sand containers have a long-standing relationship with Maroochydore, more specifically, where the natural Maroochy River meets the ocean.

This natural river system is dynamic and meanders North and South historically, which can result in changing beach profile and erosion - threatening infrastructure and property. This erosion is exacerbated by king tides and storm events.

OUR SOLUTION

In 2001, an emergency sea wall and a groyne were built for immediate protection of the Cotton Tree Holiday Park as it was at threat of an inundation from king tides and storm events. For 20 years, the Geofabrics Elcorock geosynthetic sand containers system performed as designed and were widely accepted by the community. Eventually large wave events caused minor displacement to the upper layers of the groyne.

The Sunshine Coast Council considered reconstructing the groyne with rock, however, this proposition was not supported by locals. Rock is widely accepted as a conventional construction material, although it is not always the best choice for safe and enjoyable beach amenity. Additionally, locals argued that a rock wall would forever change and destroy the natural beauty of the area. Beachgoers, surfers and visitors alike prefer the Elcorock geosynthetic sand container due to its natural look, feel and environmental protection capabilities.

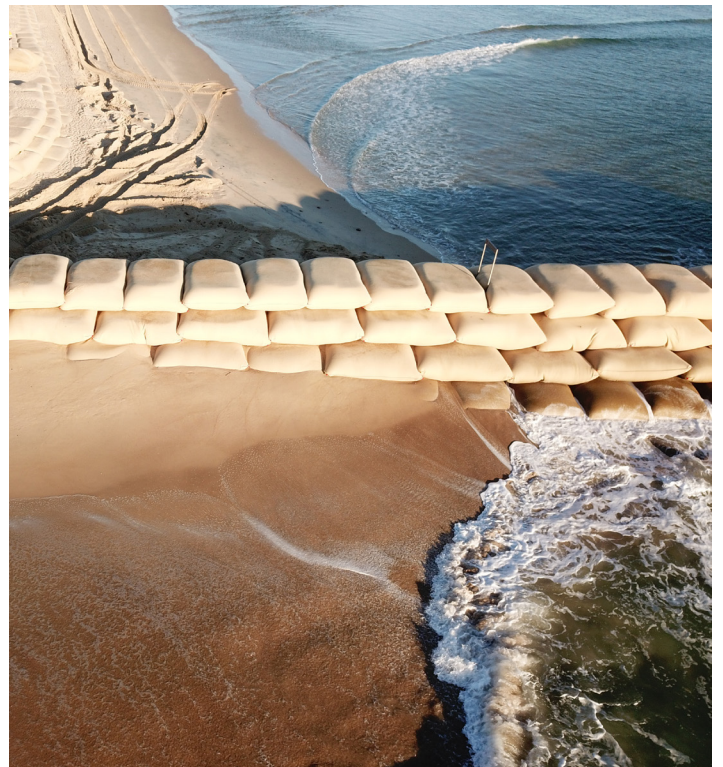




As part of the tender process, Geofabrics extracted a number of samples from the site and tested them in a laboratory in order to validate existing weathering data and real time durability over a 20-year period. The results demonstrated that the Elcorock Geosynthetic Sand Containers would continue to perform for decades to come as there is no significant deterioration in the material properties.

The Sunshine Coast Council officers recommended retaining the Geofabrics Elcorock geosynthetic sand containers groynes rather than replacing with rock. The seawall was reconstructed using 1,330 Elcorock 2.5m³ containers. Groynes #3 & #4 were reconstructed using 569 of the new and larger 5.0m³ containers. Due to the increased size and mass of the container, the contractor developed modified filling and placement techniques to achieve the design outcome.

In 2022, Geofabrics supplied a further 603 ER500V units for reconstruction of groynes #1 & #2, and 1120 ER250V units for the seawall extension. This completes the upgrade works to date.



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