

URENUI SEA WALL NEW PLYMOUTH

COASTAL EROSION PROTECTION

Products: ElcoMax 900R

Problem

The beach at Urenui is approx 500m in length and along this stretch of coastline there is a golf course, a campsite and private baches. Severe erosion has occurred on this site particularly during high tides. In 2001, the New Plymouth District Council constructed a 295m sea wall on the north-eastern end of the beach mainly to protect the golf course from erosion. They adopted other erosion control measures for the rest of the beach, namely planting of dune binding vegetation and beach sand replacement. Despite their best efforts and periodic maintenance the erosion continued necessitating the need for the District Council to consider a more permanent solution.

Solution

Although other solutions were considered the rock wall option was chosen because it was a proven method as they had already seen the benefits of the installed a rock wall further along the beach. It was also the most cost effective solution given the availability of good quality stone locally and matched the other stone wall on the site .

ElcoMax 900R was selected for its high survivability properties to prevent erosion of the soft sands below the stone armour and to resist the high stresses during rock placement. The design detailed a secondary and primary rock layer over **ElcoMax**. The need for **ElcoMax** at this site was highlighted when saturated liquefied sand was encountered along the toe of the seawall. This is the same sand being supported on the bank which would get saturated at high tide. The banks of the excavation collapsed faster than the contractor could lay the **ElcoMax** and rock. The contractor was able to overcome this problem by vibrating the stones down to the firm underlying papa layer which created a solid base to build upon.



Beach at Urenui prior to construction



Construction of seawall with ElcoMax 900R



Completed seawall

Client:

NEW PLYMOUTH DISTRICT COUNCIL

Main Contractor:

FLEMING CIVIL LTD

Consultant

CPG NZ LTD (FORMERLY DUFFILL WATTS
CONSULTING GROUP)

Products used:

ELCOMAX 900R

Construction date:

END OF MAY 2008

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Quality System AS/NZS ISO 9001:2000

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