

## CASE STUDY:

# ST HELENS BEACH BOATRAMP

ST HELENS BEACH, QLD  
JUNE 2017  
CONTRACTOR: PENSAR

## TENSAR SS

Tensar SS biaxial geogrids are used in the stabilisation of soils and aggregates in construction of structures such as temporary roads, haul roads, working platforms and foundations. Tensar SS biaxial geogrids can solve ground stabilisation problems because they interlock very efficiently with granular materials. When granular particles are compacted over these grids, they partially penetrate and project through the apertures to create a rigid and positive interlock.

## MIRAFI PET

Mirafi PET high strength woven geotextiles have been engineered for long term reinforced soil applications, such as embankments on soft soils. They are manufactured using high tenacity polyester filaments for high tensile strength at low working extensions with minimal creep over the entire design life of up to 120 years.

Pensar Civil were awarded the \$1.7 million contract to upgrade the existing boat ramp facilities at St Helens Beach in North Queensland as a part of the Queensland Government's Marine Infrastructure Fund.

Work included raising the height and increasing the slope of the existing boat ramp and access causeway, as well as construction of a rock groyne/ breakwater to protect the ramp from wind and wave action.

The new ramp needed to meet the requirements of Main Roads Standard Drawing 4021, which specifies Geogrid SS30 and Geotextile P39. PET 800/50 was specified as basal reinforcement for the project specific breakwater.

For construction of the ramp Texcel P39 was placed as the separation layer on existing material followed by SS30 geogrid in maximum 1 m lifts of compacted 75 mm rock. The ramp was finished with precast concrete panels.

Pensar were on site for approximately 12 weeks to complete the project which was scheduled around tidal windows. Tides during the construction period varied between 0.4 m at low tide to 6.26 m at high tide. At high tide the entire project site was inundated requiring all people, plant and equipment be relocated to higher ground.

Adding to the site challenges this area of the North Queensland coastline is subject to crocodile sightings so staff had to ensure a spotter was always available.



**Installation**

Installation of Mirafi PET 800/50 basal reinforcement for construction of breakwater



**Maximum lifts**

Texcel P39 with Tensar SS30 geogrid placed in maximum 1m lifts



**Working with the tides**

The project team had to progress works during low tides