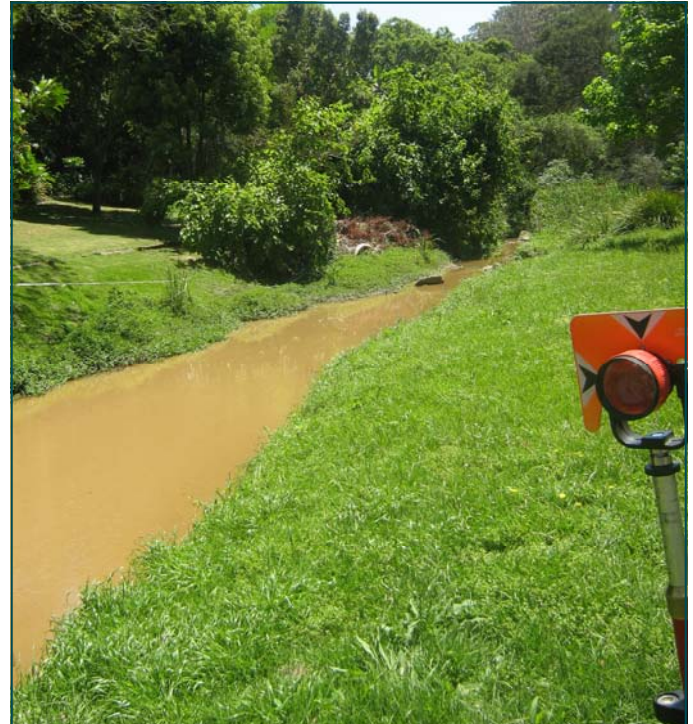


**WOODLANDS SEWER UPGRADE**  
PORT ELIZABETH, EASTERN CAPE**HYDRAULIC & EROSION CONTROL****Product: Gabions & Castoro Mattresses****Problem**

The existing 40 year old 600mm diameter sewer was no longer in good working condition nor could it cope with the required expansion to accommodate anticipated increase in volumes needed. To resolve this it was decided that the existing sewer replaced by a new 700mm diameter pipe adjacent to the existing sewer. This new sewer line would require protection from scouring and undermining during flooding due to its location in the watercourse.

**Solution**

The solution of Gabions lined with Biomac, an erosion control blanket, and filled with rocks and topsoil previously stripped from the site to ensure re-growth from seeds within the topsoil was installed to ensure the rapid greening of the gabions and to assist with the erosion and scour protection.



Before construction



During construction

Client name:

NELSON MANDELA BAY MUNICIPALITY

Main contractor name:

PENNY FARTHING

Consultant:

GOBA CONSULTING ENGINEERS

Product used:

GABIONS &amp; CASTORO MATTRESSES

Construction info:

Construction date: 30 JULY 2009

Completion date: 11 OCTOBER 2010

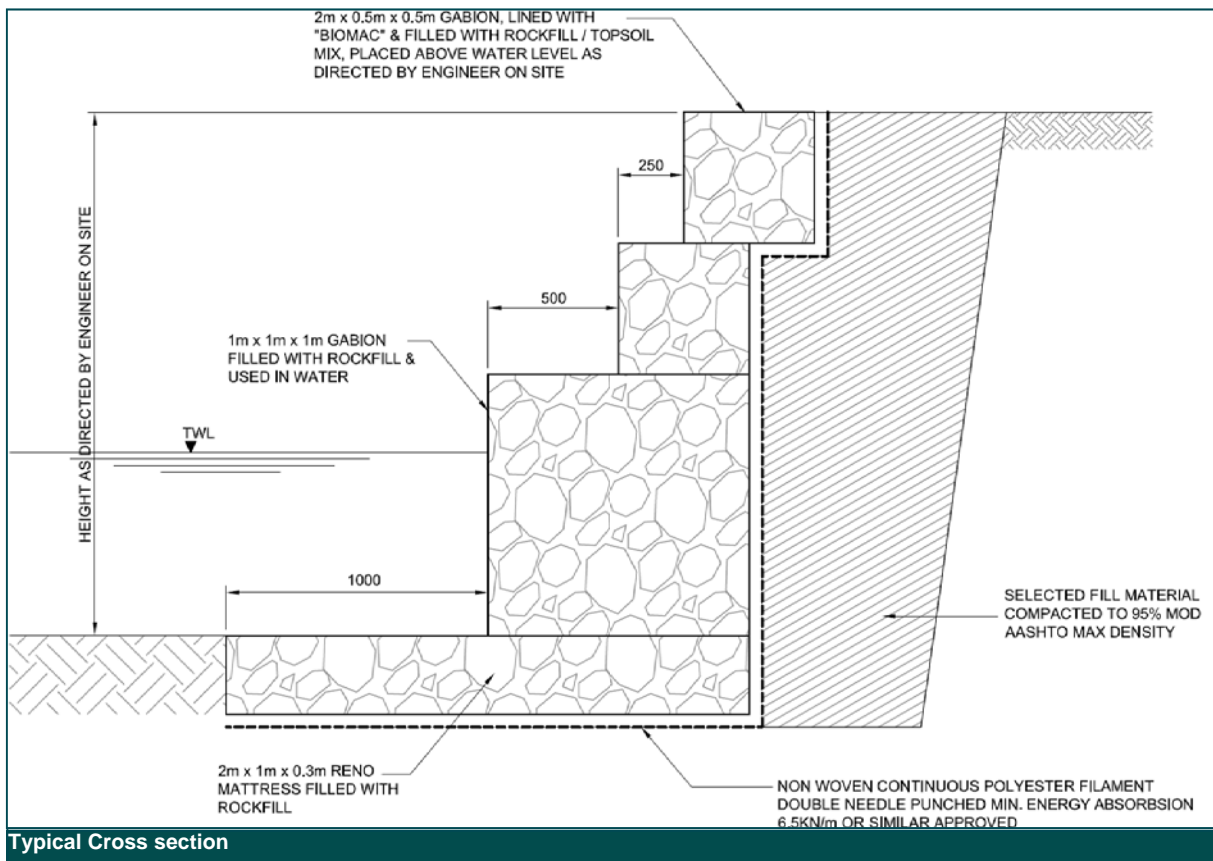
**Benefits**

The installation of the gabions filled with rocks and previously stripped topsoil will prevent undermining and erosion of the sewer.

The Biomac on the front of the gabion will assist with retaining the soil until the greening from the seeds in the top soil takes place and will retain the soil in the gabion. This greening solution was part of the Environmental conditions for the project.



**Project complete**



**Typical Cross section**

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