



CASE STUDY:

**MAJOR STORMWATER
PIPE CLEANOUT**

**BLACK STREET, BRISBANE, QUEENSLAND
APRIL 2020**

**GEOTUBE®
DEWATERING
CONTAINERS**

Geotube® dewatering containers are used for sludge dewatering projects of all sizes and there is good reason - simplicity and low cost.

There are no belts, gears, or complicated mechanics. Geotube® containers use an engineered geotextile that is designed to separate liquids and solids. They are available in many sizes, depending on your volume and space requirements.

Geotube® dewatering containers are supplied to site and placed into position. In some cases sludge is treated with specialist polymers then pumped into the containers to produce a clear effluent water. The effluent is then drained leaving the solids safely contained in the unit. Once dewatered the solids can be capped in place, dug out and removed, or used as structural units for dykes and dams.

A three-metre diameter stormwater pipe which runs from Black Street, Brisbane down to the discharge point in the Brisbane river had become blocked. The blockage threatened flooding of over 3,000 city residents.

The project comprised removal and dewatering of more than 1,200 tonnes of silt and sediment from an entirely submerged pipeline. The pumping unit is owned by Desilting Solutions and is Australia's first robotic dredge with an innovative on-board water treatment system.

The project was initiated by Geofabrics after discussions with Desilting Solutions, who indicated they were looking to optimise spoil management for the project. Geofabrics understood that mobile settling tanks placed on the floating barges were proposed to temporarily contain the pumped spoil from the stormwater pipe. This method would have required numerous trips back and forth from its moored river position to transfer the settled solids from the tanks to a disposal facility on shore. The settling time within these tanks would have also pushed out project timelines considerably.

Geotube® Dewatering units were the preferred solution, in lieu of the settling tanks, due to their ability to store large volumes of dewatered solids on a relatively small footprint - which was ideal for the floating barge concept.

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Geotube® units shown on the barge.



Geotube® units while dewatering.



Geotube® cut open after dewatering, exposing the dry solids.

The Geotube® solution was also preferred due to its ability to rapidly dewater solids that were being pumped at a flow rate of 1500L/minute with a relatively low initial solids concentration. By consolidating the sludge and dewatering offshore, the time for mobilisation was minimised. On top of this, the Geotube® Dewatering system enables a relatively high level of solids concentration to be achieved, reducing the cost of disposal.

Geofabrics in conjunction with the product manufacturer, Tencate, were able to guide and support our customer, Desilting Solutions, from conceptualisation through installation to completion, assisting with any concerns along with the way. Desilting Solutions advised “progress was better than expected”.

Phase 2 is underway with the aim to unblock another portion of the stormwater pipe in the heart of Brisbane.

Considering that Desilting Solutions were utilising two unique new pieces of technology, the new robotic dredge and Geofabrics’ supplied Geotube® Dewatering system, the result was a great success. The hope is that many other stormwater infrastructure pipes and systems can regain capacity using the same techniques in the near future.



Water quality before and after Geotube® dewatering.

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