



# Catchment Repair

## Bioreactor - Wall

### AIM

A bioreactor wall is designed to intercept ground water prior to discharge into drains and waterways. Bioreactor technology creates ideal conditions for living organisms such as bacteria to convert nitrate in groundwater into nitrogen gas.

### SITE DESCRIPTION

A cane paddock approximately 8ha in size sloped towards an unnamed water course of the lower Moresby River with a large headland area on the downslope side of the paddock, running adjacent to the water course. This provided an ideal area to build a bioreactor without interruption to the farm activities. Soils were a sandy loam with an impervious clay layer 2.5m deep.

### CATCHMENT REPAIR TECHNOLOGY

- The bioreactor was constructed to sit on top of the impervious clay layer.
- 25mm hardwood, wood chip was used as the carbon source for the living organisms.
- In systems outside of the Wet Tropics, de-composition of the woodchip is estimated to take 25 years, this timeframe is yet to be confirmed in tropical soils.

### KEY CHALLENGES:

Predominantly sandy soils found at this site meant that a 'V' bucket on the excavator was required to prevent the side walls collapsing during construction.

**APPROVALS/PERMITS REQUIRED:** Nil required

**CONSTRUCTION TIME:** 1 day

