

VRYHEID WASTE WATER TREATMENT PLANT New Dewatering Plant

SUMMARY OF WORKS	
Type of Works	Waste Water Treatment Works
Location of Works	Abaqulusi Local Municipality
Size of Works	20 ML/D
Date of Award	21 May 2008
Date Completed	20 May 2010
Completion Value (Including VAT)	R 6 901 824.86
Client	Abaqulusi Local Municipality
Conditions of Contract	FIDIC Plant and Design-Build 1999

The Abaqulusi Local Municipality awarded PCI Africa a contract for the design, supply, installation and commissioning of a sludge dewatering facility for the Vryheid Waste Water Treatment Plant in 2008.

Sludge had been wasted to drying beds following digestion, and the project comprised the addition of a dewatering plant for the reduction of WAS sludge directly from the reactor to 15% for disposal.

The project scope included the civil, building, mechanical and electrical works associated with the dewatering train. A Dewatering Building was constructed to house the Press, Polymer Dosing plant, MCC room and Polymer Storage.

Sludge is pumped directly from the reactor. Flocculation is by polymer dosing from a fully automated progressive batching plant. A 2m filter belt press dewateres the sludge by gravity drainage followed by wedge and compression zones. The press functionality is fully automated and PLC controlled. An HMI located at the press enables full operator local control while visually monitoring the process. Enclosed screw conveyors convey the dewatered cake out of the building and elevate for discharge into trailer mounted skips.



FILTER BELT PRESS



FILTER BELT PRESS AND SCREW CONVEYOR

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Wash Water is drawn from the chlorination contact basin, and following automatic backwash screening, fed to high pressure pumps which provide the required pressure for filter belt wash and dilution. Filtrate and wash water is recycled back to the balancing tank, where it combines with the incoming effluent.



FILTER BELT PRESS AND ACCESS STRUCTURE



AUTOMATED POLYELECTROLYTE MAKE-UP AND DOSING PLANT