

UMTAMVUNA PUMP STATION

SUMMARY OF WORKS	
Type of Works	Pump Station
Location of Works	Ugu District Municipality
Size of Works (Mℓ/D)	20 ML/D
Date of Award	4 March 2009
Date Completed	27 January 2011
Completion Value (Including VAT)	R 29 019 140.00
Client	Ugu District Municipality
Conditions of Contract	GCC 2004

The Ugu District Municipality is responsible for the provision and distribution of potable water from Scottburgh to Port Edward on the Kwa Zulu Natal South coast. To this end, their second largest abstraction facility is the Umtamvuna Pump Station which draws raw water from the Umtamvuna River for treatment at the Umtamvuna Water Treatment Plant.

The pump station had been designed for a nominal capacity of 20ML/day, however, over the years this had reduced primarily as a result of wear. In addition, the Municipality had constructed a new raw water storage dam and pipeline which would allow all the water pumped from the river to be stored in the new reservoir from which the water treatment works could be fed via gravity. This assisted in providing a more consistent supply due to ongoing power outages in the area. A decision was thus made to upgrade the pumping facility as follows, with the project taking a phased approach in order to minimise interruptions to the existing supply.

- Replace the four existing low lift submersible pumps in the caisson with new submersible pumps (666 m³/Hr at 33.3m head).
- Install an additional 500NB pipeline from the caisson to the high lift pump station settling channel.
- Replace the existing four high lift pumps, revised duty of 540m³/Hr at 281m head, new motors were fitted to two units whilst refurbished motors were fitted to the other two.
- Install a new 40 bar pipeline, valves and actuators in the high lift pump station.
- Replace the existing 22kV panel comprising one incomer and four transformer feeders.
- Supply an additional 3.3kV panel comprising one incomer and two motor starters
- Supply an additional 3.3kV bus section and joggle chamber to tie into the existing panel
- Supply an additional 22kV/ 3.3kV 1600kVA transformer.
- Supply additional 3.3kV korndorfer starters
- Full automation including VSD's, PLC's, HMI and telemetry system.
- All Civil works to accommodate the new pumps and electrical equipment.

The first of the high lift pumps were brought on line in August 2010, with the completed project value being in excess of R29 million,

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New pumps and manifold



Old pumps and manifold

UMTAMVUNA PUMP STATION ADDITIONAL PHOTOGRAPHS



New 40 bar valves and pipework



**Low lift pipeline from high lift pump station
down embankment and across bridge to
caisson**



3.3kV panel, bus section and joggle chamber with new 22kV incomer and feeders in the distance