

## Technical Details

- 1 Building Details**

Size = 21.5m x 10.2m x 7.5m high above ground level  
 Floor Area = 220m square  
 Depth Below Ground = 2.45m
- 2 Pump and Motor Details**

Two groups of horizontally mounted centrifugal pumps driven by DC motors controlled by variable speed drives.

Karori Group: Pump No.1 = 135 kW  
 Pump No.2 = 433 kW (Standby — shared with Kaitoke Group)

Kaitoke Group: Pumps No. 3 & 4 = 433 kW  
 Pump No.2 = 433 kW (Standby — shared with Karori Group)
- 3 Controls**

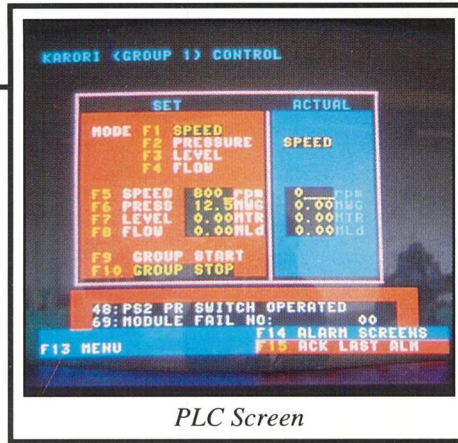
Pumps controlled by industrial computer (PLC)
- 4 Power Supply**

400 V supply from 2 x 1000 kVA, 11000 V air cooled transformers.
- 5 Pipeline Details**

Suction Pipeline: 800 mm diameter rubber ring jointed ductile iron, mortar lined pipe from Wainuiomata System pipelines at Hutt Road to pumping station.

Delivery Pipeline: 800 mm diameter steel, concrete lined pipe with welded joints from pumping station to Kaitoke/Te Marua system pipeline at abattoir.
- 6 Flow**

Maximum flow through pumping station 60 million litres per day, in either direction.



PLC Screen

# Ngauranga



# Pumping Station

For further information please contact the  
 Wellington Regional Council

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 Wellington

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**Vital security of the regional water supply network is provided by the Ngauranga Pumping Station. Officially opened in June 1992 by Wellington Regional Council Chairperson, Stuart Macaskill, the pumping station provides a crucial backup system should there be any interference with the normal water supply linkages — for example, in the event of an earthquake or a shortage of water.**

There are currently three main sources of water supply to the four cities of the Wellington region. Approximately half of this water is drawn from the Hutt River at Kaitoke and then treated at Te Marua. It flows along large pipes, passing through and supplying water to Upper Hutt, Porirua, Tawa and Johnsonville, before it reaches the Karori Reservoir.

Another quarter of the region's water supply is provided by the Wainuiomata and Orongorongo rivers. This water is fully treated at the Wainuiomata Water Treatment Plant (completion date 1993). The pipeline passes through Wainuiomata, then along the Petone foreshore and Hutt Road into Wellington. In addition, underground water pumped at Waterloo, supplies most of Lower Hutt. Pipeline connections allow water to be



*Water Pumps and Motors*

fed if required into or from the Wainuiomata to Wellington system.

In the past, the Wainuiomata and Te Marua supplies operated largely independently and consequently could not provide adequate backup in the event of an interruption or failure. Now, the Ngauranga Pumping Station and associated pipeline in the Ngauranga Gorge has connected these systems together.

It is now possible to pump Wainuiomata water into the "Te Marua to Karori" system, or to reverse the operation and run water from Te Marua into the "Wainuiomata to Wellington" system.

This is a major improvement to the security of the regional water supply. In the event of an interruption or reduced flow in one or other of the main supply linkages, the interconnection will provide an invaluable backup system.

An additional benefit from the Ngauranga Pumping Station project is the ability to optimise the overall operational costs of the water supply system. Now, the cheaper source of water available will be selected and directed to flow up or down the interconnection as appropriate.

