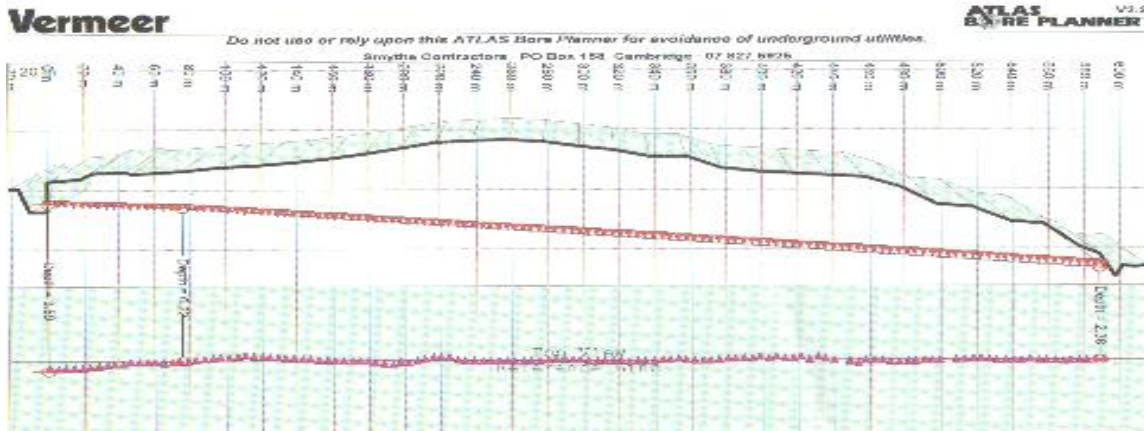


The Contractors

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Richard Rd Sewer, 592m continuous drill, sets NZ RECORD



Computer generated asbuilt from real time data log



Vermeer drill set on line & grade & drilling 592m sewer continuous

Smythe Contractors successful alternative tender to drill 80m of 1% Micro tunnel and then continue on with a 512m drill at 2% set a New Zealand direction drill and micro-tunnel record.

A new 250mm \varnothing sewer was designed to make redundant the Richard road Pump Station in Mangere, Auckland. This was achieved in June this year by drilling through a hill to a depth of 14m and connecting into the Tidal Road Pump Station 614m away. The drill included a change of direction and grade at 80m. The contract included decommissioning the pumps at Richard Rd pump station and then demolishing the pump station and reinstating the site. The contract was achieved in 10 weeks.

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itions that needed to be overcome & included-

- Large warehouse on drill path contributing signal interference from foundation steel
- Finding 600m of clear space to weld the pipe continuous
- Change in grade and direction at a MH on the drill path
- Change in ground soil material at 509m

Due to the depth of the sewer and the likely signal interference from the foundation steel of the warehouse, a wire sonde was employed. This type of sonde is connected to the drills onboard 24volt batteries providing a substantial increase in power to produce a much stronger signal. The stronger signal over-rides the foundation reinforcing interference and also allows the drill head to be located at greater depths. Although this



system has many advantages it requires a cable to be threaded up the inside of every drill rod therefore slowing the drilling process.

The ground material largely consisted of Volcanic Tuff (welded soil) with the last 80m consisting of soft clay. The varying ground conditions added some challenge to installing the pipe to grade however the pipe was installed within 50mm of design invert.

**250mmØ sewer at 2% grade
592m long exiting to new MH.**

**Concrete lined steel pipe & new
MH's to connect "Directional**

Drilled pipe" into existing pump station.

Outlet end of Directional Drilled pipe.

Data logging the bore allows us to view the actual bore path upon completion or at any time during the pilot-hole drilling. This information is invaluable and can be provided as an accurate as-built to the client upon completion of the drill. (See front page)

[Further information on our services can be obtained by contacting:](#)

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