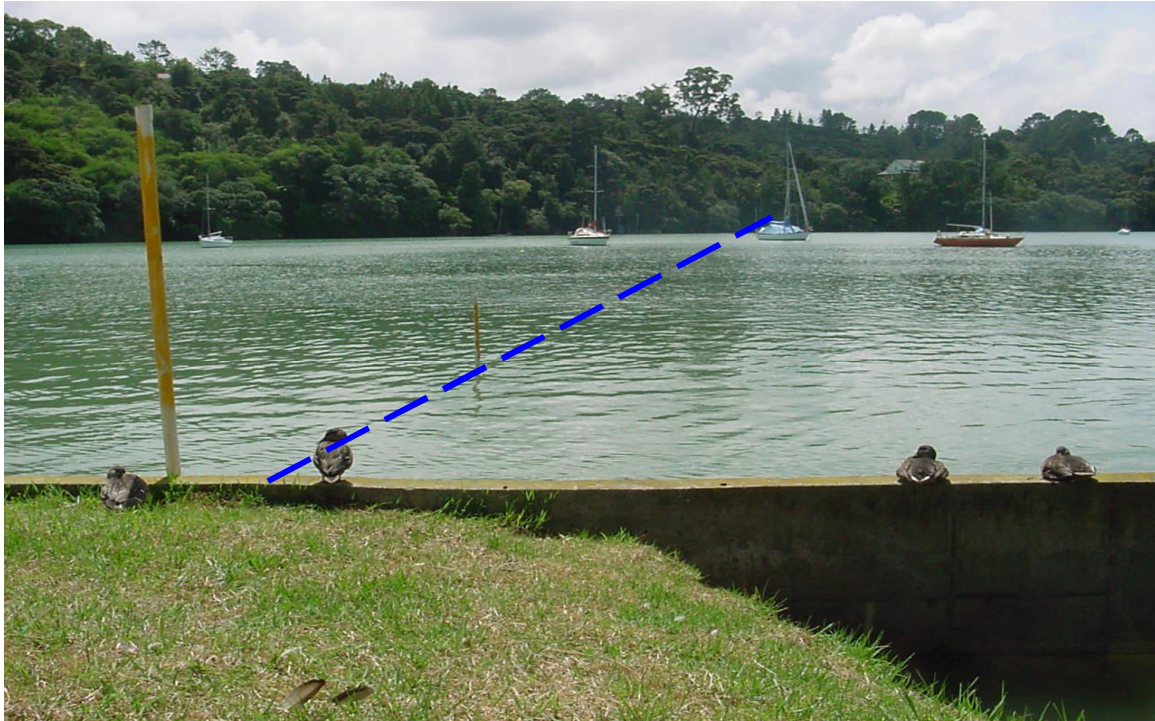


# Smythe Contractors

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## **315mm dia high-pressure watermain installed under Lucas Creek. “The environment wasn’t touched”**

Smythe Contractors design-build contract with the North Shore City Council to replace the existing ailing water pipeline crossing Lucas Creek will see a reliable water supply to the Paremoremo district for the next 50 years and beyond.

The existing water pipeline was installed by open cut method 20 years ago and lies 2m deep in the estuary mud. In recent years the pipeline has ruptured several times and the integrity of the pipeline was in serious question. Smythe Contractors design methodology proposed the installation of a new watermain to be installed entirely within the sandstone bedrock, this meant drilling up to 22m deep. The impact of the construction works on the marine environment was the No 1 consideration for all parties. Every aspect of the works was carefully planned down to the smallest detail to eliminate all risk to the marine environment. Also of concern was the native bush reserve on the West side and no access was permitted through it.



**< Smythe Contractors  
undertaking Geo technic  
investigation with an  
860 Ditchwitch Drill rig.**



**Delivery of concrete for thrust &  
anchor blocks at low tide >**

The first attempt to drill the pilot hole found the pilot bit exiting into the mud 260m across the estuary. The computer bore plan and survey information was checked and re-checked and no fault found. We decided some additional geo-technical information was required and 5 investigation bores in the final 80m of the drill shot were sunk. The results determined the sandstone layer to be 2m deeper than first thought and also discovered was an 18m high cliff face in the sandstone mud interface very close to the valve chamber. This meant a small section of pipe would be installed deep in the mud at the bottom of the sandstone cliff and then re-entering into the sand stone for the final 50m to the valve chamber.



**315mm dia. PE pipe during welding**

The PE pipe string was welded near the North Shore Cemetery located further up the estuary. When the reaming was complete the pipe was capped and floated down the estuary and into the launch position.

After installation the pipeline was flushed, pressure tested, sterilised and connected into the existing valve chambers. The shoreline was reinstated to its original condition and no evidence of the 8-week contract was evident in the marine environment upon completion.

Further information on our services can be obtained by contacting Neil Vanner or Mike Smythe:

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