

PEZZIMENTI TUNNELBORE



Specialising in: **Highly Accurate, Laser-Guided Microtunnels.**

Little Bay



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The connection to the existing sewer system for an exclusive residential development at Little Bay, required a steeply graded line to be drilled under an existing golf course.

The design line was in competent sandstone, 130m long and at a grade of negative 7.35%. The Ø225 PVC carrier required a 440mm diameter microtunnel.

Client
RMS

Purpose
Sewer

Length
130m

Diameter of Microtunnel
440mm

Ground
Sandstone

Grade
Neg 7.35%

Carrier Pipe
225 PVC Pipe



+ Scope of Works

The launch shaft was excavated by MMA Civil in competent sandstone at the grade required. A small bund was made around the high side of the shaft to minimise the potential for surface water to enter the shaft as flooding the shaft would flood the head on the steep grade.

Microtunnelling was completed by freeboring – the competent sandstone was allowed to self-support and no outer encasing pipe was required. Drilling took 5 days, slowed down by significant water inflow which required draining prior to the start of each day. The head exited on target within the small exit shaft located on the eastern side of the 2 fairways.

The PVC pipes were sliplined into the sandstone microtunnel, the grout-retaining bulkheads were placed and 13.6m³ of grout was placed in 2 stages over 2 days to ensure the external buckling load of the PVC was never exceeded.



+ Environmental Aspects

One of the advantages of the removal of the spoil by vacuum is that during breakthrough of the microtunnel, there is NO loss of the slurry spoil into the exit shaft and hence zero risk of a spill into the environment. All cuttings are vacuumed up along the drill rod system back into the vacuum bins or vacuum truck.

This is not so with horizontal directional drilling where allowance must be made for the rapid loss of the drilling fluid at breakthrough when drilling in a negative (downhill) direction. This is because HDD requires the bore to be full of fluid in order to remove the cuttings.

In this case an exit shaft of 20m³ would have been required to mitigate loss of drilling fluid to the environment.



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For all inquiries – including Job Inspections,
Quotations and Project Feasibilities –
please don't hesitate to contact Pezzimenti
Tunnelbore. We are confident we'll hit the
mark on your next microtunneling project.

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When Accuracy Matters.