

Service Relocation Works



The Fremantle Traffic Bridge houses telecommunications, gas and water services that need to be removed from the deteriorating bridge.

- Gas services will be decommissioned and removed from the bridge, with new connection points activated north and south of the river.
- Three new pipelines (one telecommunication and two water) will be installed under the riverbed to house the new services.
- A Horizontal Directional Drill rig will drill under the riverbed to connect a pipeline to both sides of the river. Once the pipeline is in place under the river, the service lines are placed inside the pipe.
- The services on the bridge are then disconnected. The new lines will be connected to the existing service lines on either side of the river.
- During the relocation, water and telecommunications will operate without interruption.

What are the benefits of this method?

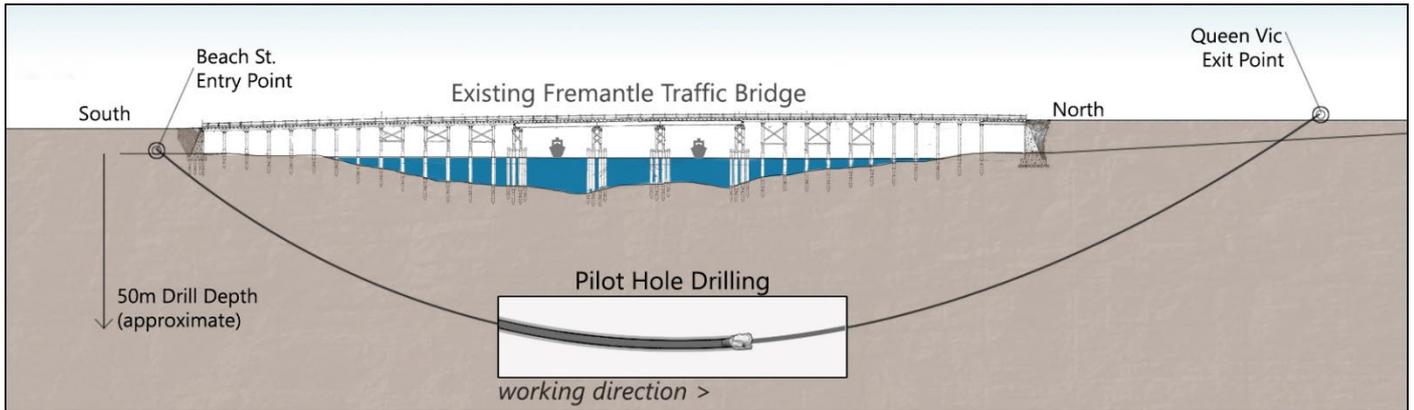
This service relocation method is widely used in Australia as it:

- Minimises surface disturbance.
- Offers faster installation.
- Reduces waste material.

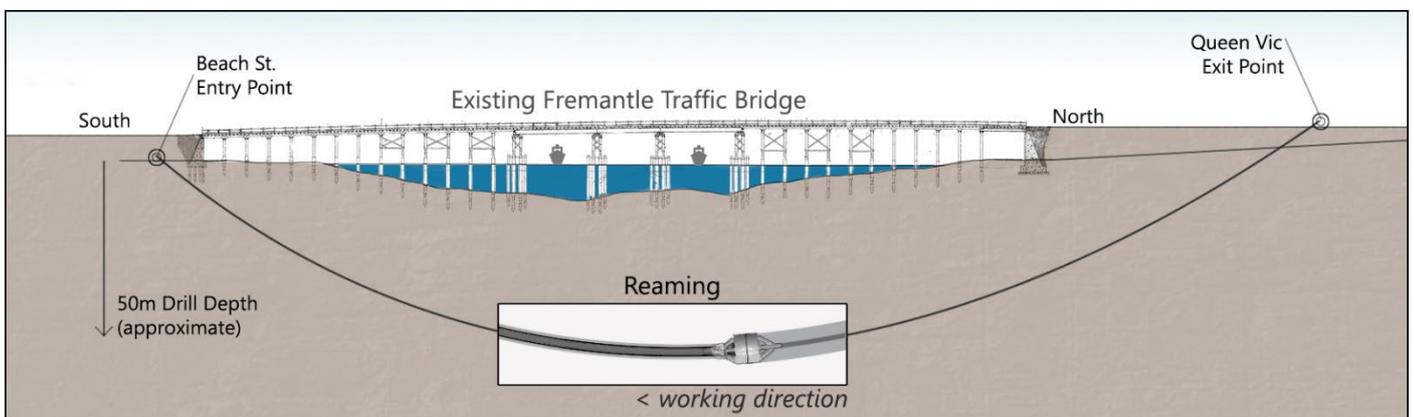
What is Horizontal Direction Drilling (HDD)?

HDD is a construction technique which involves drilling a deep hole underneath a body of water. Pipe segments are assembled and pulled back through the pre-drilled hole. This process involves:

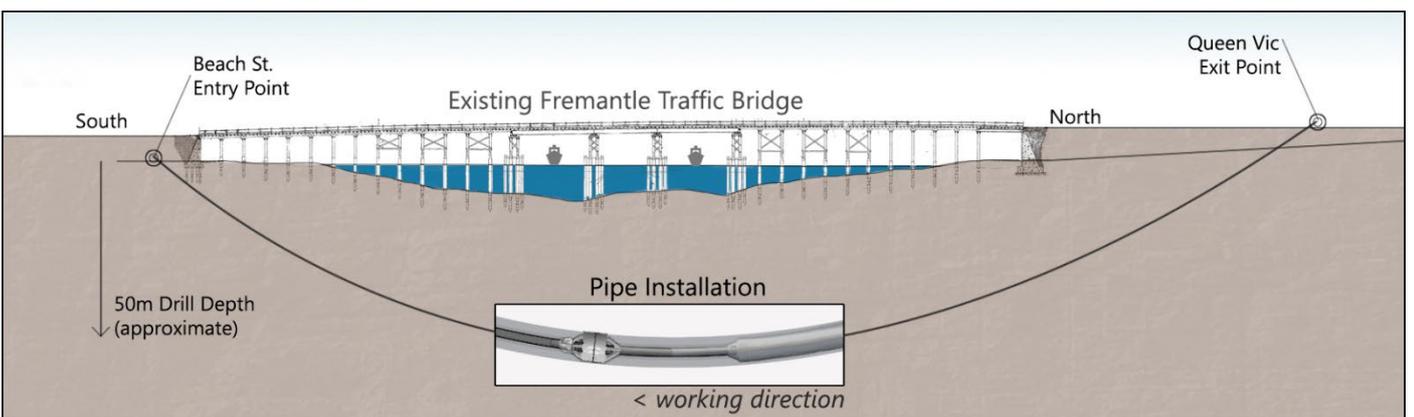
1. Drilling a small hole from an entry point to an exit point on land to stabilise the hole. A fluid is used while drilling to assist stabilisation, and is collected at the entry and exit points.



2. Making a bigger hole by using a special drill bit tool called a reamer to help widen the pre-drilled hole to fit the pipe segments.



3. Once the hole is the correct size, the reamer is attached to the front of the pre-assembled pipeline and pulled through the widened hole.



4. The drilled hole is refilled with the fluid (or a specialised product) to stabilise the area. Any unused sediment fluid is disposed of in accordance with the project's environmental management plan.
5. The new service line is then connected to the existing line. Entry and exit points are reinstated.

Service relocation works will be done using one drill rig at time, instead of two at the same time for telecommunications and water.

Telecommunications



Telecommunications will be the first service placed under the river using a HDD rig similar to the one pictured right.

The HDD rig is 9.35m long, 2.57m wide, 2.79m high and weighs 20,500kg. The rig will drill a small entry hole near Beach Street and will drill approximately 40m below sea level. The exit hole on the northern foreshore is east of the traffic bridge.



Ditch Witch JT100

Water



Once telecommunications are complete, water service relocation commences using a HDD rig similar to the one pictured right.

This HDD rig is 15.5m long, 2.55m wide, 5.8m high and weighs 30,000kg. The rig will drill a small hole near Beach Street approximately 55 metres below sea level. The hole will exit close to the northern carpark adjacent to the Swan Hotel.

The process for relocating water services will be undertaken twice as two new lines are being installed under the river.



Herrenknecht HK250T