

Oban Watermain Project

DCA Conference 2022, Chris Brodie, Gmac Utilities Ltd, Stratford upon Avon, 7th October 2022

Gmac Utilities Ltd was established over 30 years ago to provide a turn-key solution to the utilities installation industry.

We have offices in Ireland and Wales and support activities through the UK, Northern Ireland and the Republic of Ireland.

We run a large fleet of Ditch Witch and American Augers Machines, totalling 14 rigs which covers a full range of machinery from 10 – 250 tonne or 32mm to in excess of 1000mm pipework. In short this gives us the suitable machinery for any project. Subsequently, this our equipment, along with our knowledge, enable us to offer the correct advice and suitable machinery to undertake all directional drilling requirements.



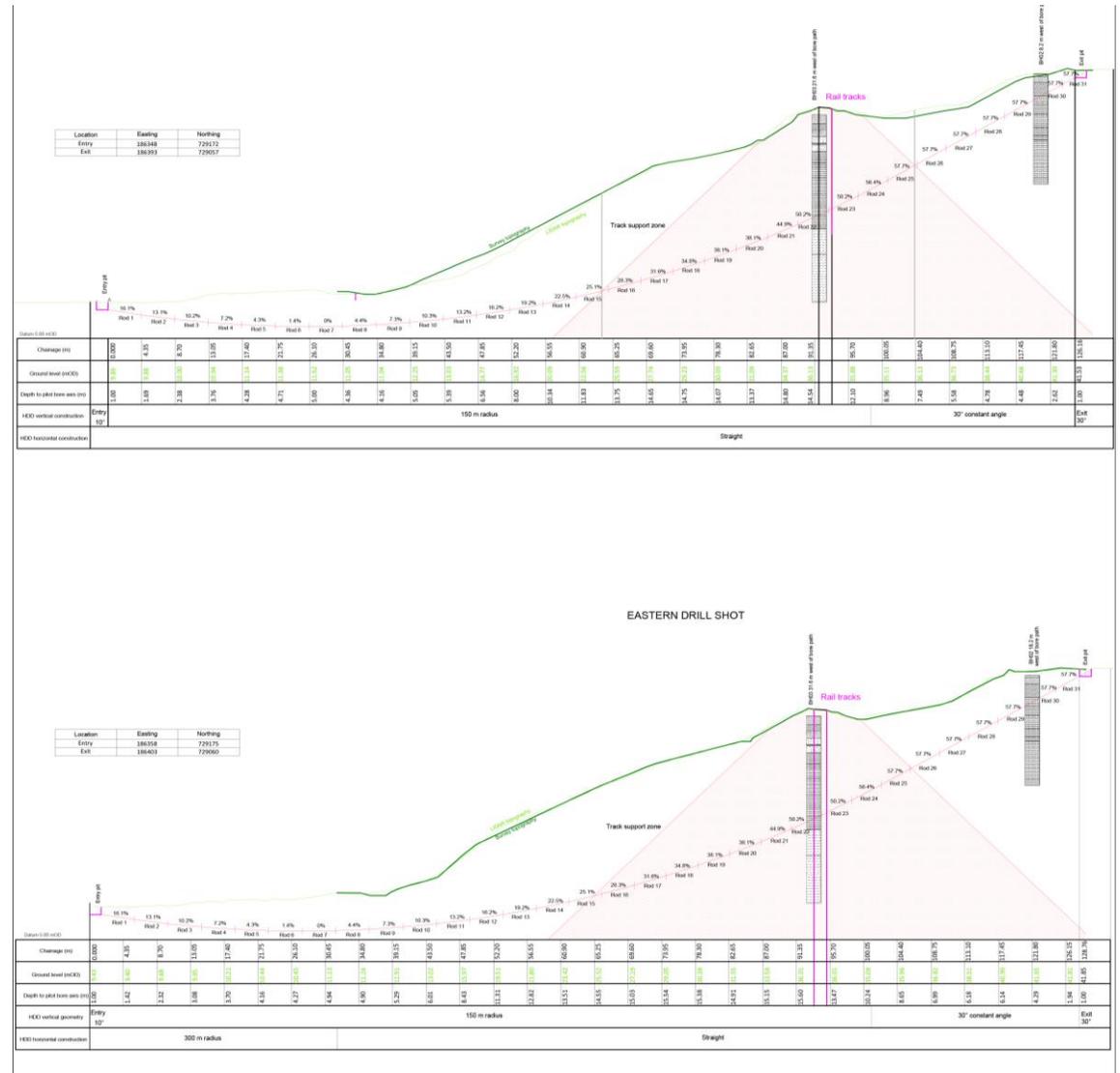
- October 2021
- Gmac Utilities Ltd were engaged by A.G. Wilson Civil Engineering Ltd to undertake a complex under track HDD crossing in the Scottish Highland town of Oban. Part of an upgrade watermain scheme for the Caledonian Water Alliance, the task was to place two 355mm sleeves for onward connection.





The requirements of the shots only covered a distance of 130m but the change in elevation between the entry and reception pits was 30m which required a steep bend radius is 165m.

Not only was the live rail line a challenge, requiring drilling to continue 24hrs, but the ground geology was of iron heavy metapelite which gave challenges in tracking the drill.



Initial attempts to track the crossing using a Digi-Trak walk over system proved ineffective due to the unknown very high iron content of the rock.

Therefore a wireline magnetic guidance system had to be employed to achieve the pilot bore. Working with Gmac's Ditch Witch JT100 (46t) drilling rig, the combination enabled the two pilot bores to be accurately drilled to line and level. Rates of penetration for pilot bore 5-6m per hour



Following completion of the pilot bore, and during 24 hr working, the bores were enlarged with 2 reaming passes, each pass taking 24 hrs, to accommodate the 355mm sleeve.

As can be witnessed, the Down The Hole tooling took some abrasive wear!



To minimise the impact on the community, AG Wilson and CWA engaged the local community early and during the works. To satisfy the local pupils at Oban High School as to what was going on beside their all weather football pitch, lectures were give regarding the works as well as the importance of Health and safety around the site.







Project Manager

“Pretty much achieved here what others considered impossible. It was borderline or just over it. Not many understood the complexities and risk involved...”

Terry O’Byrne - Caledonian Water Alliance Project Manager