

CASE STUDY



Marine Cable Installation

Loch Lomond Fibre Optic
Cable Installation for BT



Industry

Telecommunications / Subsea Cables

Client

BT

Group company

23 Degrees Renewables

Location

Loch Lomond
Scotland

23 Degrees Renewables (23D) was awarded a 13.5km fibre optic cable installation contract for BT in the Southern Highlands of Scotland.

The project work scope included construction of modular barge, laying the fibre optic cable and installation of associated protection shells within the landlocked confines of Loch Lomond.

During the project 23D was responsible for all aspects of the cable lay from Ardlui to Tarbert including planning, engineering, execution, shore end installation, post lay inspection, diving and cable protection. Mobilisation commenced at Ardlui Marina, utilising a 130-tonne crane to safely lift all materials from Ardlui Marina into the Loch in order to begin construction of the modular pontoon barge.



Challenges

The landlocked location of Loch Lomond presented logistical challenges for the transport of equipment to the project site.



Workscope

Construction of a modular barge, laying the fibre optic cable and installation of associated protection shells within the landlocked confines of Loch Lomond.



Solution

A full cable installation spread was installed onto the modular barge, with USBL survey equipment installed to monitor the cable installation, which in some locations within the Loch reached depths of 220 metres. The fibre optic cable was spooled from the land-based drum into a static tank that was designed and installed by 23D's internal engineering department.

The cable lay itself commenced from Ardlui with the first end successfully pulled into the shore end manhole. The barge then departed Ardlui for Tarbert

being supported and positioned by three jet tugboats, laying cable along the agreed RPL.

The barge, nicknamed "McBarge", arrived in Tarbert approximately 20 hours later, where the second end of the cable was successfully pulled into the shore end. Divers then installed Articulated Pipe around the cable for added protection at the shore end locations.

The cable was tested to confirm that there were no faults and was handed over to BT ready for service.

Grahame Tate Managing Director at 23D

"23D would like to thank BT for this opportunity, and also acknowledge the support and hardwork of all our staff, team members and subcontractors including Legget Crane Hire, Volker Marine Services, Hydrofix, Cromarty Firth Marine Services, Motive and Offshore HV&F that made this project such a success."