



# **RIVER CORRIB, GALWAY** **350M HDD IN AN SSSI** **SSE**

**Galway Wind Park will become Ireland's largest onshore wind farm and deliver renewable energy for around 89,000 homes per year.**

**STOCKTON**

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## RIVER CORRIB, GALWAY 350M HDD IN AN SSSI SSE

“From time of tender, through to design development and actual excavation of works, Stockton’s carried out all, with sheer professionalism and worked in a cooperative mannerism at all times.”

**CATHAL KELLY**  
CONTRACTS MANAGER  
GMC

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### PROJECT SUMMARY

- 2 number drills completed
- 350m long
- Adjacent buildings of national importance
- Use of environmentally sensitive drilling fluids

#### THE PROJECT

Stockton was contacted by GMC to install a 390 metre HDPE pipe bundle beneath the River Corrib in Galway, Ireland.

Stockton mobilised their 250 tonne drill rig spread to pilot drill and ream a bore up to 28 inch to install the pipe bundle, consisting of 850mm of HDPE pipes.

#### DESIGN

The drill site was located near to Menlo Castle with the exit point located within the grounds of National University of Galway (NUIG).

The proximity of the works to the castle provided a challenge to the team as it was imperative that HDD works have no impact on the castle. A drill profile was designed as continuous curve from the entry point, starting at 13 degrees to the horizontal and following a vertical 400m radius to ensure that a separation was maintained between the bore and the castle ruins.

#### HDD

Two pilot holes were drilled, utilising a 6 inch down-hole mud-motor to power an 8 inch tri-cone drill bit to follow the predetermined profile trajectory beneath the Corrib to the pre-planned exit point at the NUIG site.

The pull back of a 125mm HDPE line was inserted into the first pilot hole to be used as a drilling fluid return line for the reaming of the main line bore. The main line bore was opened in two stages to a 28 inch diameter to facilitate the insertion of the HDPE pipeline bundle.

#### PIPE INSTALLATION

The HDPE pipes lines were butt-fusion welded into 420 metre strings and pre tested before being attached to the prefabricated pulling head that was designed to facilitate a water filling buoyancy system that would reduce the pulling forces required during the bundle insertion.

Following the removal of the reaming assembly from the drill string, a 500 mm diameter pullback reamer assembly was attached to the drill string at the exit point and subsequently connected to the pulling head.

The insertion of the pipe bundle was commenced and pulled throughout the bore until the pulling assembly had reached the entry point with all pipelines in situ along the length of the bore.

#### ENVIRONMENTAL ISSUES

A specially formulated Bentonite drilling fluid system was used on the project to ensure that all cuttings could be removed from the bore.

There were initial concerns from an environmental perspective with using a Bentonite system so close to the River Corrib. Due to care of practice and strict adherence to the construction environmental management plan, the highly experienced team overcame these challenges without impact to the natural area.

#### CONTACT US

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