Scottish & Southern Electricity Networks

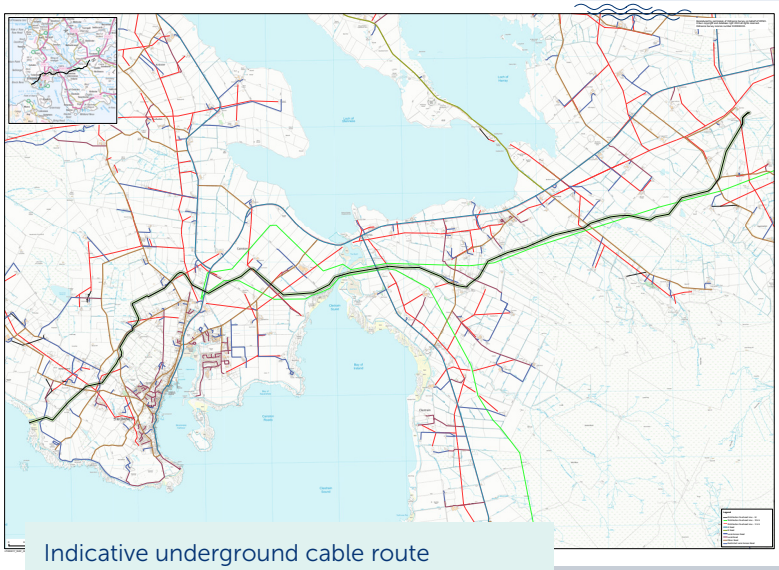
TRANSMISSION

November 2024

Cable Route Works

How does it work?

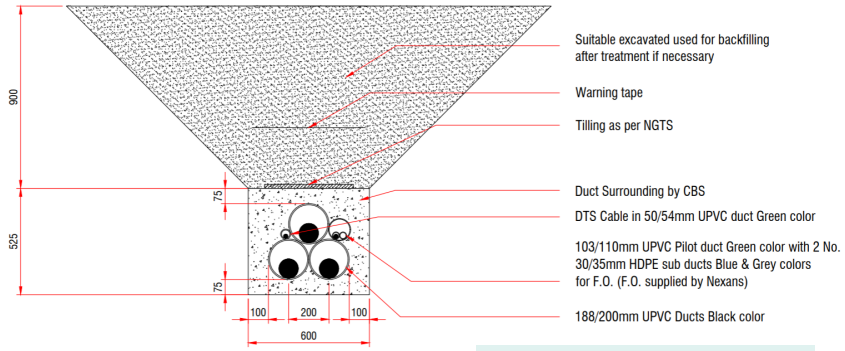
An onshore underground HVAC Cable will be installed, approx. 14km in length, connecting the new Finstown Substation to the Subsea Cable Landfall point at Warebeth on the West Coast of the Orkney Mainland. This document will lead you through the construction process.



Indicative underground cable route
Warebeth landfall site to Finstown Substation

Link pillars similar to this will be installed at several points along the cable route to allow Transmission staff to access test points at cable joints which will allow them to diagnose and locate faults within the cables. The pillars will be placed at field boundaries wherever possible and surrounded by fencing. A pedestrian gate will be provided for access.

Typical Link Pillar



Cable Trench Cross Section

To the left is a typical cross sectional view of the cable trench proposed for the Orkney Transmission link project. The ducts will be buried well below plough depth with tiles and tape installed during reinstatement to reduce the risk of accidental strikes by excavators. Subsoil will be removed and disposed of but topsoil will be set aside and used in the reinstatement to return the ground to its previous state at the conclusion of the project.

Typical Cable Trenching Arrangement shown below. In this case two circuits are being installed resulting in a larger excavation being required, however the general techniques used will be the same. Either side of the working corridor will be delineated using stockproof fencing with access points provided to allow landowners to cross the cable route for their day-to-day activities.

To the right hand side of the photo we can see the topsoil stored in a continuous bund after being cleared from the working area. The haul road used to facilitate access to the works is to the left of this. Using a haul road reduces the need to use the public road network, therefore reducing congestion.

To the left of the haul road is the main excavation containing the cables. The excavation for this will be into subsoil and in some locations rock and peat. The rock and subsoil will be segregated and bunded separately alongside the trench and the peat will be transported and stored as per the requirements of the Peat Management Plan. Any material displaced by specified backfill will be disposed of in accordance with relevant waste regulations. Following installation of the cable ducting the excavations will be backfilled and will be fully reinstated with agreement from landowners following cable pulling and testing.

Typical Joint Bay Arrangement

Typical Cable Trenching Arrangement

Typical HDD Platform Arrangement

Joint bays similar to the one above will be required at several locations along the route. This picture shows a two circuit joint bay whereas this project will install a single circuit and will therefore require a smaller area. The joint bays will be reinstated to the same standard as the rest of the cable route and access to these would only be required in the case of a fault within a cable.

In certain locations the cable will cross sensitive environmental features or busy public roads using Horizontal Directional Drilling (HDD). Where this is the case a platform such as the one shown above in “Typical HDD Platform Arrangement” will be set up temporarily to facilitate the drilling equipment and supporting plant. As with the general cable route the land will be reinstated as before.