

Haymarket Construction Video Script

Introduction

Welcome to the overview of Dominion Energy's construction processes for the Haymarket 230 kilovolt (kV) transmission line project. This project will address load growth in western Prince William County and the town of Haymarket, VA.

At Dominion Energy, we are committed to providing safe, reliable energy to our customers while working collaboratively with the communities we serve. After exploring different route options during the regulatory phase of this project, the Virginia State Corporation Commission issued its final order approving the project using a partial overhead and partial underground build, called the I-66 Hybrid Route. Pre-construction activities will begin in fall 2019 and construction activities will last until 2021 with right of way restoration continuing into 2022.

Route Overview

This 5.3-mile route begins with an overhead transmission line traveling from a tap-point off Cushing Road in Gainesville near the I-66 corridor. It crosses the north side of I-66 where it moves west before crossing south again near Heritage Village Plaza into the Heathcote Transition Station. Here it will transition underground.

The underground portion begins at Heathcote Station off Catharpin Road and John Marshall Highway and continues west along the I-66 corridor crossing under the highway in two locations—one near Catharpin Road and the other near Jefferson Street—before it crosses John Marshall Highway into Haymarket Substation.

Pre-Construction Activities

After permitting and real estate activities are complete and before construction begins, crews install new access entrances and roads. During this time, surveyors mark the edges of the new right of way corridor. The 100-foot right of way for the overhead portion and the 40-foot permanent and 10-foot temporary right of way for the underground portion are then cleared. Danger trees outside the right of way are also selectively marked and cut during this phase along the overhead segment.

The right of way is prepared and erosion and sediment controls are installed. Surveyors then stake foundation and structure locations for the overhead section and manhole locations for the underground section. Construction crews will then stage their equipment to begin work on both phases, which will happen at the same time.

Overhead Section

After access roads, staking, and surveying activities are complete, overhead construction begins with foundation installation at staked locations. Crews stage the structure sections at each predetermined location. Cranes are used to erect the structure sections. The bottom section is first bolted into the foundation and the remaining sections are attached until it is complete. After all structures are in place, insulators are installed and the wires are pulled in. The wires are sagged to ensure proper tension, and then they are clipped in. Inspections are performed and the line is energized.

Underground Section

Dominion Energy uses two common methods to install underground transmission cables. The open-trench method involves digging a trench to bury cable, and the horizontal direction drilling (HDD) method involves drilling a hole from one point to another allowing a cable to be pulled through.

The process for open-trenching begins with installation of manholes at predetermined intervals along the route. These concrete vaults give crews access to the underground cable for maintenance and inspections once installation is complete.

Crews then dig trenches along the predetermined route using excavators, trenchers, asphalt saws, and hand tools where necessary. Trenches are shored to prevent walls from collapsing and to ensure a safe work environment during construction. Conduits are laid in the trench at least three feet below the surface, and the trench is partially filled with concrete. Soil is used to fill the rest of the trench. After the conduits are secured, cable is brought in on reels and pulled from one manhole to another. Crews then splice the cable sections together in each manhole. The right of way is then restored with native vegetation.

The horizontal directional drilling process begins with equipment setup at drilling entry and exit points. The initial borehole is made using a hollow drill guided by a skilled operator and advanced navigational technology at a minimum depth of 12 feet below the ground surface. As the drill moves through the earth, drilling mud is released from the head, transferring the soil cuttings back to the surface. At the surface, a recycling station separates the soil cuttings from the drilling mud, which is recycled for reuse.

After the initial cable path is drilled, a rotating tool used to enlarge the bore hole is attached to the drill. This tool passes through the hole multiple times in both directions to enlarge it in small increments until it reaches the correct diameter.

A casing pipe is installed into the hole to prevent soil from collapsing on the conduit. The conduit is then pulled through the casing pipe. The empty space around the conduit is filled with a thermal conductive material. A large reel of cable is brought in and is pulled through the conduit. Crews then access the manholes where they splice the cable together. The equipment staging areas are restored after construction is completed.

Post-Construction Activities

After construction is complete, temporary and permanent rights of way will be rehabilitated. The gravel and wooden matting used for access roads are removed and native vegetation is replanted to ensure soil stability after project completion.

Close and Credits

Thank you for your patience during this work. We are committed to working safely and courteously in your neighborhood. For more information about this important project, please visit DominionEnergy.com/haymarket. Or contact us by phone at 888-291-0190 or by email at powerline@dominionenergy.com.