

# STUART AREA IMPROVEMENTS PROJECT

## STUART - WILLIS GAP TRANSMISSION LINE



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Appalachian Power representatives plan to upgrade the local electric transmission grid in Virginia. The Stuart Area Improvements Project provides a new electrical source for the region and increases reliability for customers. The project involves constructing several components in the next few years. The Stuart - Willis Gap component involves building approximately 22 miles of 138-kilovolt (kV) transmission line and two new substations in Patrick and Carroll counties.

### WHAT

The Stuart - Willis Gap Transmission Line component involves:

- Building approximately 22 miles of transmission line\*
- Building two new substations
- Retiring the Stuart Substation

\*Company representatives are evaluating route options for the new transmission line. Input from the community helps determine the location of the proposed line route.

### WHY

Project benefits include:

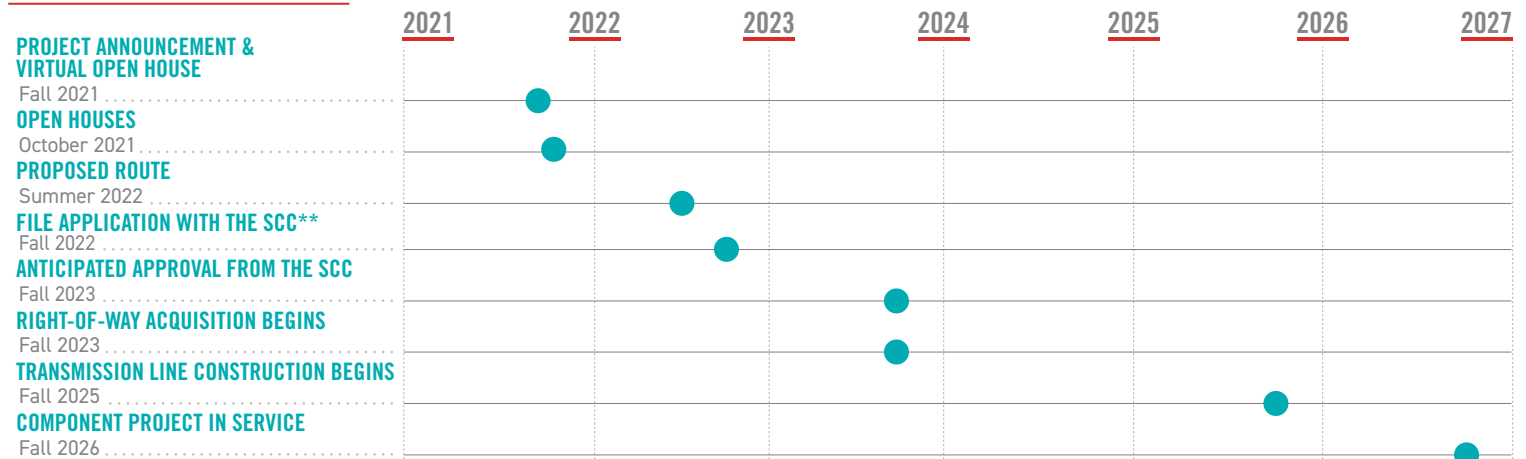
- Upgrading the local, aging 69-kV and 138-kV electrical infrastructure with an updated 138-kV transmission system provides reliable electric service.
- Installing the additional 138kV transmission line from Stuart to Willis Gap area is the first phase of the larger Stuart Area Improvements project that will ensure adequate power delivery to the area to support today's electrical load. Additionally, in the event the existing line experiences an extended outage, the new line can continue to serve customers, once all phases of the project are completed.
- Building the proposed substation centrally located in Claudville between Stuart and Willis Gap shortens the local distribution power line lengths between substations and reduces service interruptions.
- These combined improvements provide a more reliable transmission system and increase reliability for area customers.

### WHERE

Potential route options, or study segments, for the new transmission line begin at the existing Willis Gap Substation located off Orchard View Drive just inside Carroll County.

Route options continue east for approximately 12 miles towards the proposed substation, located off Hookers Creek Road in Patrick County near the community of Claudville. The route options then travel east for approximately 10 miles and end at a proposed substation site located off Commerce Drive near the town of Stuart.

### PROJECT SCHEDULE\*



\*Timeline subject to change.

\*\*Virginia State Corporation Commission

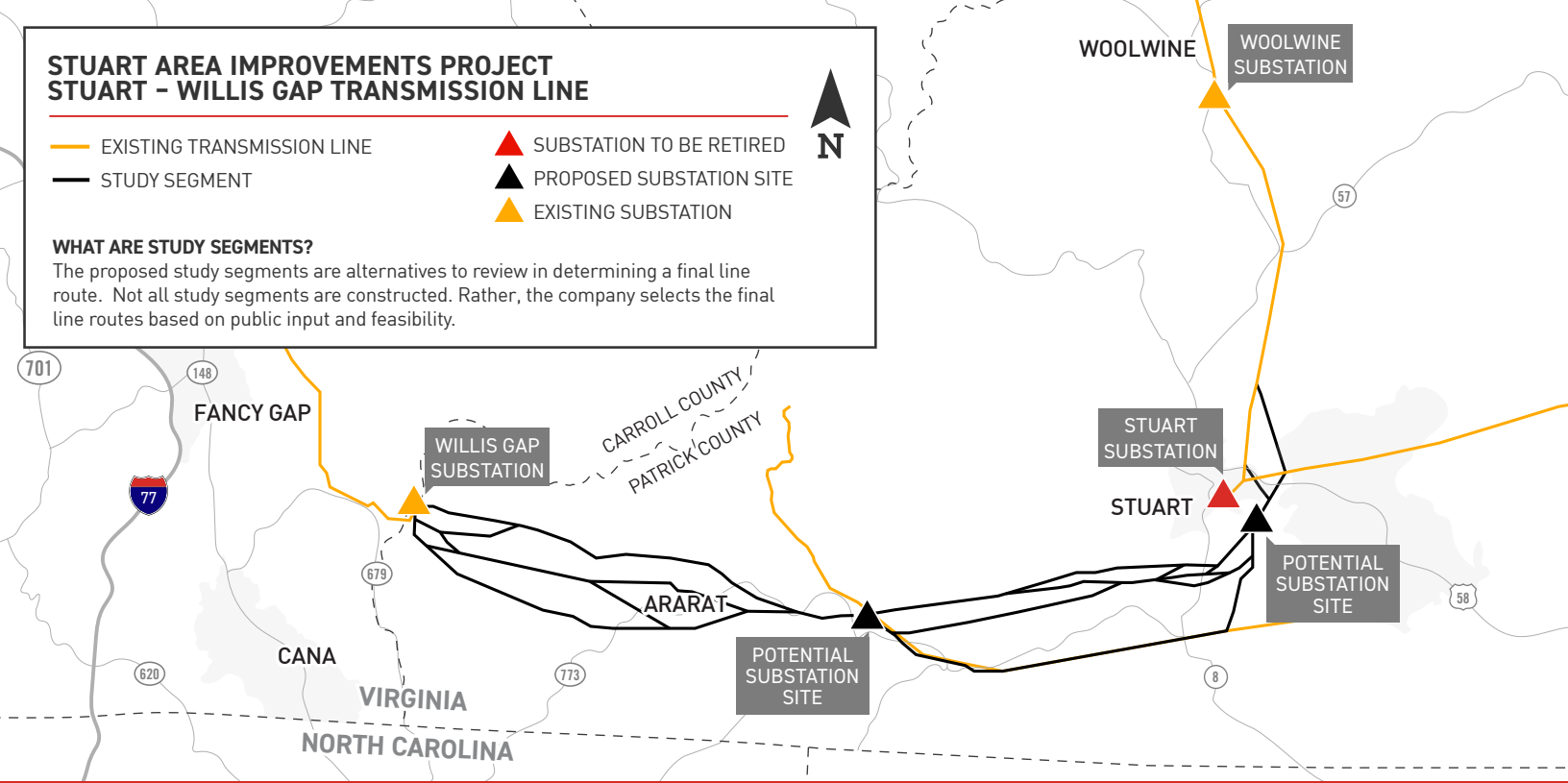
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- EXISTING TRANSMISSION LINE
- STUDY SEGMENT

- SUBSTATION TO BE RETIRED
- PROPOSED SUBSTATION SITE
- EXISTING SUBSTATION

### WHAT ARE STUDY SEGMENTS?

The proposed study segments are alternatives to review in determining a final line route. Not all study segments are constructed. Rather, the company selects the final line routes based on public input and feasibility.

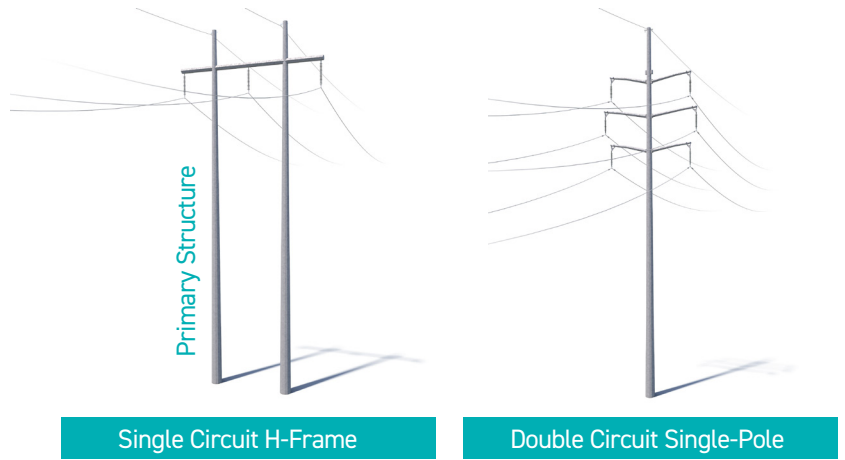


## TYPICAL STRUCTURES

Plans call for the new line to be built using mostly H-frame structures; however, crews plan to use steel, double circuit single-pole structures north of the proposed substation site in Stuart. At select points, lattice towers and three-pole structures with guy wires may be installed to meet engineering needs.

Typical Structure Height: 80 to 100 feet

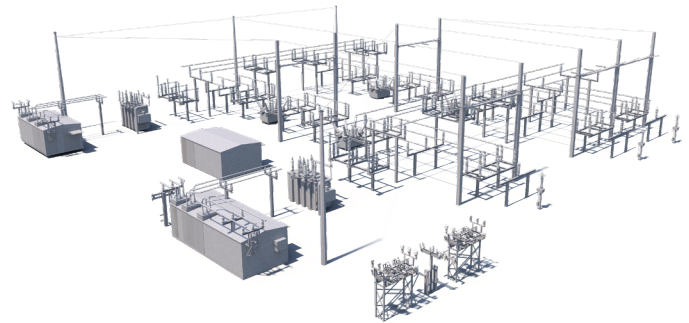
\*Exact structure, height and right-of-way requirements may vary



## TYPICAL SUBSTATION

Substations serve as electrical intersections directing the flow of electricity and either decrease or increase voltage levels for transport. Substations transform 69-kV and 138-kV electricity into lower distribution level voltages such as 34.5-kV, 12-kV, or 7.2-kV.

\*Substation shown is a general depiction of the proposed facility that will be built for this project. It does not represent final design.



APPALACHIAN POWER VALUES YOUR INPUT ABOUT THIS PROJECT. PLEASE SEND COMMENTS AND QUESTIONS TO:

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