

Yadkin – Fentress 500 kV Electric Transmission Line Project in the City of Chesapeake, Virginia

**Constraint Design Segment Update
Wednesday, September 17, 2025**



**Dominion
Energy®**

Project Team

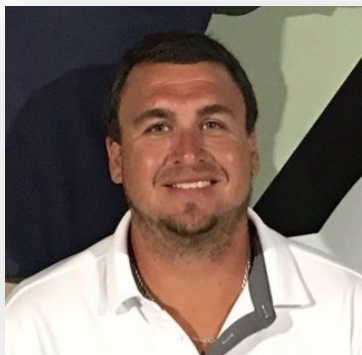
Subject matter experts are here for you



Carrie
Communications



Melissa
Right of Way



Lonnie
Transmission Lines

**Steve
Ben**
Real Estate



Clif
Access



Jen
Forestry



Heather
Environmental
Permitting

Project Overview

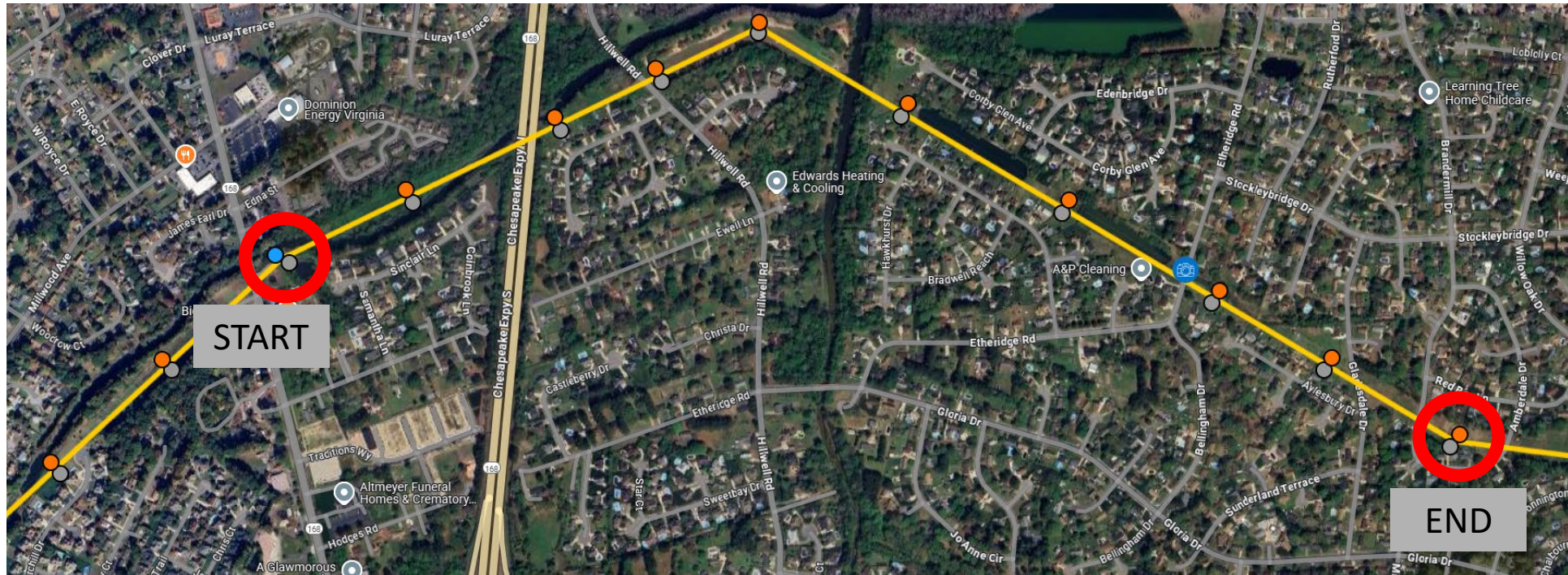
- **NEED:** To maintain structural integrity and reliability of the transmission system, and to integrate new electric generation with the transmission system
- **TO DO:** Replace the existing overhead single circuit 500 kV electric transmission line with two new overhead single circuit 500 kV transmission lines between our Yadkin and Fentress substations
- **QUICK FACTS:**
 - ~13.5 miles long
 - Use existing, maintained 150-foot-wide right of way*
 - Rebuild Line #588 – end of life (built in 1975)
 - New Build Line #5005 – new generation interconnection



Constraint Design Segment

Fast Facts

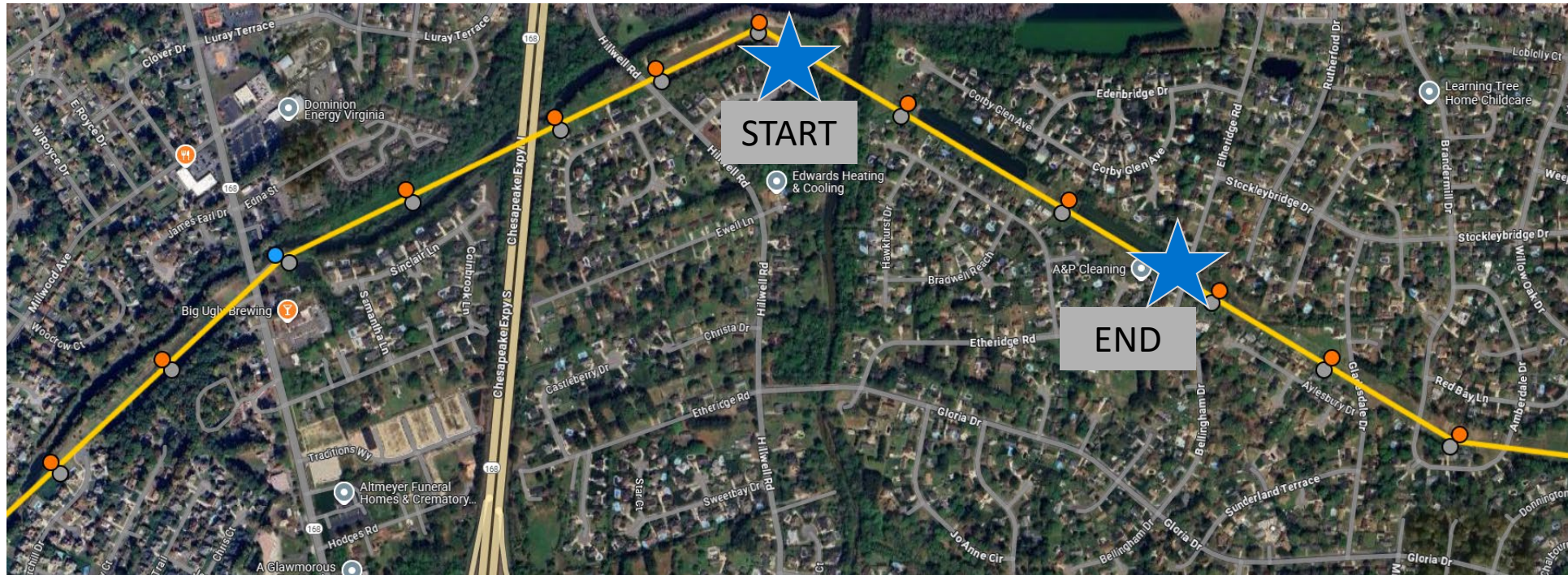
- 1.6-miles long between structures 588/240 and 588/249
- Original 1973 easement:
 - Affects ~40 present-day parcels in the Lakes of Etheridge, Etheridge Pointe and Glasser Landing neighborhoods
 - Has a height restriction: transmission poles can't exceed 150 FT
 - Existing 235-foot-wide right of way; previously maintained 150-foot-wide portion under original line



Constraint Design Segment

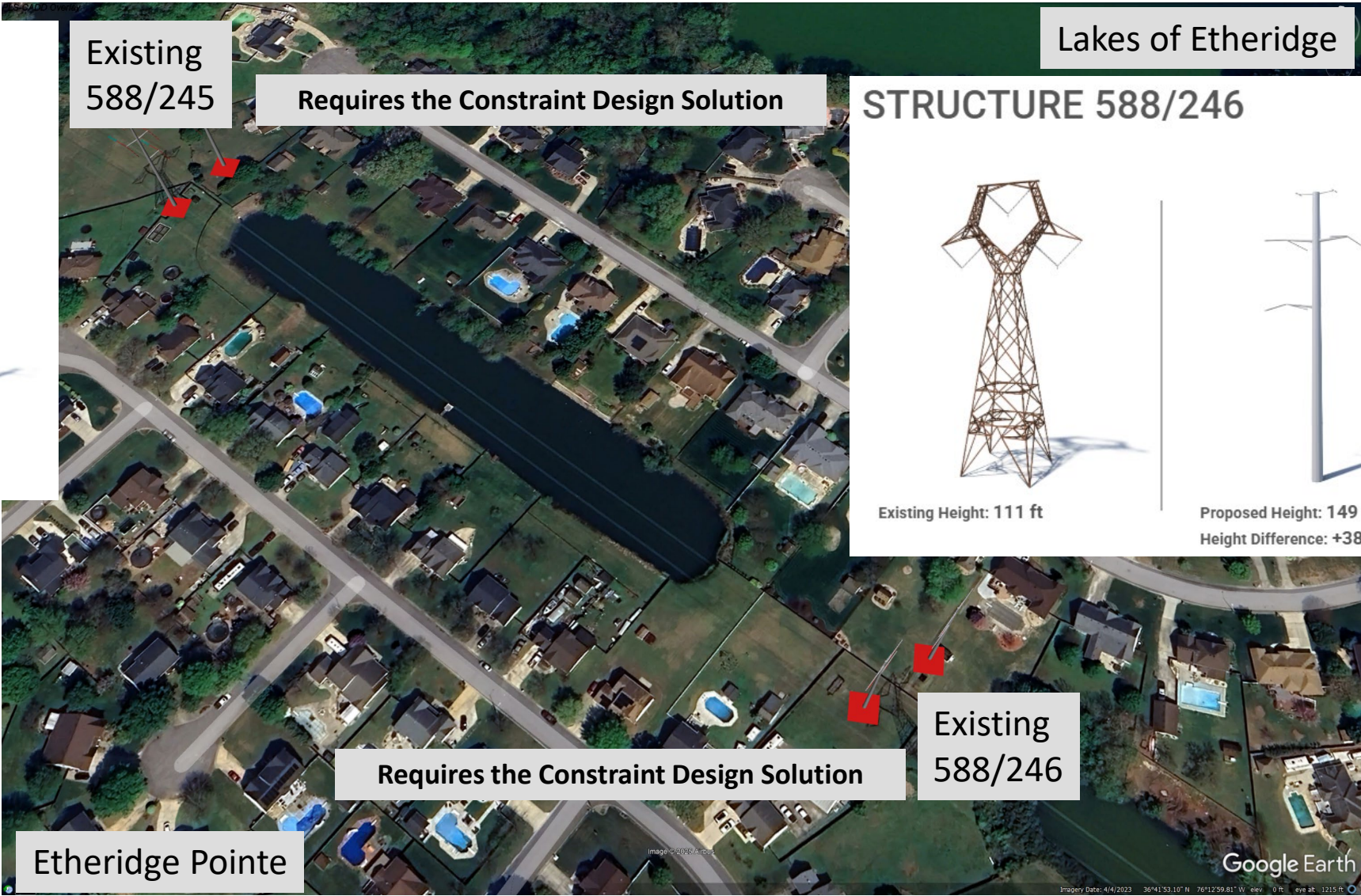
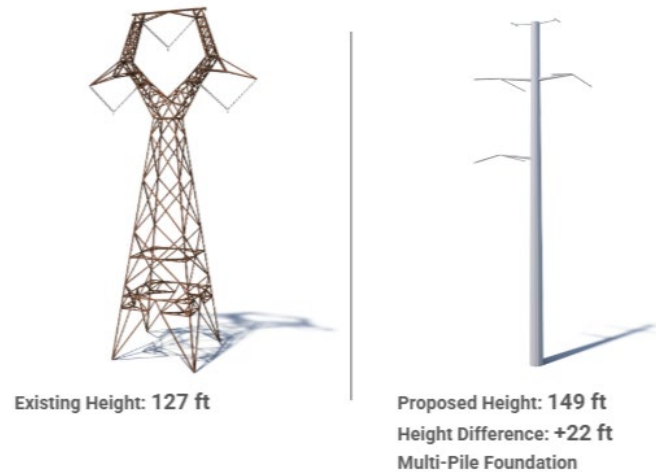
Final Outcome

- Majority of neighbors released the height restriction, updated their easements, and are being compensated
 - This minimizes environmental impacts and vegetation removal required along Poplar Branch Ditch
- However, some neighbors did not consent, and Dominion will continue to honor the original easement for them
- Therefore, the height restriction remains in place between structures 588/245 and 588/246
 - Transmission poles and wires can't exceed 150 FT
 - Wires transitioning out of these structure locations comply
 - Some vegetation removal required along Coopers Ditch to Etheridge Road
 - Full 235-foot-wide right of way must be cleared of vegetation posing a risk to the transmission lines



Affected Area in Lakes of Etheridge and Etheridge Pointe

STRUCTURE 588/245



Comparing Existing and Constraint Design

Photosimulation at Etheridge Road Looking Northwest – O&M will maintain/remove vegetation over time

- Structures are 150 feet tall
- Uses existing 235-foot-wide right of way
- More vegetation must be removed from north side of right of way

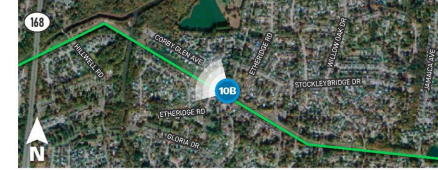
YADKIN TO FENTRESS

Transmission Line Project

Viewpoint 10B

Date: 6/30/2023 Time: 9:05 am Viewing Direction: Northwest

10B Viewpoint Location — Transmission Line



EXISTING CONDITIONS



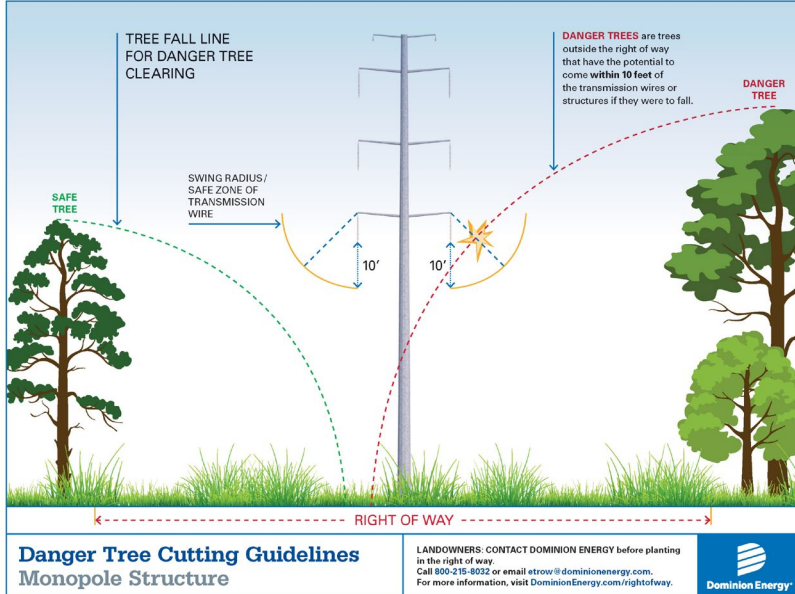
PROPOSED CONDITIONS

Constraint Design

Vegetation Removal

Constraint Design – O&M will maintain/remove vegetation over time

- Uses 235-foot-wide existing right of way
- **Backyards on Corby Glen Ave and Oakford Crst most impacted**
- Some front yard trees *may* be a risk because of proximity to lines
- **If vegetation needs to be removed from your property, a Forester will contact you directly to discuss**



- LEGEND
- PROJECT AREA
 - TRANSMISSION POLE >150 FT TALL, 150 FT CLEARED ROW (PREFERRED)
 - TRANSMISSION POLE <150 FT TALL, 235 FT CLEARED ROW (CONSTRAINT DESIGN SEGMENT)
 - CLEARING FOR CONSTRAINT DESIGN SEGMENT
 - CONSTRAINT DESIGN SEGMENT ROW (235')

TREE CLEARING GRAPHIC
LINE 588 FENTRESS - YADKIN 500 KV REBUILD PHASE 2
EROSION AND SEDIMENT CONTROL PLAN
CITY OF CHESAPEAKE, VIRGINIA
C2 ENV PROJECT: 0326 PREPARED BY: JSC CHECKED BY: JTJ
0 125 250 500 FEET
SCALE IS 1 IN = 250 FT WHEN PRINTED AT ORIGINAL SIZE OF 11X17

SHEET 2 OF 2

What's Next?

Construction Arrives

- **October 2025:** Install temporary construction access materials
- **December 2025 – February 2026:** Install multiple foundation at 588/245
- **December 2025 – March 2026:** Install vibratory caisson foundations
- **Early 2026:** Forestry crews remove any vegetation posing a risk to the new lines
- **March 2026:** Remove existing wires
- **March – April 2026:** Install new structures and remove original towers
- **May 2026:** Install new wires on 588 line
- **July 2026:** Install new wires on 5005 line



Safety Topic

Work Zones

- **Work zone perimeters help keep you safe**
 - Please do not enter work zones, which may be marked by cones, fencing, or other temporary barriers
 - Please keep an eye on kids and pets, especially when the work zone is in your yard
 - Follow any crew instructions or posted signage
- **Construction traffic**
 - There will be construction vehicles moving in and out of our construction entrances
 - In residential neighborhoods, please stay aware of traffic and move personal vehicles when necessary
 - Please follow flagger instructions during temporary traffic pauses



Construction Access

- Where possible, we will access the right of way using existing roads.
- Construction entrances and/or additional access roads may be temporarily installed.
- Fences may need to be temporarily removed for access.
- Timber supports beneath the mats help to minimize disturbance to the ground or surface below.
- Matted support systems provide access through wetlands, swamps, and other sensitive areas.



Construction Activities



- Installing access roads
- Preparing the site
- Handling and staging materials
- Installing foundations
- Erecting structures
- Stringing wires (conductor + fiber)
- Removing the original structures along the rebuilt line segment
- Restoring the right of way

Foundation Types on Yadkin – Fentress

All require a crane and hammer:

- **Vibratory Caisson** (hollow cylinder, no excavation) – *most common type on this project*
- **Pipe Pile** (excavate, set anchor bolt cage and pour concrete) – *least common type on this project*
- **Multipile/H-pile** (drive h-piles in ground, excavate and install rebar, and pour concrete) – *at 26 locations*

Vibratory Caisson



Pipe Pile



Multipile



Vibratory Caisson

- 8' – 9' wide, 50' – 65' deep
- Vibratory hammer on a crane installs the caisson, pausing three times to measure and align
 - If no tough soil layers to get through, caisson can be fully installed within minutes
- Once installed, sand mixture may be poured inside the cylinder to mitigate standing water and mosquitos/bugs
 - No excavation, no concrete
- Crane assembles the pole – base is secured to the caisson with anchor bolts
- Start to finish: as little as a day



Multipile Foundation

Necessary for higher load locations

- Large construction footprint
 - Buried when finished
- Install steel h-piles to depth
 - Several weeks with noise and vibration
- Excavate the square pit
- Install rebar and pour concrete
- Concrete cure time between pours
- Attach pole base to anchor bolt cage (above ground)
- Takes 45-60 days to build



What to expect during foundation installation

- **You may...**
 - Feel vibrations
 - Sense high or low frequency hums
 - Hear metal rattling or pounding from the worksite
 - See tall pieces of equipment at work
 - Hear concrete trucks beeping and frequently making deliveries
 - Delicate and elevated items in house may rattle
 - Windows and doors may shake
- **If you live near a multipile/h-pile foundation:**
 - There will be several weeks of hammer work to install steel beams into the ground
 - There will be *many* concrete delivery trucks
- **If you live near a vibratory caisson foundation:**
 - Although this is usually a *faster* installation method, it can be intense for the closest neighbors



**Noise and vibrations
will be monitored in
real time.**

What to expect during pole and line installation



**Cranes help assemble
the pole pieces.**



**Helicopter helps install
lines.**

Interactive Project Map (GeoVoice)

Structure locations, types, and heights

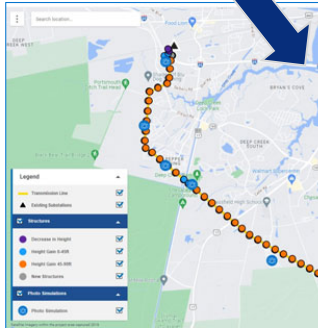
Step 1:

Go to DominionEnergy.com/Yadkin-Fentress

Step 2:

Click on this link

GeoVoice: Structure Comparison Tool



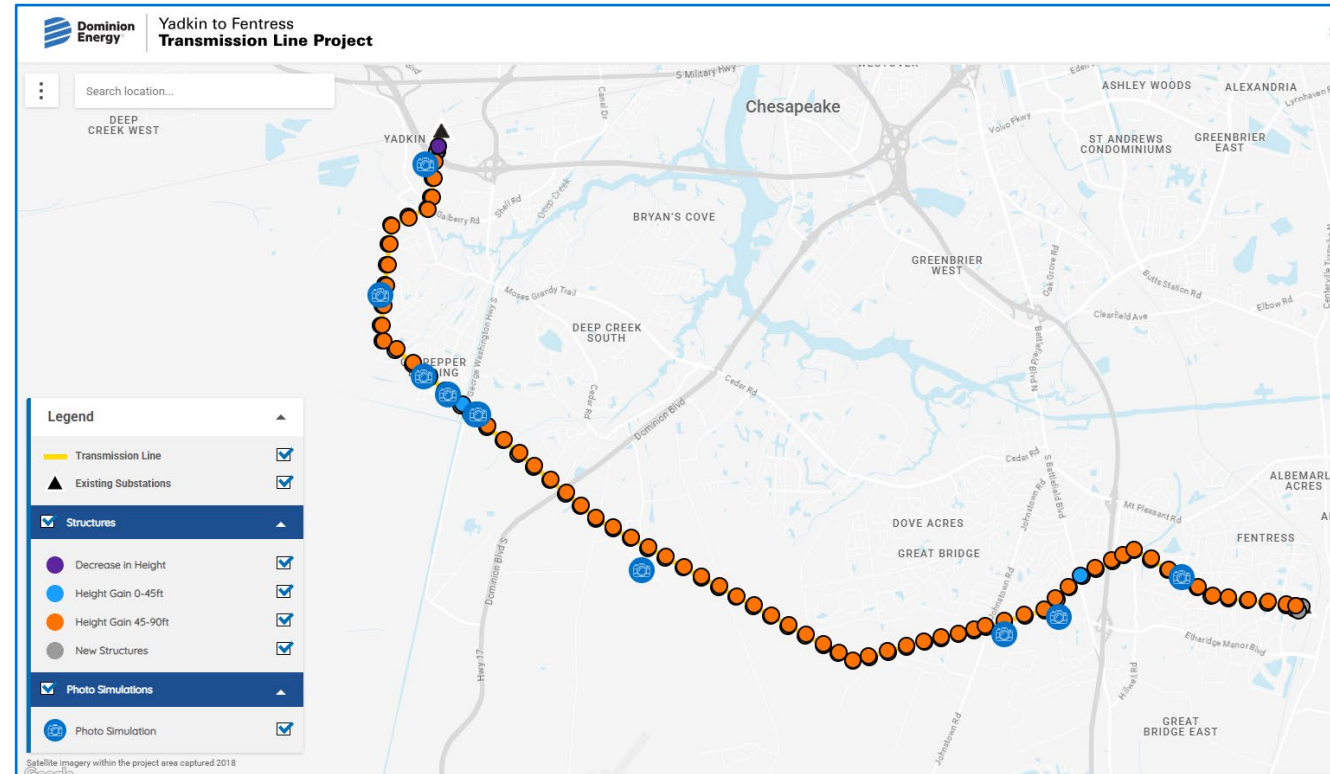
Explore The Yadkin-Fentress Interactive Structure Comparison Tool, GeoVoice

- Use the address search to see structure locations in your area.
- View details about individual structures by clicking on structure location marker.
- View simulations of existing and proposed structures.

Click [HERE](#) for the GeoVoice link.

Step 3:

- Click on structure icons to view specific info.
- Click on photo icons to see simulations.
- Search by address to see what's nearby.
- Explore the construction phases timeline.



**Questions?
Let's Discuss!**

Thank you for your time!

Connect with us if you have questions or feedback:
888-291-0190
powerline@dominionenergy.com

¿Habla español? Visite [DominionEnergy.com/Yadkin-Fentress](https://www.dominionenergy.com/Yadkin-Fentress) para solicitar estos documentos en español.

Resource Slides

Construction Schedule

*Pending final permits, weather and progress

Phase 1: Yadkin Substation – Weiss Lane

March 2025: Construction begins

July 2025: Finish rebuilding Line 588

September 2025: Finish building Line 5005

Phase 2: Appaloosa Trail – Holmes Trail

April 2025: Construction begins

March 2026: Finish rebuilding Line 588
and finish building Line 5005

Phase 3: Holmes Trail – Fentress Substation

May 2025: Construction begins

June 2026: Finish rebuilding Line 588

December 2026: Finish building Line 5005



Electric Grid Overview

