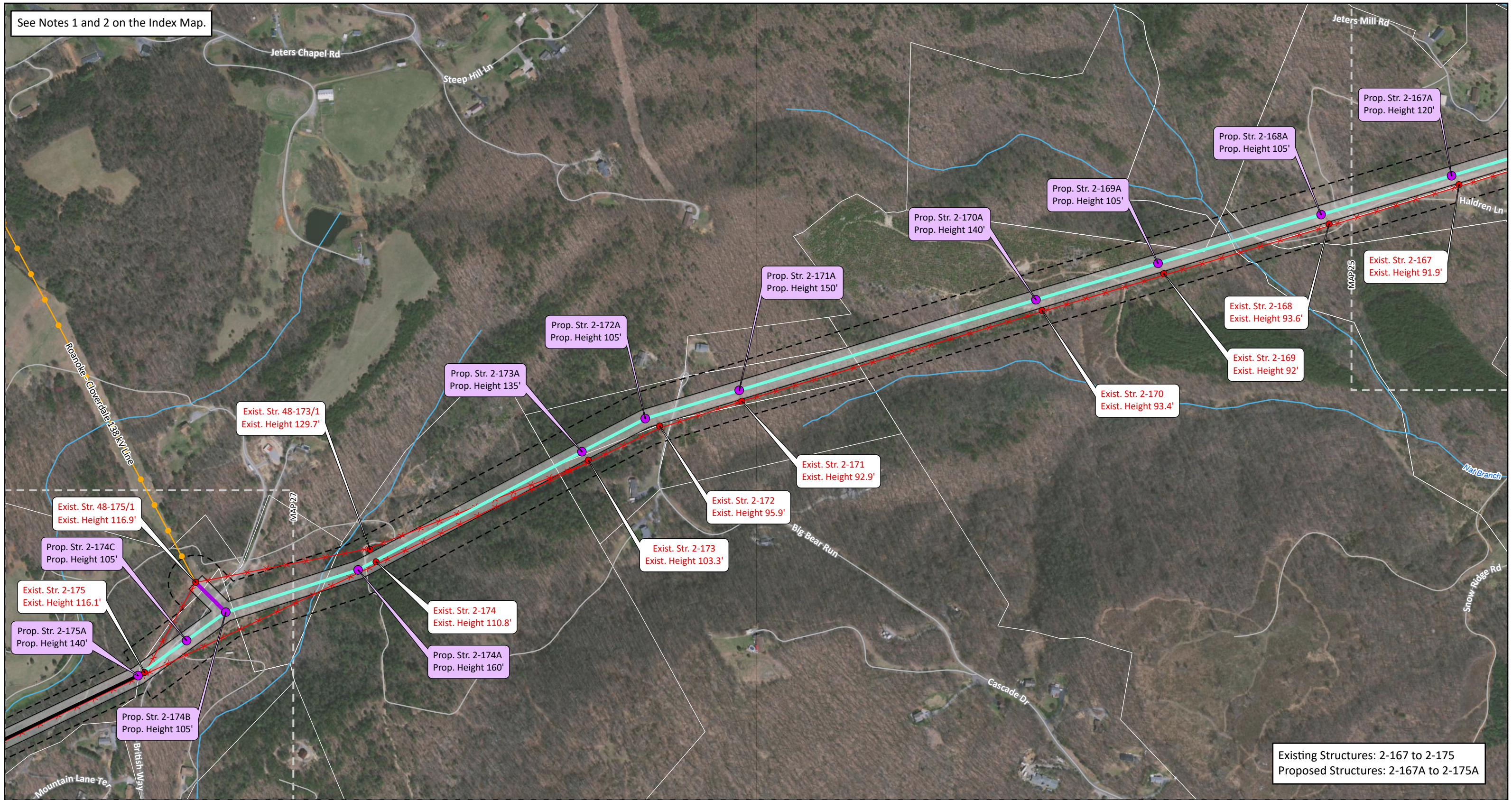
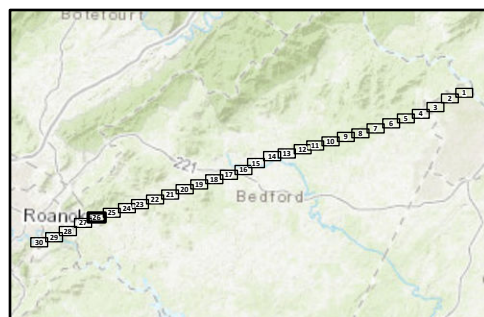


See Notes 1 and 2 on the Index Map.



Existing Structures: 2-167 to 2-175  
Proposed Structures: 2-167A to 2-175A



<ul style="list-style-type: none"> <li>Proposed Structure</li> <li>Existing APCo Structure to be Removed</li> <li>Reusens - Roanoke 138 kV Line Proposed Route (in existing ROW)</li> <li>Reusens - Roanoke 138 kV Line Proposed Route (in new ROW)</li> </ul>	<ul style="list-style-type: none"> <li>Existing APCo Transmission Line to be Reconfigured</li> <li>Existing APCo Transmission Line to be Retired</li> <li>Existing APCo Transmission Line (115-238 kV)</li> <li>Proposed Right-of-Way (100')</li> </ul>	<ul style="list-style-type: none"> <li>Filling Corridor (See Note 1)</li> <li>Road</li> <li>Stream (NHD)</li> <li>Parcel Boundary (within Filling Corridor)</li> <li>Map Tile</li> </ul>
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Bedford & Roanoke Counties,  
Cities of Lynchburg & Roanoke,  
Town of Vinton,  
Virginia

Date: 10/26/2022; Author: ckunde; Project: 159298

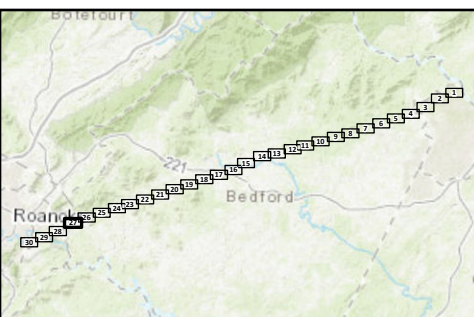
0 500 1,000  
Feet

1" = 500' Map 26 of 30

**Exhibit 4:**  
**GIS Constraints Map**

**APPALACHIAN POWER**  
An AEP Company

Reusens - Roanoke  
138 kV Transmission Line  
Rebuild Project



<span style="color: purple;">●</span> Proposed Structure	Existing APCo Transmission Line to be Retired	Highway
<span style="color: red;">●</span> Existing APCo Structure to be Removed	Existing APCo Transmission Line (115-238 kV)	Road
<span style="color: green;">●</span> Existing APCo Collocation Tower	Proposed Right-of-Way (100')	Stream (NHD)
Reusens - Roanoke 138 kV Line Proposed Route (in existing ROW)	Filing Corridor (See Note 1)	Parcel Boundary (within Filing Corridor)
Reusens - Roanoke 138 kV Line Proposed Route (in new ROW)	Residential Structure (within Filing Corridor)	Federal Conservation Lands
Existing APCo Transmission Line to be Reconfigured	Non-Residential Structure (within proposed 100' ROW)	Map Tile

Bedford & Roanoke Counties,  
Cities of Lynchburg & Roanoke,  
Town of Vinton,  
Virginia

Date: 10/26/2022; Author: ckunde; Project: 159298

0 500 1,000  
Feet

1" = 500'

Map 27 of 30

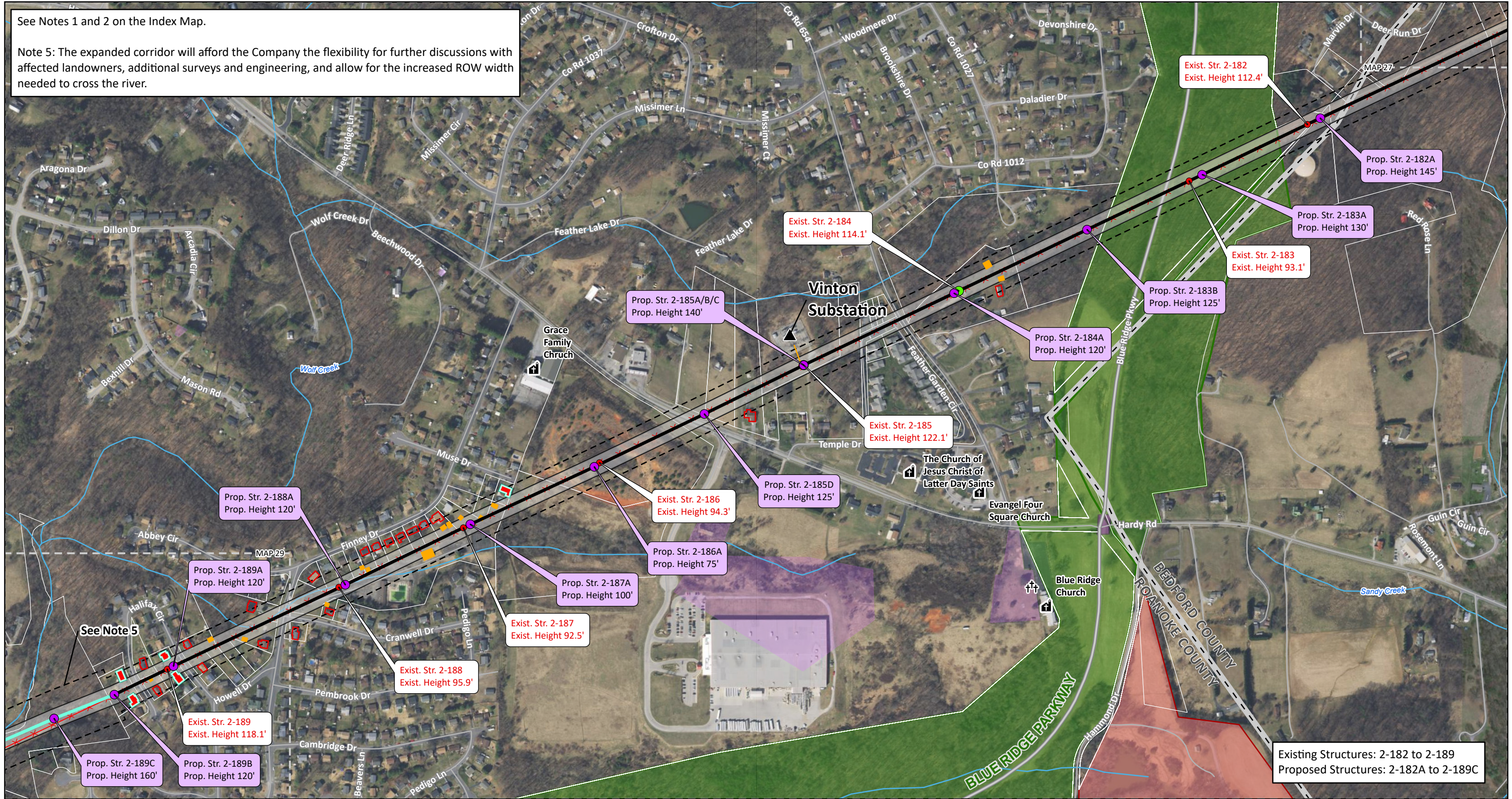
**Exhibit 4:**  
**GIS Constraints Map**

**APPALACHIAN POWER**  
An AEP Company

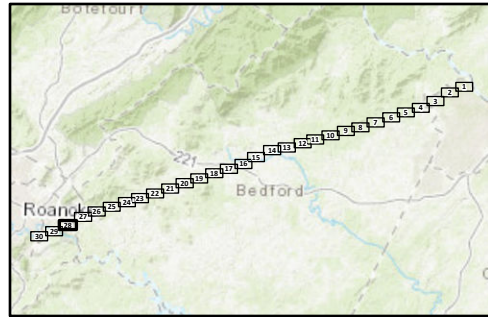
Reusens - Roanoke  
138 kV Transmission Line  
Rebuild Project

See Notes 1 and 2 on the Index Map.

Note 5: The expanded corridor will afford the Company the flexibility for further discussions with affected landowners, additional surveys and engineering, and allow for the increased ROW width needed to cross the river.



Existing Structures: 2-182 to 2-189  
Proposed Structures: 2-182A to 2-189C



▲ Existing APCo Substation	✂ Existing APCo Transmission Line to be Retired	■ Non-Residential Structure (within proposed 100' ROW)	▭ Parcel Boundary (within Filing Corridor)
● Proposed Structure	— Existing APCo Transmission Line (115-238 kV)	⛔ Cemetery	▭ Architectural Resource (VDHR)
● Existing APCo Structure to be Removed	▭ Proposed Right-of-Way (100')	⛪ Place of Worship	▭ Historic District (VDHR)
● Existing APCo Collocation Tower	▭ Filing Corridor (See Note 1)	— Highway	▭ Federal Conservation Lands
— Reusens - Roanoke 138 kV Line Proposed Route (in existing ROW)	▭ Residential Structure (within proposed 100' ROW)	— Road	▭ Private Easement
— Reusens - Roanoke 138 kV Line Proposed Route (in new ROW)	▭ Residential Structure (within Filing Corridor)	— Stream (NHD)	▭ Map Tile

Bedford & Roanoke Counties,  
Cities of Lynchburg & Roanoke,  
Town of Vinton,  
Virginia

Date: 10/26/2022; Author: ckunde; Project: 159298

0 500 1,000  
Feet

1" = 500' Map 28 of 30

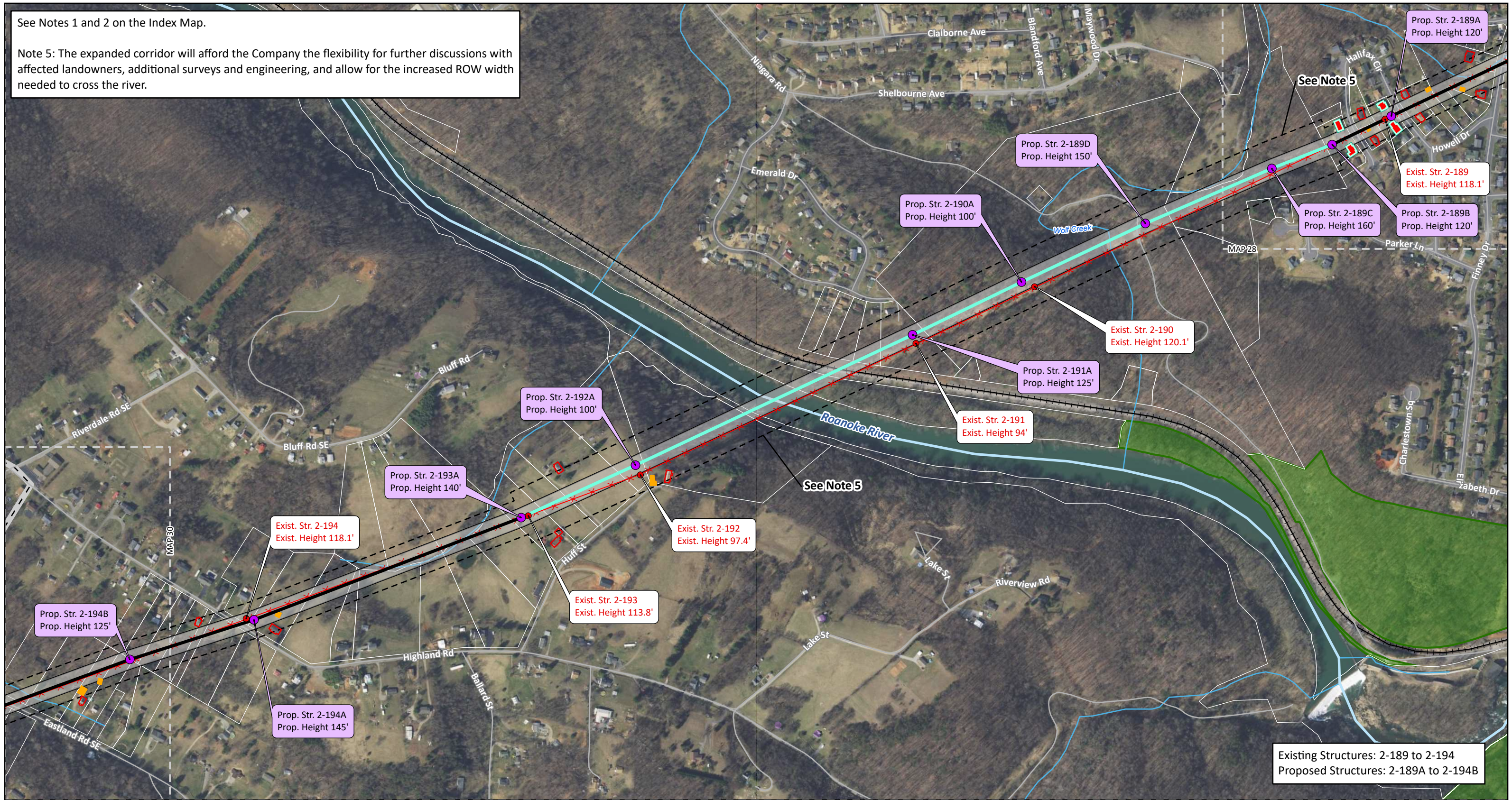
**Exhibit 4:**  
**GIS Constraints Map**

**APPALACHIAN POWER**  
An AEP Company

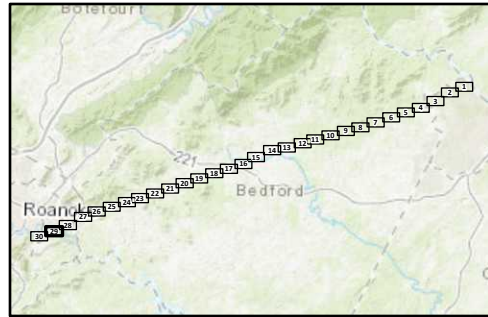
Reusens - Roanoke  
138 kV Transmission Line  
Rebuild Project

See Notes 1 and 2 on the Index Map.

Note 5: The expanded corridor will afford the Company the flexibility for further discussions with affected landowners, additional surveys and engineering, and allow for the increased ROW width needed to cross the river.



Existing Structures: 2-189 to 2-194  
Proposed Structures: 2-189A to 2-194B



<ul style="list-style-type: none"> <li>Proposed Structure</li> <li>Existing APCo Structure to be Removed</li> <li>Reusens - Roanoke 138 kV Line Proposed Route (in existing ROW)</li> <li>Reusens - Roanoke 138 kV Line Proposed Route (in new ROW)</li> <li>Existing APCo Transmission Line to be Retired</li> <li>Proposed Right-of-Way (100')</li> </ul>	<ul style="list-style-type: none"> <li>Filing Corridor (See Note 1)</li> <li>Residential Structure (within proposed 100' ROW)</li> <li>Residential Structure (within Filing Corridor)</li> <li>Non-Residential Structure (within proposed 100' ROW)</li> <li>Road</li> <li>Railroad</li> </ul>	<ul style="list-style-type: none"> <li>River (NHD)</li> <li>Stream (NHD)</li> <li>Parcel Boundary (within Filing Corridor)</li> <li>Architectural Resource (VDHR)</li> <li>Federal Conservation Lands</li> <li>Map Tile</li> </ul>
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Bedford & Roanoke Counties,  
Cities of Lynchburg & Roanoke,  
Town of Vinton,  
Virginia

Date: 11/4/2022; Author: ckunde; Project: 159298

0 500 1,000  
Feet

1" = 500' Map 29 of 30

**Exhibit 4:**  
**GIS Constraints Map**

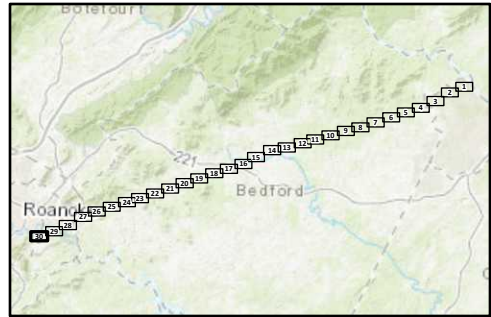
Reusens - Roanoke  
138 kV Transmission Line  
Rebuild Project

**APPALACHIAN POWER**  
An AEP Company

See Notes 1 and 2 on the Index Map.



Existing Structures: 2-195 to 2-200  
Proposed Structures: 2-194B to 2-200A



▲ Existing APCo Substation	● Existing APCo Transmission Line (115-238 kV)	⛪ Place of Worship	🌳 Recreational Areas
● Proposed Structure	▭ Proposed Right-of-Way (100')	⬜ Highway	▭ Parcel Boundary (within Filing Corridor)
● Existing APCo Structure to be Removed	▭ Filing Corridor (See Note 1)	⬜ Road	▭ Architectural Resource (VDHR)
— Reusens - Roanoke 138 kV Line Proposed Route (in existing ROW)	▭ Residential Structure (within Filing Corridor)	⬜ Greenway	▭ Historic District (VDHR)
— Existing APCo Transmission Line to be Retired	▭ Non-Residential Structure (within proposed 100' ROW)	⬜ Railroad	▭ Private Easement
— Existing APCo Transmission Line (69 kV or lower)	⊕ Water Tower	⬜ River (NHD)	▭ VOF Easement
		⬜ Stream (NHD)	▭ Map Tile

Bedford & Roanoke Counties,  
Cities of Lynchburg & Roanoke,  
Town of Vinton,  
Virginia

Date: 11/4/2022; Author: ckunde; Project: 159298

0 500 1,000  
Feet

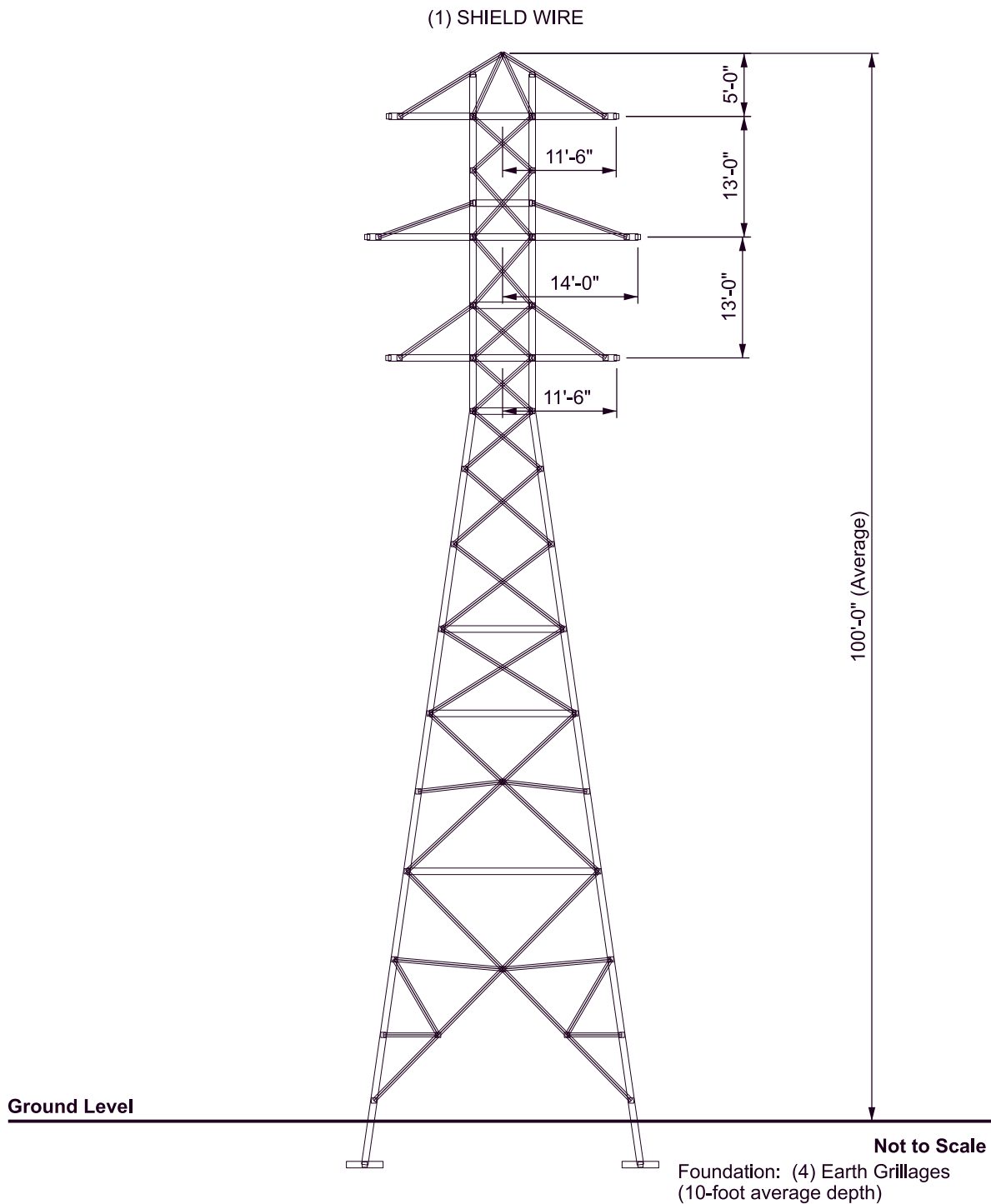
1" = 500' Map 30 of 30

**Exhibit 4:  
GIS Constraints Map**

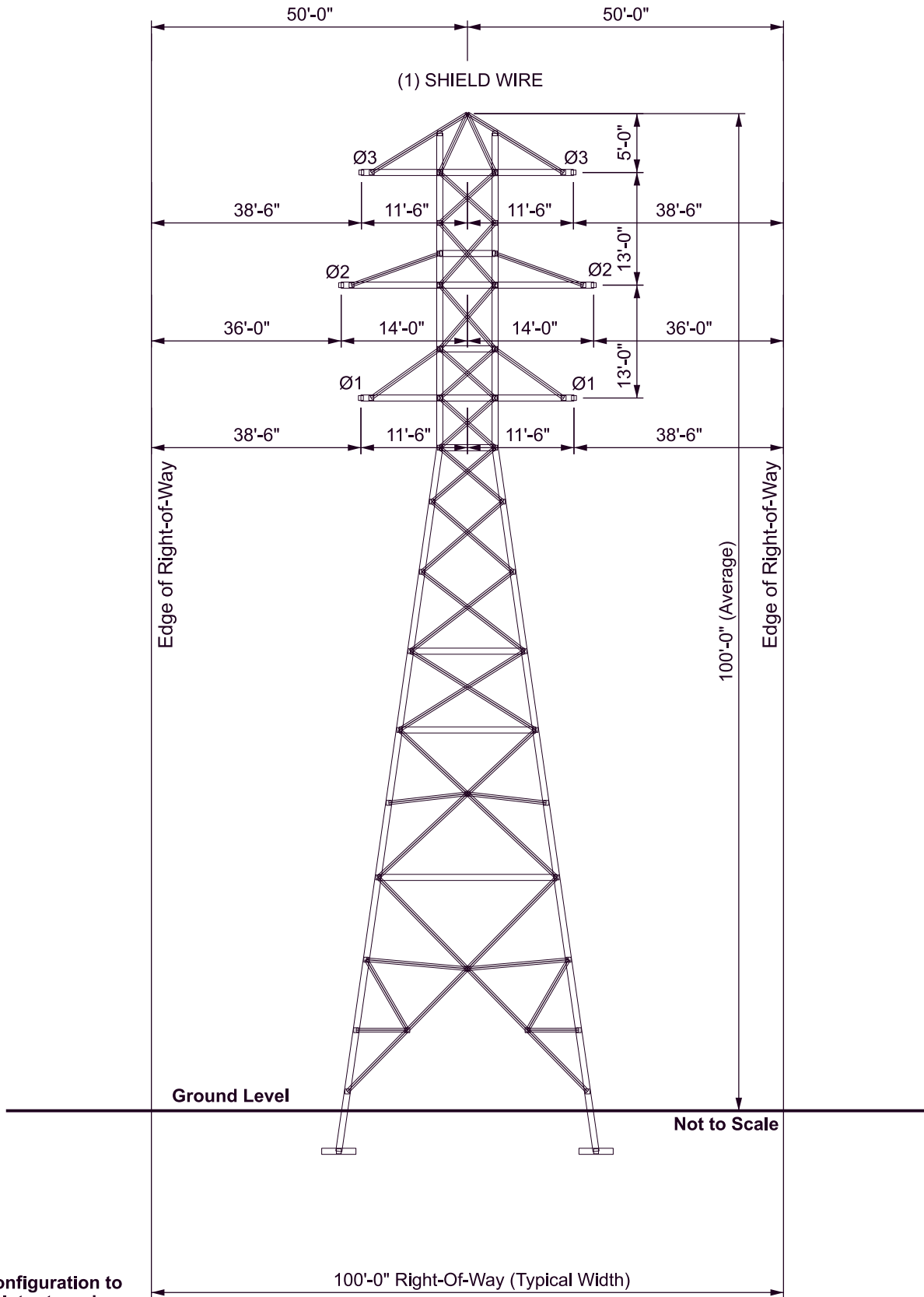
**APPALACHIAN  
POWER**  
An AEP Company

Reusens - Roanoke  
138 kV Transmission Line  
Rebuild Project

**EXHIBIT 5:      EXISTING 138 KV SELF-SUPPORTING LATTICE  
TOWER**



TYPICAL SCHEMATIC



Final phase configuration to be determined later to reduce EMF levels as practicable.

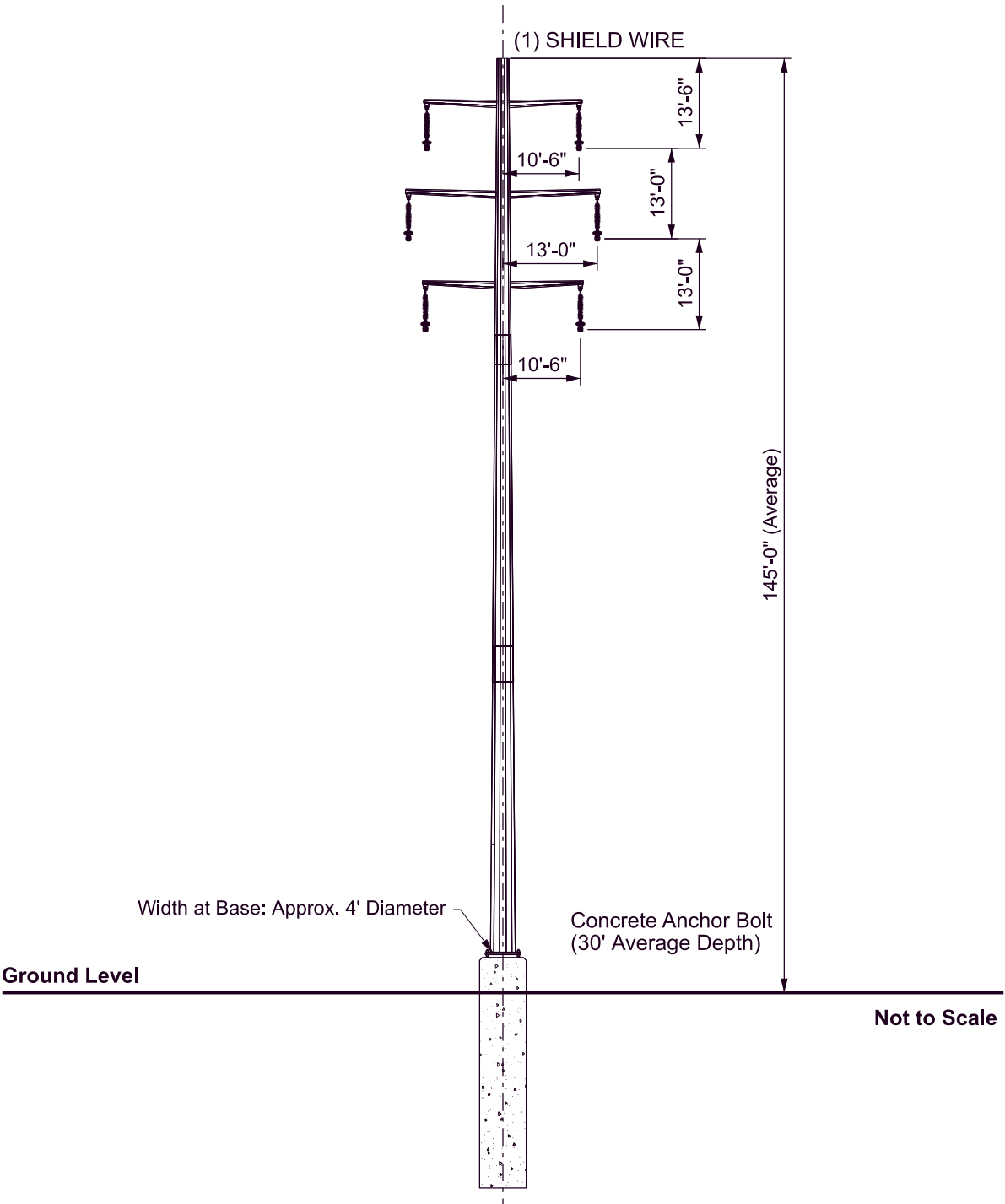
TYPICAL RIGHT-OF-WAY CROSS SECTION



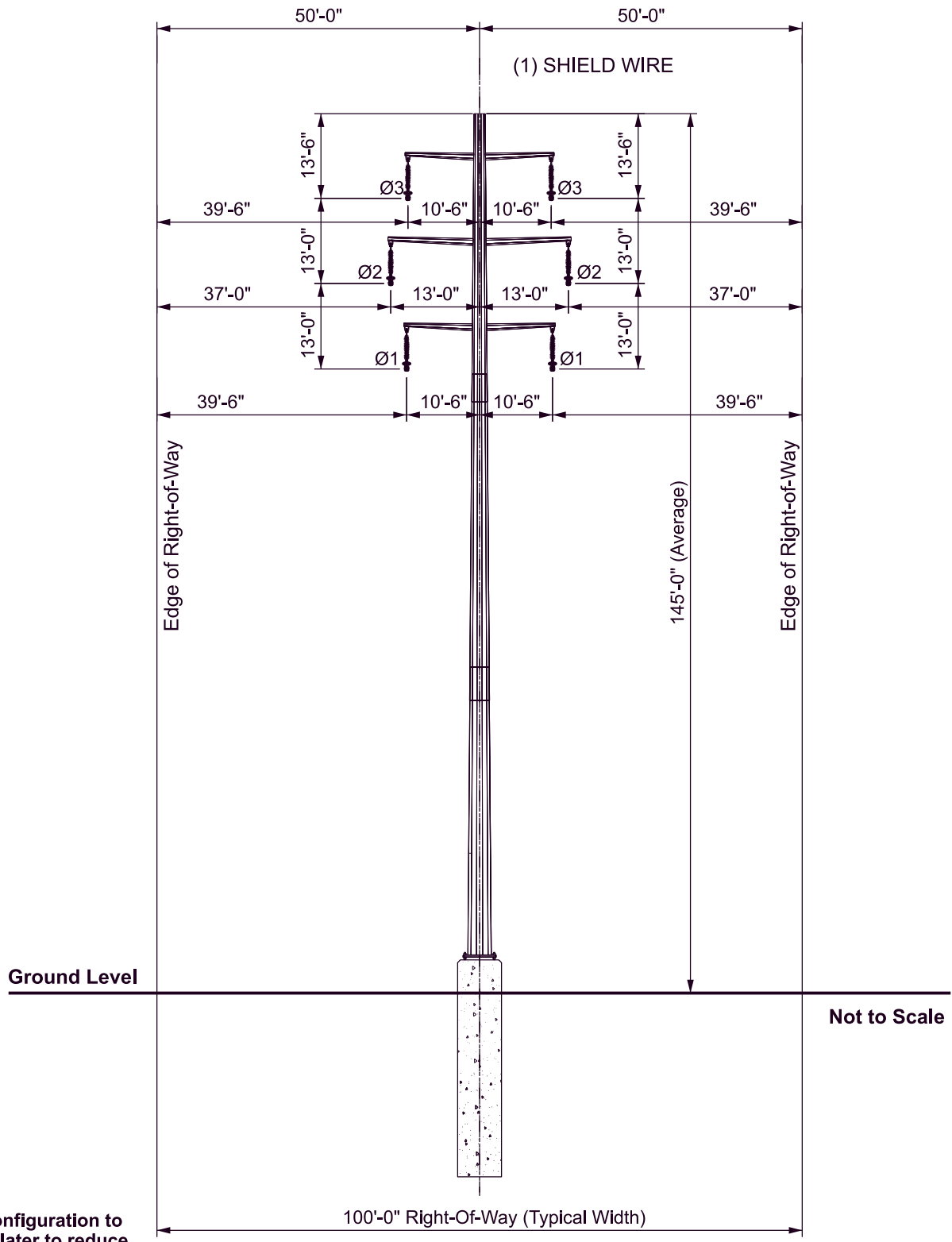


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 6:      EXISTING 138 KV MONOPOLE WITH DAVIT  
ARMS**



TYPICAL SCHEMATIC



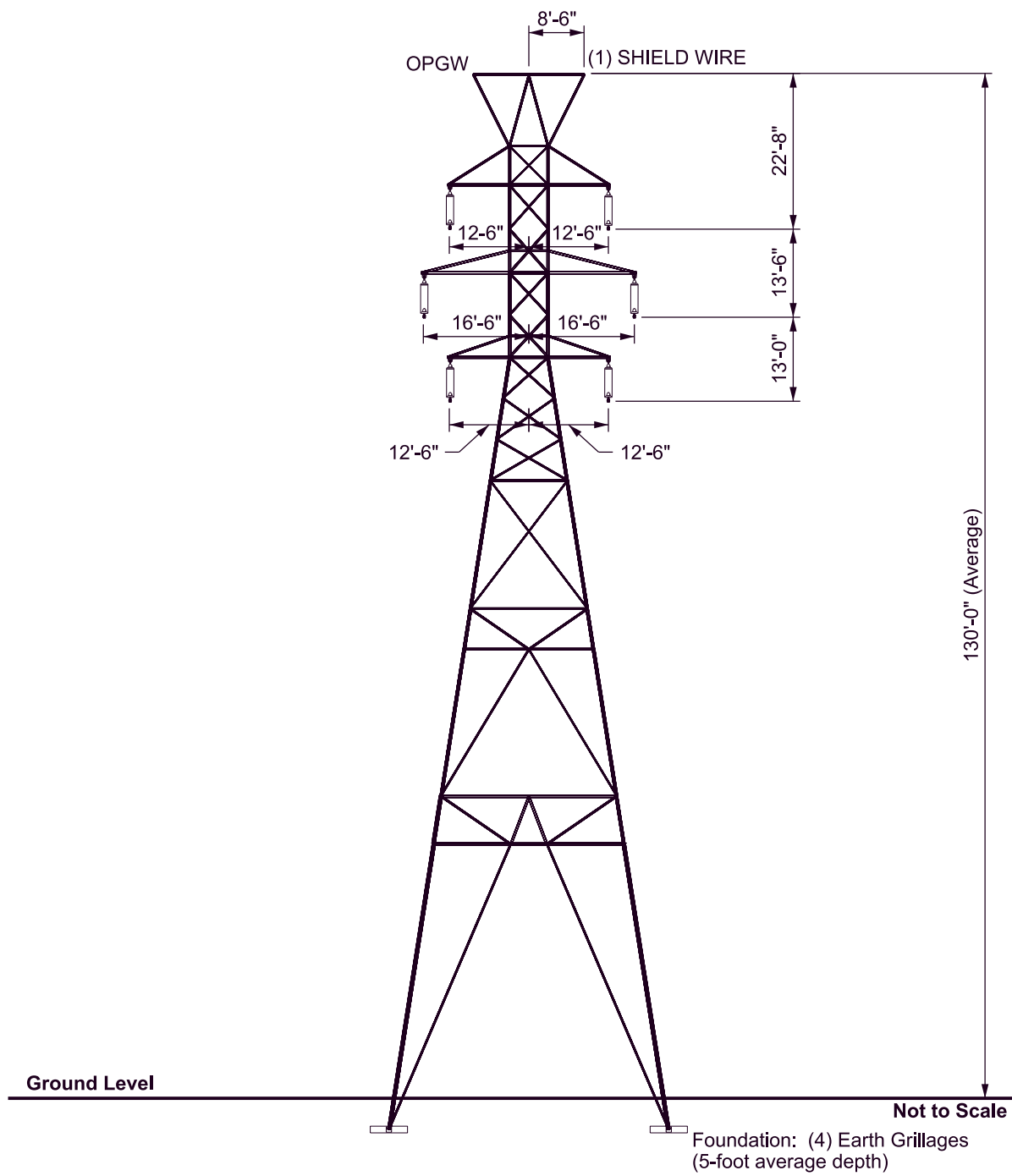
Final phase configuration to be determined later to reduce EMF levels as practicable.

TYPICAL RIGHT-OF-WAY CROSS SECTION

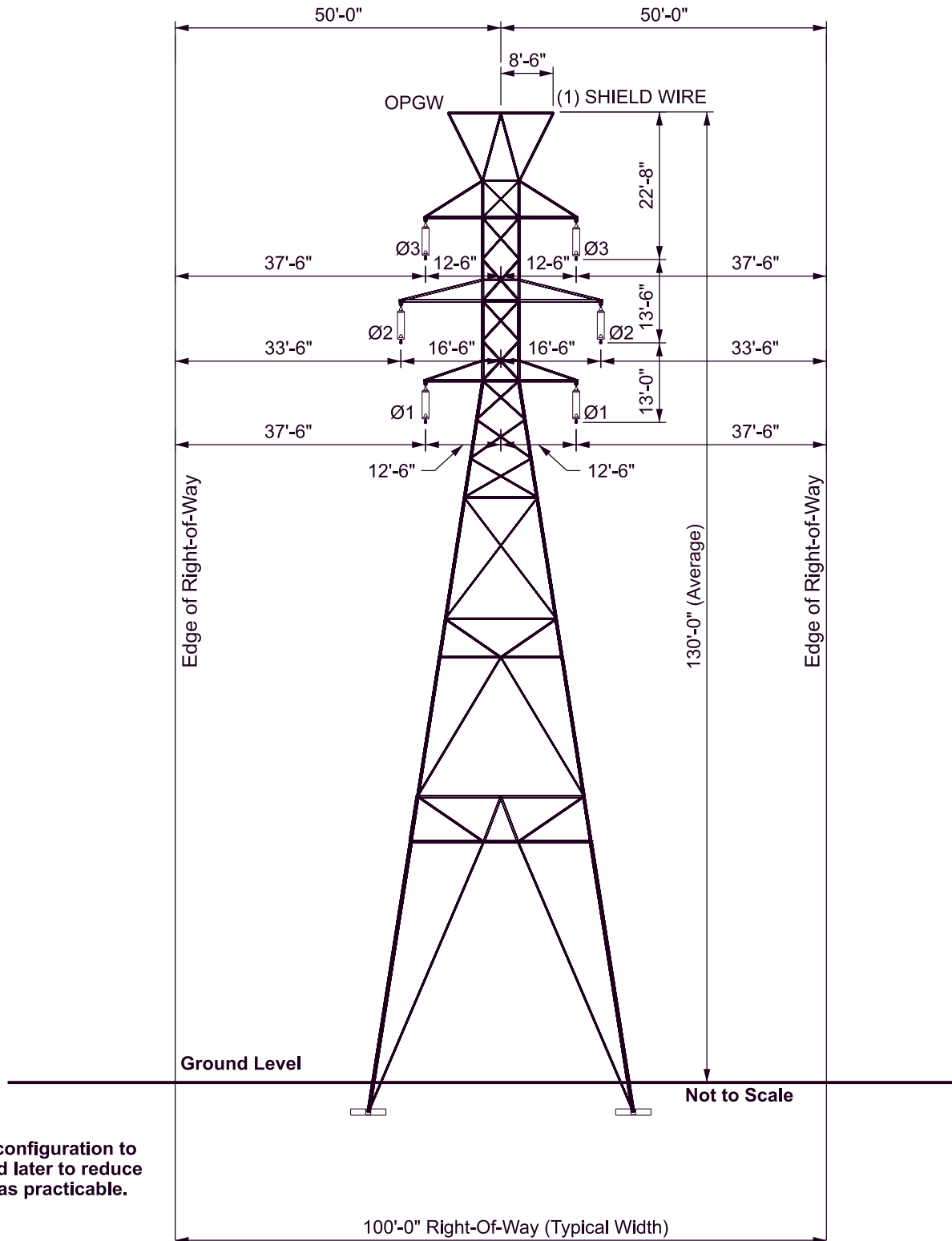


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 7: PROPOSED 138 KV SELF-SUPPORTING  
LATTICE TOWER**



TYPICAL SCHEMATIC



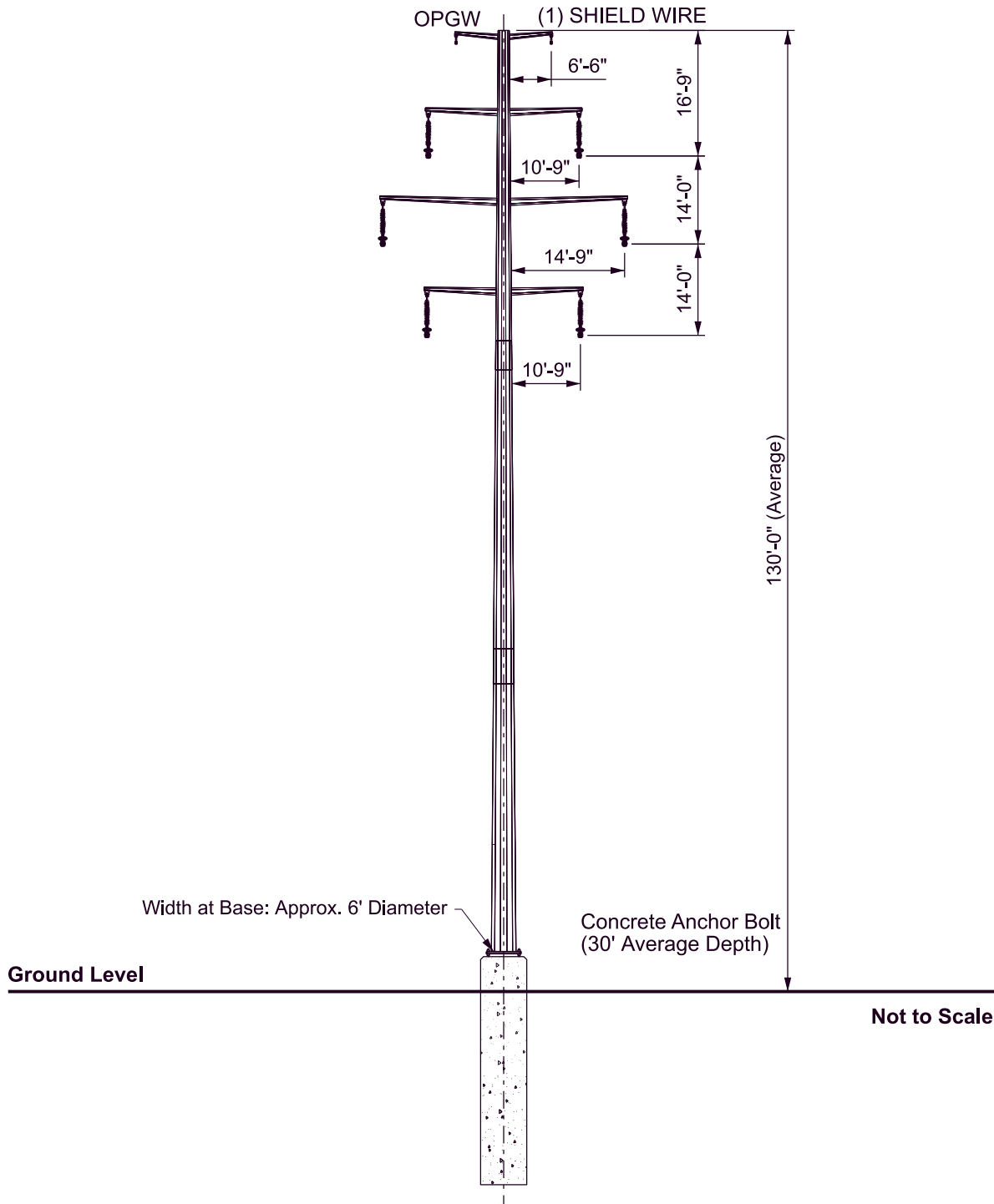
TYPICAL RIGHT-OF-WAY CROSS SECTION



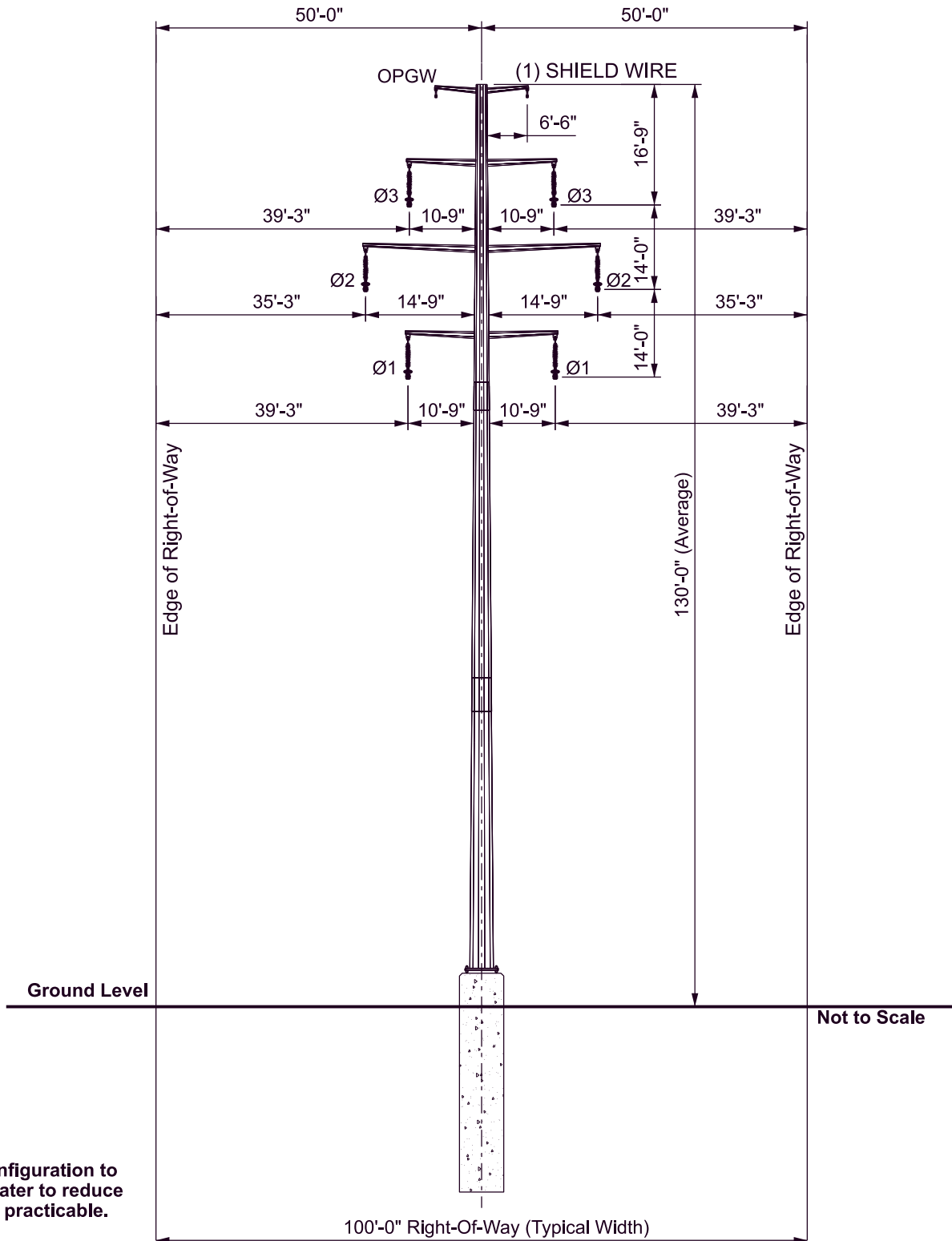


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 8: PROPOSED 138 KV MONOPOLE WITH DAVIT  
ARMS**



TYPICAL SCHEMATIC

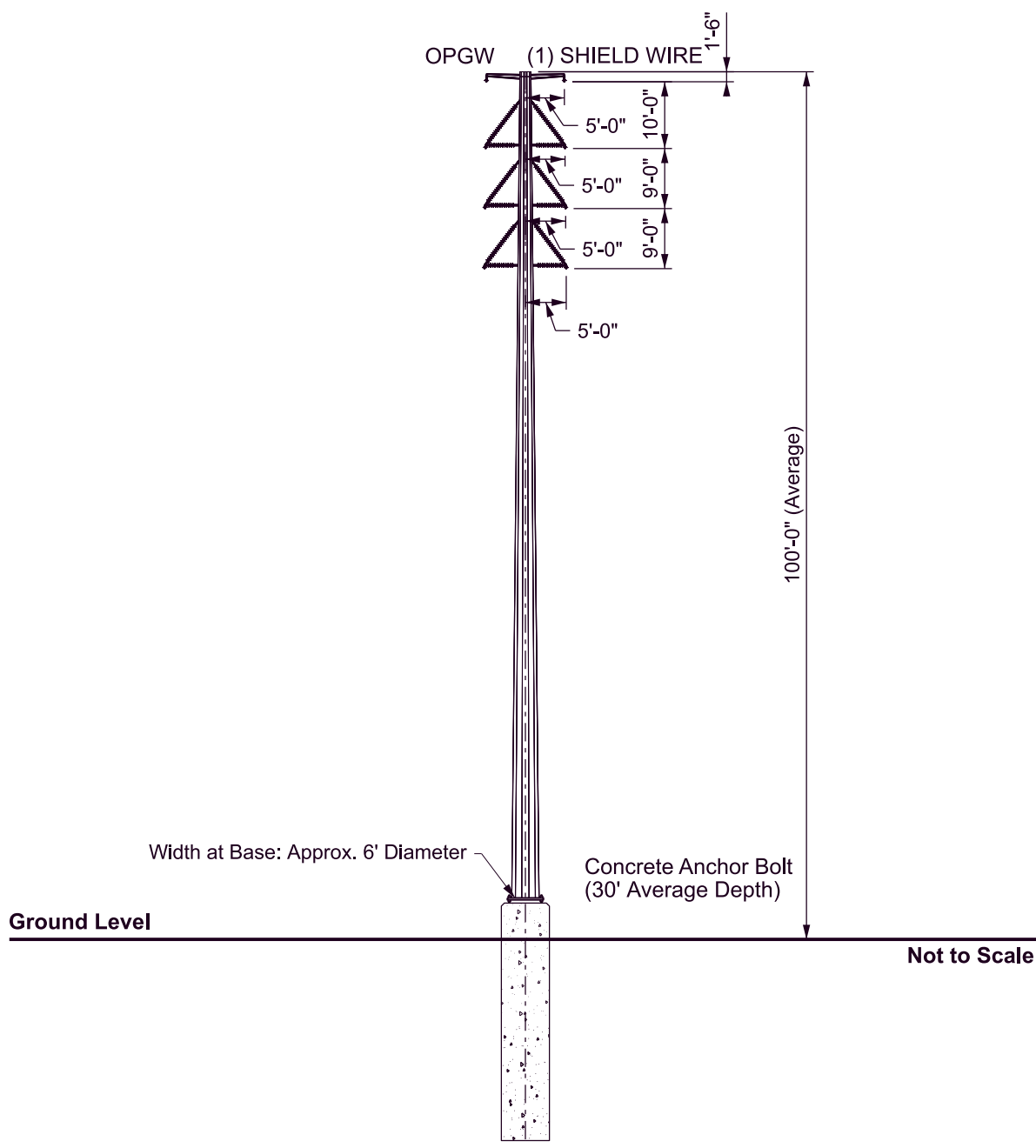


TYPICAL RIGHT-OF-WAY CROSS SECTION

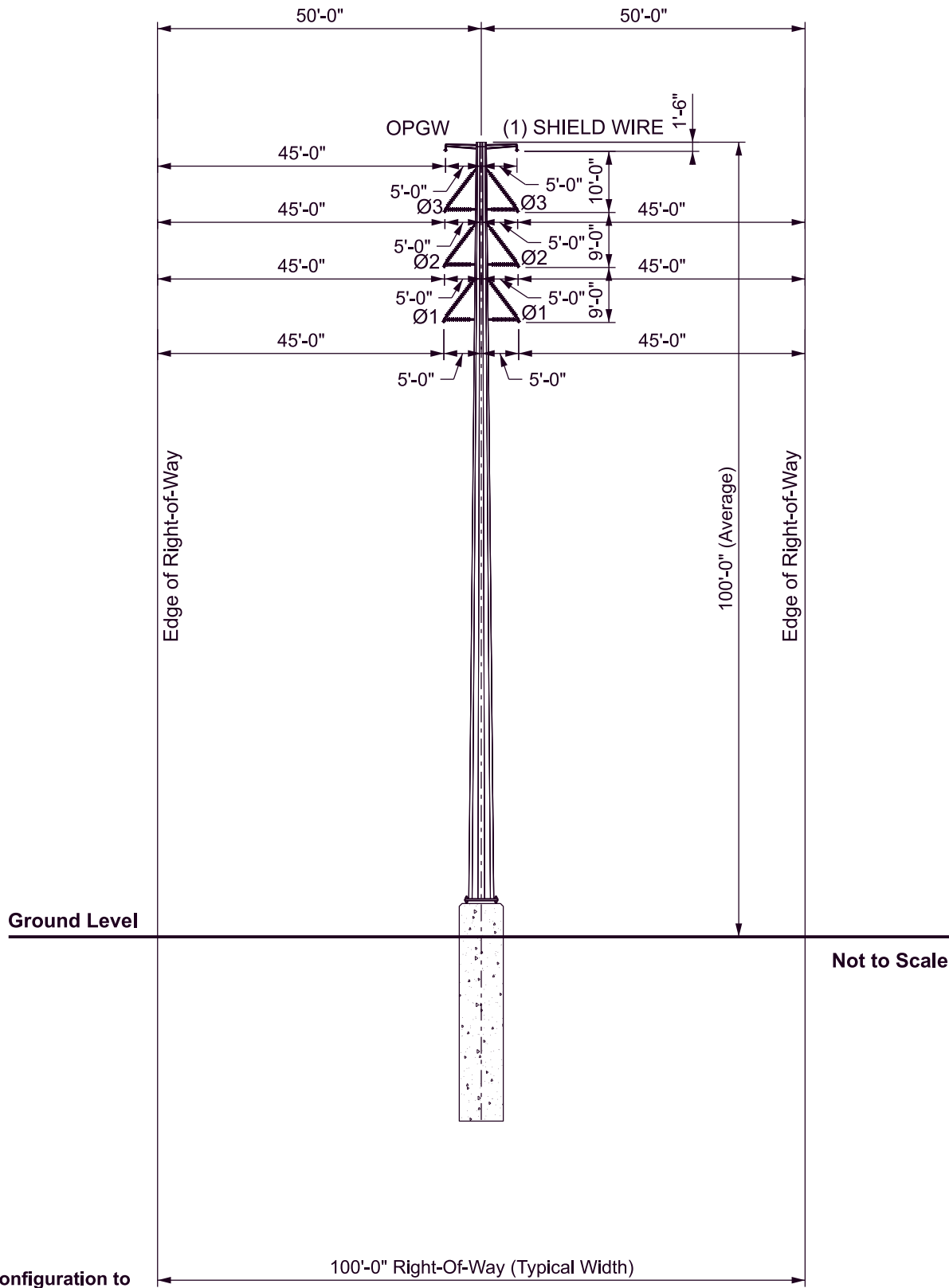


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 9: PROPOSED 138 KV MONOPOLE WITH  
BRACED POSTS**



TYPICAL SCHEMATIC



Final phase configuration to be determined later to reduce EMF levels as practicable.

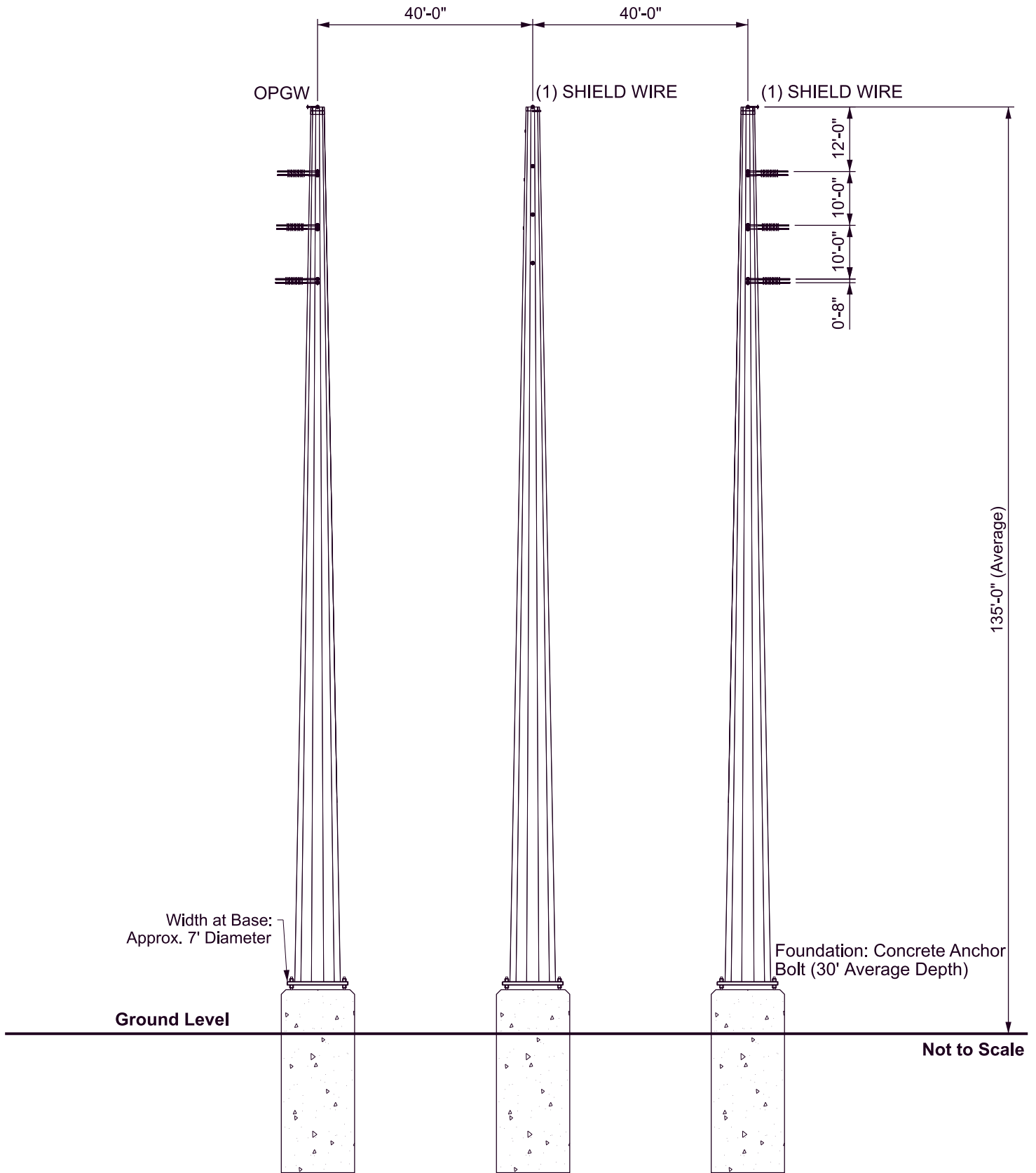
TYPICAL RIGHT-OF-WAY CROSS SECTION



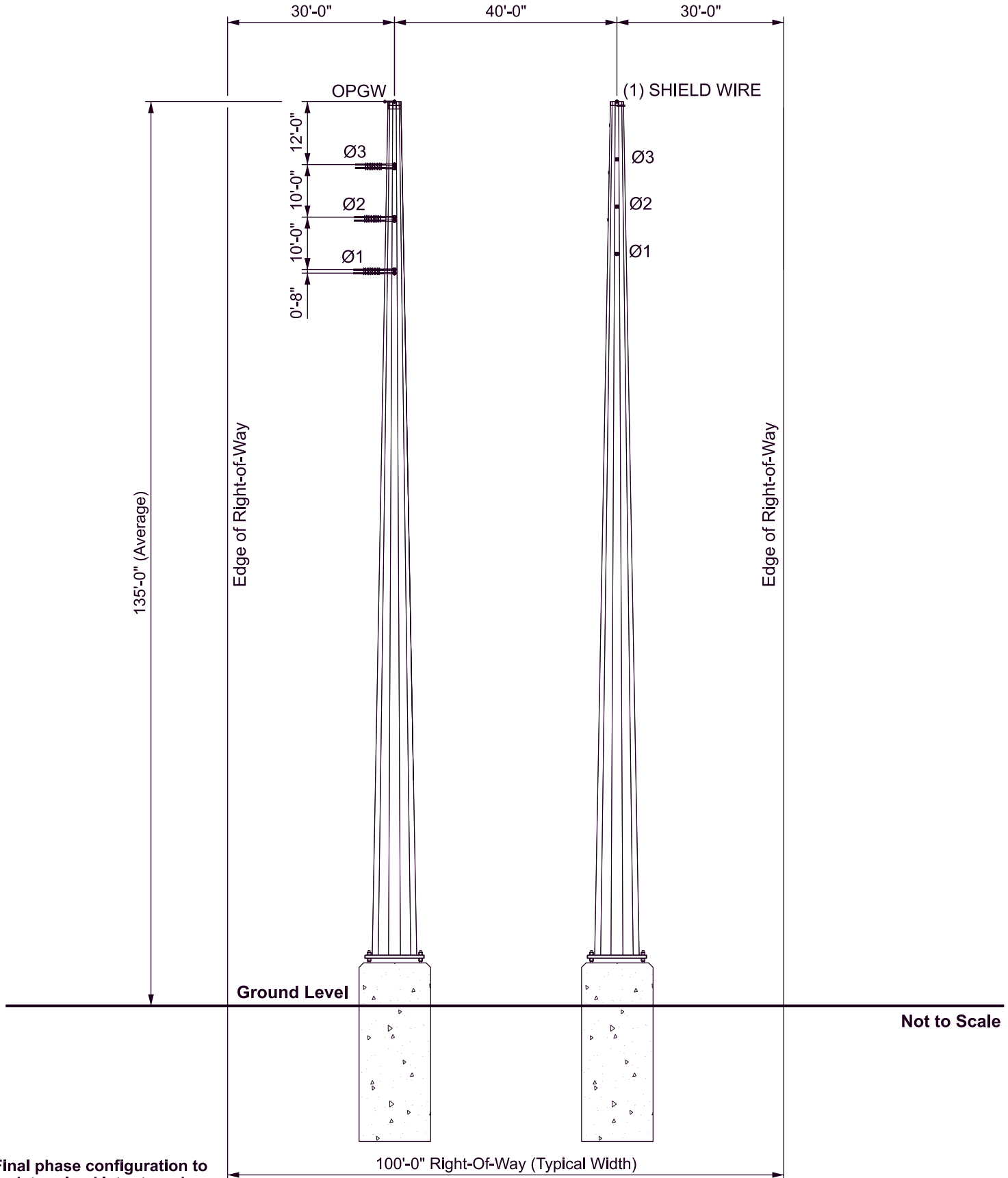


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 10: PROPOSED 138 KV THREE-POLE DEAD-END  
TAP**

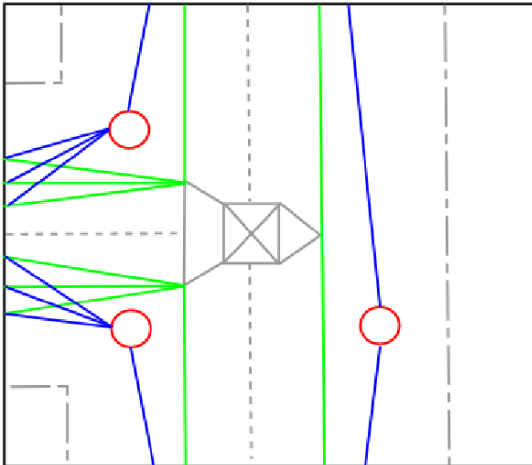


TYPICAL SCHEMATIC



Final phase configuration to be determined later to reduce EMF levels as practicable.

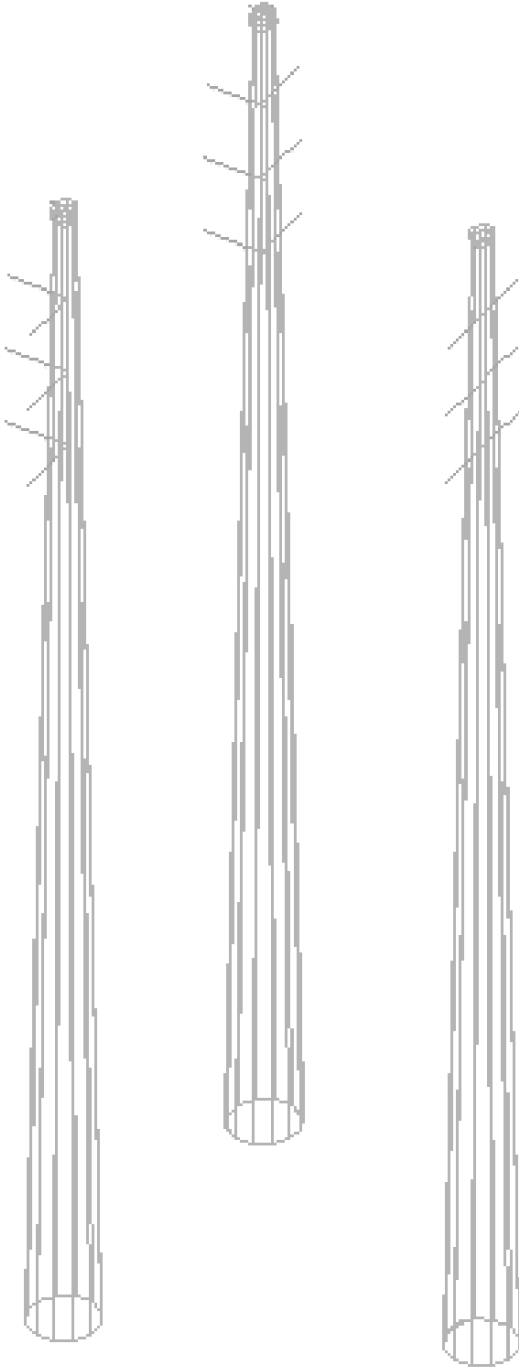
TYPICAL RIGHT-OF-WAY CROSS SECTION



PLAN VIEW

**LEGEND**

- - - EXISTING ROW EDGE
- - - - EXISTING CENTERLINE
- PROPOSED CONDUCTOR
- EXISTING CONDUCTOR
- PROPOSED POLE
- ⊗ EXISTING TOWER



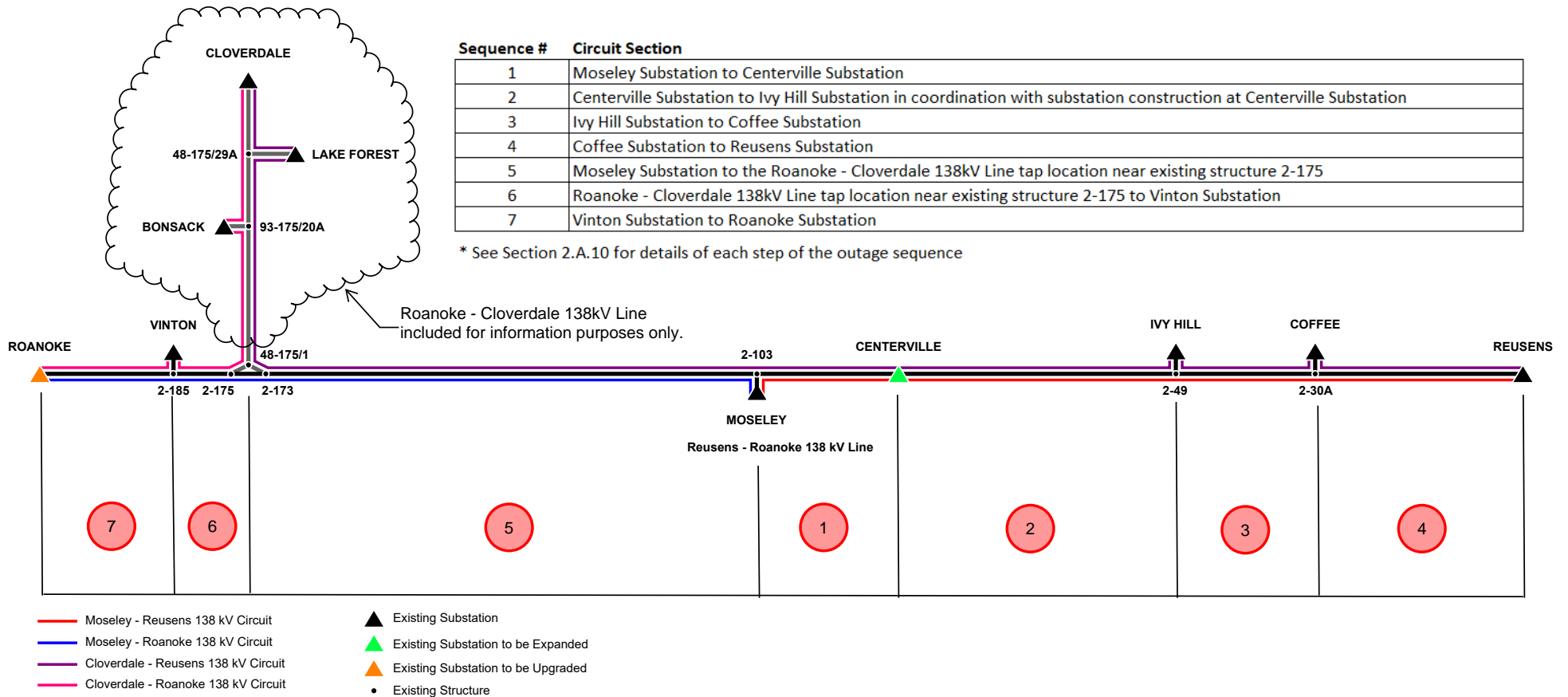
REPRESENTATIVE STRUCTURE ARRANGEMENT

# **EXHIBIT 11: TRANSMISSION LINE OUTAGE SEQUENCING**

REUSENS - ROANOKE TRANSMISSION LINE REBUILD PROJECT  
TRANSMISSION LINE OUTAGE SEQUENCING

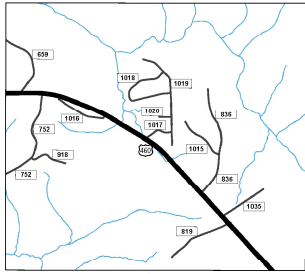
Sequence #	Circuit Section
1	Moseley Substation to Centerville Substation
2	Centerville Substation to Ivy Hill Substation in coordination with substation construction at Centerville Substation
3	Ivy Hill Substation to Coffee Substation
4	Coffee Substation to Reusens Substation
5	Moseley Substation to the Roanoke - Cloverdale 138kV Line tap location near existing structure 2-175
6	Roanoke - Cloverdale 138kV Line tap location near existing structure 2-175 to Vinton Substation
7	Vinton Substation to Roanoke Substation

\* See Section 2.A.10 for details of each step of the outage sequence

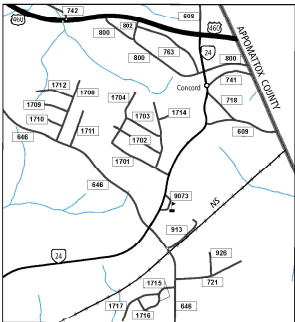


**EXHIBIT 12: VDOT GENERAL HIGHWAY MAPS AND  
EXISTING TRANSMISSION FACILITIES**

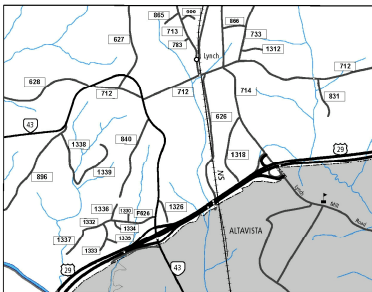




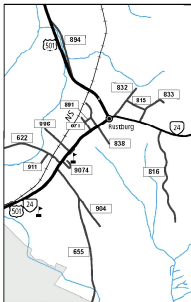
1 AREA EAST OF LYNCHBURG  
(four times map scale)



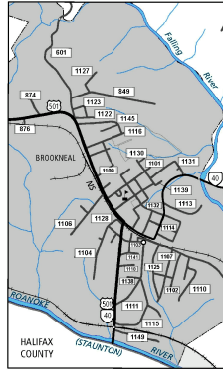
2 CONCORD AREA  
(four times map scale)



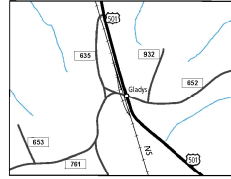
3 ALTAVISTA AND LYNCH AREA  
(four times map scale)



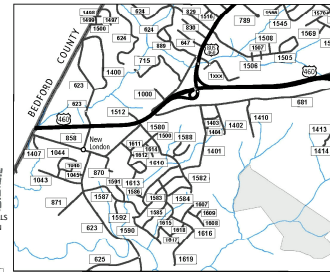
4 RUSTBURG AREA  
(four times map scale)



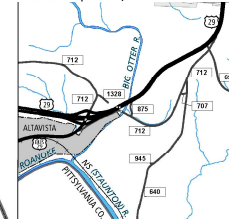
5 BROOKNEAL AREA  
(four times map scale)



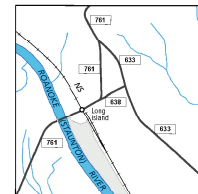
6 GLADYS AREA  
(four times map scale)



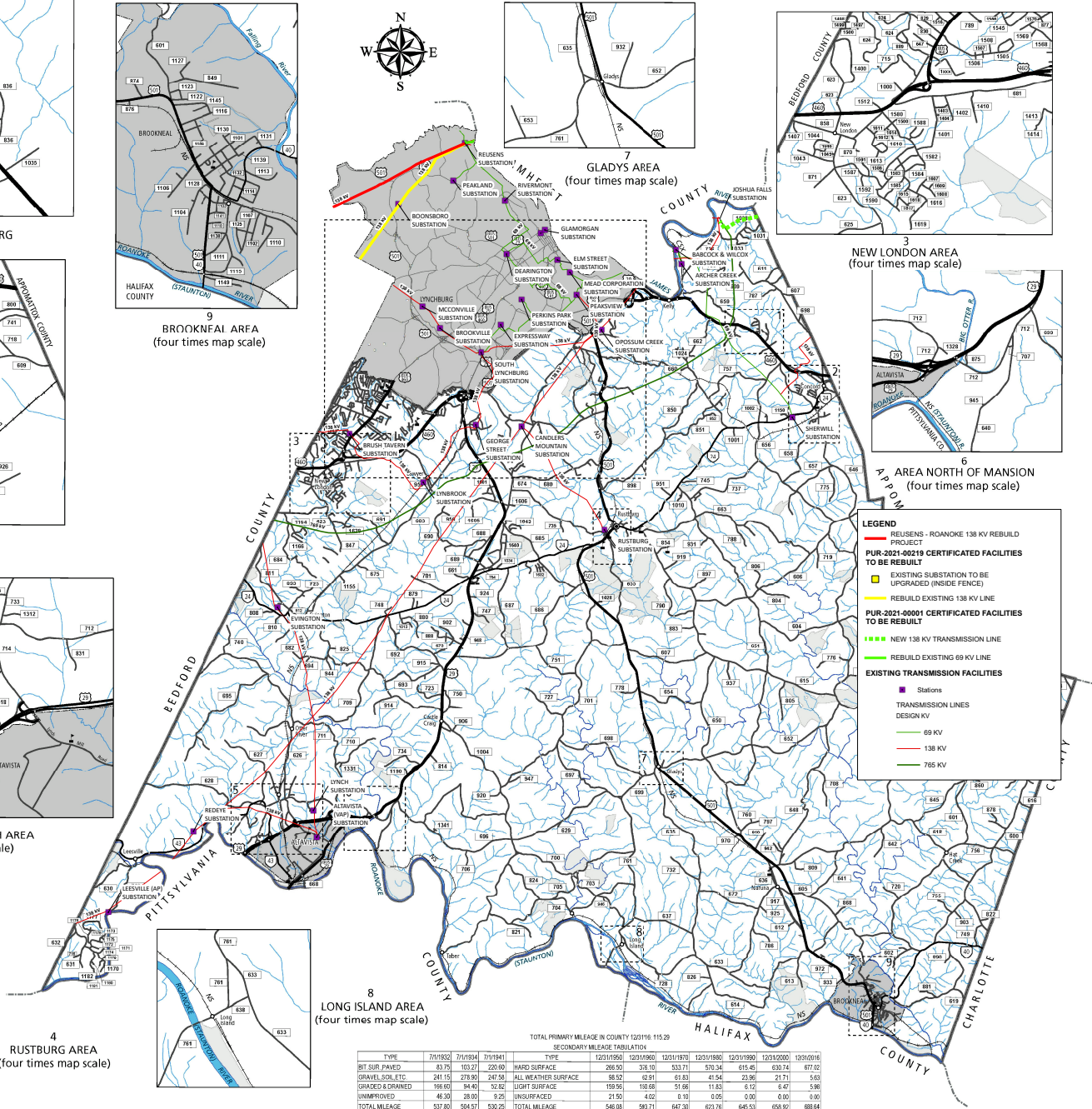
7 NEW LONDON AREA  
(four times map scale)



8 AREA NORTH OF MANSION  
(four times map scale)



9 LONG ISLAND AREA  
(four times map scale)



TOTAL PRIMARY MILEAGE IN COUNTY 12/31/16: 115.29

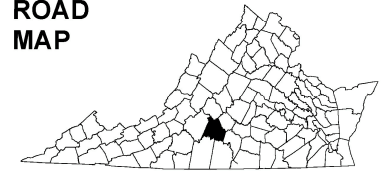
SECONDARY MILEAGE TABULATIONS

TYPE	7/1/1932	7/1/1941	7/1/1941	TYPE	12/31/1956	12/31/1960	12/31/1970	12/31/1980	12/31/1990	12/31/2000	12/31/2016
BIT SURF. PAVED	83.75	102.27	220.00	HARD SURFACE	266.50	316.10	533.71	570.34	615.45	630.74	677.92
GRAVEL, SAND, ETC.	241.15	278.00	247.50	ALL WEATHER SURFACE	48.52	62.91	61.83	41.54	23.96	21.71	5.60
GRAVELED & DRAINED	166.00	94.40	52.82	LIGHT SURFACE	159.56	150.68	51.66	11.83	6.12	6.47	5.80
UNIMPROVED	46.30	28.00	9.25	UNSURFACED	21.50	4.02	0.10	0.05	0.00	0.00	0.00
TOTAL MILEAGE	537.00	504.57	530.25	TOTAL MILEAGE	546.08	580.71	647.30	622.76	645.53	658.92	688.04

CAMPBELL COUNTY, VA



COUNTY ROAD MAP



CAMPBELL COUNTY

ROAD CLASSIFICATIONS

- Frontage Road
- Secondary Route
- State Route
- U.S. Route
- Urban Road
- LightSurface
- DividedHwyInterstate
- AllWeatherSurface
- Unsurfaced
- otherSurface
- BikeRoutes
- AppalachianTrail

MISCELLANEOUS

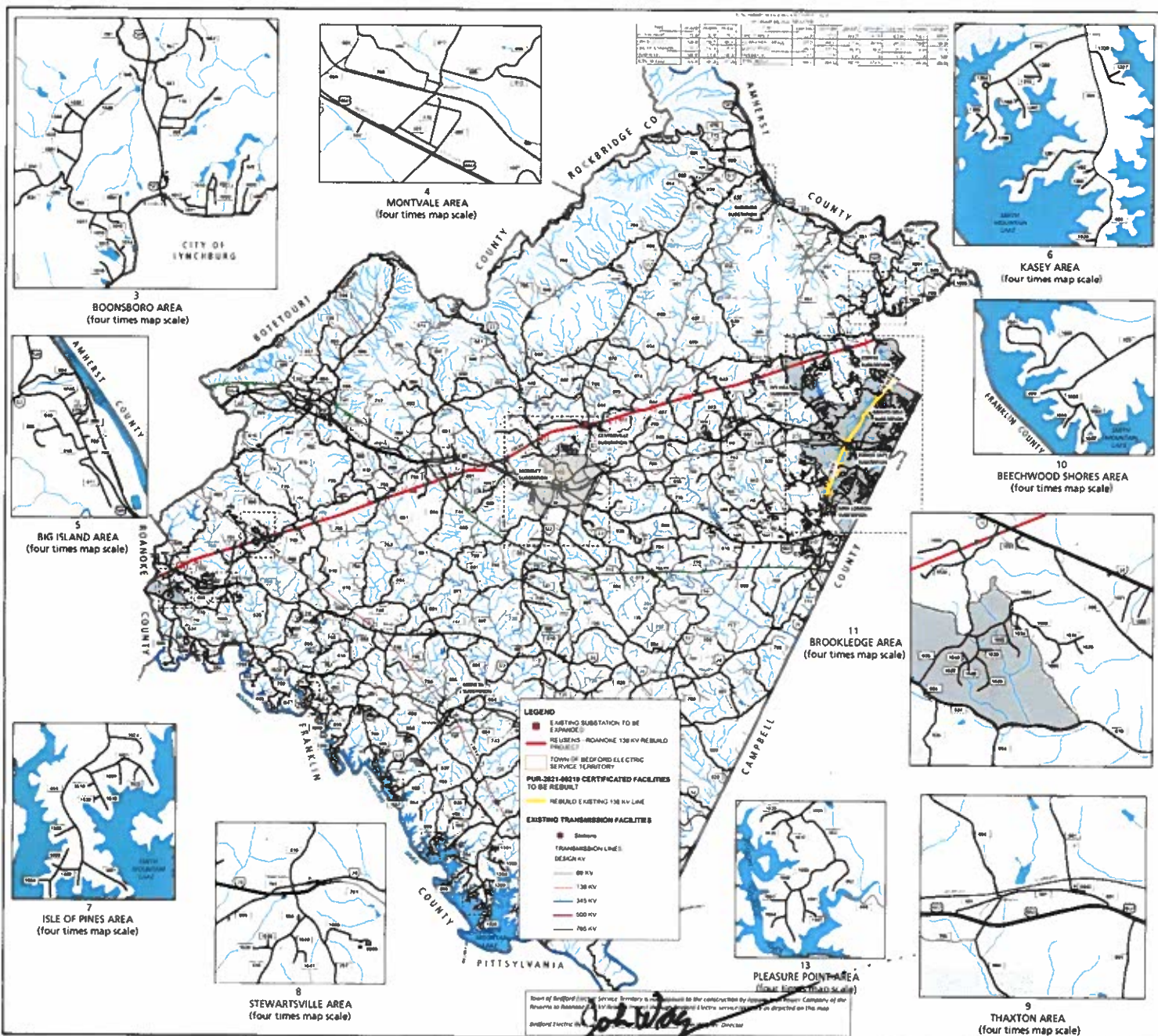
- Schools
- Seaports
- Park\_RideLots
- AIRPORTS
- Commercial
- General
- Military
- RAILROADS
- Metro
- VARailroads
- BOUNDARIES
- MilitaryAreas
- MagisterialDistricts
- Incorp\_Areas
- Natural\_LandCover



The accuracy or completeness of this map is not guaranteed or warranted. Map depicts state-maintained highway network as of April 1, 2017. Copyright © 2017 by Commonwealth of Virginia Department of Transportation. All Rights Reserved

AN INVENTORY OF STATE MAINTAINED ROADS

Sheet No.	Area	Scale	Notes
1	Boonsboro Area	4x	
2	Montvale Area	4x	
3	City of Lynchburg	4x	
4	Montvale Area	4x	
5	Big Island Area	4x	
6	Kasey Area	4x	
7	Isle of Pines Area	4x	
8	Stewartsville Area	4x	
9	Thaxton Area	4x	
10	Beechwood Shores Area	4x	
11	Brookledge Area	4x	
12	Stewartsville Area	4x	
13	Pleasure Point Area	4x	



**BEDFORD COUNTY, VA**

**VDOT**  
Virginia Department of Transportation

**COUNTY ROAD MAP**

**BEDFORD COUNTY**

**ROAD CLASSIFICATIONS**

- Frontage Road
- Secondary Route
- State Route
- U.S. Route
- Urban Road
- Light Surface
- Divided Hwy Interstate
- All Weather Surface
- Unsurfaced other Surface
- Bike Routes
- Appalachian Trail

**MISCELLANEOUS**

- Schools
- Seaports
- Park Ride Lots
- AIRPORTS**
- Commercial
- General
- Military
- RAILROADS**
- Metro
- VA Railroads
- BOUNDARIES**
- Military Areas
- Magisterial Districts
- Incorp. Areas
- Natural Land Cover

0 20 40 60 80 100  
 FEET

The accuracy or completeness of this map is not guaranteed or warranted. Map depicts state-maintained highway network as of September 1, 2018. Copyright © 2018 by Commonwealth of Virginia Department of Transportation. All Rights Reserved.

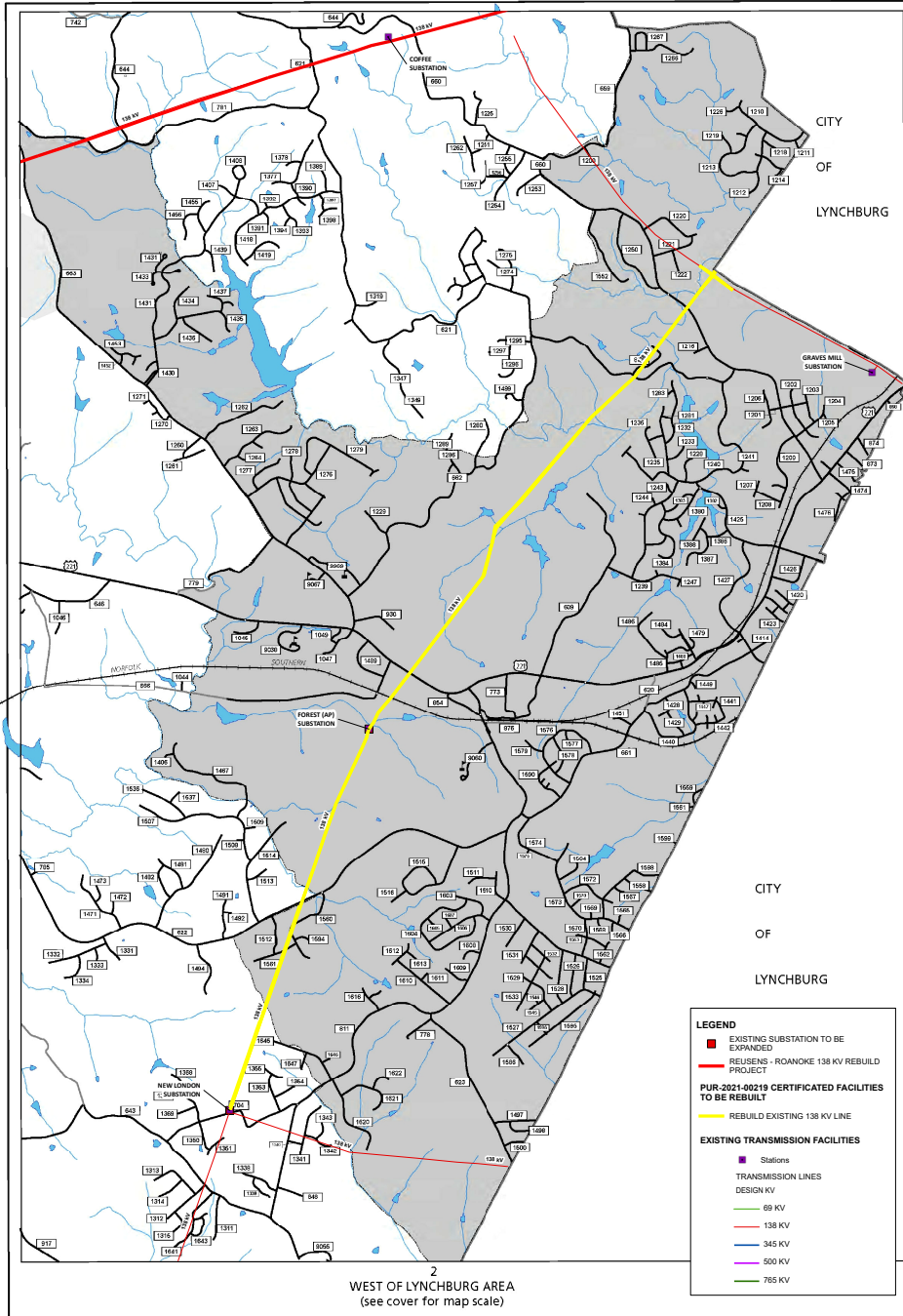
AN INVENTORY OF STATE MAINTAINED ROADS

**LEGEND**

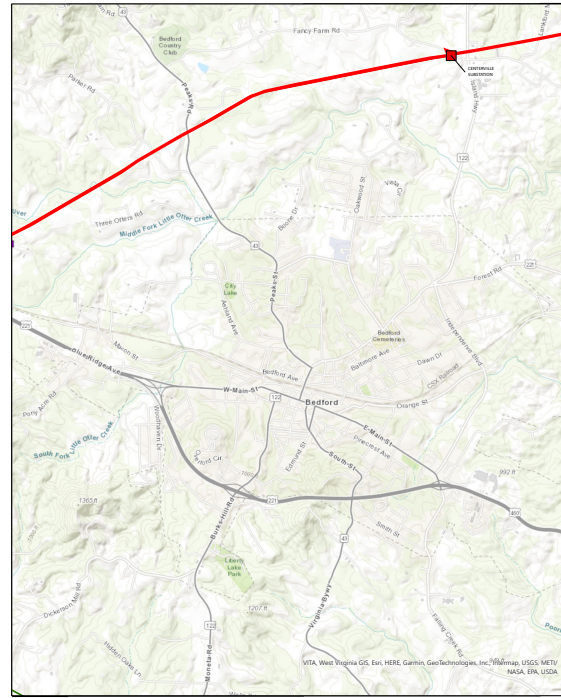
- EXISTING SUBSTATION TO BE EXPANDED
- RE USE/ENL - ROANOKE 138 KV RE BUILD PROJECTS
- TOWN OF BE OF CRD ELEC TRIC SERVICE TERRITORY
- PUR-2021-00119 CERTIFICATED FACILITIES TO BE REBUILT**
- RE BUILD EXISTING 138 KV LINE
- EXISTING TRANSMISSION FACILITIES**
- Stations
- TRANSMISSION LINES**
- DESIGN KV**
- 69 KV
- 138 KV
- 345 KV
- 500 KV
- 765 KV

Board of Bedford County, Virginia, hereby certifies that the construction of the project shown on this map is necessary for the public health, safety and general welfare of the County of Bedford, Virginia.

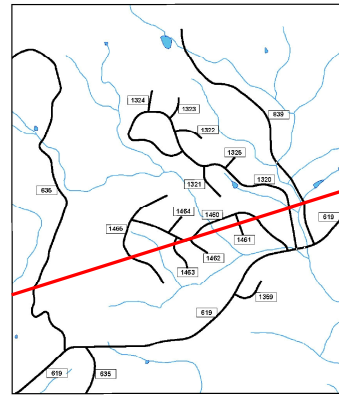
J. W. W.  
 Director



2  
WEST OF LYNCHBURG AREA  
(see cover for map scale)



1  
BEDFORD AREA  
(see cover for map scale)



12  
MOUNTAIN MEADOWS AREA  
(see cover for map scale)

BEDFORD COUNTY, VA

**VDOT**  
Virginia Department of Transportation

**COUNTY ROAD MAP**

**BEDFORD COUNTY**

ROAD CLASSIFICATIONS		MISCELLANEOUS	
	Frontage Road		Schools
	Secondary Route		Seaports
	State Route		Park_RideLots
	U.S. Route	<b>AIRPORTS</b>	
	Urban Road		General
	LightSurface		Military
	DividedHwyInterstate	<b>RAILROADS</b>	
	AllWeatherSurface		Metro
	Unsurfaced		VARailroads
	otherSurface	<b>BOUNDARIES</b>	
	BikeRoutes		MilitaryAreas
	AppalachianTrail		MagisterialDistricts
			Incorp_Areas
			Natural_LandCover

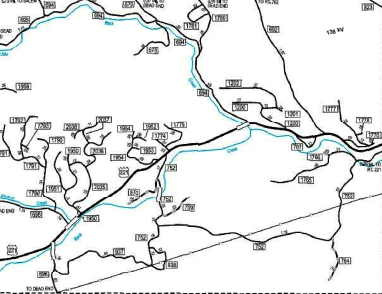
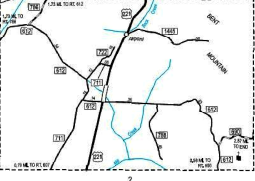
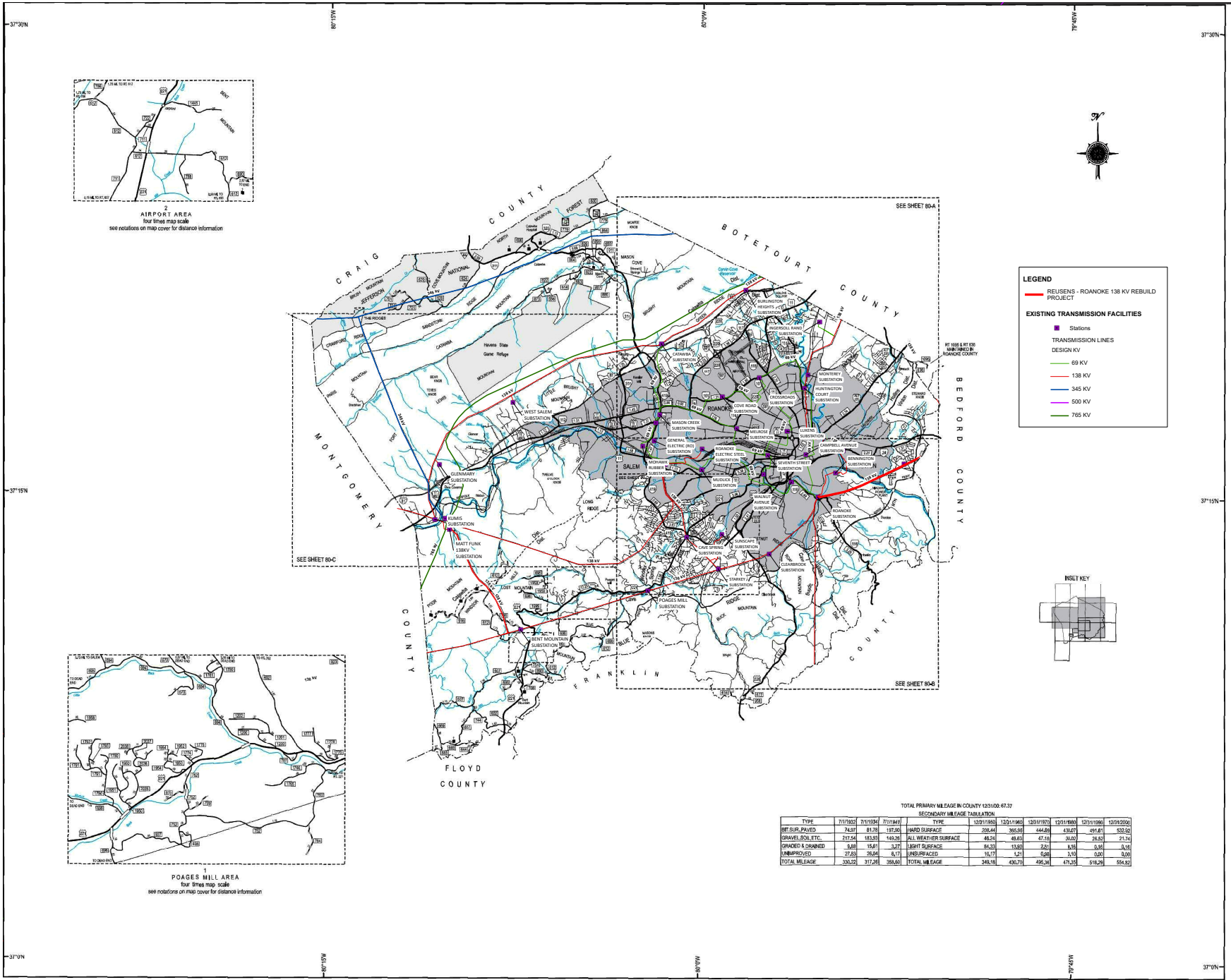
0 1000 2000 3000 4000 5000  
0 500 1000 1500  
METERS

The accuracy or completeness of this map is not guaranteed or warranted.  
Map depicts state-maintained highway network as of September 1, 2017.  
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AN INVENTORY OF STATE MAINTAINED ROADS

Supplement A

09A



**LEGEND**

**REUSENS - ROANOKE 138 KV REBUILD PROJECT**

**EXISTING TRANSMISSION FACILITIES**

- Stations
- TRANSMISSION LINES**
- DESIGN KV
  - 69 KV
  - 138 KV
  - 345 KV
  - 500 KV
  - 765 KV

**ROAD CLASSIFICATIONS**

- Divided Highway (Beltstone)
- Hard Surface
- All Weather Surface
- Light Surface
- Unsurfaced

**HIGHWAY ROUTE SIGNS**

- Interstate Highway
- US Highway
- VA Primary Highway
- VA Secondary Highway
- Frontage Road
- Forest Highway
- US Bicycle Route

**RAILROADS**

- Single Track
- Two or More Tracks
- Regional Metro

**BOUNDARIES**

- State Line
- County Line
- Municipal District Line
- Incorporated Town or City
- Park, Reservation, or Forest Boundary

**CITY AND VILLAGE CENTERS**

- State Capital
- County Seat
- Town or Village

**MISCELLANEOUS**

- Place of Worship
- School
- Park & Recreation
- Transmission Line
- Bridges
- Primary Road Distances

**PORTS**

- Seaport
- Military Airport
- Commercial Airport
- Other Airport

Request for information on roads shown on this map should be addressed to Salem District Administrator, Virginia Department of Transportation, 731 Harrison Avenue, Salem, VA 24153, 940-4330 (TTY users, call 711)

**DISTANCES SHOWN ON MAP MAY NOT BE OFFICIAL DISTANCES.** Distances shown on Primary Roads are between Primary Road intersections and/or county lines. Distances shown on Secondary Roads are between intersections and corporate limits or county lines. Municipal District Boundary lines shown parallel to features such as roads, streams, etc. are on the center line of such features. The accuracy or completeness of this map is not guaranteed or warranted.

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TOTAL PRIMARY MILEAGE IN COUNTY 1231,000 67.32

SECONDARY MILEAGE TABULATION

TYPE	7/1/1992	7/1/1994	7/1/1997	TYPE	12/31/1992	12/31/1995	12/31/1997	12/31/1999	12/31/2000
BIT. SUR. PAVED	74.09	81.76	107.94	PAVD SURFACE	286.44	365.05	444.85	438.87	491.81
GRAVEL/SOL. ETC.	212.54	183.03	149.35	ALL WEATHER SURFACE	86.34	69.02	47.07	34.02	25.62
SPRINKLED & DRAINAGE	8.88	15.61	3.27	LIGHT SURFACE	86.33	13.02	2.21	1.14	0.16
UNIMPROVED	27.83	26.04	6.71	UNIMPROVED	16.77	1.21	5.28	3.10	0.07
<b>TOTAL MILEAGE</b>	<b>323.34</b>	<b>312.44</b>	<b>267.27</b>	<b>TOTAL MILEAGE</b>	<b>546.91</b>	<b>452.30</b>	<b>499.23</b>	<b>477.13</b>	<b>517.65</b>

ROANOKE COUNTY, VA

**VDOT**  
Virginia Department of Transportation

**COUNTY ROAD MAP**

INSET KEY

**ROANOKE COUNTY**

AN INVENTORY OF STATE-MAINTAINED ROADS  
ROANOKE COUNTY, VA

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