

APPALACHIAN POWER COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2021-00049

APPLICATION FOR APPROVAL AND CERTIFICATION OF  
ELECTRICAL TRANSMISSION LINE

Reusens to New London  
138 kV Rebuild Project

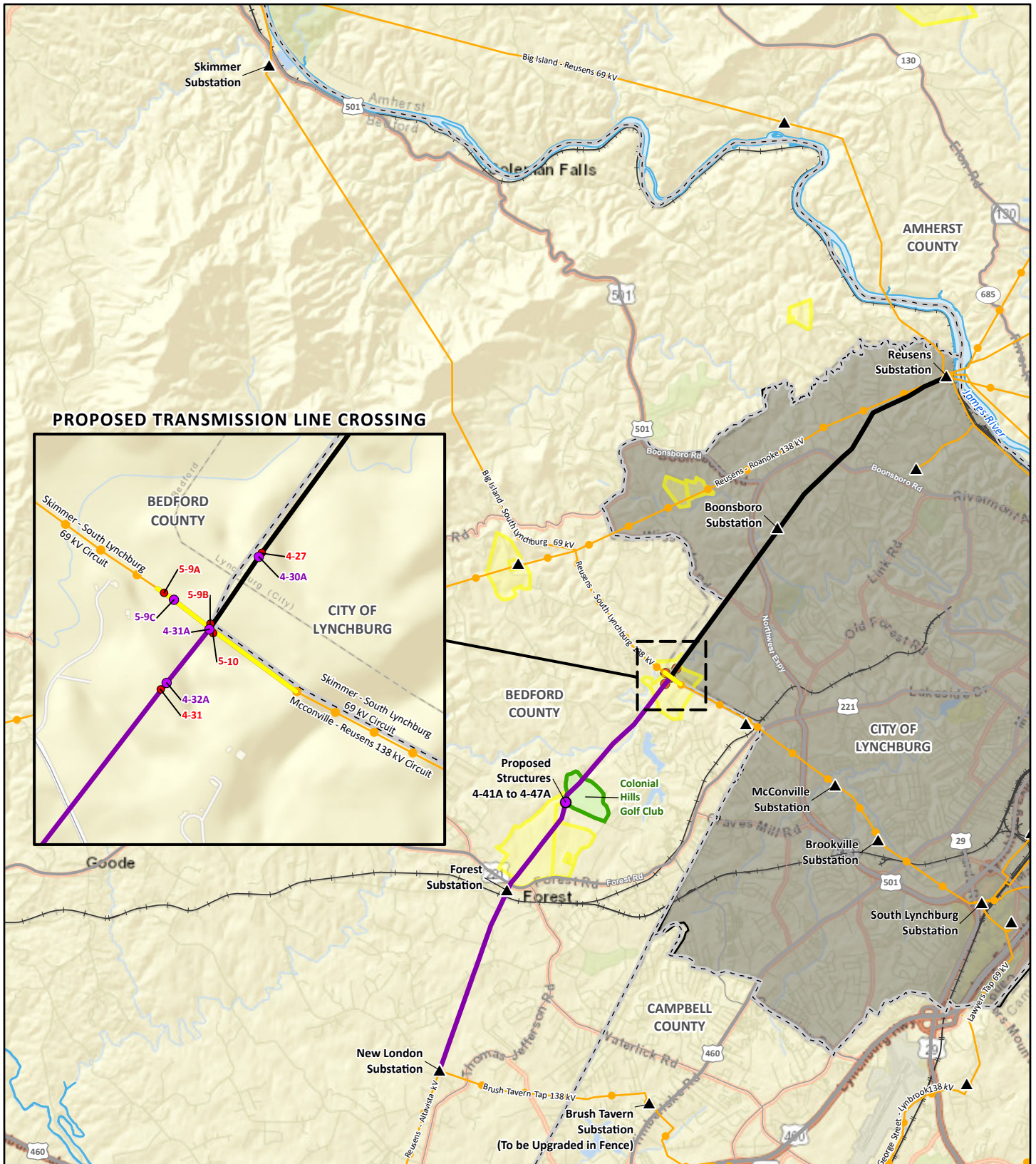
VOLUME 1 OF 2

Application, Testimony, Response to Guidelines &  
Exhibits

April 2021

# EXHIBITS

**EXHIBIT 1: PROJECT AREA MAP**



- ▲ Existing AEP Substation
- Proposed Structure
- Existing AEP Structure
- Reusens - South Lynchburg 138 kV Line Relocation
- Proposed Route (Double Circuit)
- Proposed Route (Single Circuit)
- Existing AEP Transmission Line (69 kV or lower)
- Existing AEP Transmission Line (115-230 kV)
- Existing AEP Transmission Line (345 kV +)
- Road
- Highways
- Railroad
- City/County Boundary
- Colonial Hills Golf Club
- NHD River
- Municipality
- VOF Conservation Boundary

**City of Lynchburg and Bedford County, Virginia**

Author: ckunde  
Project: 159298

NAD 1983 State Plane Virginia South  
FIPS 4502 Feet  
Lambert Conformal Conic  
North American 1983

▲

April 12, 2021



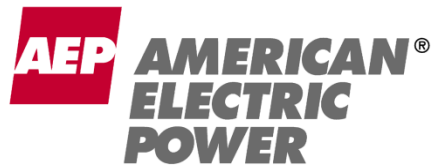
**Exhibit 1:  
Project Area**

**Reusens to New London 138 kV  
Rebuild Project**

An AEP Company  
 BOUNDLESS ENERGY

0                      1.5                      3  
 Miles

**EXHIBIT 2: AEP TRANSMISSION PLANNING CRITERIA AND  
GUIDELINES FOR END-OF-LIFE AND OTHER  
ASSET MANAGEMENT NEEDS**



# AEP Transmission Planning Criteria and Guidelines for End-Of-Life and Other Asset Management Needs

December 2020

 <small>SOUNDLESS ENERGY</small>	TITLE: AEP Transmission Planning Criteria and Guidelines for End-Of-Life and Other Asset Management Needs	Version 4.0	Page 1
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## Document Control

### Document Review and Approval

Action	Name(s)	Title
<b>Prepared by:</b>	Jomar M. Perez	Manager, Asset Performance and Renewal
<b>Approved by:</b>	Nicolas Koehler	Director, East Transmission Planning
<b>Approved by:</b>	Wayman L. Smith	Director, West Transmission Planning
<b>Approved by:</b>	Kamran Ali	Managing Director, Transmission Planning

### Review Cycle

Quarterly	Semi-annual	Annual	As Needed X
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### Revision History

Version	Revision Date	Changes	Comments
1.0	01/04/2017	N/A	1 <sup>st</sup> Release
2.0	1/18/2018	Format Update	2 <sup>nd</sup> Release
3.0	11/09/2018	Content Additions	3 <sup>rd</sup> Release
4.0	12/14/2020	End-Of-Life Criteria	4 <sup>th</sup> Release



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## 1.0 Introduction

The American Electric Power (AEP) transmission system consists today of approximately 40,000 miles of transmission lines, 3,600 stations, 5,000 power transformers, 8,000 circuit breakers, and operating voltages between 23 kV and 765 kV in three different RTOs – the Electric Reliability Council of Texas (ERCOT), the PJM Interconnection (PJM), and the Southwest Power Pool (SPP), connecting over 30 different electric utilities while providing service to over 5.4 million customers in 11 different states.

AEP’s interconnected transmission system was established in 1911 and is comprised of a very large and diverse combination of line, station, and telecommunication assets, each with its own unique installation date, design specifications, and operating history. As the transmission owner, it is AEP’s obligation and responsibility to manage and maintain this diverse set of assets to provide for a safe, adequate, reliable, flexible, efficient, cost-effective and resilient transmission system that meets the needs of all customers while complying with Federal, State, RTO and industry standards. This requires, among other considerations, that AEP determine when the useful life of these transmission assets is coming to an end and when the capability of those assets no longer meets current needs, so that appropriate improvements can be deployed. AEP refers to these issues as transmission owner identified needs that address condition, performance and risk. AEP identifies these needs through the transmission planning criteria and guidelines outlined in this document. Specifically, this document constitutes the AEP transmission planning criteria and guidelines for End-Of-Life and other asset management needs as required in the FERC-approved Attachment M-3 to the PJM Tariff. AEP does not address any End-Of-Life or other asset management needs through the baseline planning criteria AEP files with its FERC Form 715.

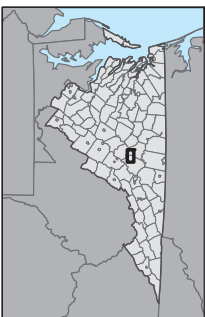
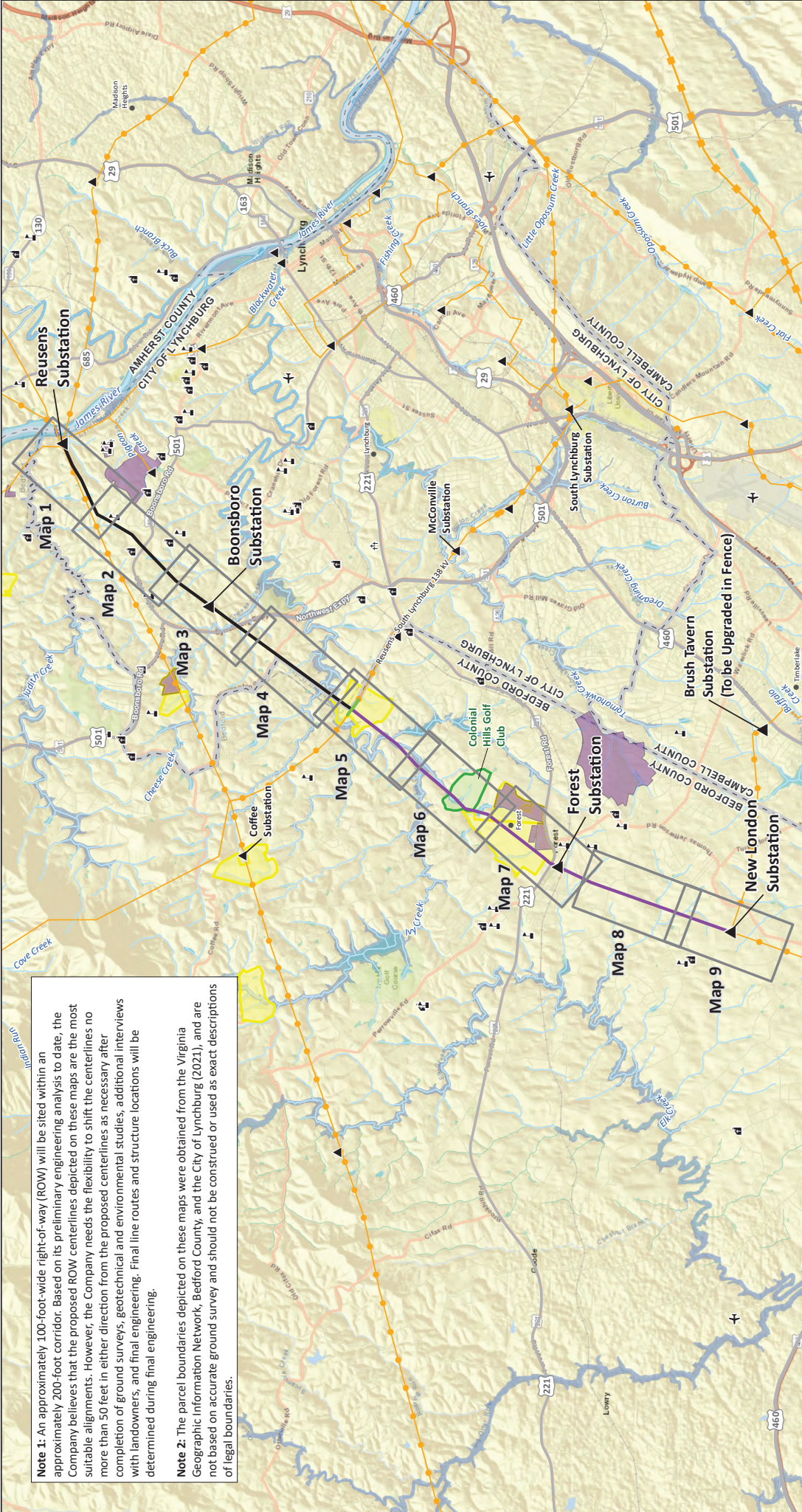
AEP’s transmission owner identified needs must be addressed to achieve AEP’s obligations and responsibilities. Meeting these obligations requires that AEP ensures the transmission system can deliver electricity to all points of consumption in the quantity and quality expected by customers, while reducing the magnitude and duration of disruptive events. Given these considerations, criteria and guidelines are necessary to identify and quantify needs associated with transmission facilities comprising AEP’s system. AEP identifies the needs and the solutions necessary to address those needs on a continuous basis using an in-depth understanding of the condition of its assets, and their

	TITLE: AEP Transmission Planning Criteria and Guidelines for End-Of-Life and Other Asset Management Needs	Version 4.0	Page 4
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**EXHIBIT 3: GIS CONSTRAINTS MAP**

**Note 1:** An approximately 100-foot-wide right-of-way (ROW) will be sited within an approximately 200-foot corridor. Based on its preliminary engineering analysis to date, the Company believes that the proposed ROW centerlines depicted on these maps are the most suitable alignments. However, the Company needs the flexibility to shift the centerlines no more than 50 feet in either direction from the proposed centerlines as necessary after completion of ground surveys, geotechnical and environmental studies, additional interviews with landowners, and final engineering. Final line routes and structure locations will be determined during final engineering.

**Note 2:** The parcel boundaries depicted on these maps were obtained from the Virginia Geographic Information Network, Bedford County, and the City of Lynchburg (2021), and are not based on accurate ground survey and should not be construed or used as exact descriptions of legal boundaries.



Map Title	Reusens-South Lynchburg 138 kV Line Relocation	Populated Place	Highways	Colonial Hills Golf Club
Existing Substation	Existing AEP Transmission Line (69 kV or lower)	Place of Worship	NHD Stream	County/City Boundary
Proposed Route (Double Circuit)	Existing AEP Transmission Line (115-230 kV)	Cemetery	NHD River	VOF Conservation Boundary
Proposed Route (Single Circuit)	Existing AEP Transmission Line (9-45 kV+)	School	NWI Wetland	Eligible or Listed NHRP Resources
		Airport	100-year Floodplain	

**Bedford and Campbell Counties and City of Lynchburg, Virginia**  
 Date: 4/13/2022, Author: Candice Project: 192098

0 1.25 2.5 Miles

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**Exhibit 3: GIS Constraints Map**  
 Reusens to New London 138 kV Rebuild

**APPALACHIAN POWER**  
 An AEP Company

**POWER ENGINEERS**



See Notes 1 and 2 on Index Map.

Existing Structures: 4-1 to 4-8  
Proposed Structures: 4-1A to 4-8A

**Exhibit 3:**  
GIS Constraints Map  
Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
An AEP Company

POWER ENGINEERS

Bedford County and  
City of Lynchburg,  
Virginia

Date: 4/13/2022, Author: Amanda Project: 192098

1" = 500'

Map 1 of 9

**Existing AEP Substation**

- Proposed 138 kV Structure
- Existing AEP Structure to be Removed
- Reusens - Alavista 138 kV Transmission Line Proposed Route
- Existing AEP Transmission Line (69 kV or lower)

**Existing AEP Transmission Line (115-230 kV)**

- Right-of-Way (100')
- Filing Corridor (generally 200' except where shown and noted)
- Residential Structure (within 200' Corridor)
- Non-Residential Structure (within 100' ROW)

**Non-Residential Structure (within 200' Corridor)**

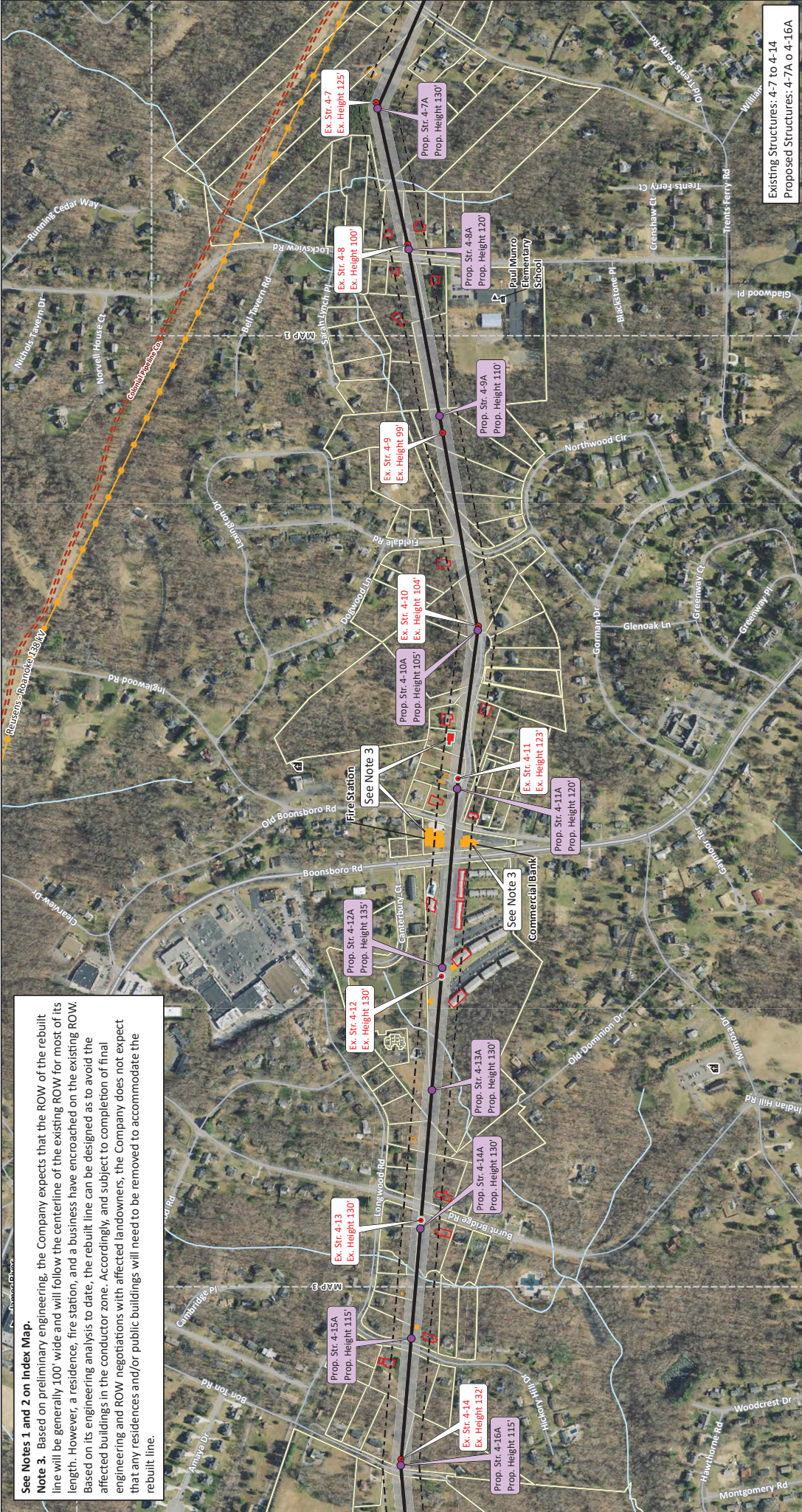
- School
- Road
- Railroad
- NGL Pipeline
- NHD Stream

**City/County Boundary**

- NHD River
- Eligible or Listed NHP Resources
- Parcel Boundary (within Filing Corridor)
- Map Tile



**See Notes 1 and 2 on Index Map.**  
**Note 3.** Based on preliminary engineering, the Company expects that the ROW of the rebuilt line will be generally 100' wide and will follow the centerline of the existing ROW for most of its length. However, a residence, fire station, and a business have encroached on the existing ROW. Based on its engineering analysis to date, the rebuilt line can be designed as to avoid the affected buildings in the conductor zone. Accordingly, and subject to completion of final engineering and ROW negotiations with affected landowners, the Company does not expect that any residences and/or public buildings will need to be removed to accommodate the rebuilt line.



Existing Structures: 4-7 to 4-14  
 Proposed Structures: 4-7A to 4-16A

**Exhibit 3:**  
**GIS Constrains Map**  
 Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
 An AEP Company

Bedford County and  
 City of Lynchburg,  
 Virginia

Date: 4/13/2022, Author: Candice Project: 192098

0 500 1,000 Feet  
 1" = 500'

Map 2 of 9

**Proposed 138 kV Structure to be Removed**  
 Existing Collocation Tower  
 Reusens - Alavista 138 kV Transmission Line Proposed Route

**Existing AEP Transmission Line (115-230 kV)**  
 Right-of-Way (100')  
 Filing Corridor (generally 200' except where shown and noted)  
 Residential Structure (within proposed 100' ROW) See Note 3  
 Residential Structure (within 200' Corridor)

**Non-Residential Structure (within 100' ROW)**  
 Non-Residential Structure (within 200' Corridor)

**Place of Worship**  
 School  
 Road

**Highway**  
 NGL Pipeline  
 NHD Stream  
 Parcel Boundary (within Filing Corridor)  
 Map Title



**See Notes 1 and 2 on Index Map.**  
**Note 3.** Based on preliminary engineering, the Company expects that the ROW of the rebuilt line will be generally 100' wide and will follow the centerline of the existing ROW for most of its length. However, a residence, fire station, and a business have encroached on the existing ROW. Based on its engineering analysis to date, the rebuilt line can be designed as to avoid the affected buildings in the conductor zone. Accordingly, and subject to completion of final engineering and ROW negotiations with affected landowners, the Company does not expect that any residences and/or public buildings will need to be removed to accommodate the rebuilt line.



Existing Structures: 4-14 to 4-20  
 Proposed Structures: 4-15A to 4-23A

**Exhibit 3:**  
**GIS Constrains Map**  
 Reusers to New London 138 kV Rebuild

APPALACHIAN POWER  
 An AEP Company

Bedford County and  
 City of Lynchburg,  
 Virginia

Date: 4/13/2022, Author: Candice Hargett, 150298

0 500 1,000  
 Feet

1" = 500'

Map 3 of 9

**Legend**

- Existing AEP Substation
- Proposed 138 kV Structure
- Existing AEP Structure to be Removed
- Existing Collocation Tower
- Reusers - Abandoned 138 kV Transmission Line Proposed Route
- Right-of-Way (100' Filing Corridor (generally 200' except where shown and noted))
- Highway
- NHD Stream
- Parcel Boundary (within Filing Corridor)
- Map Title
- Residential Structures (within 200' Corridor)
  - Non-Residential Structure (within 100' ROW)
  - Non-Residential Structure (within 200' Corridor)
- Road



See Notes 1 and 2 on Index Map.



Existing Structures: 4-20 to 4-26  
Proposed Structures: 4-23A to 4-29A

**Exhibit 3:**  
**GIS Constrains Map**  
Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
An AEP Company

POWER ENGINEERS

Bedford County and  
City of Lynchburg,  
Virginia

Date: 4/13/2021, Author: standards, Project: 150208

0 500 1,000  
Feet

1" = 500'

Map 4 of 9

<ul style="list-style-type: none"> <li>Proposed 138 kV Structure</li> <li>Existing AEP Structure to be Removed</li> <li>Reusens - Alayista 138 kV Transmission Line Proposed</li> <li>Route</li> <li>Right-of-Way (100')</li> </ul>	<ul style="list-style-type: none"> <li>Filing Corridor (generally 200' except where shown and noted)</li> <li>Non-Residential Structure (within 200' Corridor)</li> <li>Road</li> <li>Highway</li> </ul>	<ul style="list-style-type: none"> <li>NHD Stream</li> <li>City/County Boundary</li> <li>VDF Conservation Easement</li> <li>Parcel Boundary (within Filing Corridor)</li> <li>Map Title</li> </ul>
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See Notes 1 and 2 on Index Map.



Reusens - Alta Vista 138 kV Transmission Line  
 Existing Structures: 4-27 to 4-39  
 Proposed Structures: 4-30A to 4-40A

**Exhibit 3:**  
**GIS Constraints Map**  
 Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
 An AEP Company

Bedford County and  
 City of Lynchburg,  
 Virginia

Date: 4/13/2022, Author: Amanda Project: 192098

0 500 1,000  
 Feet

1" = 500'

Map 5 of 9

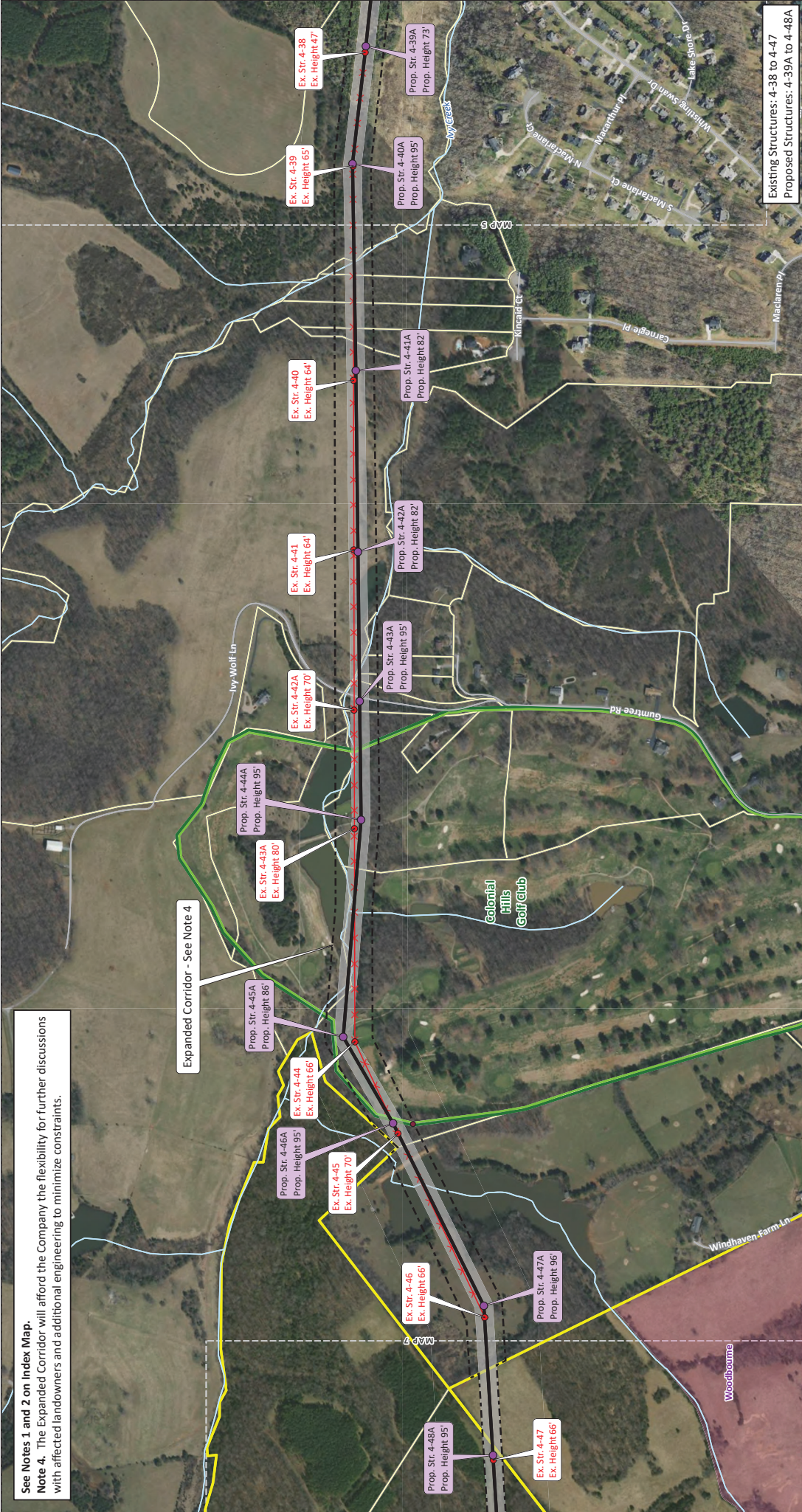
**Legend:**

- Proposed 138 kV Structure
- Proposed 138 kV Triple Circuit Structure
- Existing AEP Transmission Line (To Be Relocated)
- Existing AEP Transmission Line (To Be Relocated) (115-230 kV)
- Right-of-Way (100')
- Filing Corridor (generally 200' except where shown and noted)
- Proposed 138 kV Structure
- Proposed 138 kV Triple Circuit Structure
- Existing AEP Structure to be Removed
- Reusens - Alta Vista 138 kV Transmission Line Proposed Route
- Residential Structures (within 200' Corridor)
- Non-Residential Structure (within 100' ROW)
- Non-Residential Structure (within 200' Corridor)
- Road
- NHD Stream
- City/County Boundary
- VOF Conservation Easement
- Parcel Boundary (within Filing Corridor)
- Map Title





See Notes 1 and 2 on Index Map.  
**Note 4.** The Expanded Corridor will afford the Company the flexibility for further discussions with affected landowners and additional engineering to minimize constraints.



Existing Structures: 4-38 to 4-47  
 Proposed Structures: 4-39A to 4-48A

**Exhibit 3:**  
**GIS Constraints Map**  
 Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
 An AEP Company

Bedford County and  
 City of Lynchburg,  
 Virginia

Date: 4/13/2023, Author: Garrah, Project: 138098

0 500 1,000  
 Feet

1" = 500'

Map 6 of 9

**Proposed 138 kV Structure**  
 Existing AEP Structure to be Removed  
 Reusens - Alayista 138 kV Transmission Line Proposed Route  
 Existing AEP Transmission Line (To Be Relocated)

**Right-of-Way (100')**  
 Filing Corridor (generally 200' except where shown and noted)  
 Road  
 MHD Stream  
 Colonial Hills Golf Club

**Eligible or Listed NHRIP Resources**  
 VOF Conservation Easement  
 Parcel Boundary (within Filing Corridor)  
 Map Title



See Notes 1 and 2 on Index Map.



Existing Structures: 4-47 to 4-58  
Proposed Structures: 4-48A to 4-59A

**Exhibit 3:**  
**GIS Constraints Map**  
Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
An AEP Company

POWER ENGINEERS

Bedford County and  
City of Lynchburg,  
Virginia  
Date: 4/13/2022, Author: daniel.roberts, Project: 130908

1" = 500'

Map 7 of 9

**Existing AEP Substation**

- Proposed 138 kV Structure
- Existing AEP Structure to be Removed
- Reusens - Alavesta 138 kV Transmission Line Proposed Route

**Right-of-Way (L100)**

- Filing Corridor (generally 200' except where shown and noted)
- Residential Structure (within 200' Corridor)
- Non-Residential Structure (within 200' Corridor)

**School**

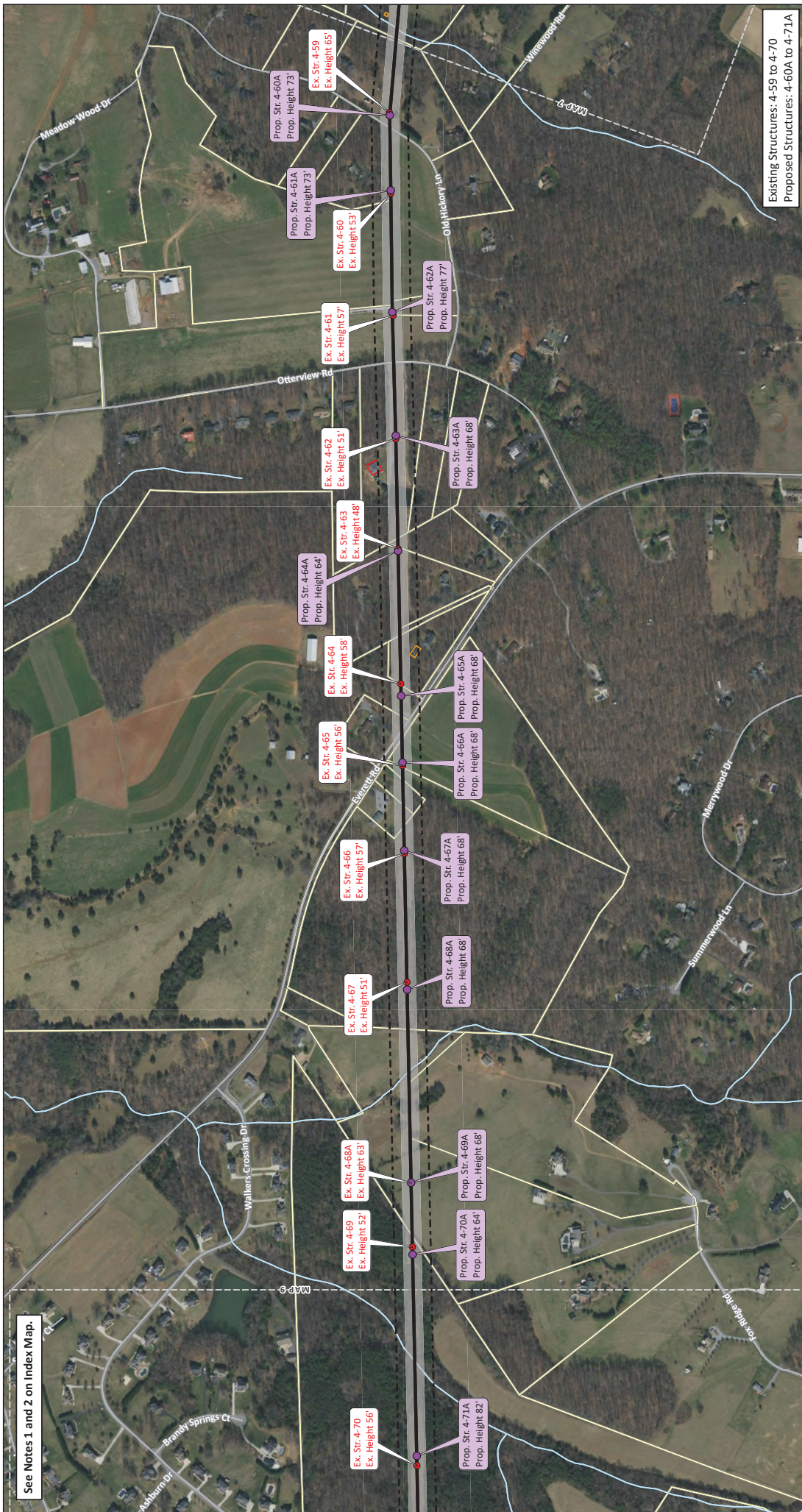
- School
- Road
- Highway
- Railroad
- NHD Stream

**Eligible or Listed WRRP Resources**

- VOC Conservation Easement
- Parcel Boundary (within Filing Corridor)
- Map Title



See Notes 1 and 2 on Index Map.



Existing Structures: 4-59 to 4-70  
Proposed Structures: 4-60A to 4-71A

**Exhibit 3:**  
**GIS Constrains Map**  
Reusens to New London 138 kV Rebuild

APPALACHIAN POWER  
An AEP Company

Bedford County and  
City of Lynchburg,  
Virginia  
Date: 4/13/2021, Author: Candice Project: 138098

0 500 1,000  
Feet  
1" = 500'

Map 8 of 9

**Proposed 138 kV Structure**

- Existing AEP Structure to be Removed
- Reusens - Alaysta 138 kV Transmission Line Proposed Route

**Right-of-Way (100')**

- Filing Corridor (generally 200' except where shown and noted)
- Residential Structure (within 200' Corridor)
- Non-Residential Structure (within 200' Corridor)

**Legend:**

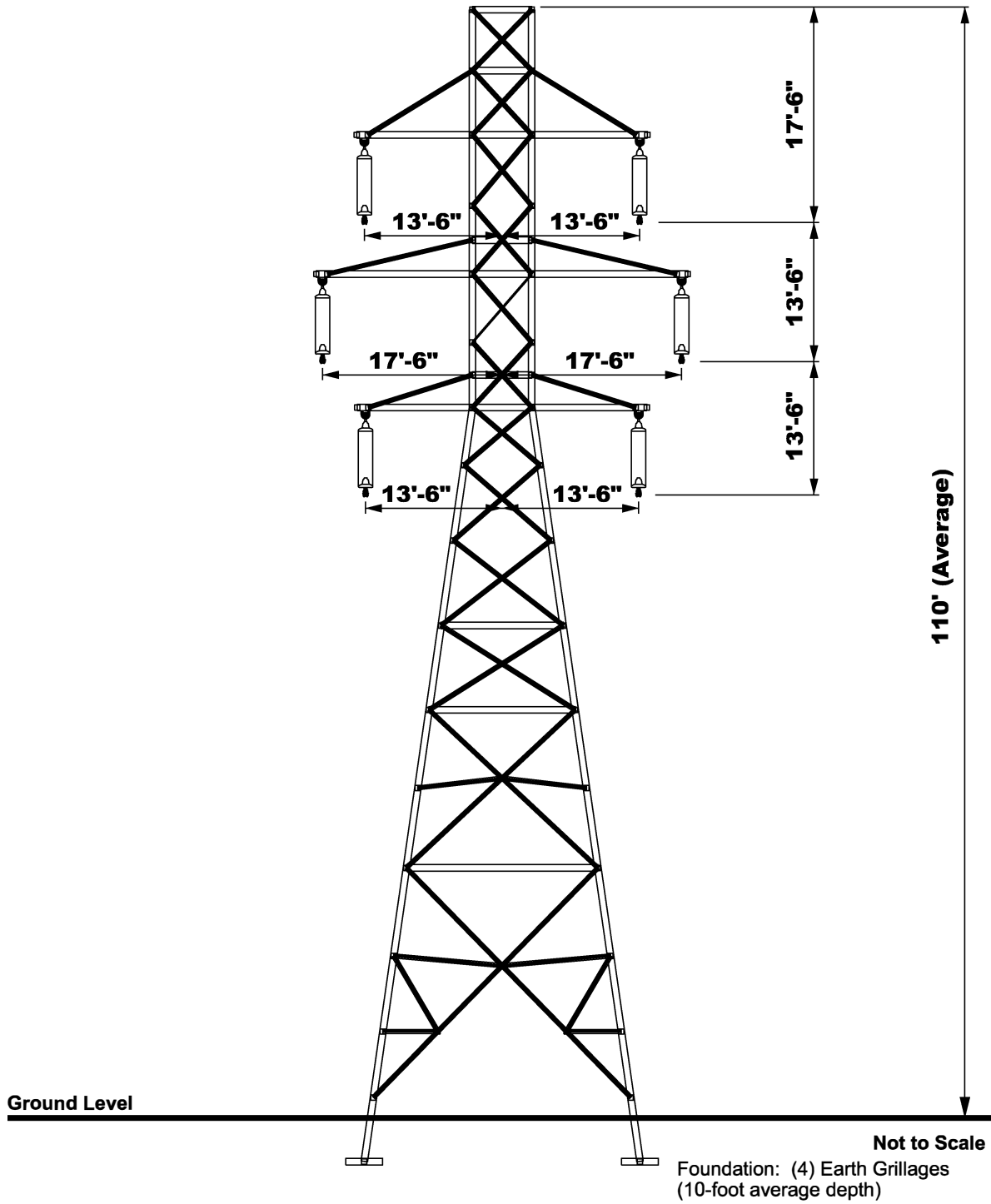
- Road
- NHD Stream
- Parcel boundary (within Filing Corridor)
- Map Title



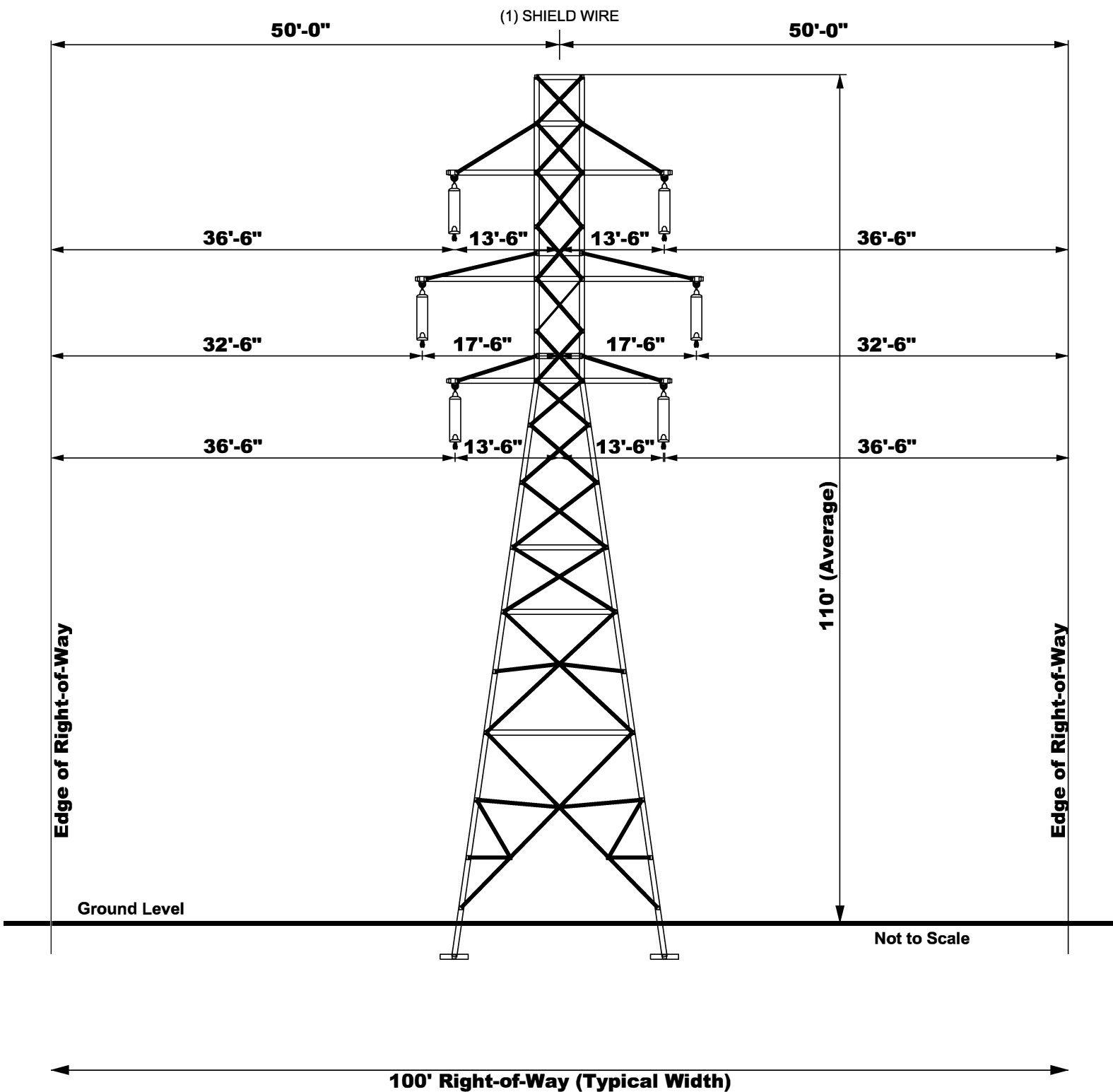


**EXHIBIT 4: EXISTING 138 KV SELF-SUPPORTING  
LATTICE TOWER (DOUBLE-CIRCUIT)**

(1) SHIELD WIRE



TYPICAL SCHEMATIC



TYPICAL RIGHT-OF-WAY CROSS SECTION

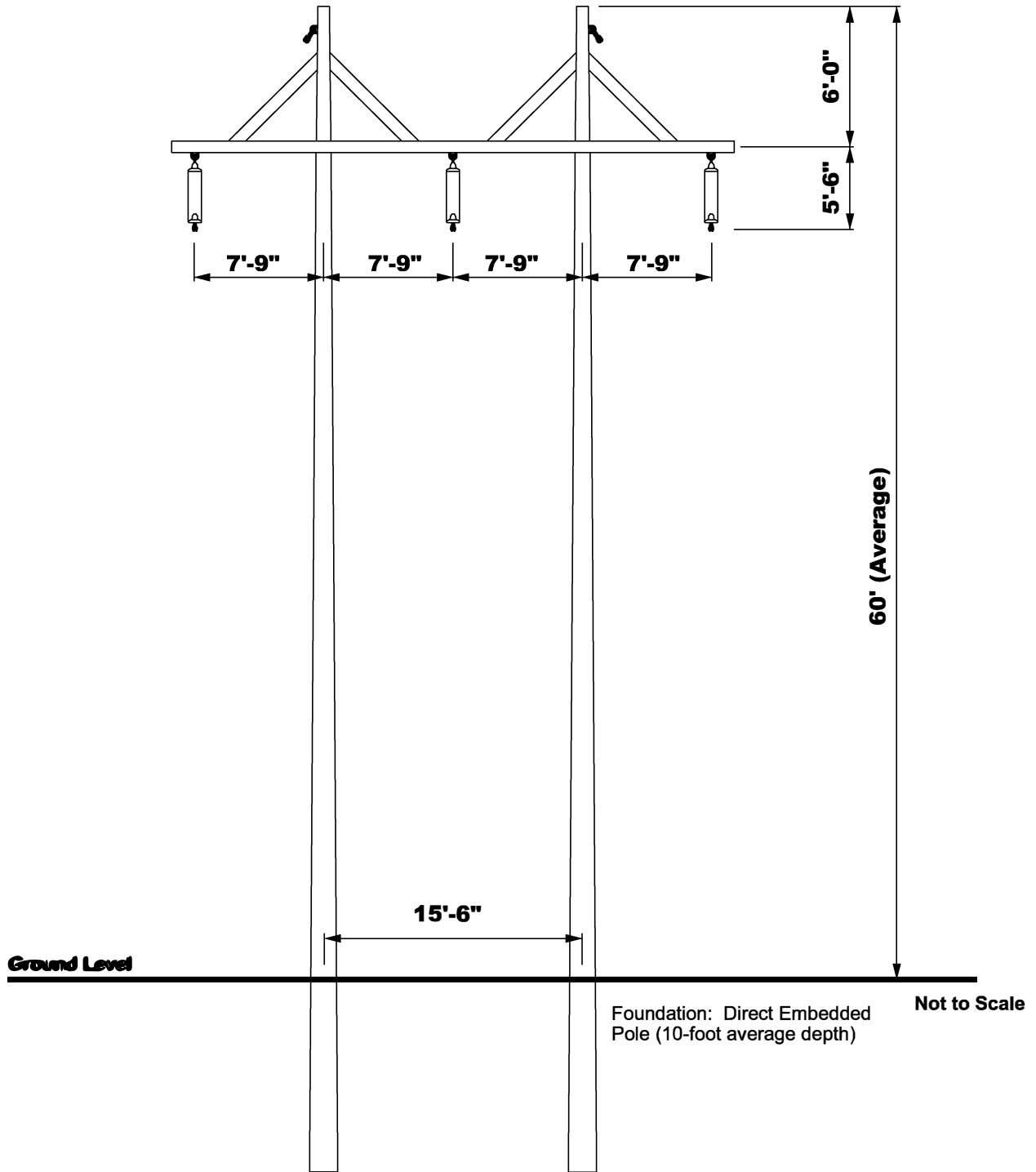


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

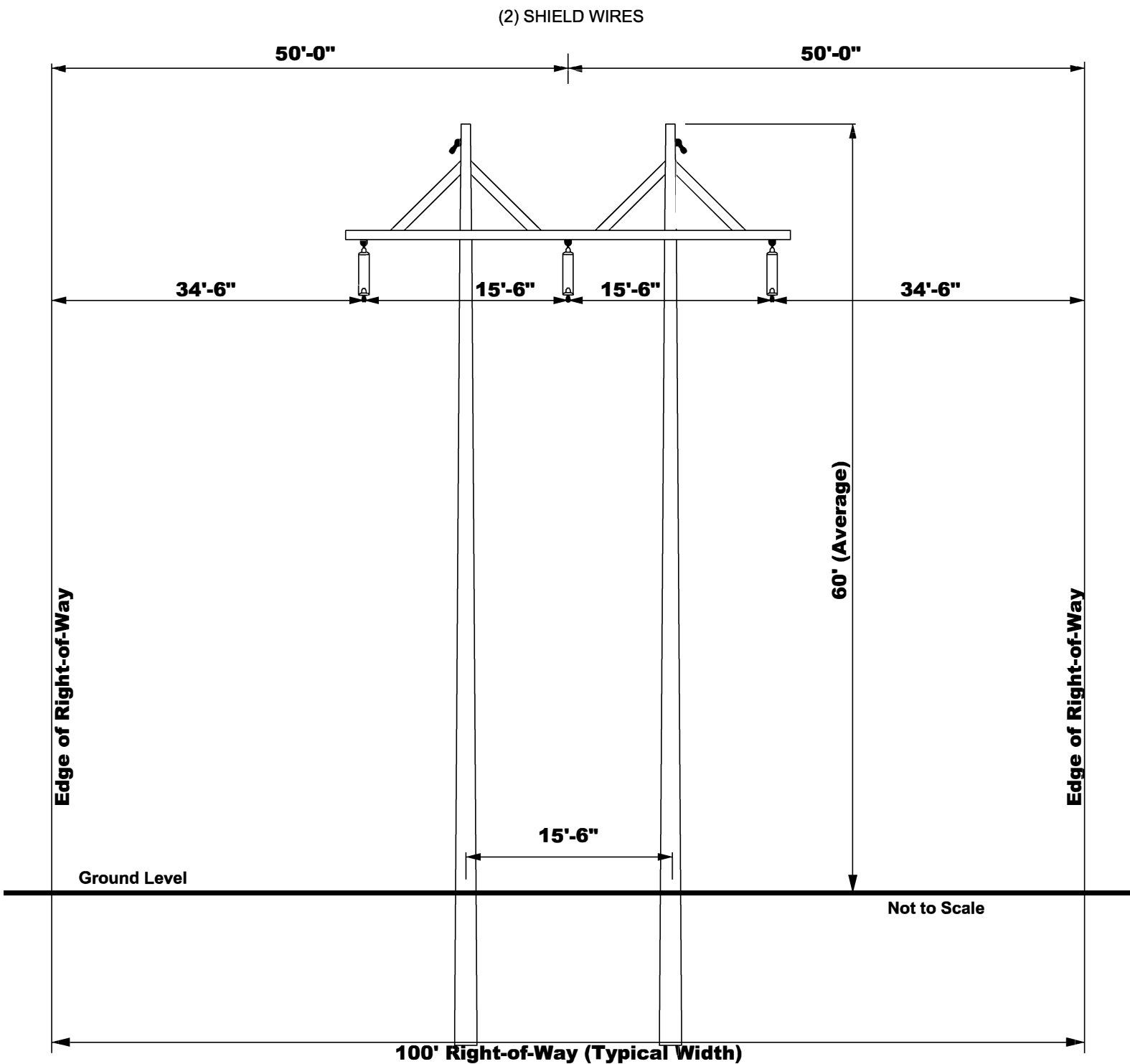


**EXHIBIT 5: EXISTING 138 KV H-FRAME (SINGLE-CIRCUIT)**

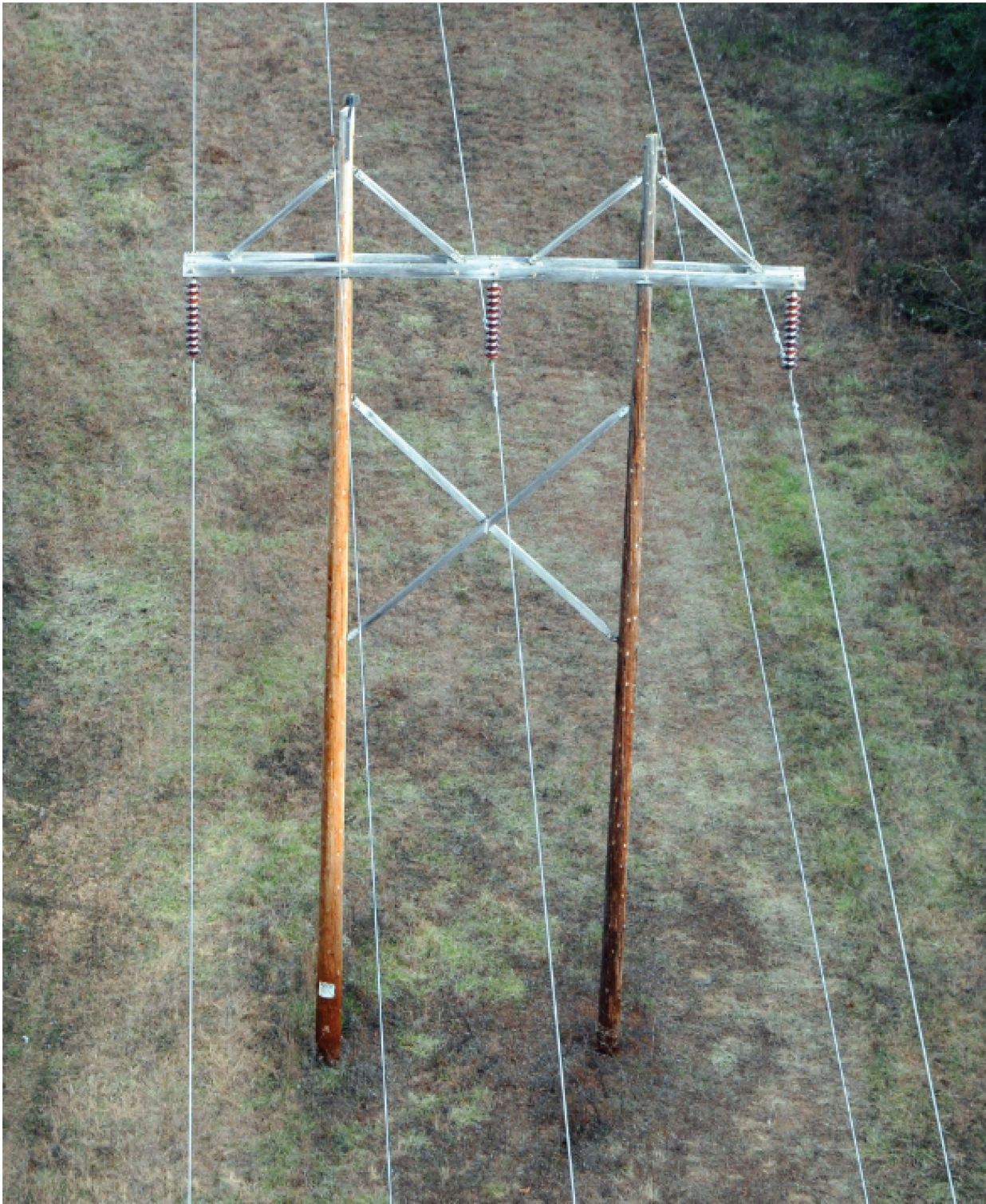
(2) SHIELD WIRES



TYPICAL SCHEMATIC

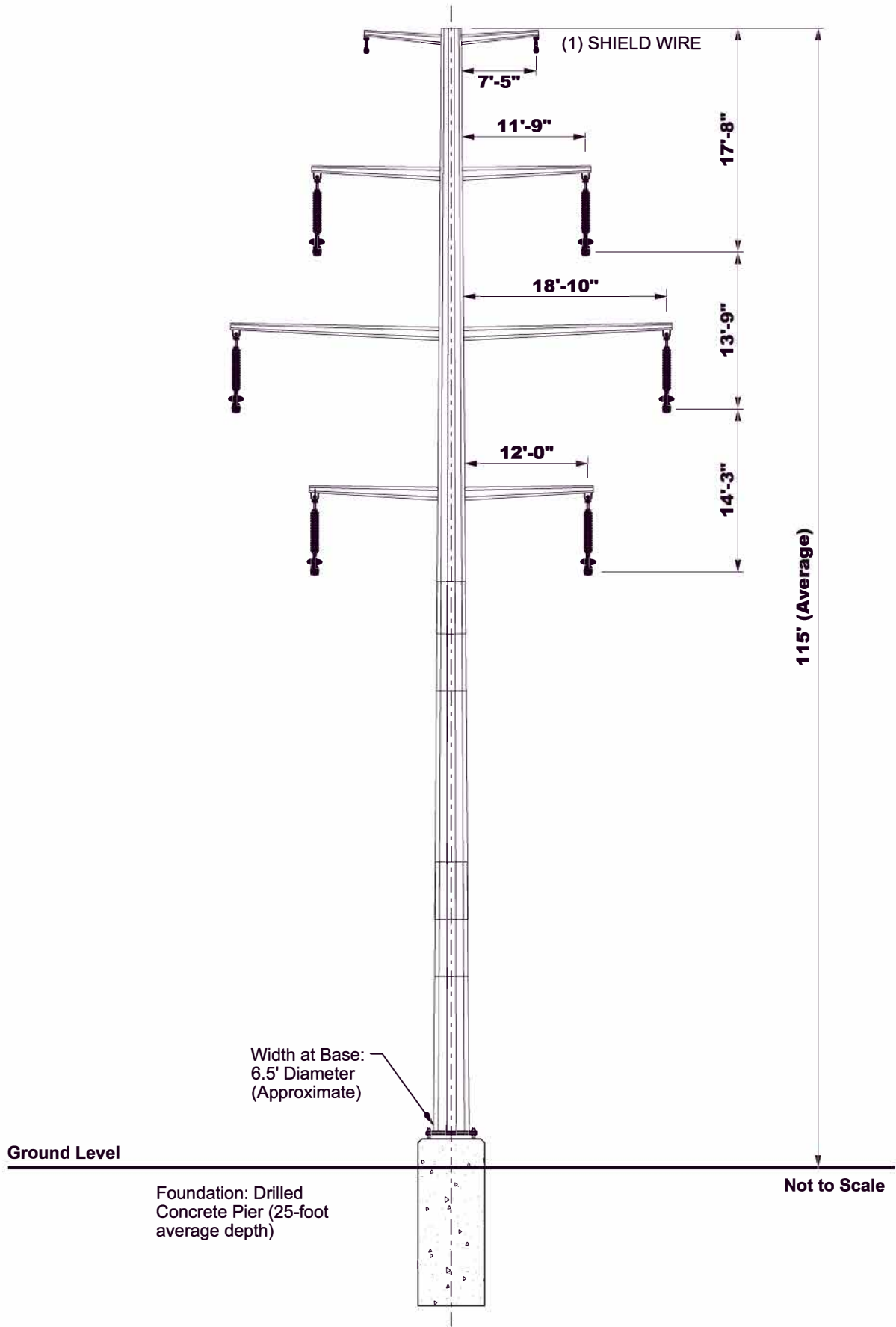


TYPICAL RIGHT-OF-WAY CROSS SECTION

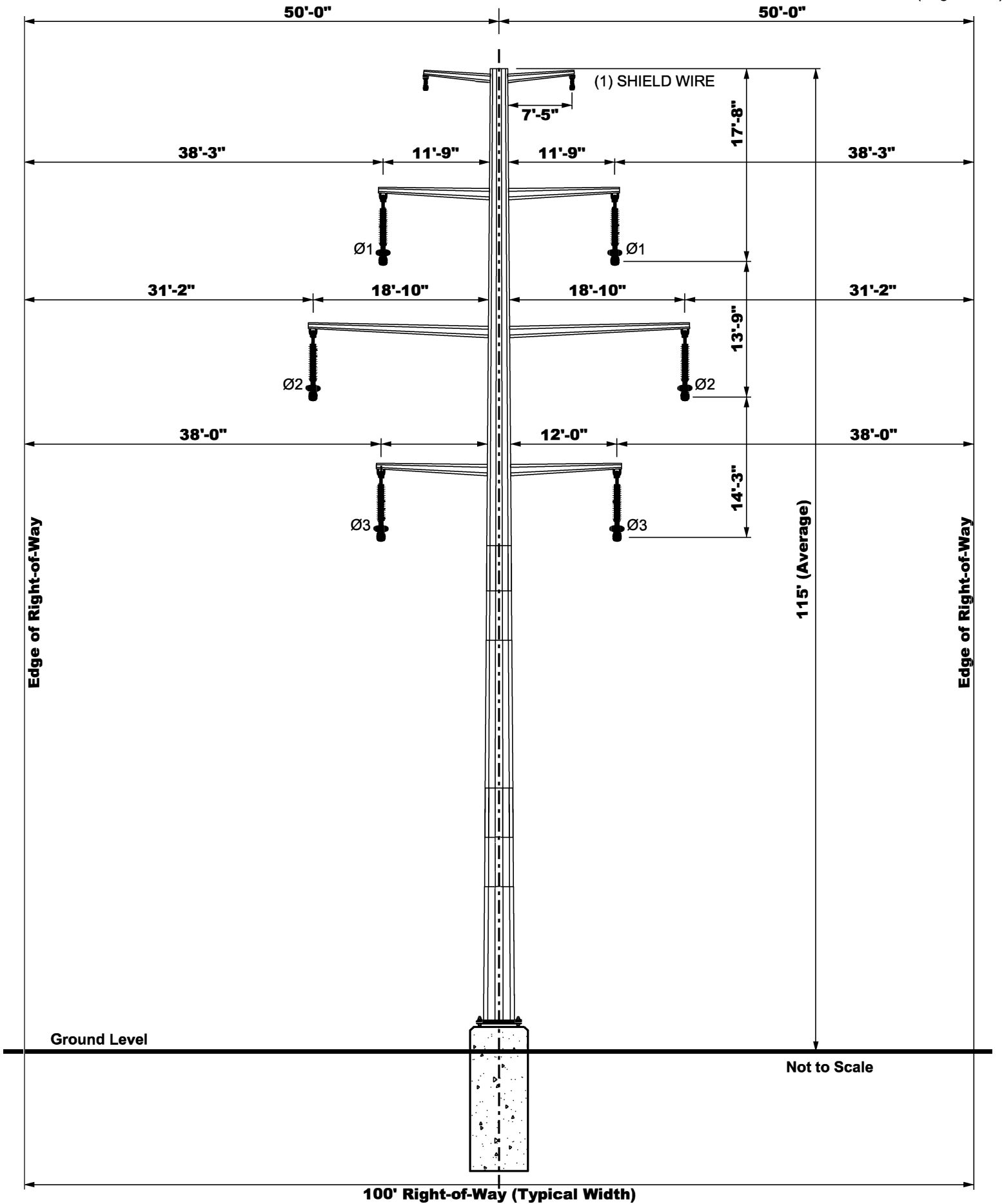


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

**EXHIBIT 6: PROPOSED 138 KV MONOPOLE WITH DAVIT  
ARMS (DOUBLE-CIRCUIT)**



TYPICAL SCHEMATIC



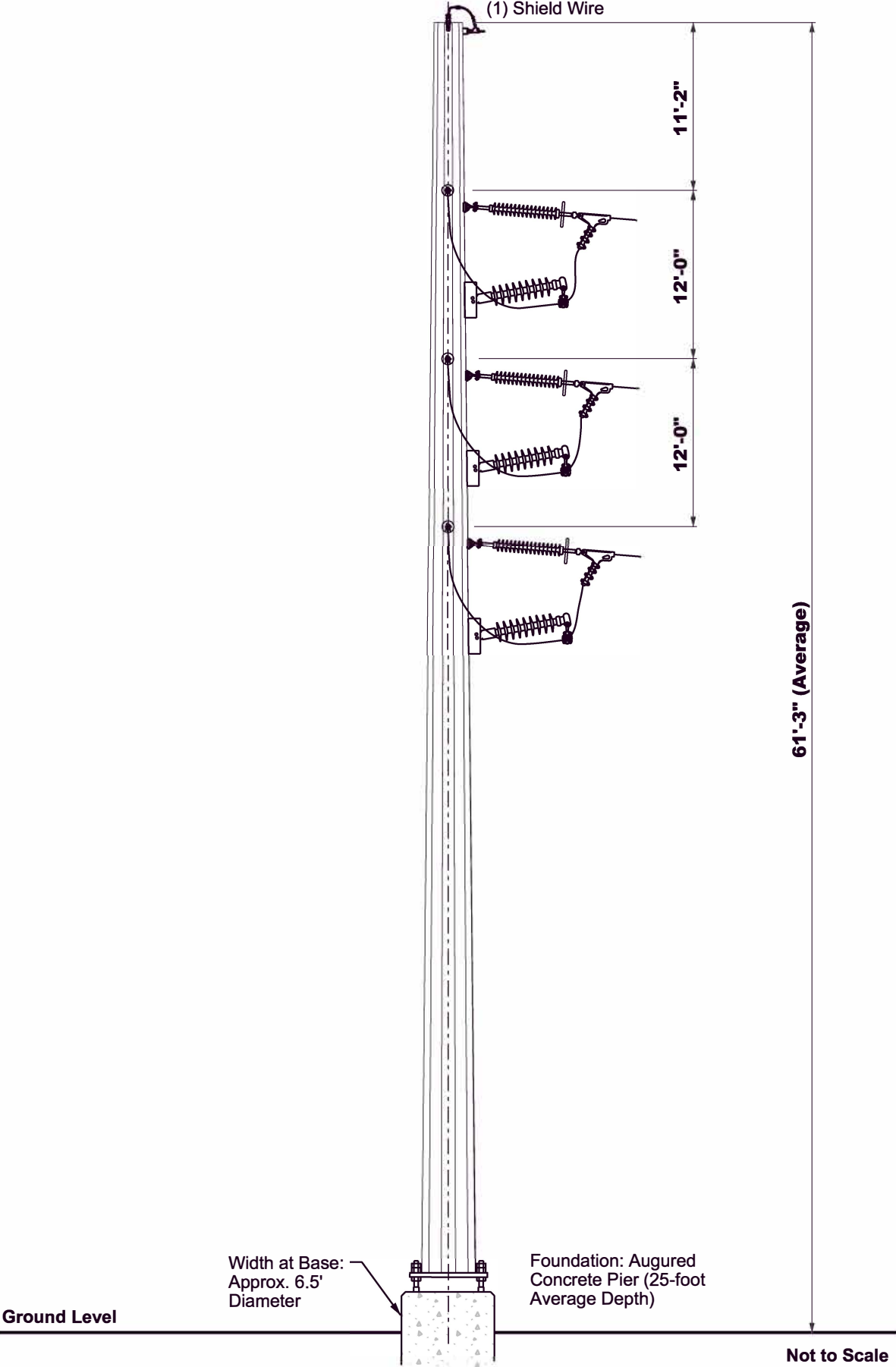
TYPICAL RIGHT-OF-WAY CROSS SECTION



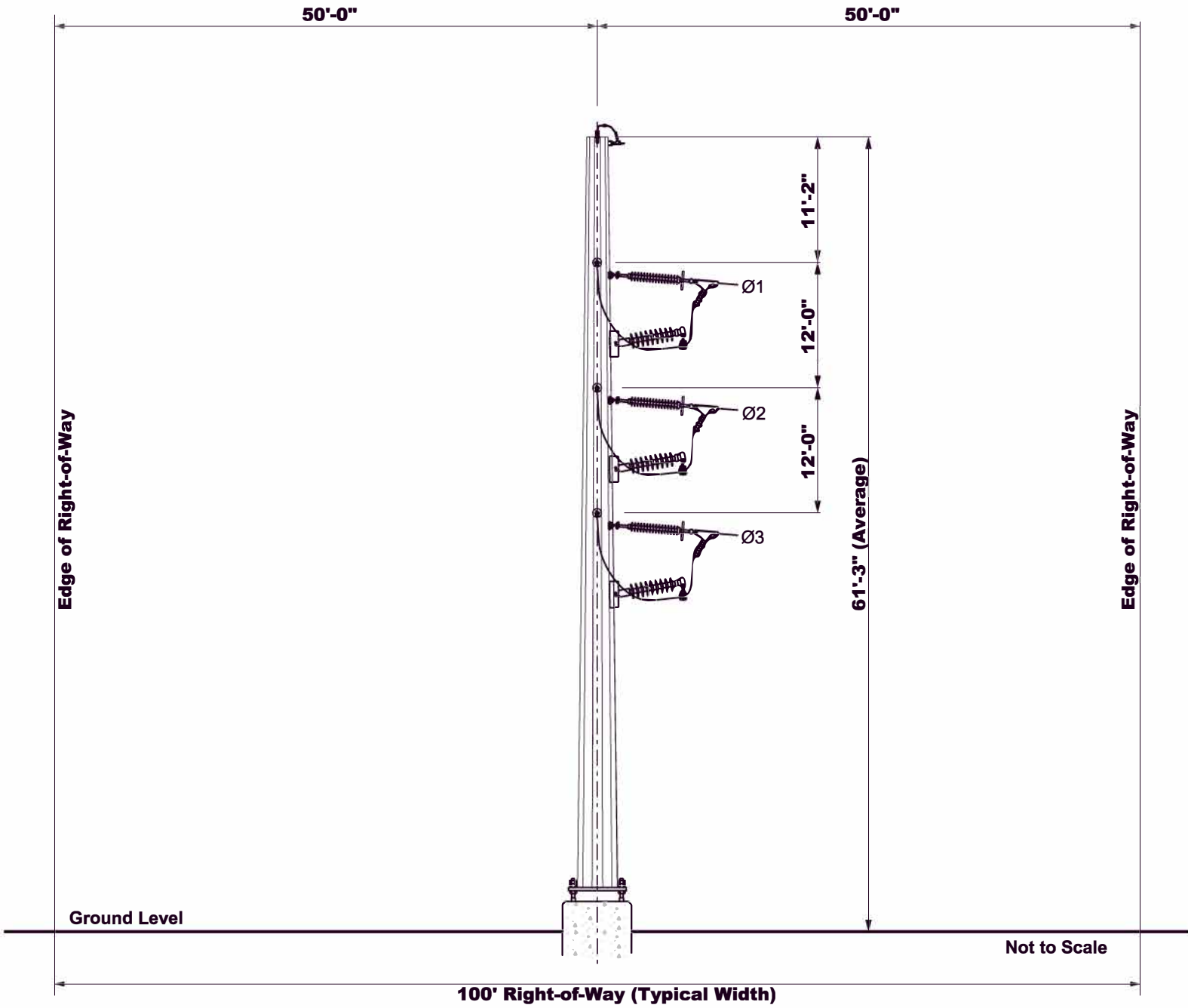
COMPARABLE STRUCTURE PHOTOGRAPH



**EXHIBIT 7: PROPOSED 138 KV MONOPOLE (SINGLE-CIRCUIT)**



TYPICAL SCHEMATIC

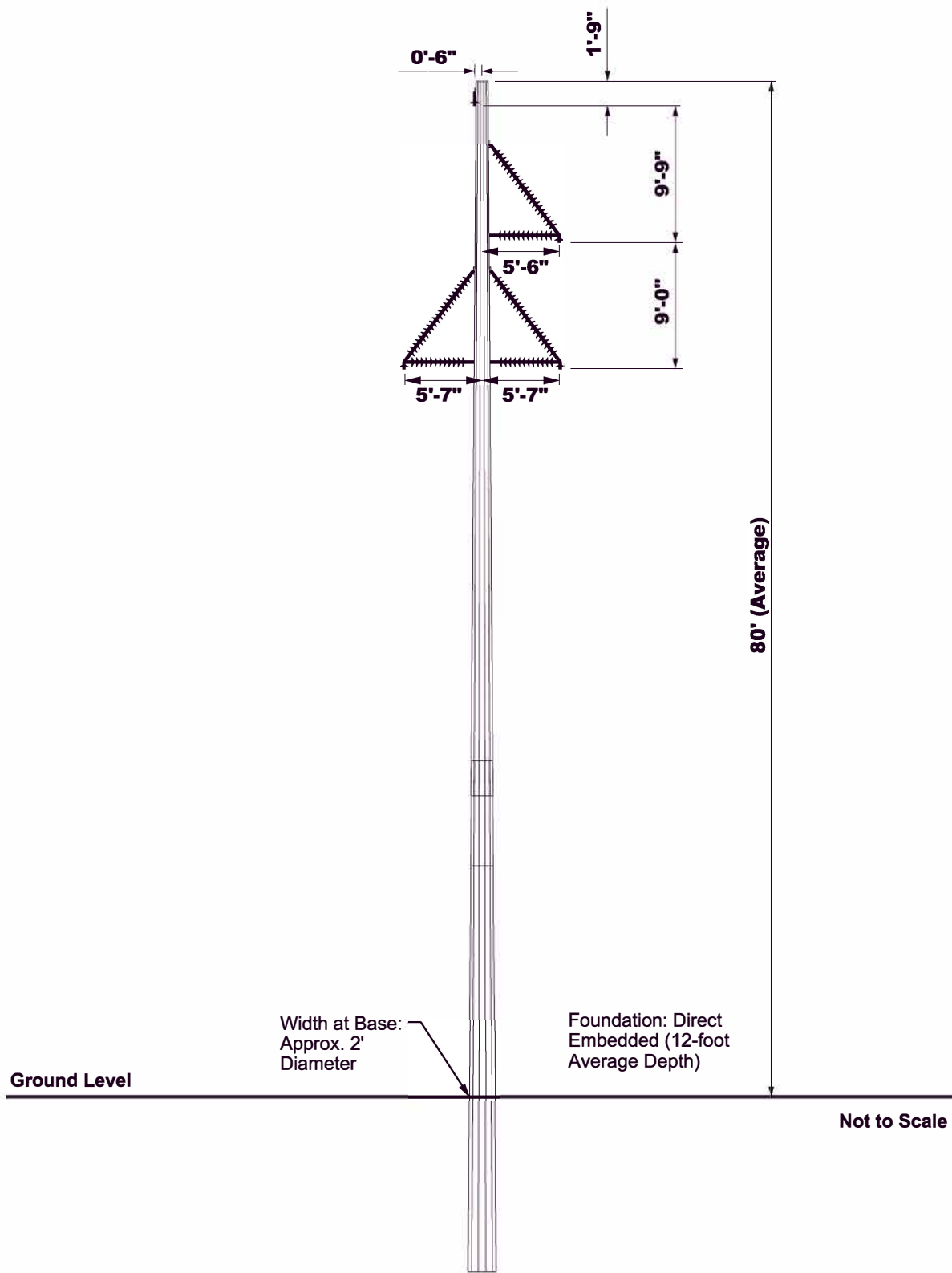


TYPICAL RIGHT-OF-WAY CROSS SECTION

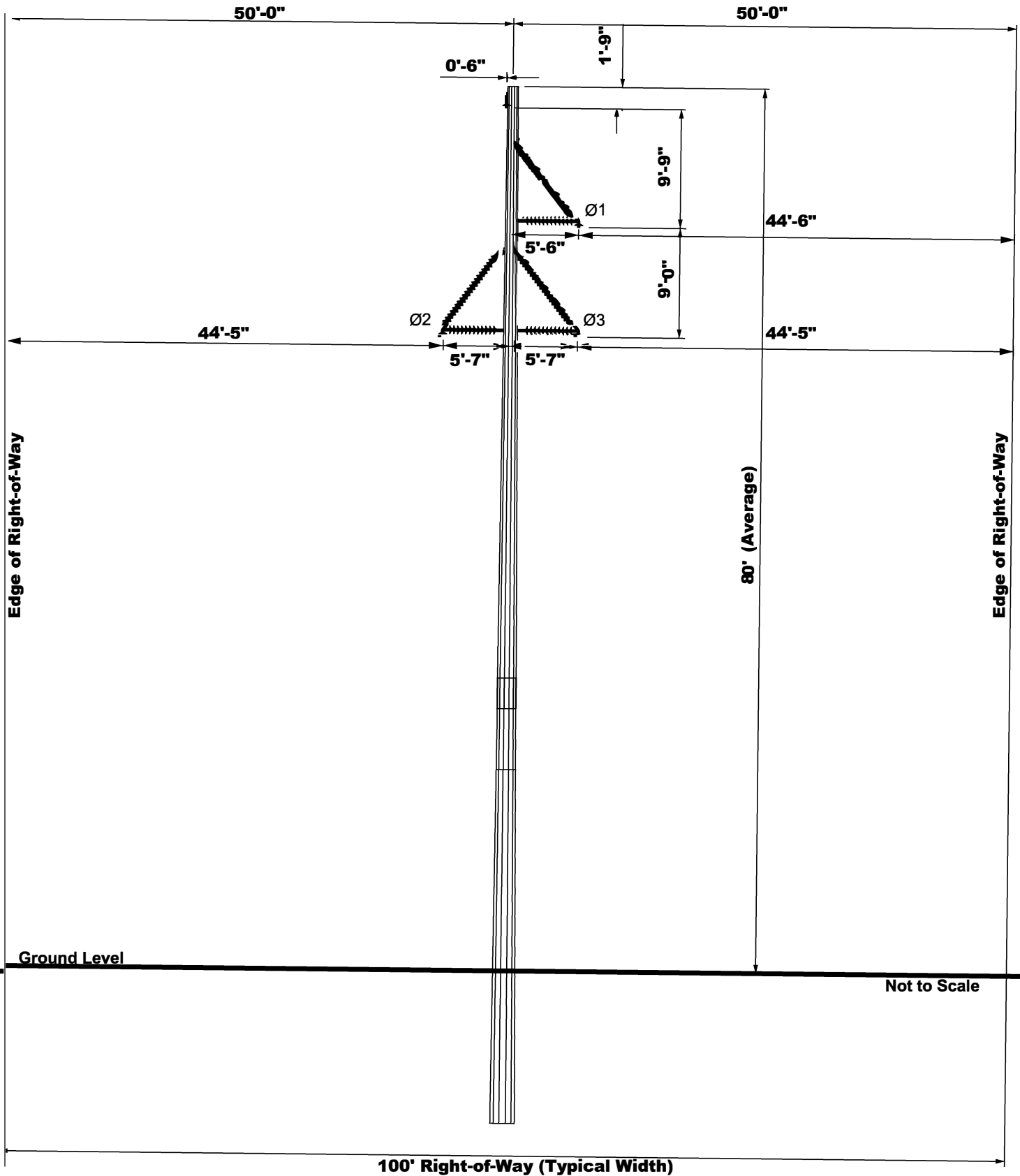


COMPARABLE STRUCTURE PHOTOGRAPH

**EXHIBIT 8: PROPOSED 138 KV BRACED MONOPOLE  
(SINGLE-CIRCUIT)**



TYPICAL SCHEMATIC



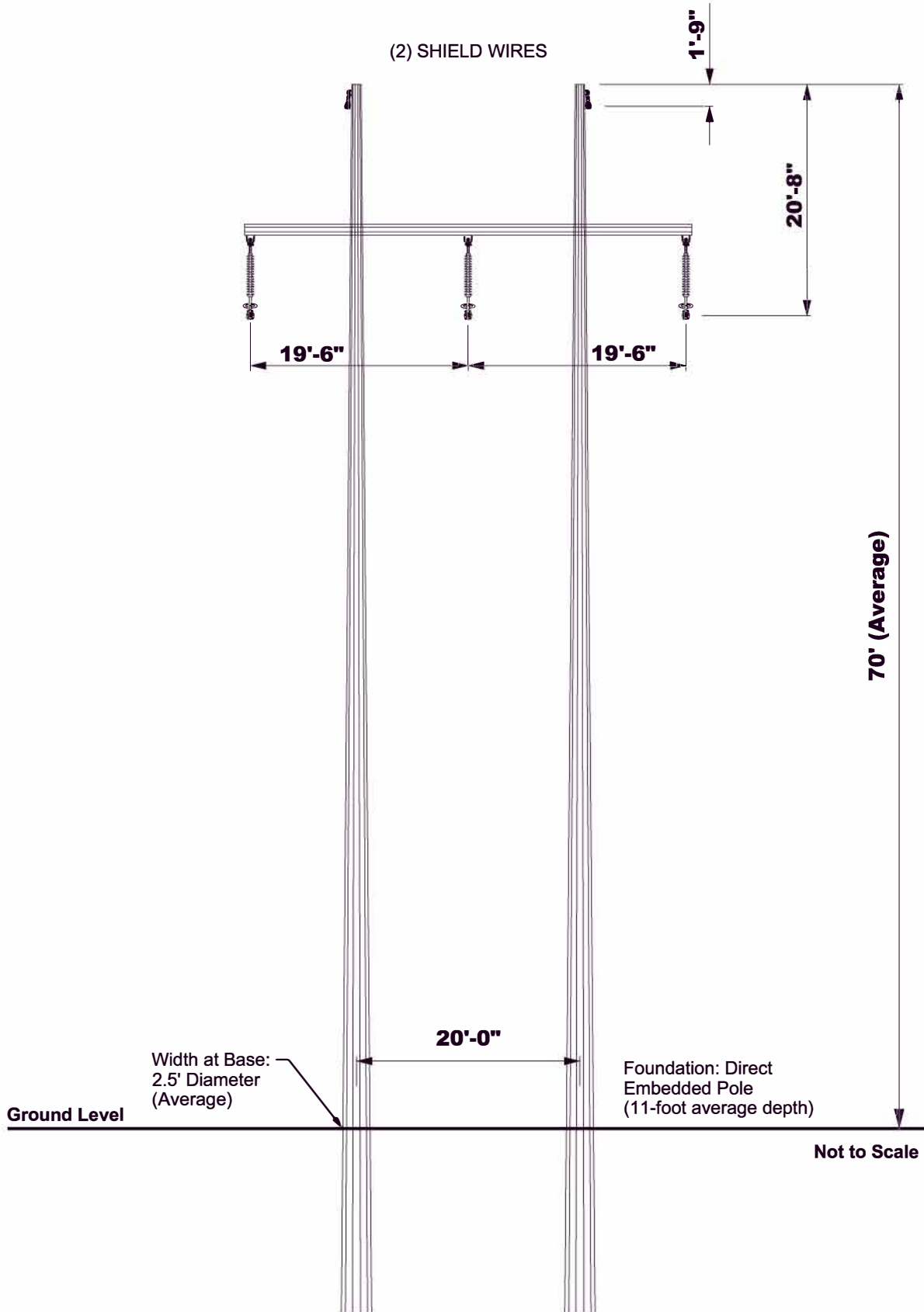
TYPICAL RIGHT-OF-WAY CROSS SECTION



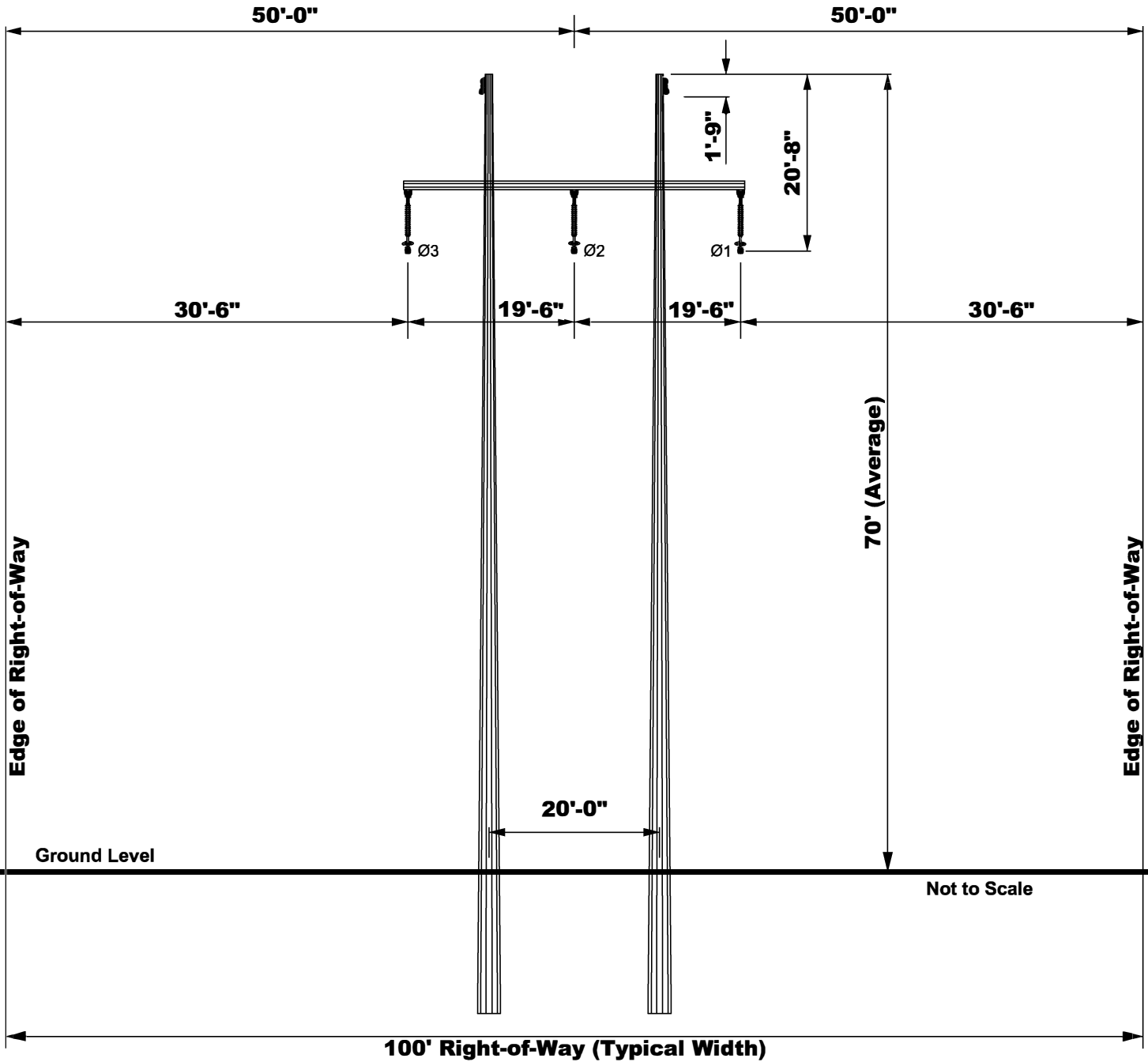
COMPARABLE STRUCTURE PHOTOGRAPH



**EXHIBIT 9: PROPOSED 138 KV H-FRAME (SINGLE-CIRCUIT)**



TYPICAL SCHEMATIC



TYPICAL RIGHT-OF-WAY CROSS SECTION



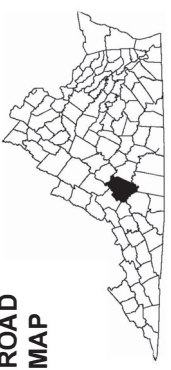
COMPARABLE STRUCTURE PHOTOGRAPH

**EXHIBIT 10: VDOT GENERAL HIGHWAY MAPS AND  
EXISTING TRANSMISSION FACILITIES**

BEDFORD COUNTY, VA



**COUNTY ROAD MAP**



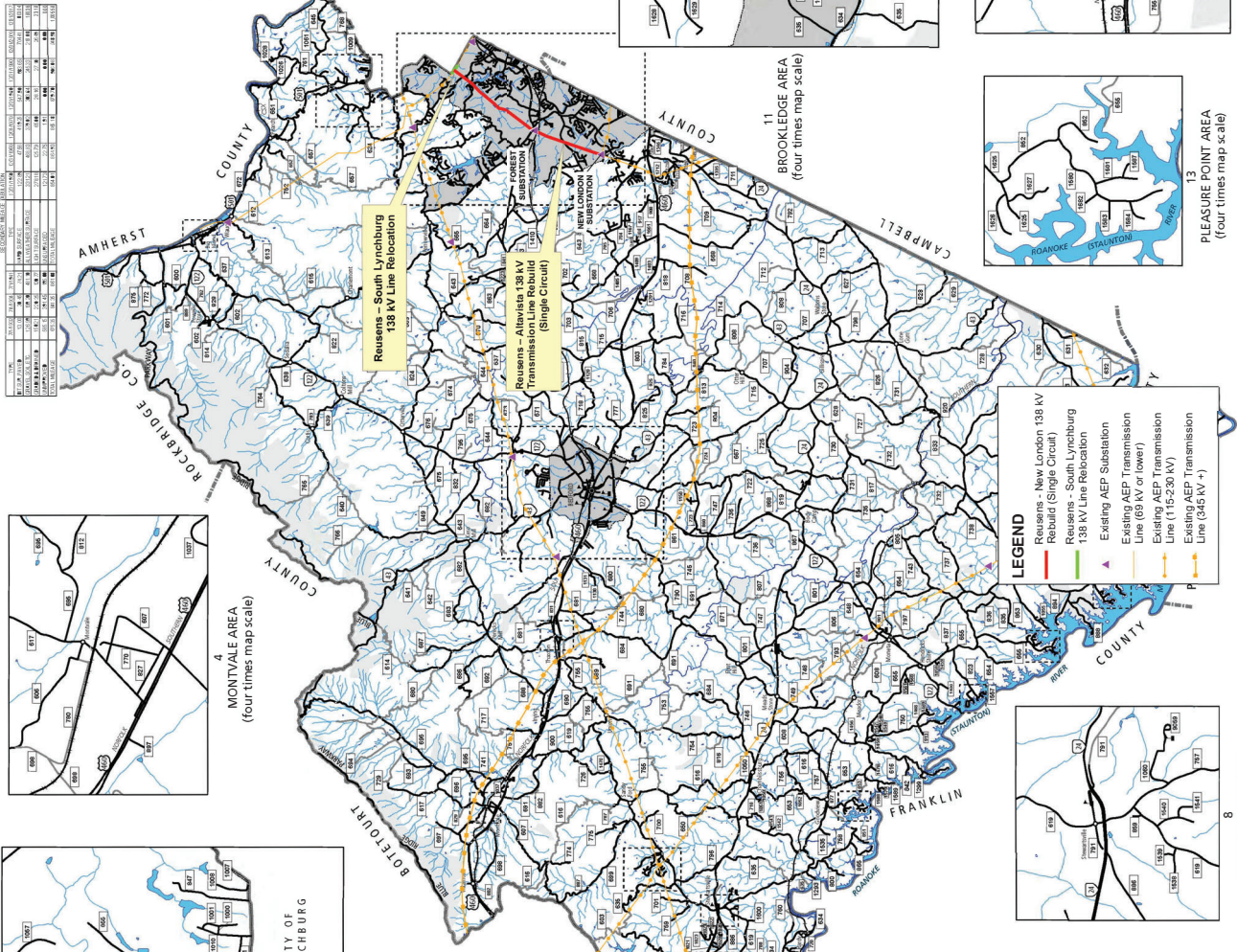
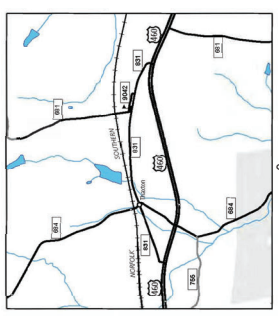
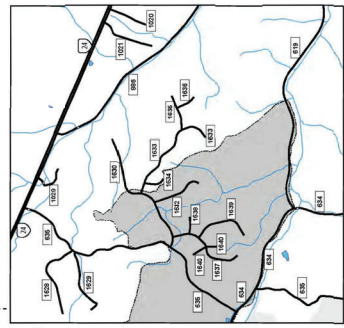
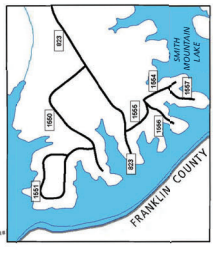
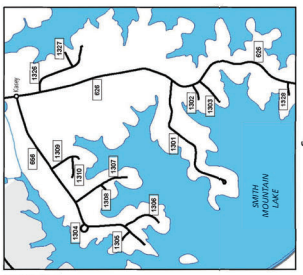
**BEDFORD COUNTY**

ROAD CLASSIFICATIONS		MISCELLANEOUS	
	Frontage Road		Schools
	Secondary Route		Seaports
	State Route		Park_RideLots
	U.S. Route		Aircraft
	Urban Road		Commercial
	LightSurface		General
	Dividedwy/Interstate		Military
	AllWeatherSurface		RAILROADS
	Unsurfaced otherSurface		Metro
	BikeRoutes		VARailroads
	AppalachianTrail		BOUNDAIRES
			MilitaryAreas
			MagisterialDistricts
			Incorp_Areas
			Natural_LandCover



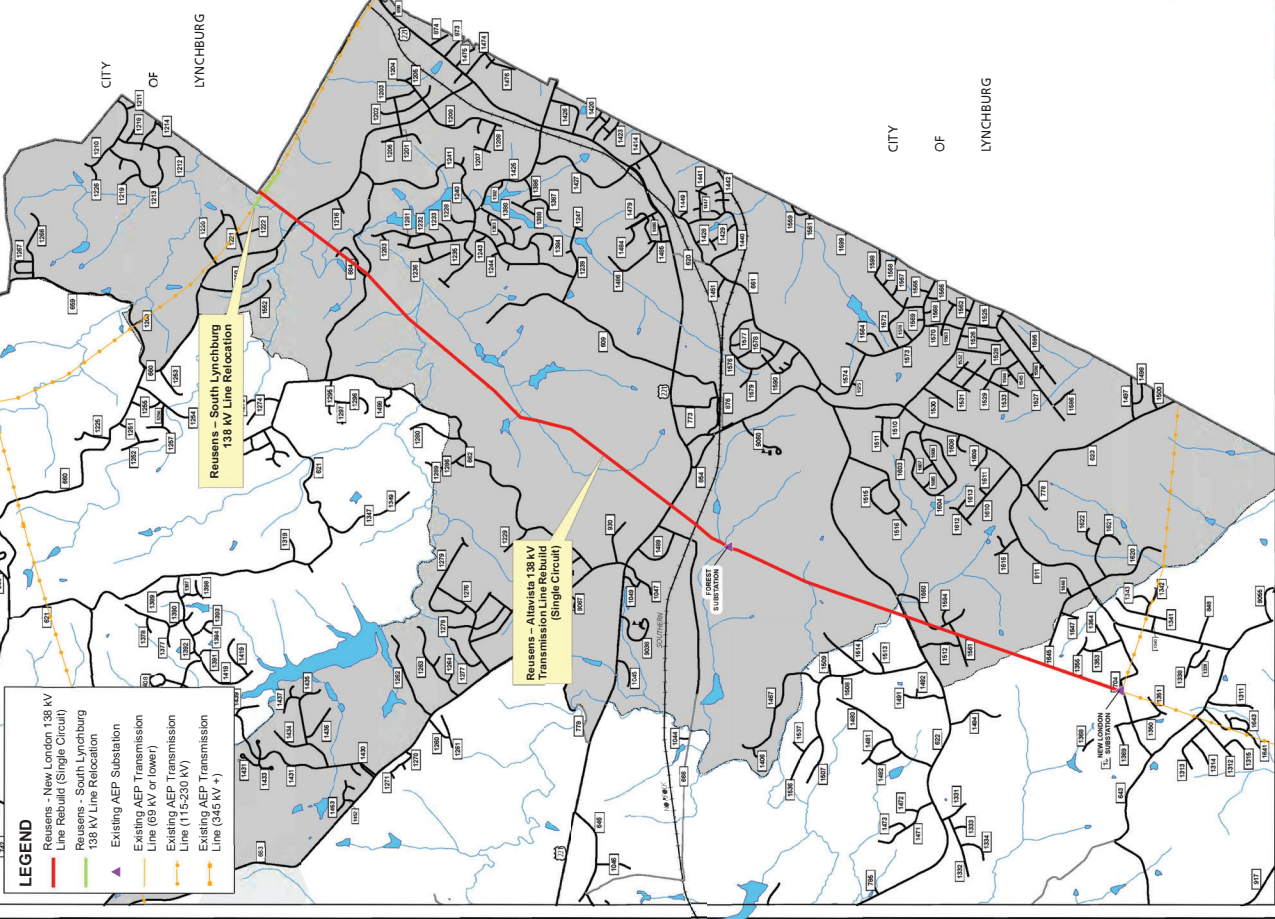
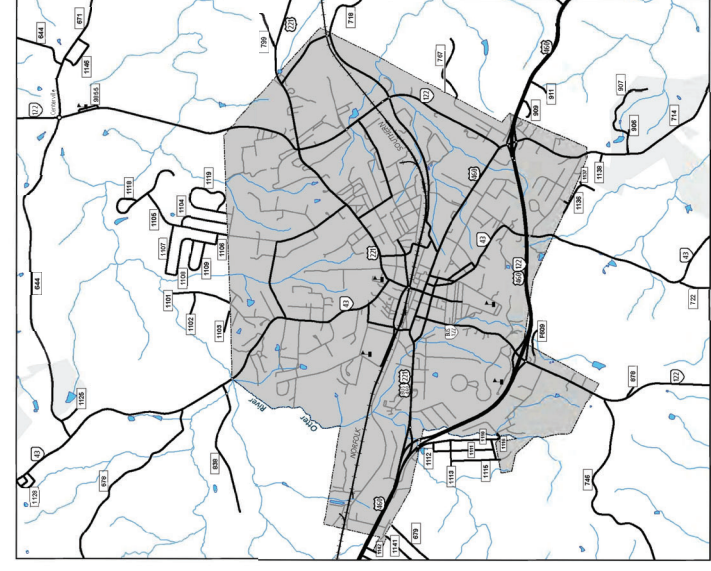
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AN INVENTORY OF STATE MAINTAINED ROADS



100% TRANSMISSION LINE INVENTORY, BEDFORD COUNTY, VA

LINE	CLASS	STATUS	DATE	OWNER	LENGTH (MILES)	STATUS	DATE	OWNER	LENGTH (MILES)
1001	138KV	REBUILD	2018	DOMINION	1.2	REBUILD	2018	DOMINION	1.2
1002	138KV	RELOCATE	2018	DOMINION	1.5	RELOCATE	2018	DOMINION	1.5
1003	138KV	RELOCATE	2018	DOMINION	1.8	RELOCATE	2018	DOMINION	1.8
1004	138KV	RELOCATE	2018	DOMINION	2.1	RELOCATE	2018	DOMINION	2.1
1005	138KV	RELOCATE	2018	DOMINION	2.4	RELOCATE	2018	DOMINION	2.4
1006	138KV	RELOCATE	2018	DOMINION	2.7	RELOCATE	2018	DOMINION	2.7
1007	138KV	RELOCATE	2018	DOMINION	3.0	RELOCATE	2018	DOMINION	3.0
1008	138KV	RELOCATE	2018	DOMINION	3.3	RELOCATE	2018	DOMINION	3.3
1009	138KV	RELOCATE	2018	DOMINION	3.6	RELOCATE	2018	DOMINION	3.6
1010	138KV	RELOCATE	2018	DOMINION	3.9	RELOCATE	2018	DOMINION	3.9
1011	138KV	RELOCATE	2018	DOMINION	4.2	RELOCATE	2018	DOMINION	4.2
1012	138KV	RELOCATE	2018	DOMINION	4.5	RELOCATE	2018	DOMINION	4.5
1013	138KV	RELOCATE	2018	DOMINION	4.8	RELOCATE	2018	DOMINION	4.8
1014	138KV	RELOCATE	2018	DOMINION	5.1	RELOCATE	2018	DOMINION	5.1
1015	138KV	RELOCATE	2018	DOMINION	5.4	RELOCATE	2018	DOMINION	5.4
1016	138KV	RELOCATE	2018	DOMINION	5.7	RELOCATE	2018	DOMINION	5.7
1017	138KV	RELOCATE	2018	DOMINION	6.0	RELOCATE	2018	DOMINION	6.0
1018	138KV	RELOCATE	2018	DOMINION	6.3	RELOCATE	2018	DOMINION	6.3
1019	138KV	RELOCATE	2018	DOMINION	6.6	RELOCATE	2018	DOMINION	6.6
1020	138KV	RELOCATE	2018	DOMINION	6.9	RELOCATE	2018	DOMINION	6.9
1021	138KV	RELOCATE	2018	DOMINION	7.2	RELOCATE	2018	DOMINION	7.2
1022	138KV	RELOCATE	2018	DOMINION	7.5	RELOCATE	2018	DOMINION	7.5
1023	138KV	RELOCATE	2018	DOMINION	7.8	RELOCATE	2018	DOMINION	7.8
1024	138KV	RELOCATE	2018	DOMINION	8.1	RELOCATE	2018	DOMINION	8.1
1025	138KV	RELOCATE	2018	DOMINION	8.4	RELOCATE	2018	DOMINION	8.4
1026	138KV	RELOCATE	2018	DOMINION	8.7	RELOCATE	2018	DOMINION	8.7
1027	138KV	RELOCATE	2018	DOMINION	9.0	RELOCATE	2018	DOMINION	9.0
1028	138KV	RELOCATE	2018	DOMINION	9.3	RELOCATE	2018	DOMINION	9.3
1029	138KV	RELOCATE	2018	DOMINION	9.6	RELOCATE	2018	DOMINION	9.6
1030	138KV	RELOCATE	2018	DOMINION	9.9	RELOCATE	2018	DOMINION	9.9
1031	138KV	RELOCATE	2018	DOMINION	10.2	RELOCATE	2018	DOMINION	10.2
1032	138KV	RELOCATE	2018	DOMINION	10.5	RELOCATE	2018	DOMINION	10.5
1033	138KV	RELOCATE	2018	DOMINION	10.8	RELOCATE	2018	DOMINION	10.8
1034	138KV	RELOCATE	2018	DOMINION	11.1	RELOCATE	2018	DOMINION	11.1
1035	138KV	RELOCATE	2018	DOMINION	11.4	RELOCATE	2018	DOMINION	11.4
1036	138KV	RELOCATE	2018	DOMINION	11.7	RELOCATE	2018	DOMINION	11.7
1037	138KV	RELOCATE	2018	DOMINION	12.0	RELOCATE	2018	DOMINION	12.0
1038	138KV	RELOCATE	2018	DOMINION	12.3	RELOCATE	2018	DOMINION	12.3
1039	138KV	RELOCATE	2018	DOMINION	12.6	RELOCATE	2018	DOMINION	12.6
1040	138KV	RELOCATE	2018	DOMINION	12.9	RELOCATE	2018	DOMINION	12.9
1041	138KV	RELOCATE	2018	DOMINION	13.2	RELOCATE	2018	DOMINION	13.2
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1043	138KV	RELOCATE	2018	DOMINION	13.8	RELOCATE	2018	DOMINION	13.8
1044	138KV	RELOCATE	2018	DOMINION	14.1	RELOCATE	2018	DOMINION	14.1
1045	138KV	RELOCATE	2018	DOMINION	14.4	RELOCATE	2018	DOMINION	14.4
1046	138KV	RELOCATE	2018	DOMINION	14.7	RELOCATE	2018	DOMINION	14.7
1047	138KV	RELOCATE	2018	DOMINION	15.0	RELOCATE	2018	DOMINION	15.0
1048	138KV	RELOCATE	2018	DOMINION	15.3	RELOCATE	2018	DOMINION	15.3
1049	138KV	RELOCATE	2018	DOMINION	15.6	RELOCATE	2018	DOMINION	15.6
1050	138KV	RELOCATE	2018	DOMINION	15.9	RELOCATE	2018	DOMINION	15.9
1051	138KV	RELOCATE	2018	DOMINION	16.2	RELOCATE	2018	DOMINION	16.2
1052	138KV	RELOCATE	2018	DOMINION	16.5	RELOCATE	2018	DOMINION	16.5
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1055	138KV	RELOCATE	2018	DOMINION	17.4	RELOCATE	2018	DOMINION	17.4
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1057	138KV	RELOCATE	2018	DOMINION	18.0	RELOCATE	2018	DOMINION	18.0
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1059	138KV	RELOCATE	2018	DOMINION	18.6	RELOCATE	2018	DOMINION	18.6
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1062	138KV	RELOCATE	2018	DOMINION	19.5	RELOCATE	2018	DOMINION	19.5
1063	138KV	RELOCATE	2018	DOMINION	19.8	RELOCATE	2018	DOMINION	19.8
1064	138KV	RELOCATE	2018	DOMINION	20.1	RELOCATE	2018	DOMINION	20.1
1065	138KV	RELOCATE	2018	DOMINION	20.4	RELOCATE	2018	DOMINION	20.4
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1067	138KV	RELOCATE	2018	DOMINION	21.0	RELOCATE	2018	DOMINION	21.0
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1069	138KV	RELOCATE	2018	DOMINION	21.6	RELOCATE	2018	DOMINION	21.6
1070	138KV	RELOCATE	2018	DOMINION	21.9	RELOCATE	2018	DOMINION	21.9
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1072	138KV	RELOCATE	2018	DOMINION	22.5	RELOCATE	2018	DOMINION	22.5
1073	138KV	RELOCATE	2018	DOMINION	22.8	RELOCATE	2018	DOMINION	22.8
1074	138KV	RELOCATE	2018	DOMINION	23.1	RELOCATE	2018	DOMINION	23.1
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1076	138KV	RELOCATE	2018	DOMINION	23.7	RELOCATE	2018	DOMINION	23.7
1077	138KV	RELOCATE	2018	DOMINION	24.0	RELOCATE	2018	DOMINION	24.0
1078	138KV	RELOCATE	2018	DOMINION	24.3	RELOCATE	2018	DOMINION	24.3
1079	138KV	RELOCATE	2018	DOMINION	24.6	RELOCATE	2018	DOMINION	24.6
1080	138KV	RELOCATE	2018	DOMINION	24.9	RELOCATE	2018	DOMINION	24.9
1081	138KV	RELOCATE	2018	DOMINION	25.2	RELOCATE	2018	DOMINION	25.2
1082	138KV	RELOCATE	2018	DOMINION	25.5	RELOCATE	2018	DOMINION	25.5
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1084	138KV	RELOCATE	2018	DOMINION	26.1	RELOCATE	2018	DOMINION	26.1
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1086	138KV	RELOCATE	2018	DOMINION	26.7	RELOCATE	2018	DOMINION	26.7
1087	138KV	RELOCATE	2018	DOMINION	27.0	RELOCATE	2018	DOMINION	27.0
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1090	138KV	RELOCATE	2018	DOMINION	27.9	RELOCATE	2018	DOMINION	27.9
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1093	138KV	RELOCATE	2018	DOMINION	28.8	RELOCATE	2018	DOMINION	28.8
1094	138KV	RELOCATE	2018	DOMINION	29.1	RELOCATE	2018	DOMINION	29.1
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1096	138KV	RELOCATE	2018	DOMINION	29.7	RELOCATE	2018	DOMINION	29.7
1097	138KV	RELOCATE	2018	DOMINION	30.0	RELOCATE	2018	DOMINION	30.0
1098	138KV	RELOCATE	2018	DOMINION	30.3	RELOCATE	2018	DOMINION	30.3
1099	138KV	RELOCATE	2018	DOMINION	30.6	RELOCATE	2018	DOMINION	30.6
1100	138KV	RELOCATE	2018	DOMINION	30.9	RELOCATE	2018	DOMINION	30.9
1101	138KV	RELOCATE	2018	DOMINION	31.2	RELOCATE	2018	DOMINION	31.2
1102	138KV	RELOCATE	2018	DOMINION	31.5	RELOCATE	2018	DOMINION	31.5
1103	138KV	RELOCATE	2018	DOMINION	31.8	RELOCATE	2018	DOMINION	31.8



1  
BEDFORD AREA  
(see cover for map scale)

12  
MOUNTAIN MEADOWS AREA  
(see cover for map scale)

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

**BEDFORD COUNTY, VA**

**COUNTY ROAD MAP**

**BEDFORD COUNTY**

ROAD CLASSIFICATIONS	
Frontage Road	Schools
Secondary Route	Seaports
State Route	Park_RideLots
U.S. Route	AIRPORTS
Urban Road	Commercial
LightSurface	General
Divide-d/hwy Interstate	Military
AllWeatherSurface	RAILROADS
Unsurfaced	Metro
otherSurface	VARailroads
BikeRoutes	BOUNDARIES
AppalachianTrail	MilitaryAreas
	MagisterialDistricts
	Incorp_Areas
	Natural_LandCover

0 100 200 300 400 500  
FEET  
0 100 200 300 400 500  
METERS

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AN INVENTORY OF STATE MAINTAINED ROADS

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

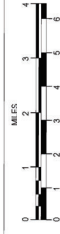
- Commercial
- Military

RAILROADS

- Metro
- VARailroads

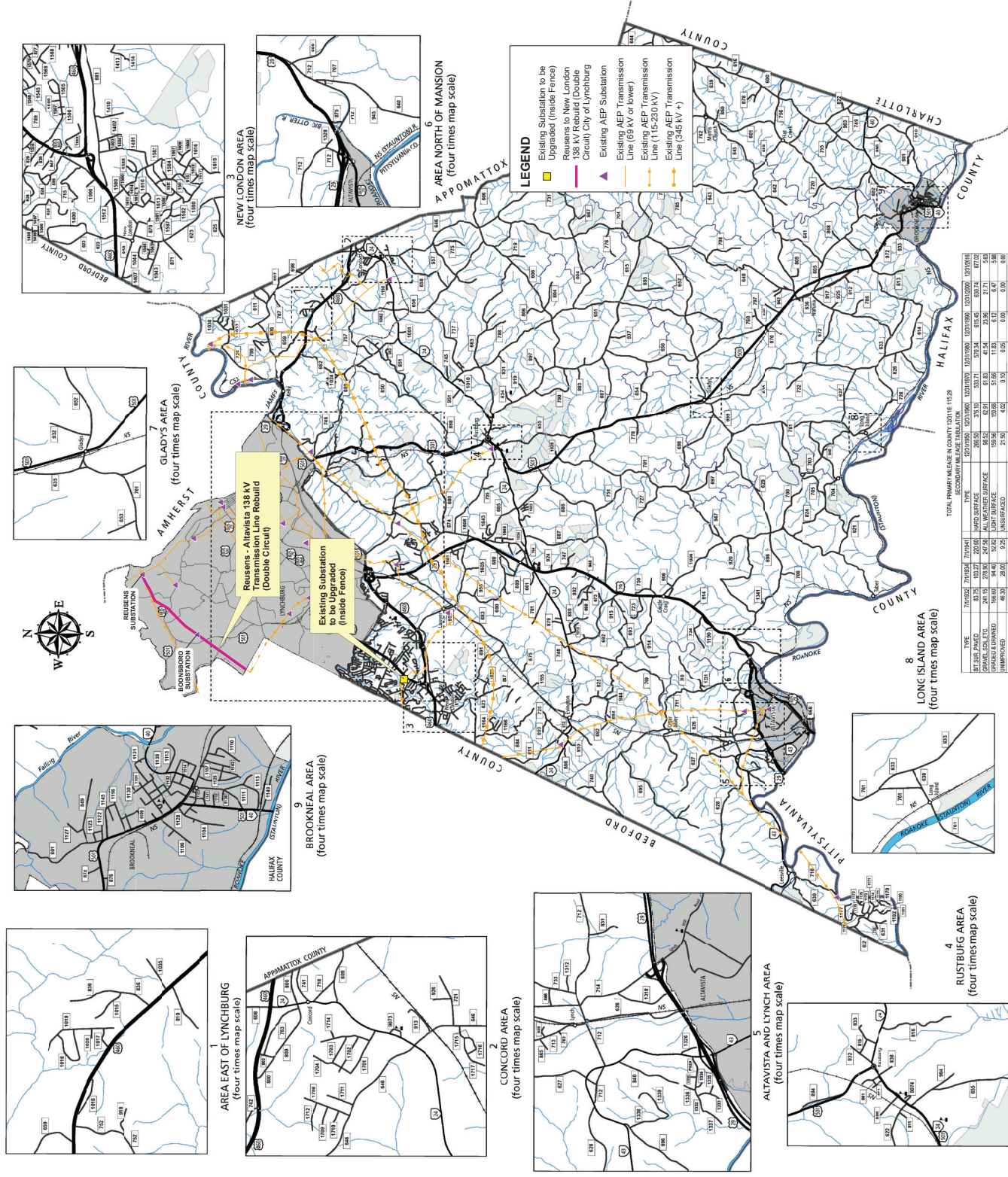
BOUNDARIES

- MilitaryAreas
- MagisterialDistricts
- Incorp\_Areas
- Natural\_LandCover



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AN INVENTORY OF STATE MAINTAINED ROADS





**ROAD CLASSIFICATIONS**

- Division Highway (Interstate)
- Interstate Highway
- US Highway
- VA Secondary Highway
- State Road
- County Road
- US Route
- US Express Route

**ROADWAY WIDTHS**

- Interstate Highway
- US Highway
- VA Secondary Highway
- State Road
- County Road
- US Route
- US Express Route

**BOUNDARIES**

- County Line
- Municipal District Line
- City Line
- Port, Intersection of Port Boundary

**CITY AND TOWN LOCATIONS**

- State Capital
- County Seat
- Town or Village

**INDUSTRIALS**

- Power Plant
- School
- Park
- Rolling Mill
- Gas Station
- Bridge
- Primary Road Stations

**PORTS**

- Commercial Airport
- Military Airport
- Other Airport

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CAMPBELL COUNTY, VA

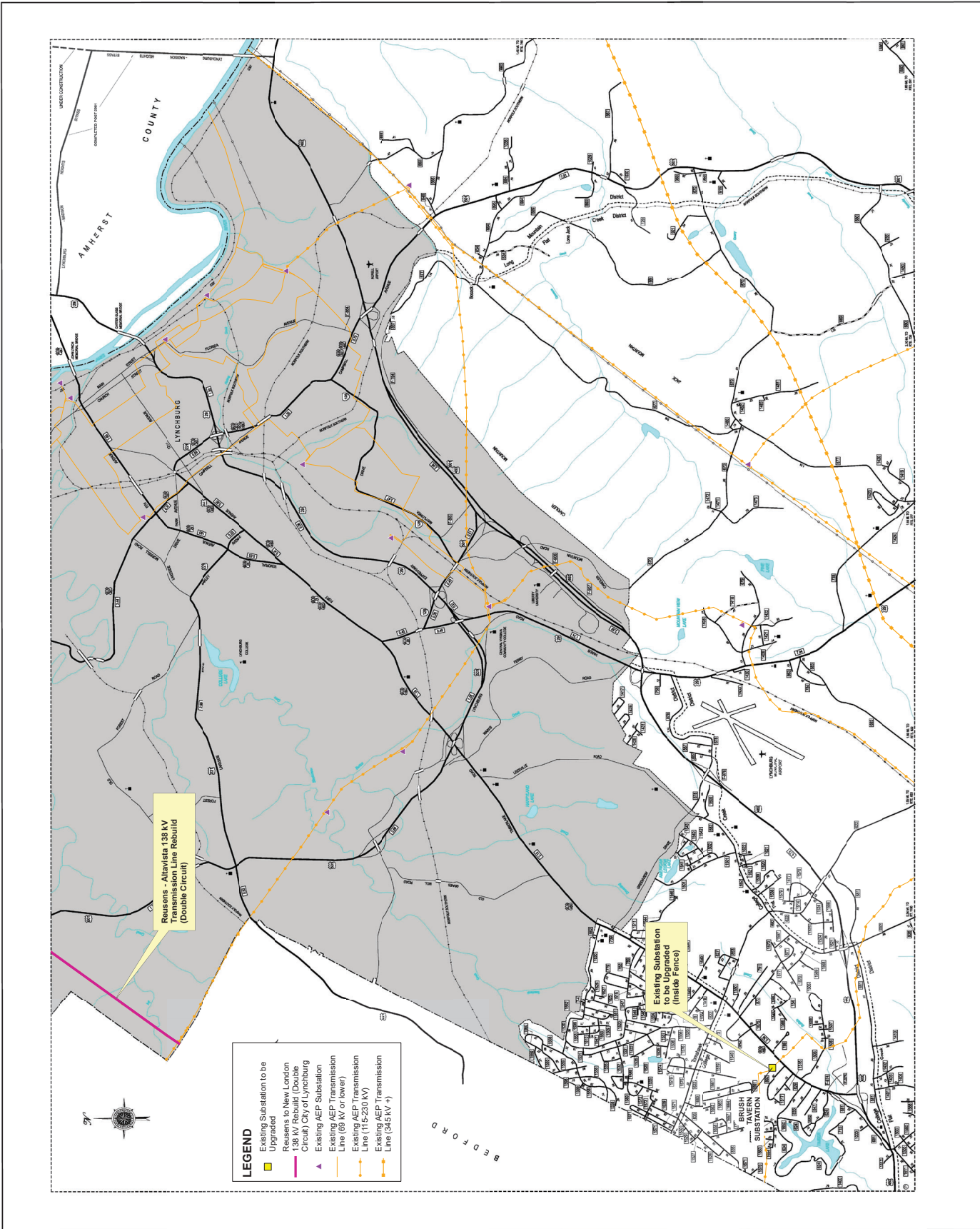
**VDOT**  
Virginia Department of Transportation

**COUNTY ROAD MAP**

CAMPBELL COUNTY  
Supplement A

0 50 100 200 300 400 500  
FEET  
0 50 100 200 300 400 500  
METERS

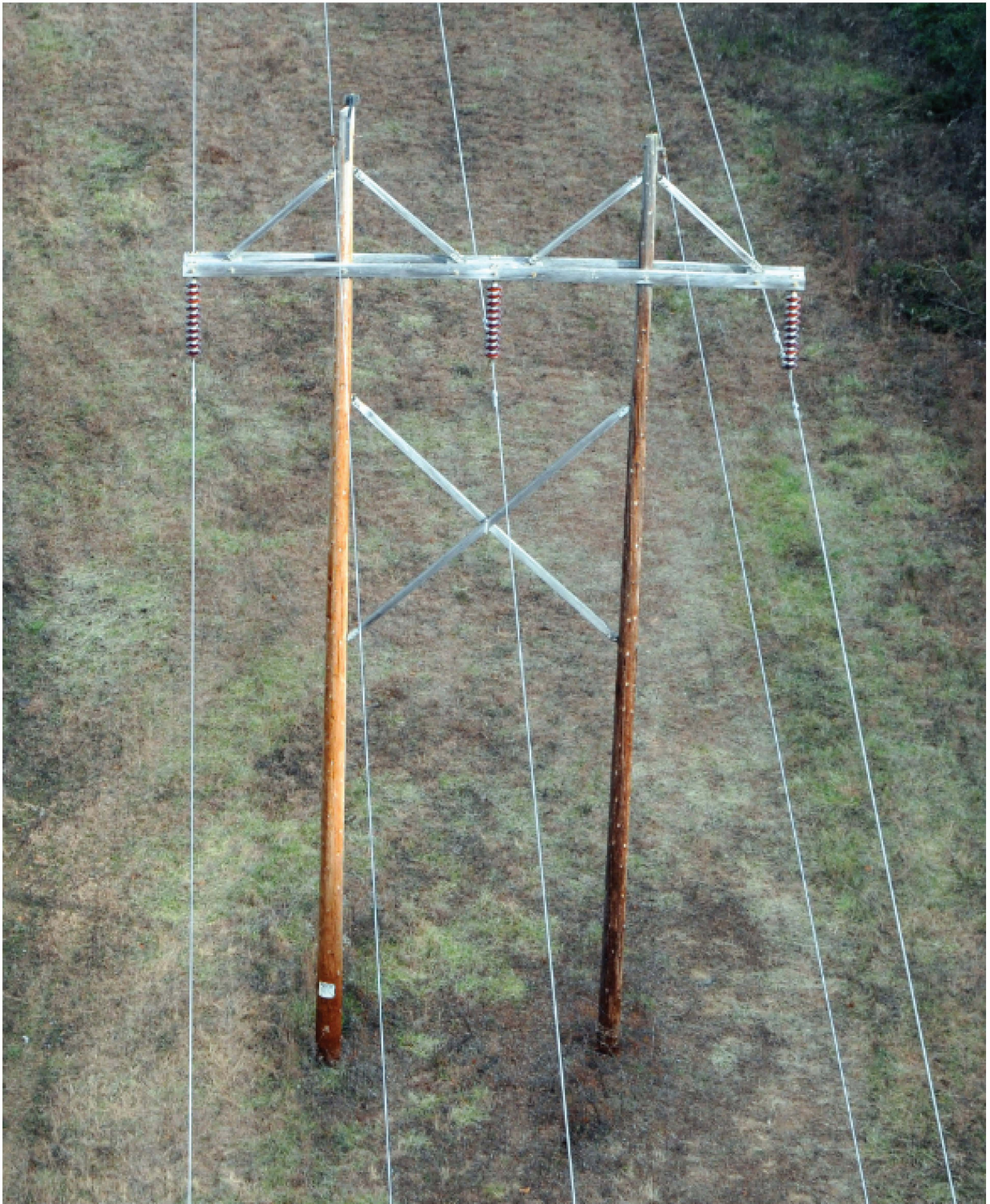
AN INVENTORY OF STATE-MAINTAINED ROADS  
CAMPBELL COUNTY, VA 15A



**EXHIBIT 11: EXISTING STRUCTURE PHOTOGRAPHS  
(TO BE REMOVED)**



EXISTING SELF-SUPPORTING LATTICE STRUCTURE  
(DOUBLE-CIRCUIT)

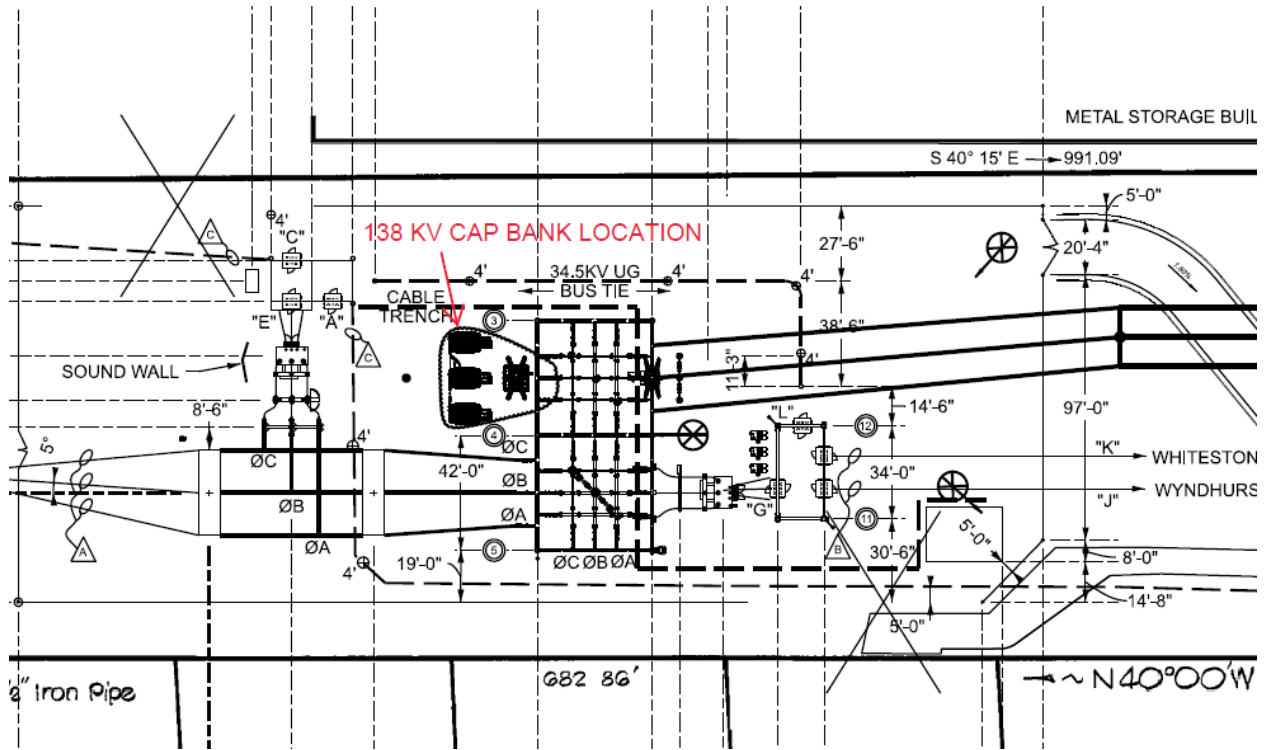


EXISTING H-FRAME STRUCTURE  
(SINGLE-CIRCUIT)

**EXHIBIT 12: VISUAL SIMULATIONS**

**(See Volume 1(C) Uploaded to Project Website)**

**EXHIBIT 13: IMPROVEMENTS AT BRUSH TAVERN 138 KV  
SUBSTATION**



PROPOSED SUBSTATION LAYOUT



EXISTING BRUSH TAVERN SUBSTATION (VIEWING TO THE NORTHWEST)



EXISTING BRUSH TAVERN SUBSTATION (VIEWING TO THE SOUTH)



CONFIDENTIAL INFORMATION

SEE EXHIBIT 13-C FOR  
ONE-LINE DIAGRAM  
(FILED UNDER SEAL)

**EXHIBIT 14: PUBLIC NOTICE MAP**

# REUSENS TO NEW LONDON 138 KV REBUILD PROJECT



An AEP Company

BOUNDLESS ENERGY™

