

## APPENDIX C PHOTO LOG

**PHOTO**

**DESCRIPTION**



P-3a  
070-0005 / NR-71000987 - Reynolds  
Homestead / Rock Spring Plantation  
Towards resource

Direction: North  
Date: 08/15/22  
Photographer: Travis Corwin



P-3c  
070-0005 / NR-71000987 - Reynolds  
Homestead / Rock Spring Plantation  
Towards resource

Direction: South  
Date: 08/15/22  
Photographer: Travis Corwin



P-3d  
070-0005 / NR-71000987 - Reynolds  
Homestead / Rock Spring Plantation  
Views towards line

Direction: Northwest  
Date: 08/15/22  
Photographer: Travis Corwin



P-3b  
070-0005 / NR-71000987 - Reynolds  
Homestead / Rock Spring Plantation  
Resource

Direction: Southeast  
Date: 08/15/22  
Photographer: Travis Corwin



P-5a  
44PK0049  
View of line

Direction: East  
Date: 08/15/22  
Photographer: Travis Corwin



P-5b  
44PK0049  
View towards site and line

Direction: West  
Date: 08/15/22  
Photographer: Travis Corwin



P-6b  
044-0007  
View towards line  
  
Direction: North  
Date: 08/15/22  
Photographer: Travis Corwin



P-6a  
044-0007  
View of resource  
  
Direction: East  
Date: 08/15/22  
Photographer: Travis Corwin



P-7a  
044-5166 / NR-05000523 - The Fieldcrest  
Lodge / The Marshall Field & Company  
Clubhouse  
View towards lodge  
  
Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin



P-8b  
044-5173 / NR-08000072 - Fieldale Historic District  
Towards line

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-8a  
044-5173 / NR-08000072 - Fieldale Historic District  
Towards Marshall street

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-9a  
044-5168 - Fieldale Elementary School /  
Fieldale High School  
Photo of resource

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-9b  
044-5168 - Fieldale Elementary School /  
Fieldale High School  
View towards line

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-10c  
044-5173 / NR-08000072 - Fieldale Historic  
District  
View of district

Direction: East  
Date: 08/08/22  
Photographer: Travis Corwin



P-10d  
044-5173 / NR-08000072 - Fieldale Historic  
District  
View towards line

Direction: North  
Date: 08/08/22  
Photographer: Travis Corwin



P-11a  
044-5010 / NR-00000495 - Virginia Home

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-11b  
044-5010 / NR-00000495 - Virginia Home

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-12a  
044-5173 / NR-08000072 - Fieldale Historic District  
Towards line

Direction: East  
Date: 08/08/22  
Photographer: Travis Corwin



P-12b  
044-5173 / NR-08000072 - Fieldale Historic District  
Neighborhood

Direction: West  
Date: 08/08/22  
Photographer: Travis Corwin



P-12c  
044-5173 / NR-08000072 - Fieldale Historic District  
View towards Component 3 from Fieldale Historic District

Direction: East  
Date: 08/08/22  
Photographer: Travis Corwin



P-13a  
044-5173 / NR-08000072 - Fieldale Historic District  
View of Fieldale Historic District

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin





P-13b  
044-5173 / NR-08000072 - Fieldale Historic District  
View towards Component 3 from Fieldale Historic District

Direction: East  
Date: 08/08/22  
Photographer: Travis Corwin



P-16a  
044-5011  
View towards resource

Direction: Northwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-16b  
044-5011 / NR-99000960 - Eltham Manor  
Views of line

Direction: Southeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-17a  
44HR0241  
View towards proposed substation

Direction: South  
Date: 08/22/22  
Photographer: Travis Corwin



P-17b  
44HR0241  
Towards site and proposed line

Direction: Southwest  
Date: 08/22/22  
Photographer: Travis Corwin



P-18a  
044-0004 - Hordsville / Peter Hairston  
Plantation  
View of resource

Direction: North  
Date: 08/08/22  
Photographer: Travis Corwin



P-19a  
044-0087 / NR-82001820 - Stoneleigh  
Towards resource

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin



P-19b  
044-0087 / NR-82001820 - Stoneleigh  
View towards line

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-20a  
044-5576 / NR-Unknown - The Highlands /  
W. Burton Dillon House  
View of resource

Direction: North  
Date: 08/08/22  
Photographer: Travis Corwin



P-20b  
044-5576 / NR-Unknown - The Highlands /  
W. Burton Dillon House  
View of line

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-21a  
044-5172 / NR-07000231 - Edgewood  
Towards property, towards line

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin



P-21b  
044-5172 / NR-07000231 - Edgewood  
Towards property, towards line

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-22a  
044-5111 - Haley House / Pringle House  
View of resource

Direction: West  
Date: 08/08/22  
Photographer: Travis Corwin



P-22b  
044-5111 - Haley House / Pringle House  
View of line

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin



P-23a  
044-5174  
View towards resource

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-23b  
044-5174 / NR-06000708 – R. L. Stone  
House  
View towards resource

Direction: Southeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-23c  
044-5174 / NR-06000708 – R. L. Stone  
House  
View towards line

Direction: Southeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-25a  
044-5169 / NR-05001587 - John D. Bassett  
High School  
Towards line

Direction: West  
Date: 08/08/22  
Photographer: Travis Corwin



P-26a  
044-5180 - Bassett Historic District  
Warehouse and current lines

Direction: Southwest  
Date: 08/08/22  
Photographer: Travis Corwin



P-26b  
044-5180 - Bassett Historic District  
Homes

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-27a  
044-5180 - Bassett Historic District  
View towards district

Direction: North  
Date: 08/08/22  
Photographer: Travis Corwin



P-27b  
044-5180 - Bassett Historic District  
View towards line

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin



P-27c  
044-5180 - Bassett Historic District  
Homes

Direction: Northeast  
Date: 08/08/22  
Photographer: Travis Corwin



P-52a  
044-5177 (44HR0220) – Hordsville Enslaved  
/ Freed African American Cemetery

Direction: Northwest  
Date: 08/22/22  
Photographer: Travis Corwin





P-54a  
044-5179 - Copeland House / House, 503  
Field Avenue  
Towards property

Direction: South  
Date: 08/08/22  
Photographer: Travis Corwin

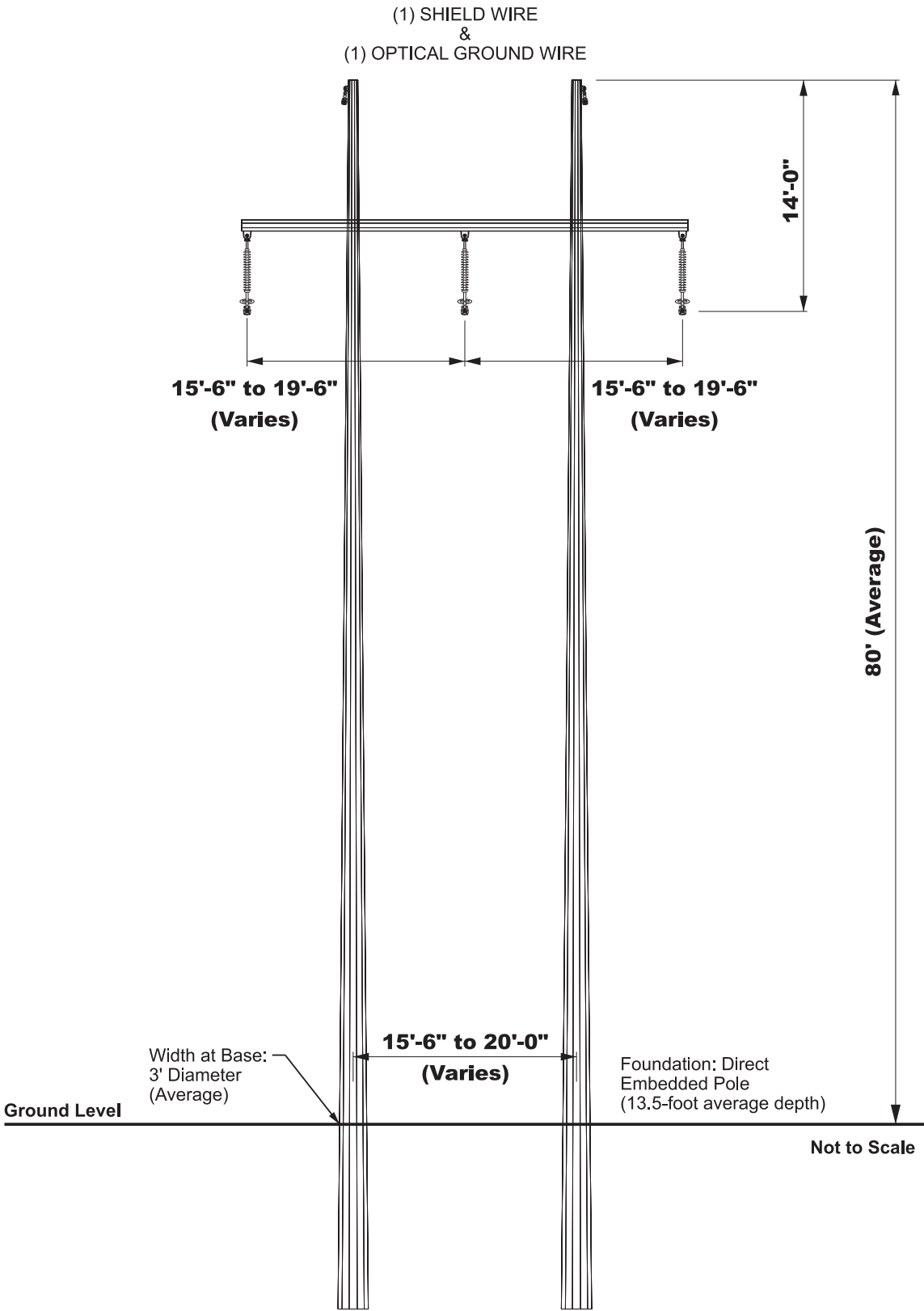


P-54b  
044-5179 - Copeland House / House, 503  
Field Avenue  
Towards line

Direction: North  
Date: 08/08/22  
Photographer: Travis Corwin

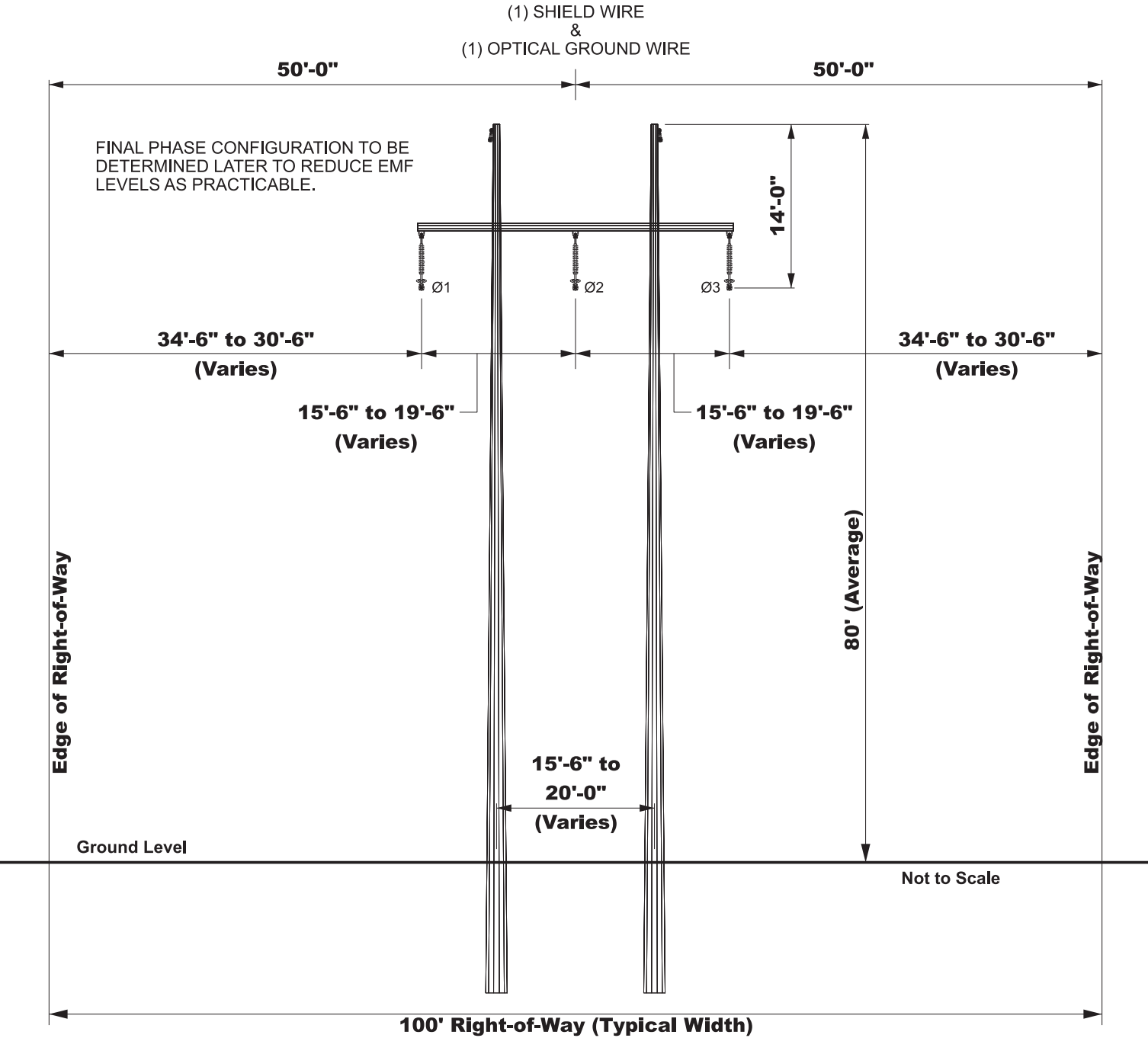
## APPENDIX D TYPICAL STRUCTURES

# STEEL H-FRAME (Single Circuit)



TYPICAL SCHEMATIC

# STEEL H-FRAME (Single Circuit)



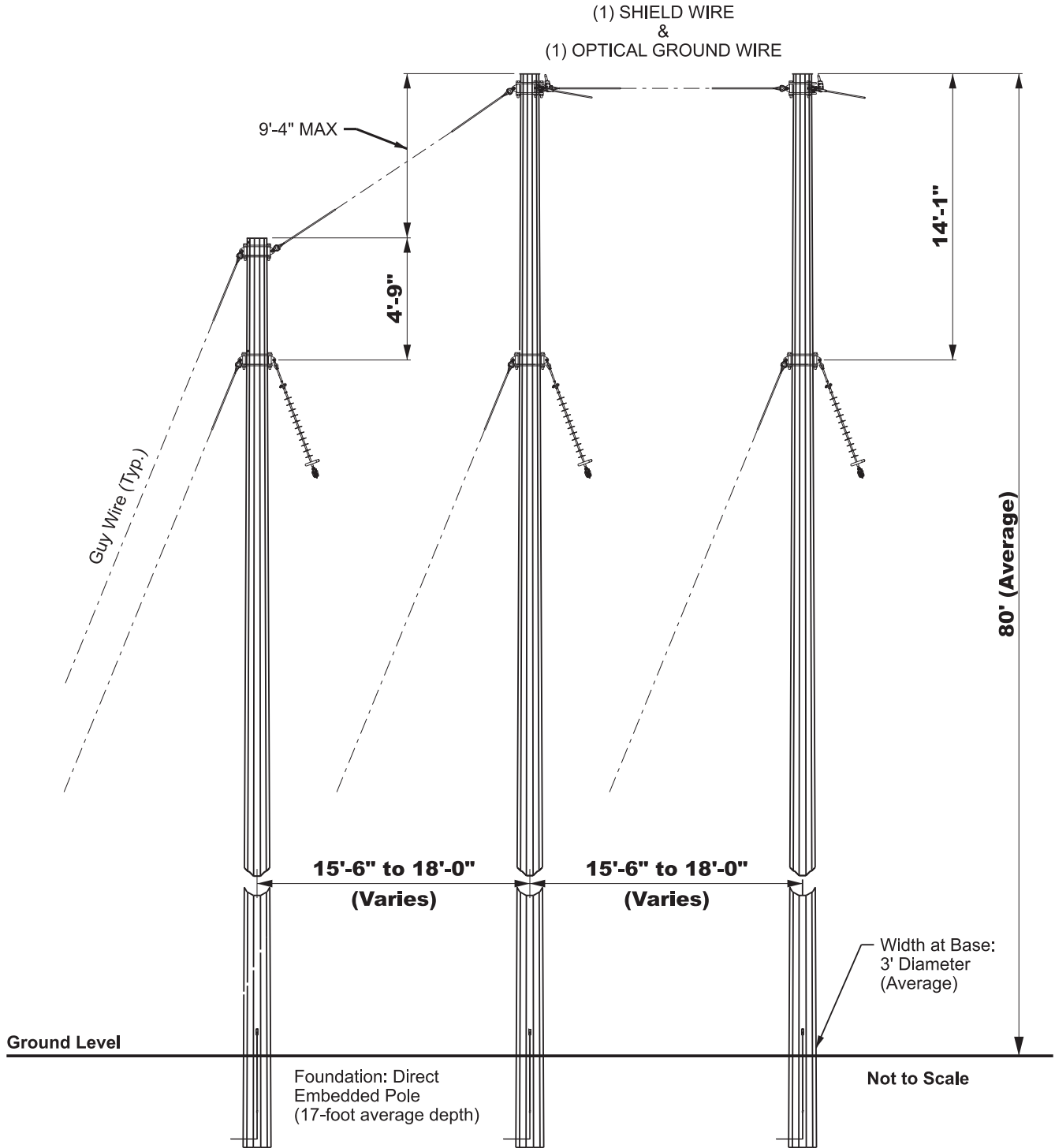
TYPICAL RIGHT-OF-WAY CROSS SECTION



### COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

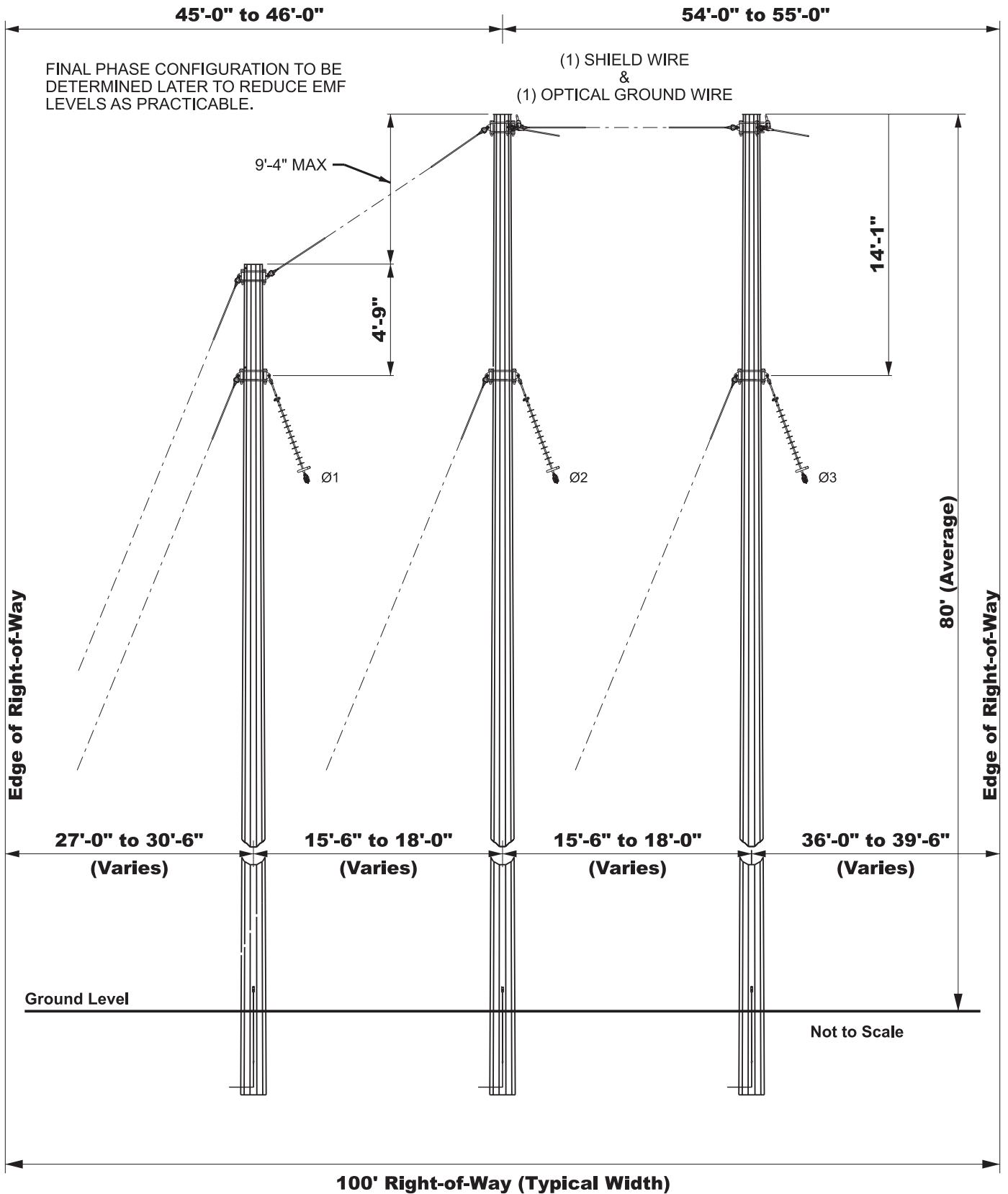
Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# STEEL THREE-POLE RUNNING ANGLE (Single Circuit)



TYPICAL SCHEMATIC

# STEEL THREE-POLE RUNNING ANGLE (Single Circuit)



TYPICAL RIGHT-OF-WAY CROSS SECTION

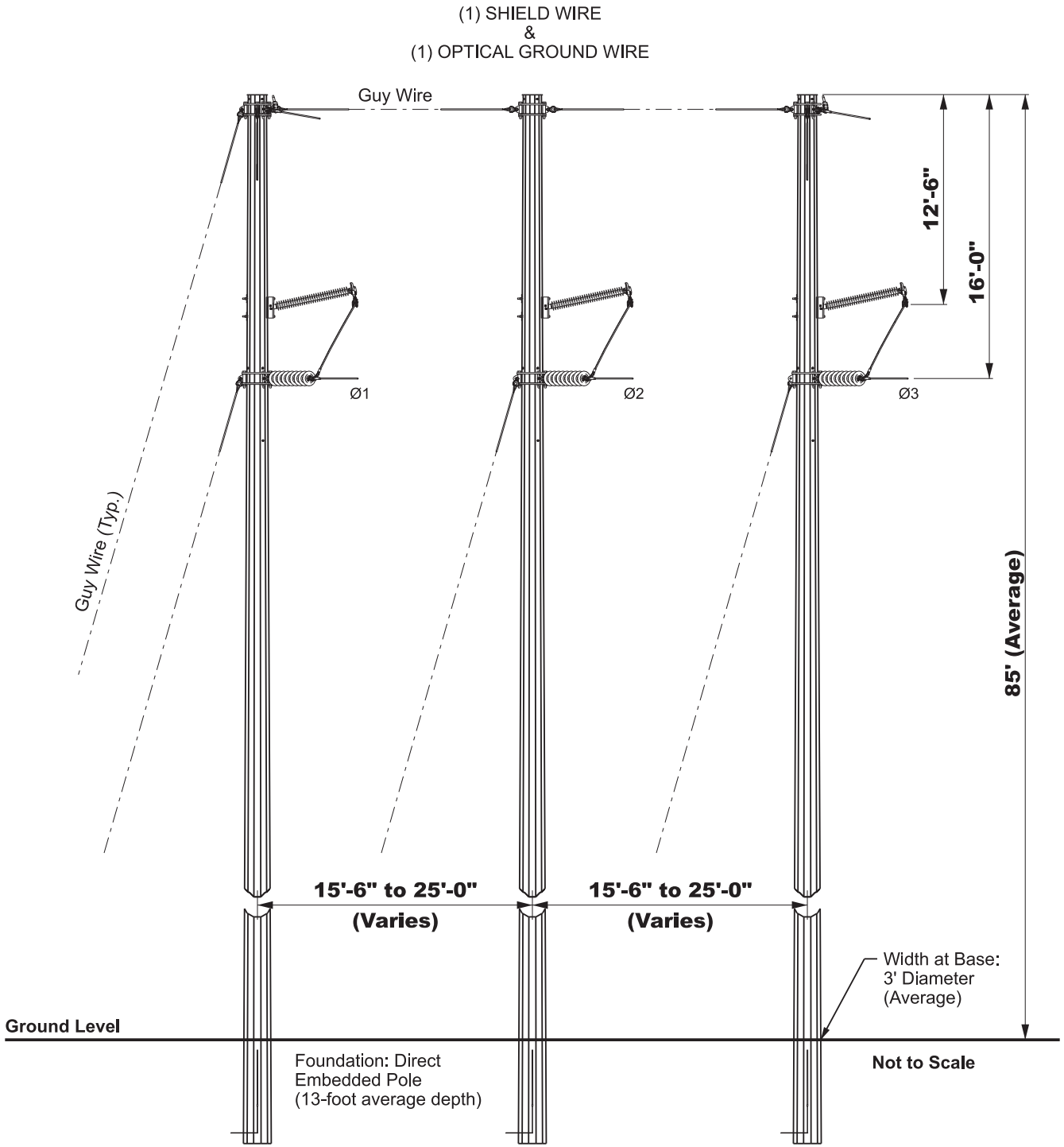


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

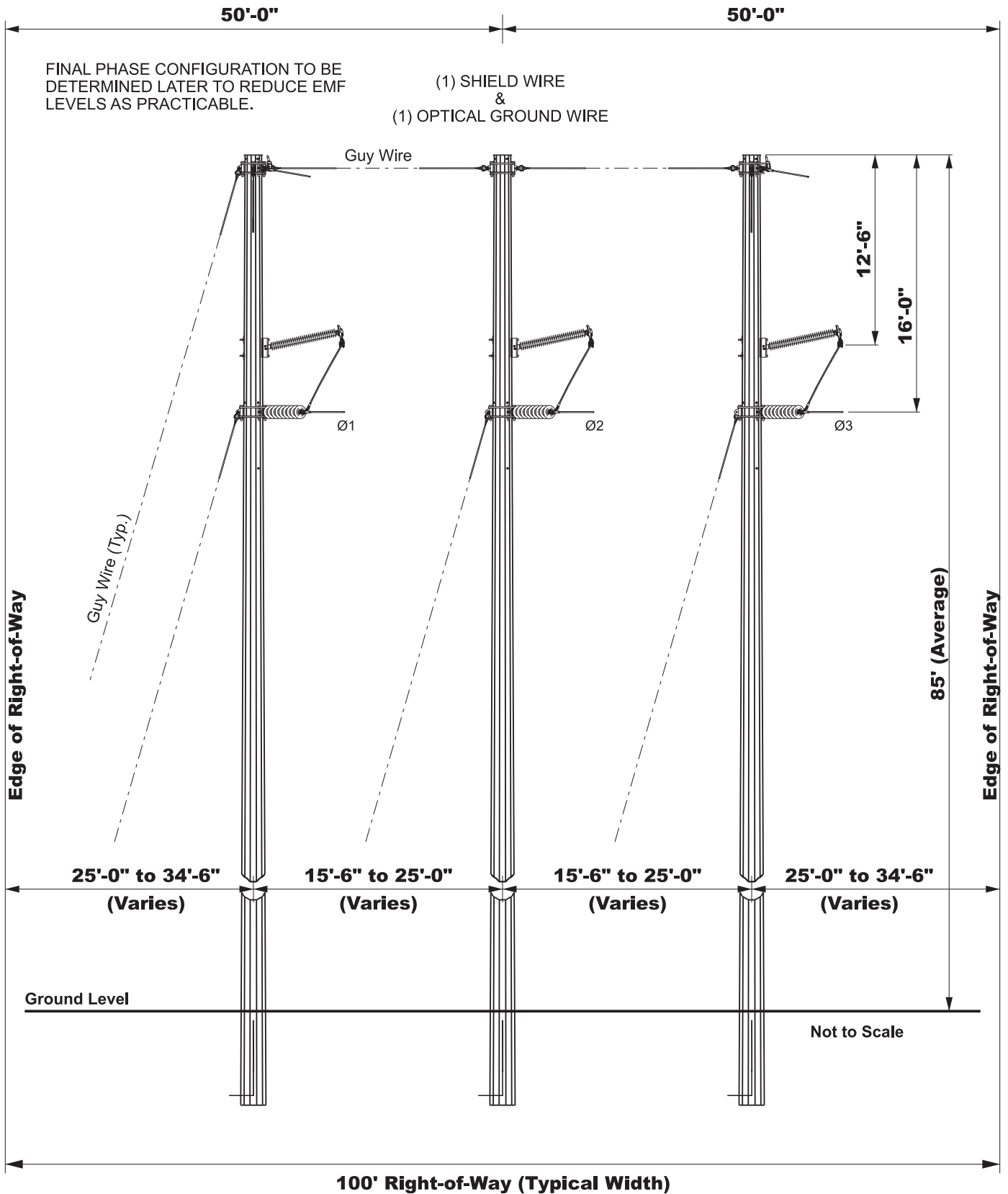
Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)



# STEEL THREE-POLE DEAD-END (Single Circuit)



TYPICAL SCHEMATIC



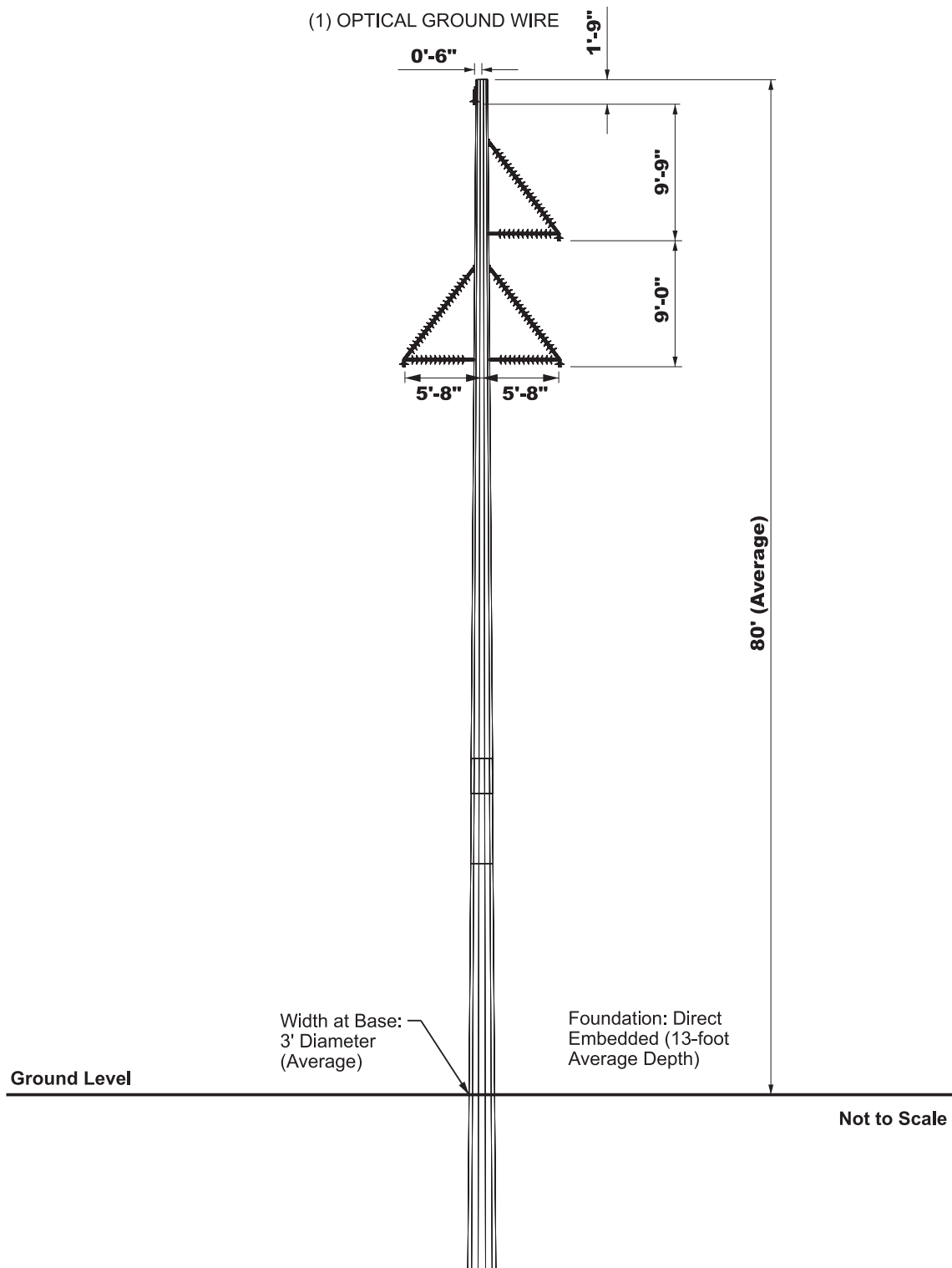
TYPICAL RIGHT-OF-WAY CROSS SECTION



### COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

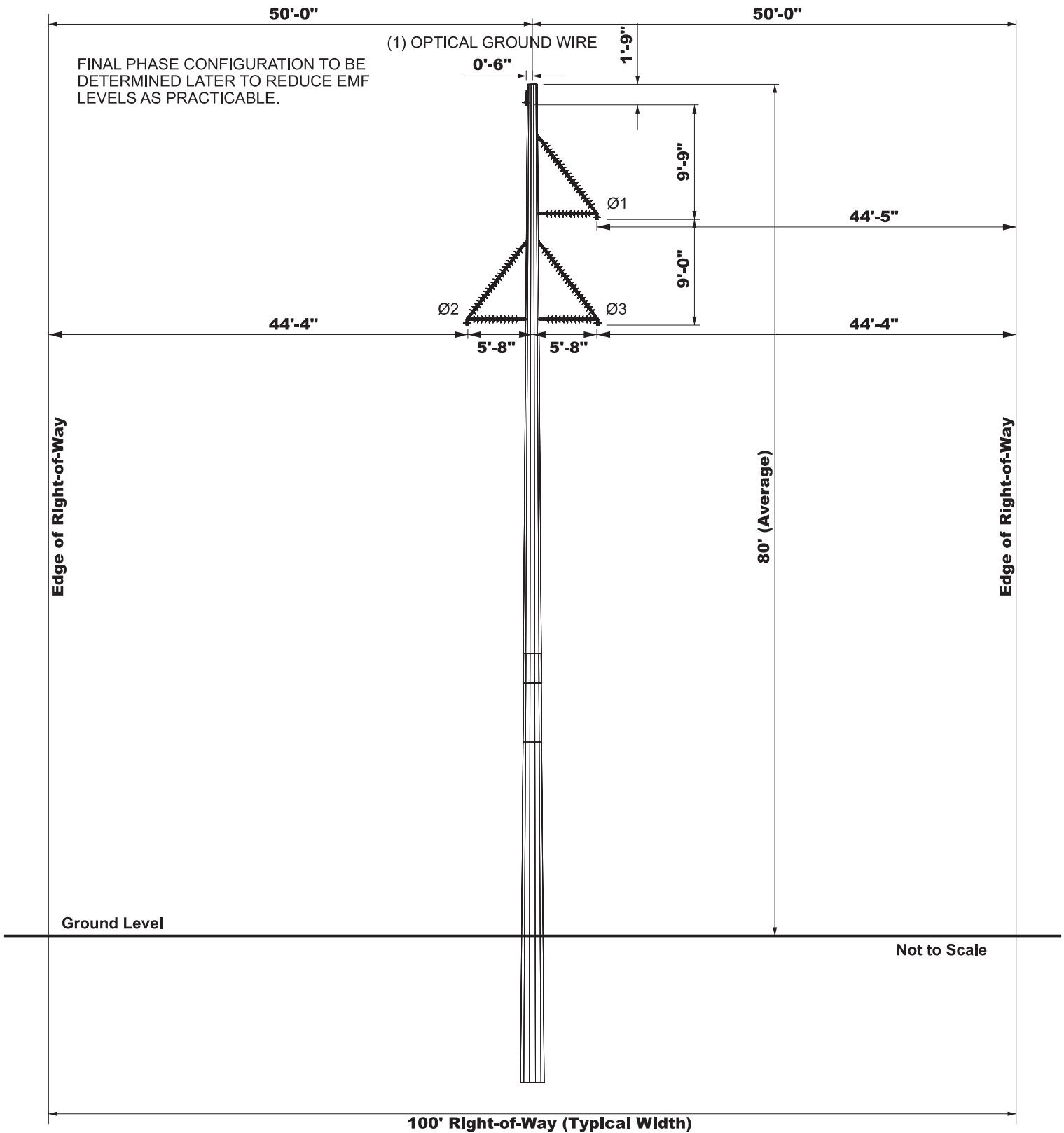
Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# STEEL MONOPOLE WITH BRACED POSTS (Single Circuit)



TYPICAL SCHEMATIC

# STEEL MONOPOLE WITH BRACED POSTS (Single Circuit)



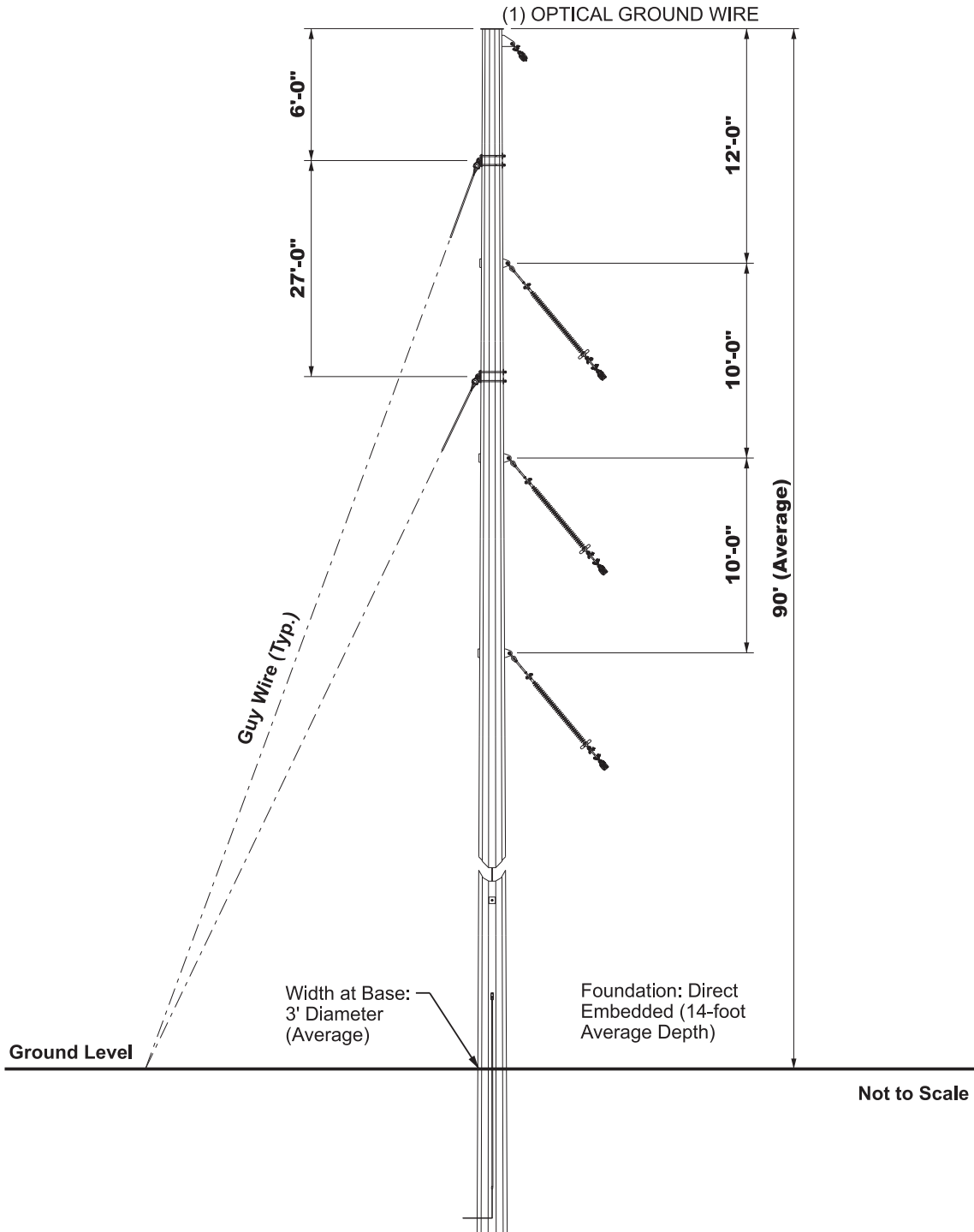
TYPICAL RIGHT-OF-WAY CROSS SECTION



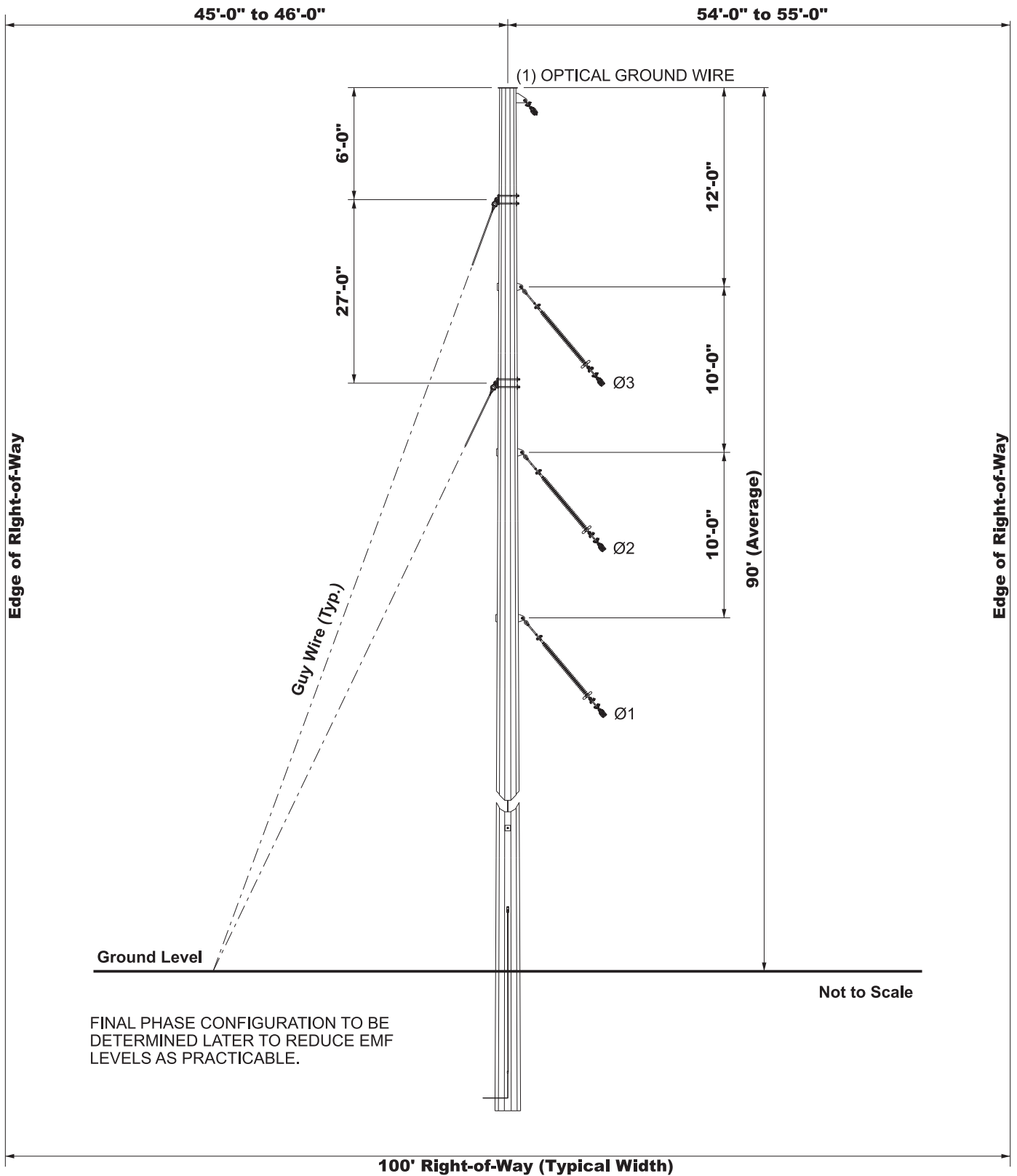
COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# STEEL MONOPOLE RUNNING ANGLE (Single Circuit)



TYPICAL SCHEMATIC



TYPICAL RIGHT-OF-WAY CROSS SECTION

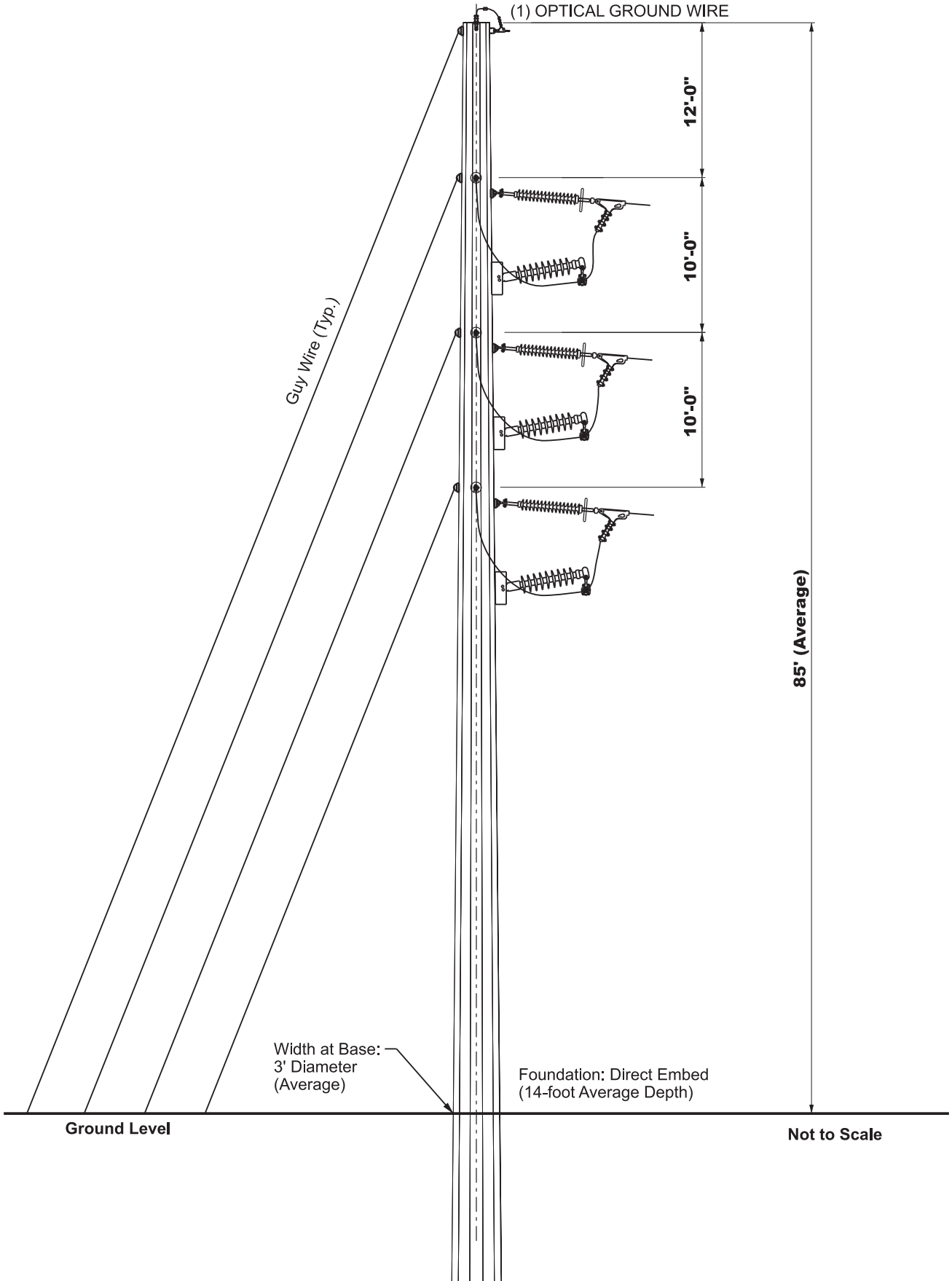




COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

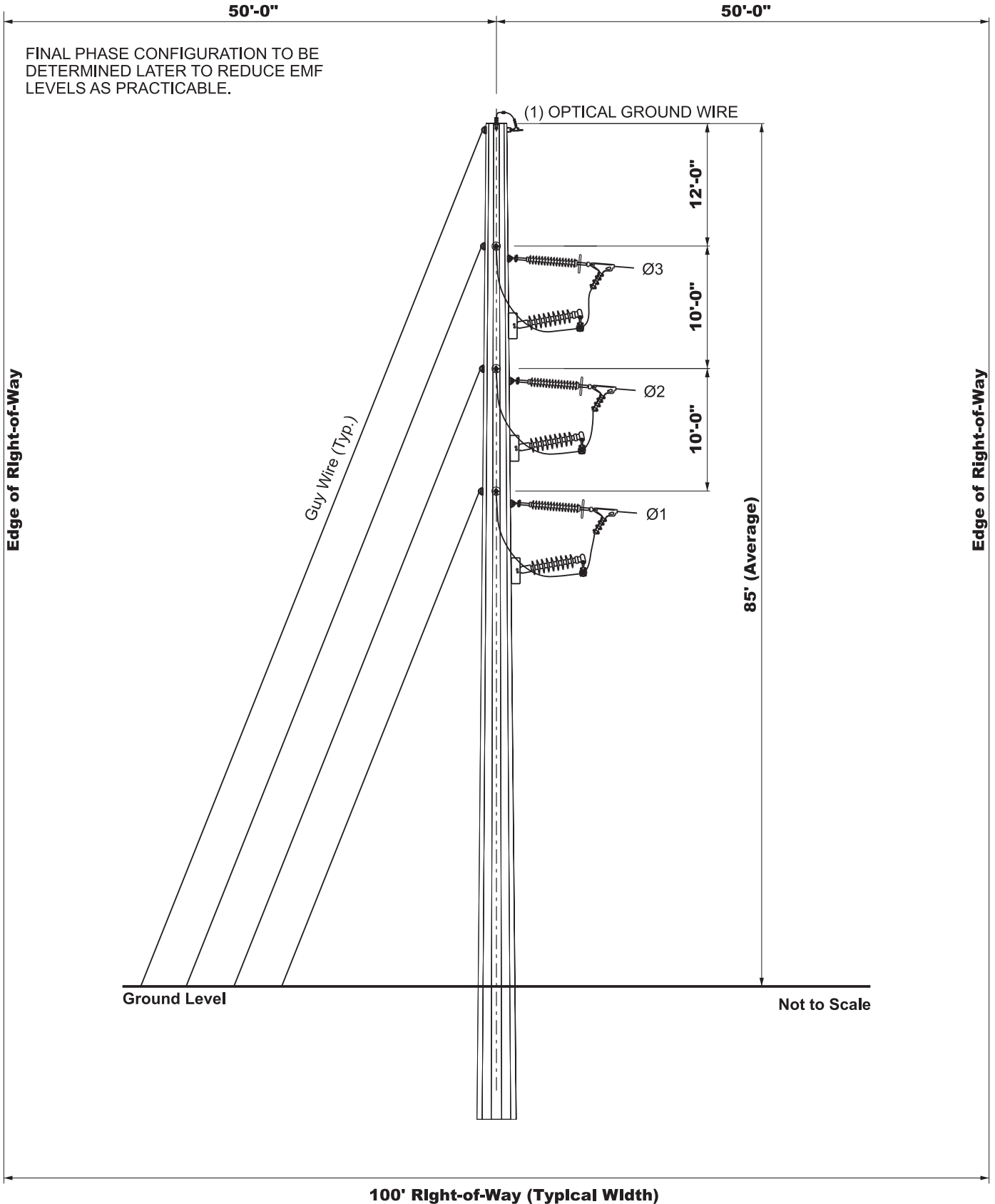
Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# GUYED STEEL MONOPOLE DEAD-END (SINGLE CIRCUIT)

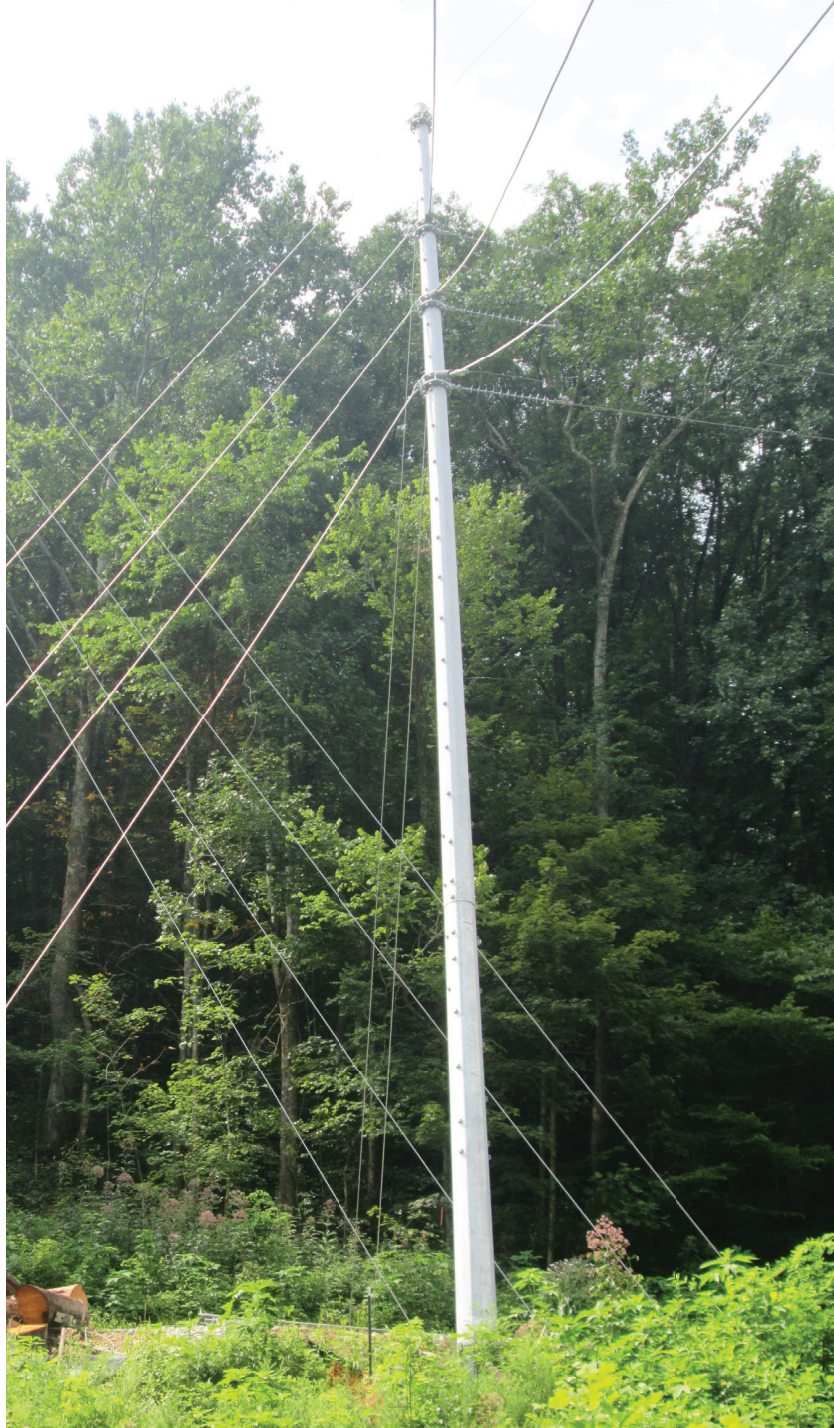


TYPICAL SCHEMATIC

# GUYED STEEL MONOPOLE DEAD-END (SINGLE CIRCUIT)



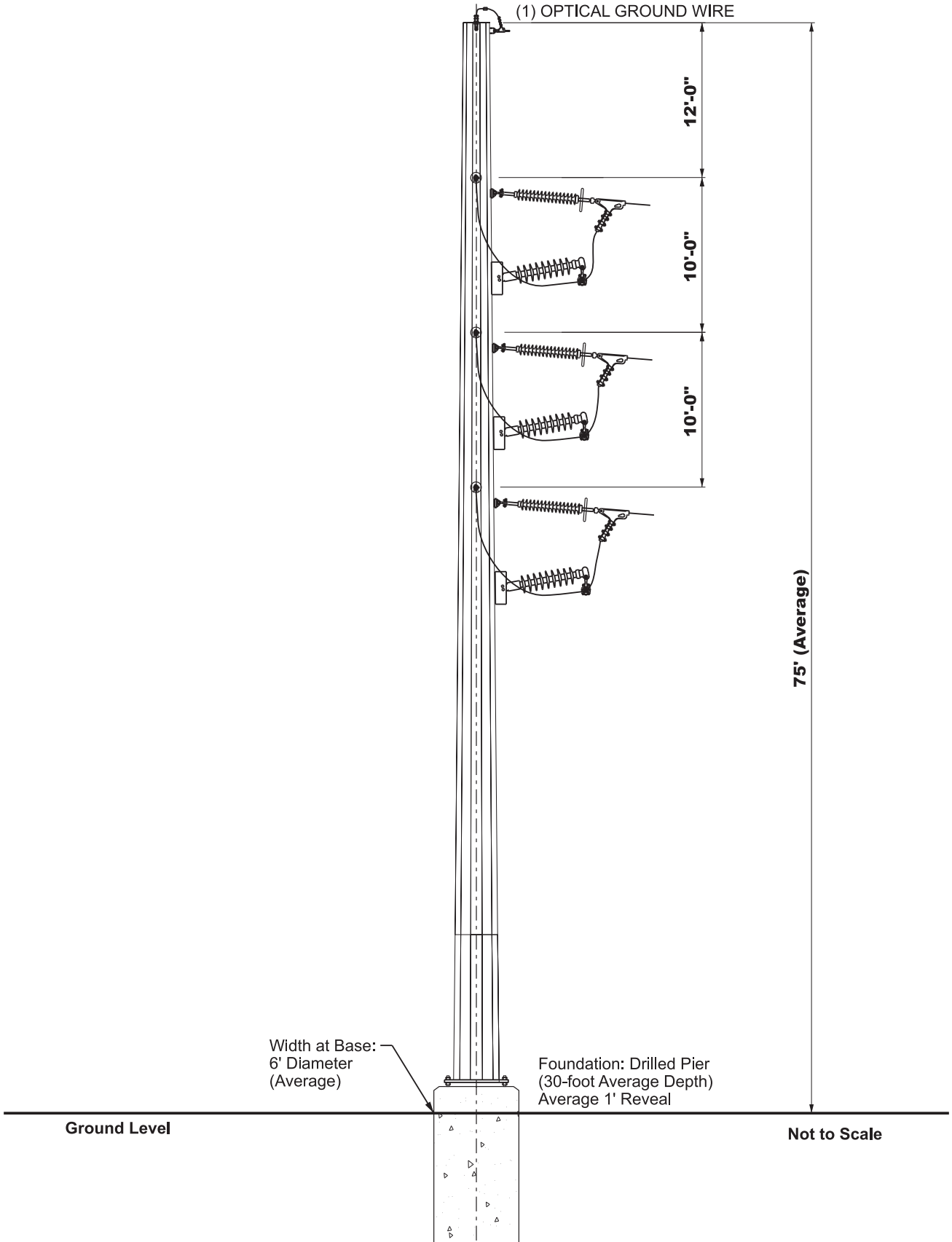
TYPICAL RIGHT-OF-WAY CROSS SECTION



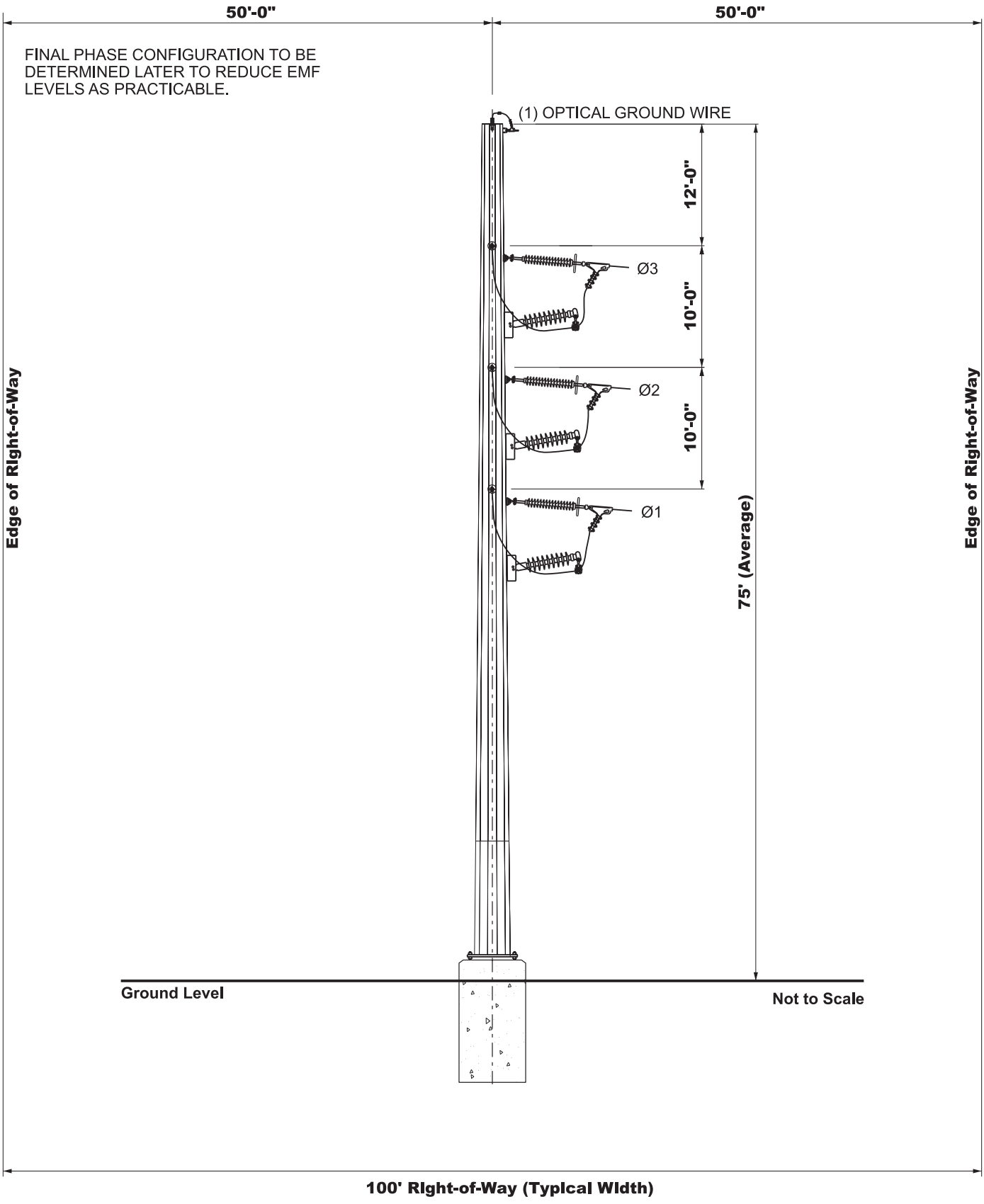
COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# STEEL MONOPOLE DEAD-END (SINGLE CIRCUIT)



TYPICAL SCHEMATIC



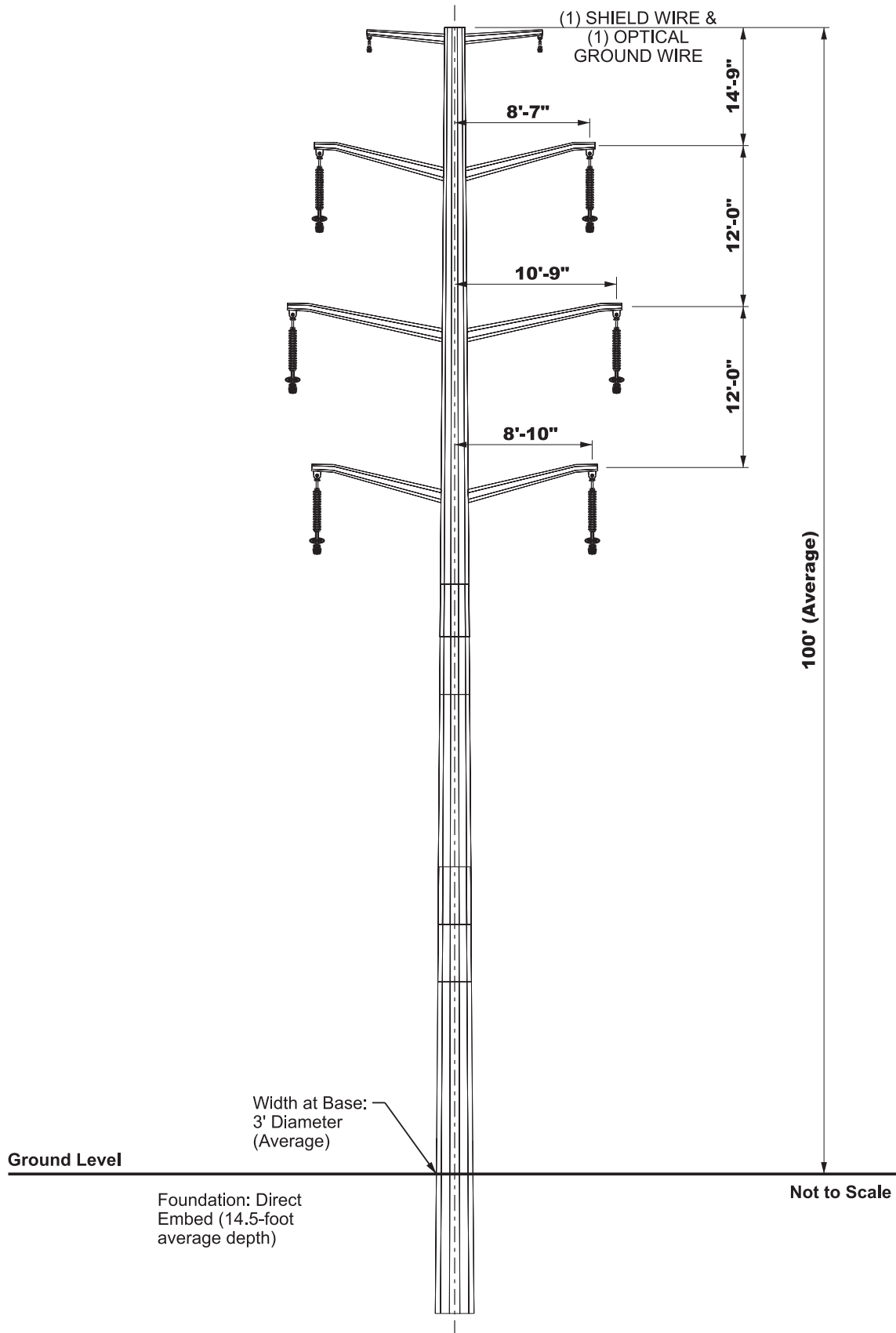
TYPICAL RIGHT-OF-WAY CROSS SECTION



COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

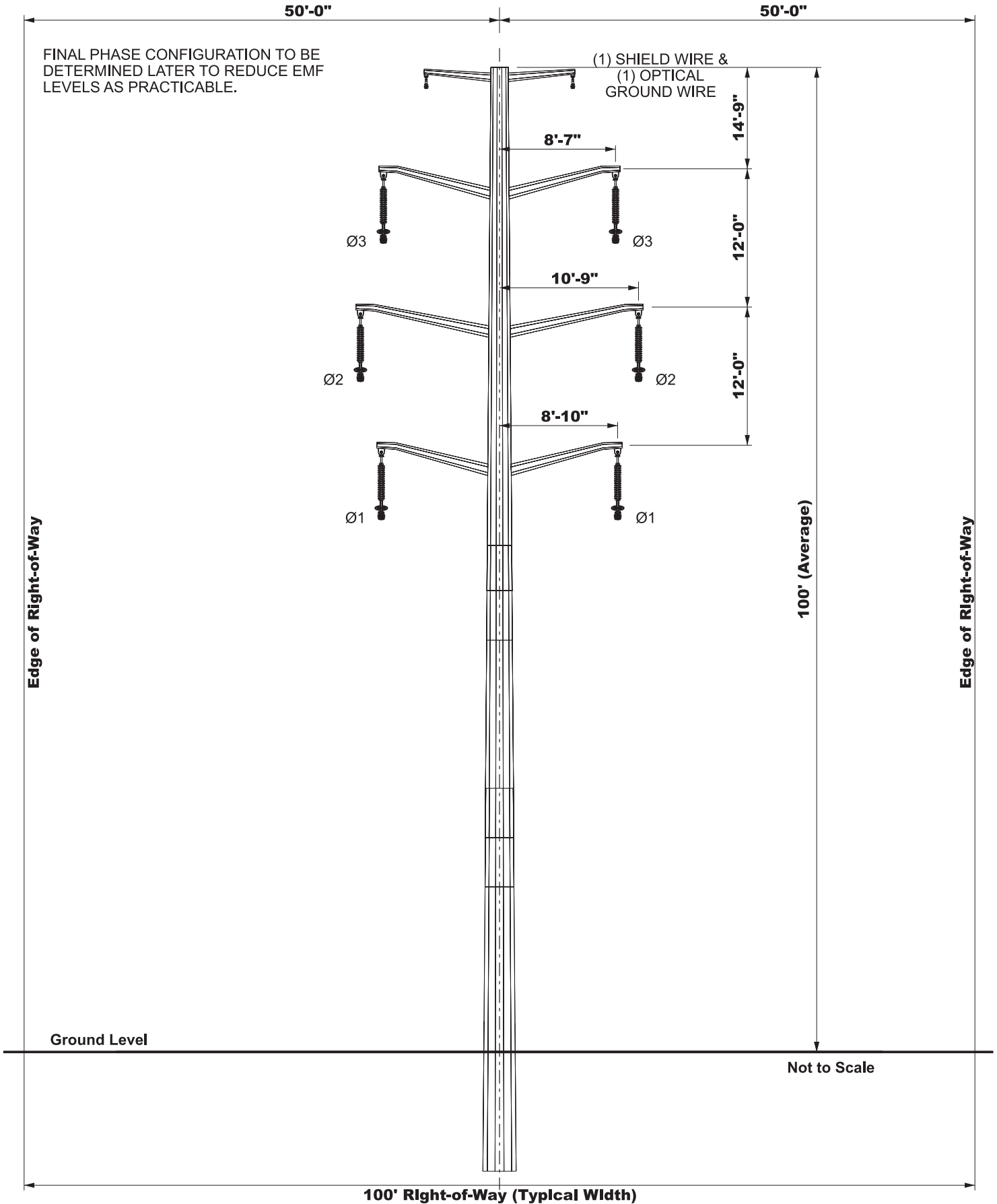
# STEEL MONOPOLE TANGENT WITH DAVIT ARMS (Double Circuit)



TYPICAL SCHEMATIC



# STEEL MONOPOLE TANGENT WITH DAVIT ARMS (Double Circuit)



TYPICAL RIGHT-OF-WAY CROSS SECTION

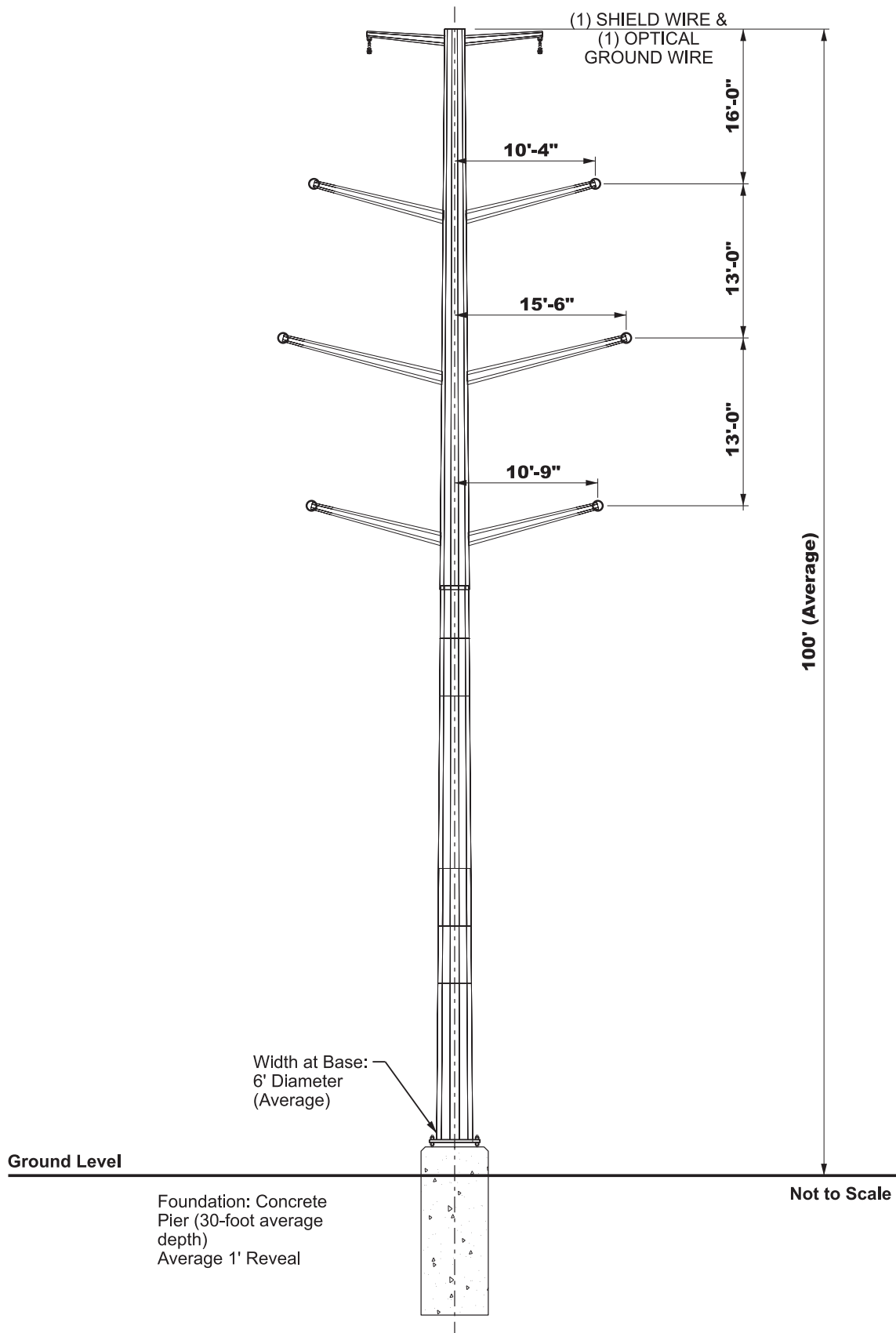
EXHIBIT 17  
PROPOSED 138-kV TRANSMISSION STRUCTURES (Page 3 of 3)  
**STEEL MONOPOLE TANGENT WITH DAVIT ARMS (Double Circuit)**



COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

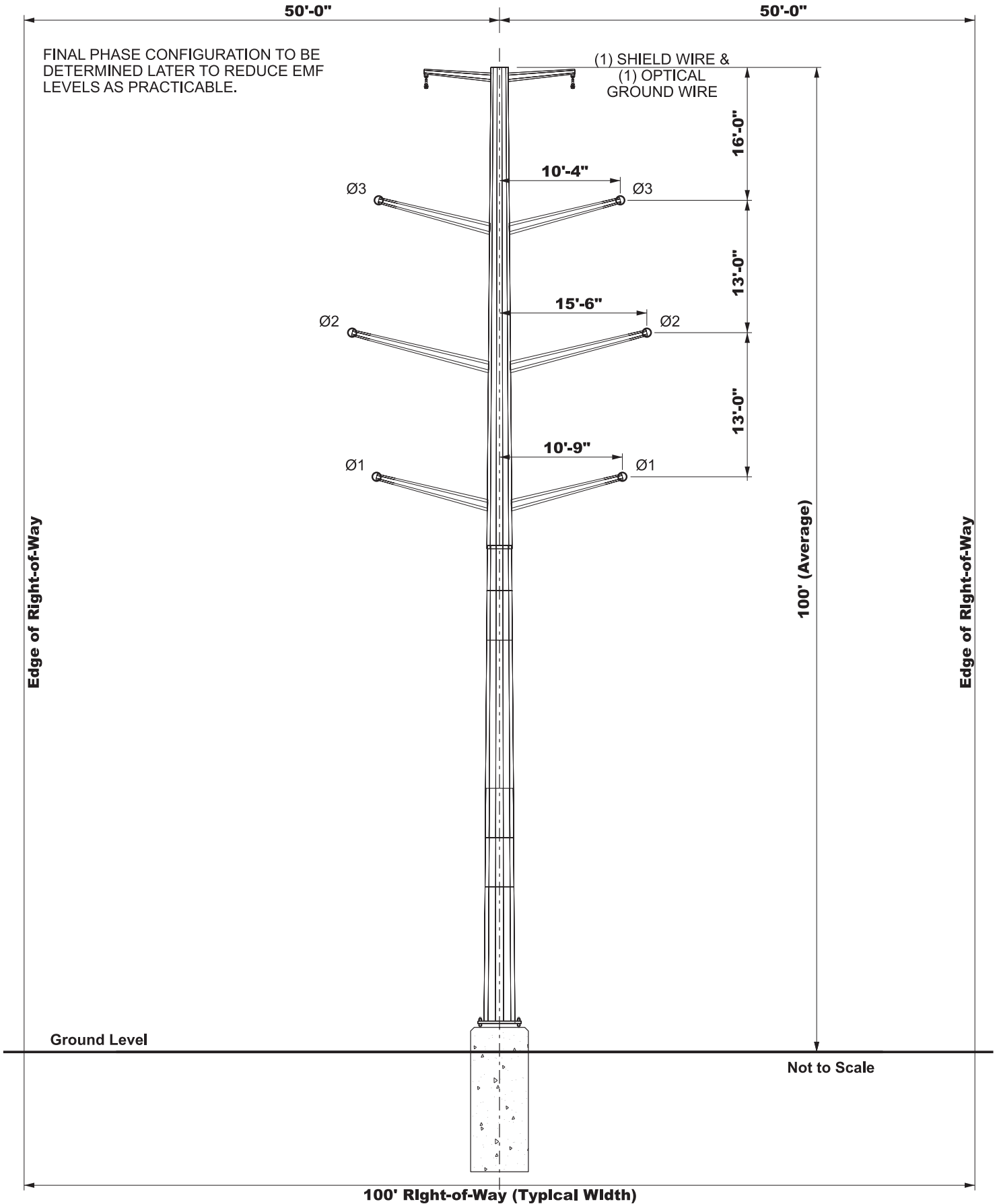
Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

# STEEL MONOPOLE DEAD-END WITH DAVIT ARMS (Double Circuit)



TYPICAL SCHEMATIC

# STEEL MONOPOLE DEAD-END WITH DAVIT ARMS (Double Circuit)



TYPICAL RIGHT-OF-WAY CROSS SECTION

## STEEL MONOPOLE DEAD-END WITH DAVIT ARMS (Double Circuit)

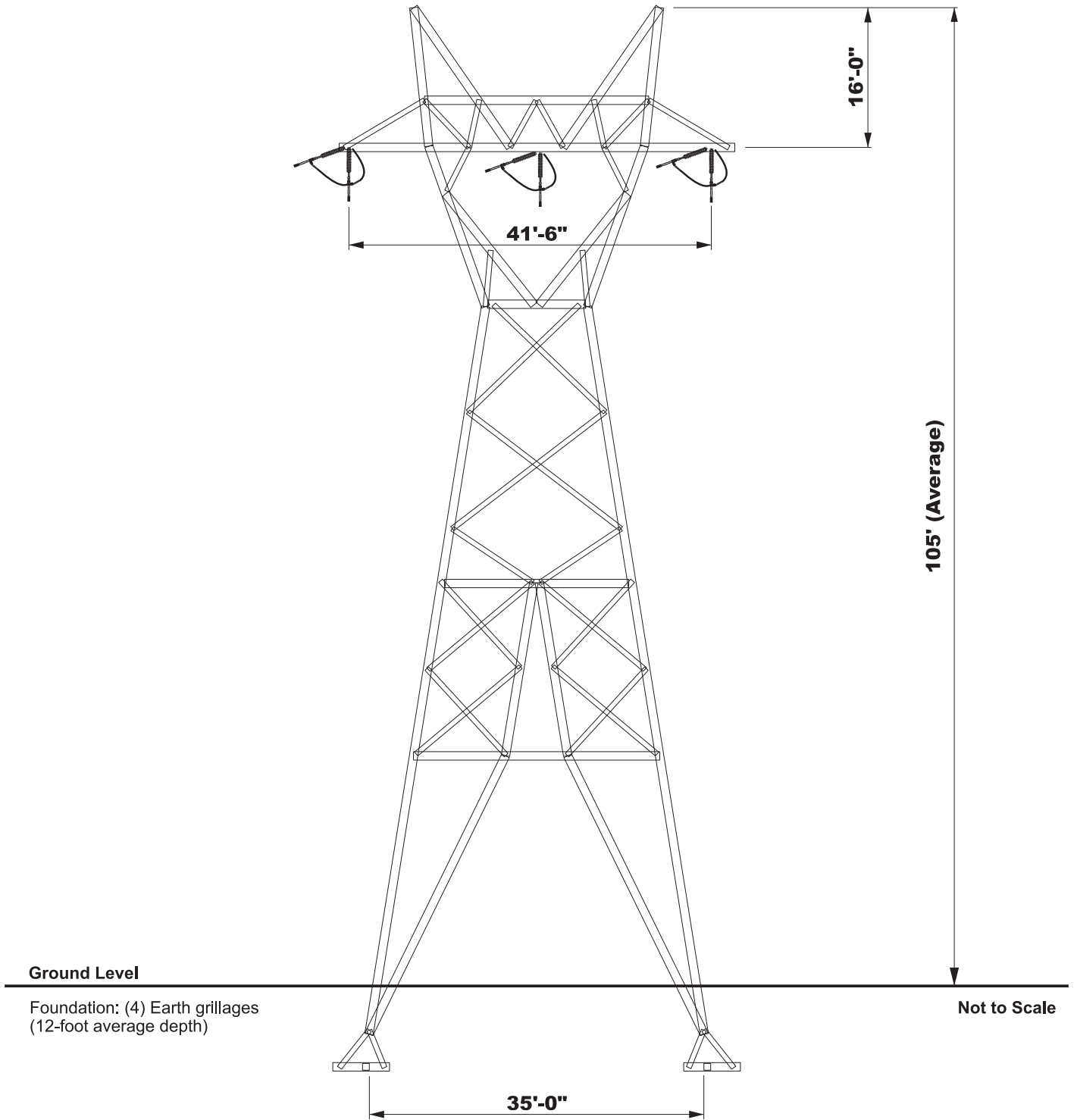


COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)

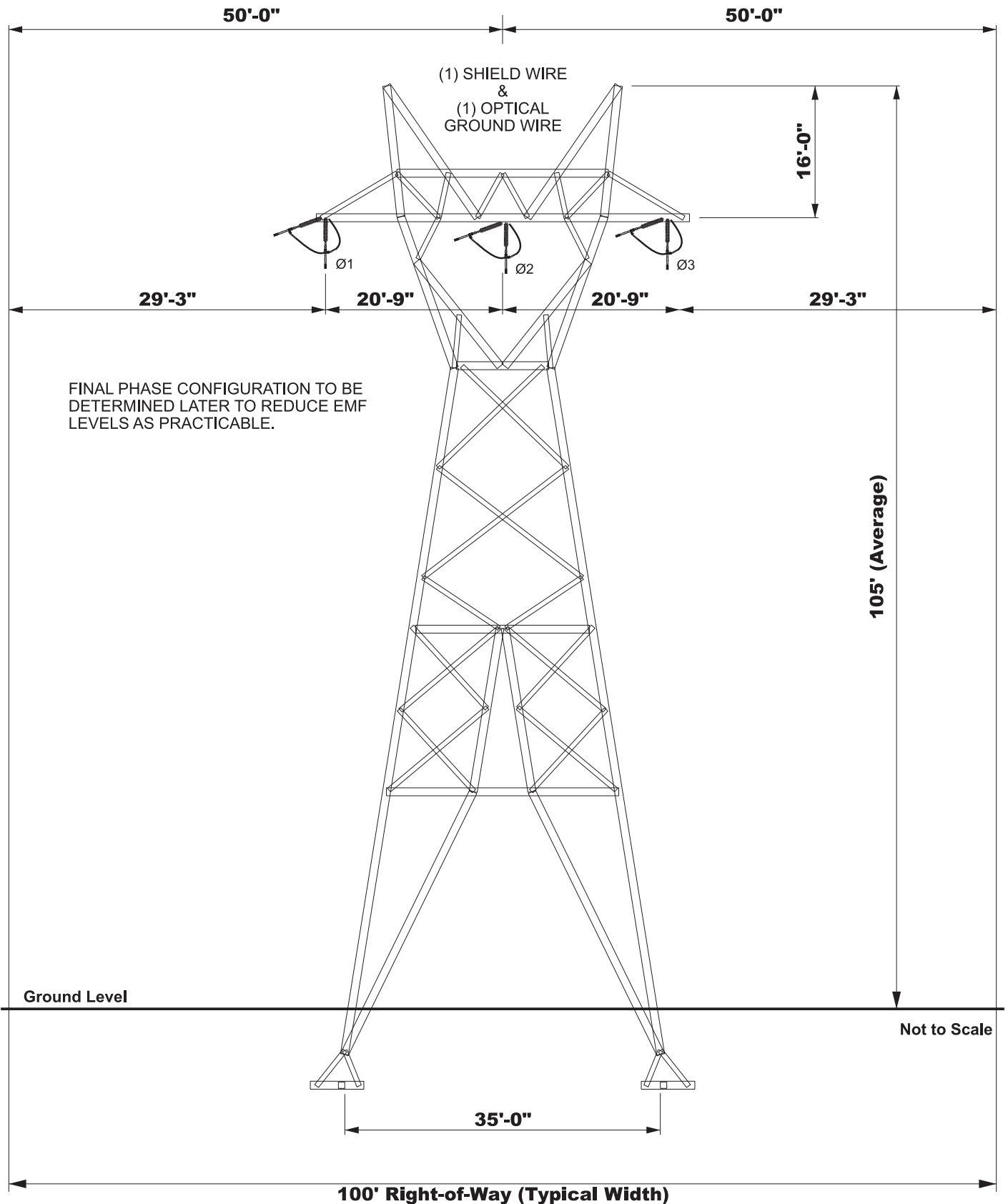
# SELF-SUPPORTING STEEL LATTICE TOWER (Single Circuit)

(1) SHIELD WIRE  
&  
(1) OPTICAL GROUND WIRE



TYPICAL SCHEMATIC

# SELF-SUPPORTING STEEL LATTICE TOWER (Single Circuit)



TYPICAL RIGHT-OF-WAY CROSS SECTION



COMPARABLE EXISTING STRUCTURE PHOTOGRAPH

Note: The proposed material for the typical structure will be galvanized steel with a dulled finish (as shown above)



## **AGENCY CORRESPONDENCE**

<b>Stuart Area 138-kV Transmission Improvements Project Agency Correspondence</b>						
<b>Jurisdiction</b>	<b>Component(s)</b>	<b>Full Name</b>	<b>Title</b>	<b>Organization</b>	<b>Date Notice Sent</b>	<b>Date Response Received</b>
<b>STATE</b>	<b>1, 2, 3</b>	Ms. Amy Ewing	Biologist Manager	Virginia Department of Wildlife Resources (DWR) Wildlife Information and Environmental Services Section	November 23, 2021.	No response received.
<b>STATE</b>	<b>1, 2, 3</b>	Mr. Wil Orndorff	Karst Protection Coordinator	Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program	November 23, 2021.	No response received.
<b>STATE</b>	<b>1, 2, 3</b>	Ms. René Hypes	Environmental Review Coordinator	Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program	November 23, 2021.	December 17, 2021
<b>STATE</b>	<b>1, 2, 3</b>	Mr. Irvine Wilson	Natural Area Protection Specialist	Virginia Department of Conservation and Recreation (DCR)	November 23, 2021.	No response received.
<b>STATE</b>	<b>1, 2, 3</b>	Mr. Robert Weld	Regional Director	Virginia Department of Environmental Quality, Blue	November 23, 2021.	No response received.

<b>Stuart Area Transmission Improvements Project Agency Correspondence</b>						
<b>Jurisdiction</b>	<b>Component(s)</b>	<b>Full Name</b>	<b>Title</b>	<b>Organization</b>	<b>Date Notice Sent</b>	<b>Date Response Received</b>
				Ridge Regional Office		
<b>STATE</b>	<b>1, 2, 3</b>	Ms. Michelle Henicheck	Senior Wetland Ecologist	Virginia Department of Environmental Quality, Central Office	November 23, 2021.	No response received.
<b>STATE</b>	<b>1</b>	Mr. Jeffrey Hurst	Regional Director	Virginia Department of Environmental Quality, Southwest Regional Office	November 23, 2021.	No response received.
<b>STATE</b>	<b>1, 2, 3</b>	Ms. Bettina Rayfield	Manager, Environmental Impact Review	Virginia Department of Environmental Quality, Office of Environmental Impact Review	November 23, 2021.	No response received.
<b>STATE</b>	<b>1, 2, 3</b>	Mr. Jay Roberts	VWP Permit Manager	Virginia Department of Environmental Quality, Office of Wetland and Stream Protection, Blue Ridge Regional Office	November 23, 2021.	No response received.
<b>STATE</b>	<b>1</b>	Ms. Kelly Miller	Stormwater Manager	Virginia Department of Environmental	November 23, 2021.	No response received.

Stuart Area Transmission Improvements Project Agency Correspondence						
Jurisdiction	Component(s)	Full Name	Title	Organization	Date Notice Sent	Date Response Received
				Quality, Department of Water, Southwest Regional Office		
STATE	1, 2, 3	Mr. Randy Owen	Chief of Habitat Management	Virginia Marine Resources Commission, Habitat Management Division	November 23, 2021.	No response received.
STATE	1, 2, 3	Ms. Jennifer Perkins	Coordinator	Virginia Department of Agriculture and Consumer Services, Office of Farmland Preservation	November 23, 2021.	No response received.
STATE	1, 2, 3	Mr. Timothy Roberts	Project Review Archaeologist	Virginia Department of Historic Resources (DHR), Review and Compliance Division (RCD)	November 23, 2021.	December 22, 2021
STATE	1, 2, 3	Ms. Martha Little	Deputy Director of Stewardship	Virginia Outdoors Foundation	November 23, 2021.	January 20, 2022
STATE	1, 2, 3	Mr. Tommy Oravetz	Conservation Specialist	Virginia Outdoors	November 23, 2021.	No response received.

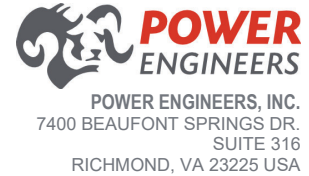
Stuart Area Transmission Improvements Project Agency Correspondence						
Jurisdiction	Component(s)	Full Name	Title	Organization	Date Notice Sent	Date Response Received
				Foundation, Blacksburg Office		
STATE	1, 2, 3	Mr. Karl Didier	Forestland Conservation Program Manager	Virginia Department of Forestry	November 23, 2021.	January 7, 2022
STATE	3	Mr. Keith Kevin	Area Forester	Virginia Department of Forestry, Spencer Office	November 23, 2021.	No response received.
STATE	2	Mr. Hosack Daniel	Area Forester	Virginia Department of Forestry, Floyd Office	November 23, 2021.	No response received.
STATE	1, 2, 3	Mr. Scott Denny	Senior Aviation Planner	Virginia Department of Aviation	November 23, 2021.	December 7, 2021
STATE	1, 2, 3	Mr. David Spears	Director, Division of Geology and Mineral Resources	Virginia Department of Mines, Minerals, and Energy	November 23, 2021.	No response received.
STATE	1, 2, 3	Mr. Jeffrey Wells	Regional Director	Virginia Department of Health, Office of Drinking Water, Danville Field Office	November 23, 2021.	December 13, 2021
STATE	1, 2	Mr. Brian Blankenship	Regional Director	Virginia Department of Health, Office of Drinking Water,	November 23, 2021.	No response received.

Stuart Area Transmission Improvements Project Agency Correspondence						
Jurisdiction	Component(s)	Full Name	Title	Organization	Date Notice Sent	Date Response Received
				Abingdon Field Office		
STATE	1, 2, 3	Mr. Ken King, P.E.	District Engineer	Virginia Department of Transportation (VDOT) Salem District	November 23, 2021.	No response received.
STATE	1, 2, 3	Mr. Michael Gray	District Planner	Virginia Department of Transportation (VDOT) Salem District	November 23, 2021.	January 3, 2022
STATE	1, 2, 3		Regulator of the Day	U.S. Army Corps of Engineers (USACE) Norfolk District, Western Section	November 23, 2021.	No response received.
STATE	1, 2, 3	Ms. Diana Esher	Acting Regional Administrator	U.S. Environmental Protection Agency (EPA) Region 3	November 23, 2021.	No response received.
STATE	1, 2, 3	Ms. Cindy Schulz	Field Supervisor	U.S. Fish and Wildlife Service (USFWS) Virginia Ecological Services	November 23, 2021.	No response received.
FEDERAL	1, 2, 3	Mr. Troy Andersen	Supervisory Fish & Wildlife Biologist	U.S. Fish and Wildlife Service (USFWS) Virginia	November 23, 2021.	No response received.

Stuart Area Transmission Improvements Project Agency Correspondence						
Jurisdiction	Component(s)	Full Name	Title	Organization	Date Notice Sent	Date Response Received
				Ecological Services		
<b>FEDERAL</b>	<b>1, 2, 3</b>	Mr. John Harper	State Soil Scientist and State Resource Inventory Coordinator	U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Virginia	November 23, 2021.	No response received.
<b>FEDERAL</b>	<b>1, 2, 3</b>	Mr. John Simkins	Planning and Environment Team Lead	U.S. Department of Transportation (DOT) Federal Highway Administration, Virginia Division	November 23, 2021.	No response received.
<b>FEDERAL</b>	<b>1, 2, 3</b>	Mr. Jeff Slaughter	Manager	U.S. Department of Transportation (DOT) Federal Aviation Administration (FAA) Flight Standards District Office	November 23, 2021.	December 8, 2021
<b>FEDERAL</b>	<b>1, 2, 3</b>	Ms. Patricia Henn	Manager	U.S. Department of Transportation (DOT) Federal Aviation Administration	November 23, 2021.	No response received.

Stuart Area Transmission Improvements Project Agency Correspondence						
Jurisdiction	Component(s)	Full Name	Title	Organization	Date Notice Sent	Date Response Received
				(FAA) Eastern Region, Planning & Programming Branch		
<b>FEDERAL</b>	<b>2</b>	Ms. Heather McNichols	Realty Specialist	National Park Service (NPS) Blue Ridge Parkway	November 23, 2021.	No response received.





November 23, 2021

RE: Appalachian Power Company – Stuart Area Improvements Project: Carroll, Floyd, Henry, Patrick Counties, Virginia

Dear:

Appalachian Power Company (Appalachian Power) is proposing the Stuart Area Improvements Project (the Project), which is comprised of several components. Appalachian Power contracted POWER Engineers, Inc. (POWER) to conduct route selection studies for the Project's components and prepare the Certificate of Public Convenience and Necessity application for filing with the Virginia State Corporation Commission (SCC). On behalf of Appalachian Power, POWER is requesting your input on the Project's components: Stuart – Willis Gap, Stuart – Floyd, and Stuart – Bassett (**Attachment 1**). The upgrades replace equipment that is 80 to 100 years old, add an additional power source to the area, upgrade the voltage of equipment from 69-kilovolt (kV) to 138-kV, and add two new distribution substations to improve the local distribution system.

The first component, **Stuart – Willis Gap**, is located in Carroll and Patrick counties and includes the following in a new 100-foot-wide right-of-way (ROW):

- Build approximately 22 miles of new 138 kV transmission line (Patrick and Carroll counties)
- Build approximately 1.5 miles of new double-circuit 138 kV at a proposed 138 kV substation (Patrick County)
- Build two new 138 kV substations (Patrick County)
- Retire the Stuart Substation (Town of Stuart)
- Upgrade the Willis Gap and Huffman substations (Carroll County)

The second component, **Stuart – Floyd**, is located in Patrick and Floyd counties, and includes the following in or near existing ROW:

- Rebuild approximately 20 miles of 69 kV line to 138 kV standards (Patrick and Floyd counties)
- Upgrade the Woolwine Substation (Patrick County)
- Expand the Floyd Substation (Floyd County)

The third component, **Stuart – Bassett**, is located in Patrick and Henry counties, and includes the following in or near existing ROW:

- Rebuild approximately 30 miles of 69 kV line to 138 kV standards (Patrick and Henry counties)
- Build approximately two miles of new 138 kV line (Henry County)
- Build two new 138 kV substations in Henry County
- Upgrade the Fieldale and Philpott substations (Henry County)
- Retire the Philpott Switch, West Bassett, Bassett, and Stanleytown substations (Henry County)

November 10, 2021

Appalachian Power Company and POWER have identified study segments for the Stuart – Willis Gap component and a study area for the proposed substations and transmission line rebuilds. **Attachment 2** shows the Stuart – Willis Gap component in Carroll and Patrick counties. **Attachment 3** shows the Stuart – Floyd component in Patrick and Floyd counties, and **Attachment 4** shows the Stuart – Bassett component in Henry and Patrick counties.

Appalachian Power is requesting input from you during the route development and siting phase of the Project. We appreciate your input and your comments will be incorporated into the filing with the SCC. Appalachian Power plans to file the Project in Fall 2022. Please distribute this notification to staff members who may be involved with the phases for review and comment.

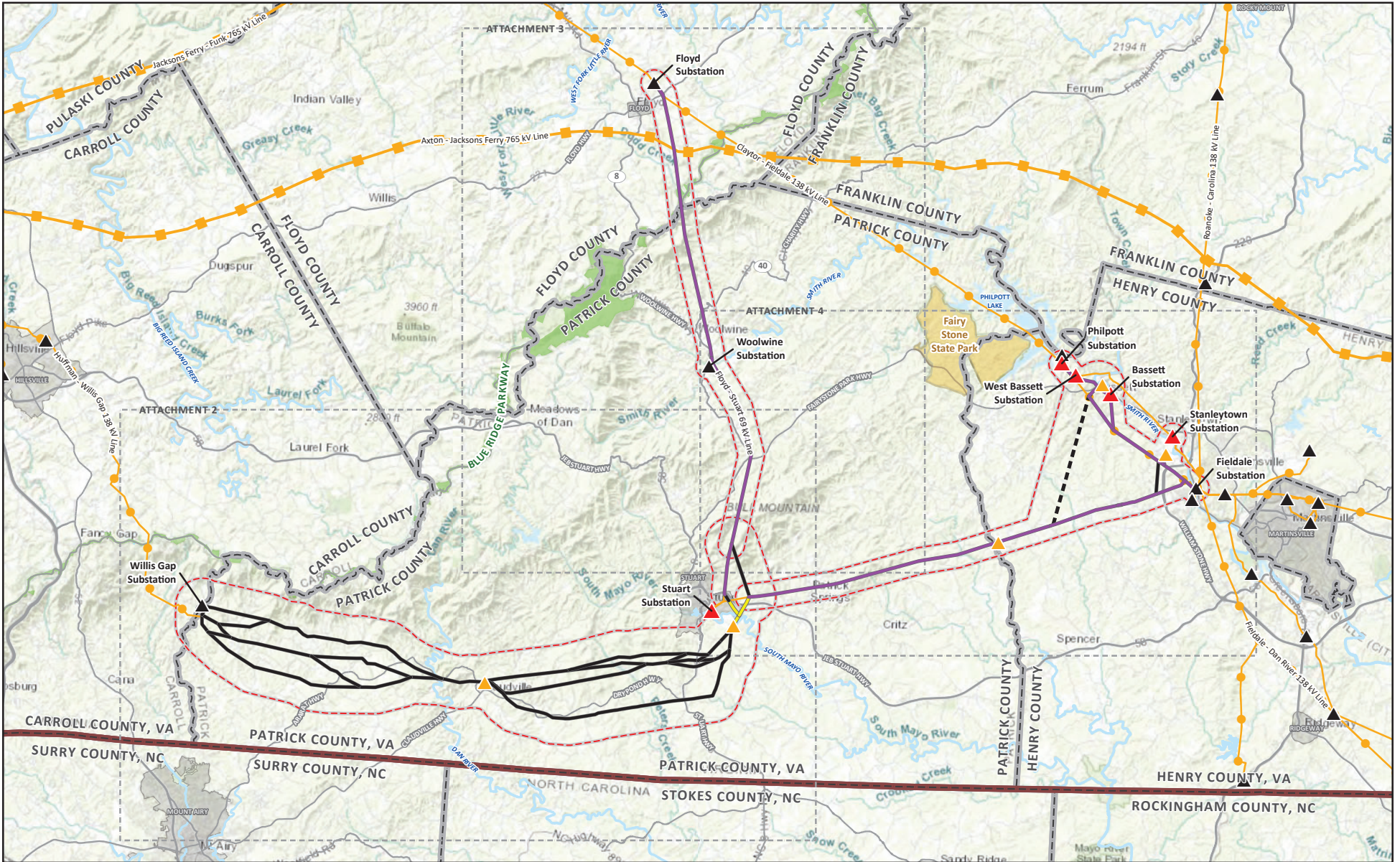
Should you have questions, please contact me via email at [roya.pardis@powereng.com](mailto:roya.pardis@powereng.com) or by phone at 281-765-5548. If you wish to speak with an Appalachian Power representative, please contact Scott Kennedy via email at [skennedy@aep.com](mailto:skennedy@aep.com).

Sincerely,



Roya Pardis  
POWER Engineers, Inc.

Enclosure(s): Attachment 1: Stuart Area Improvements Project Map  
Attachment 2: Stuart – Willis Gap Component Map  
Attachment 3: Stuart – Floyd Component Map  
Attachment 4: Stuart – Bassett Component Map



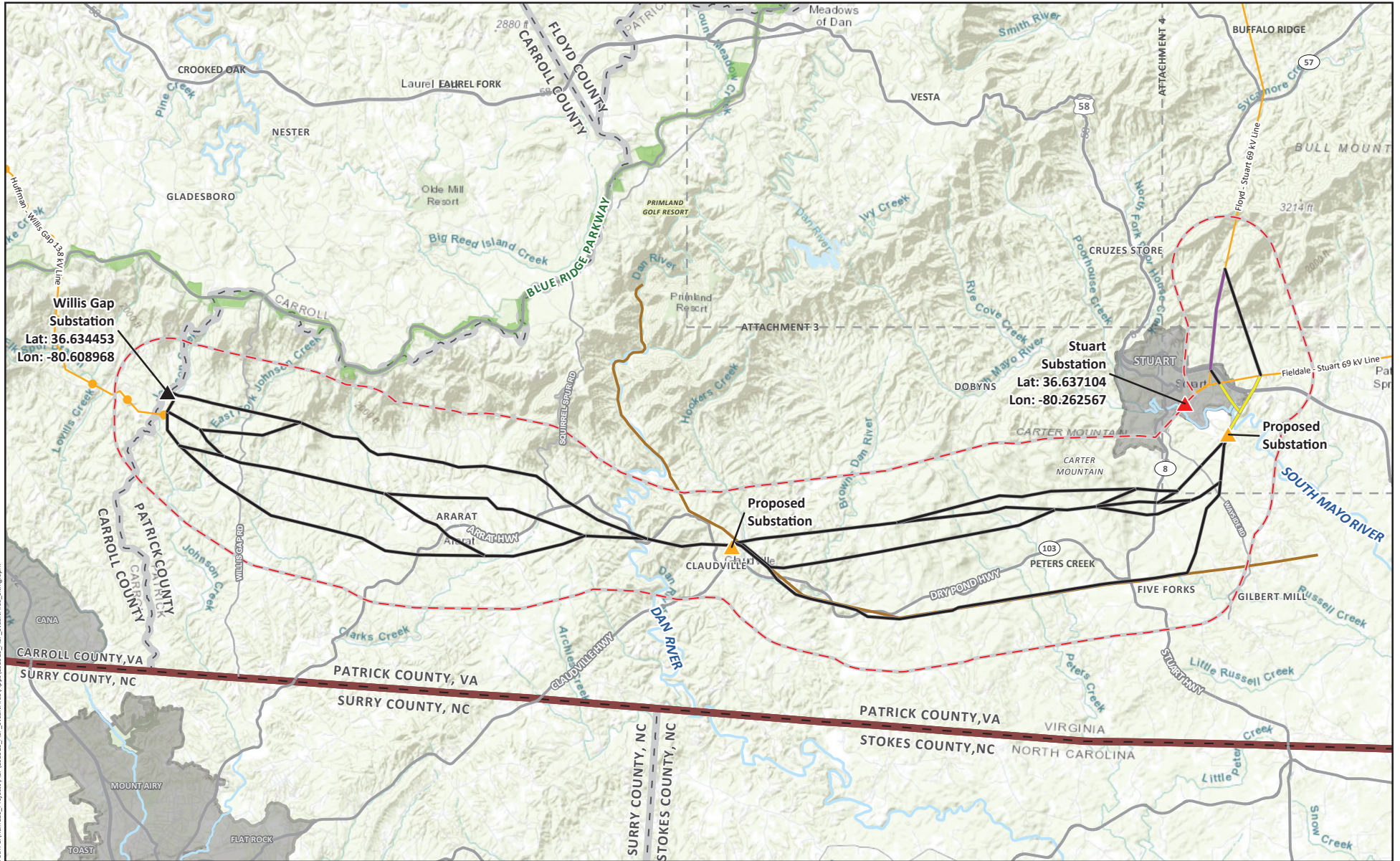
Study Area	138 kV Single Circuit Study Segments (New ROW)	Existing AEP Transmission (345 kV +)	Town Boundary
Proposed 138 kV Substation	138 kV Single Circuit Study Segment (Existing ROW)	Alternate 138 kV Line Under Review (New ROW)	County Boundary
Existing AEP Substation	Alternate 138 kV Line Under Review (New ROW)	Existing AEP Transmission (69 kV or lower)	VA/NC State Boundary
Substation to be Retired	Existing AEP Transmission (115 kV - 230 kV)	River (NHD)	Map Grid
Study Segments (New ROW)	State Lands	Blue Ridge Parkway National Park	

0 1 2 4 Miles
   
 Transmission line routes are preliminary and are subject to change. Not for public distribution.

Project Location

**PROJECT STUDY AREA**  
 Carroll, Floyd, Henry, & Patrick Counties, Virginia  
 NAD 1983 StatePlane Virginia South FIPS 4502 Feet  
 Lambert Conformal Conic  
 North American 1983  
 Date: 11/15/2021  
 Author: CK  
 POWER: 158529

**ATTACHMENT 1**  
 Stuart Area Improvements Project

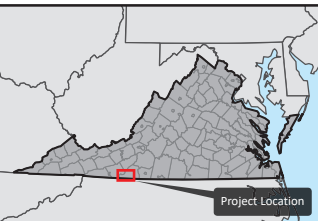


Path: C:\Bam120\_Projects\AEP\158529\_AEP\_StuartArea\AEP\158529\_AEP\_StuartArea\_Single.aprx

	Study Area		138 kV Double Circuit Study Segments (New ROW)		River (NHD)
	Proposed 138 kV Substation		Existing AEP Transmission (69 kV or lower)		Blue Ridge Parkway National Park
	Existing AEP Substation		Existing AEP Transmission (115 kV - 230 kV)		County Boundary
	Substation to be Retired		Existing AEP Transmission (345 kV +)		VA/NC State Boundary
	138 kV Single Circuit Study Segments (New ROW)		City of Danville 69 kV Line (digitized)		Town Boundary
	138 kV Single Circuit Study Segment (Existing ROW)		Highway		

0 0.5 1 2  
Miles

Transmission line routes are preliminary and are subject to change. Not for public distribution.





**PROJECT STUDY AREA**

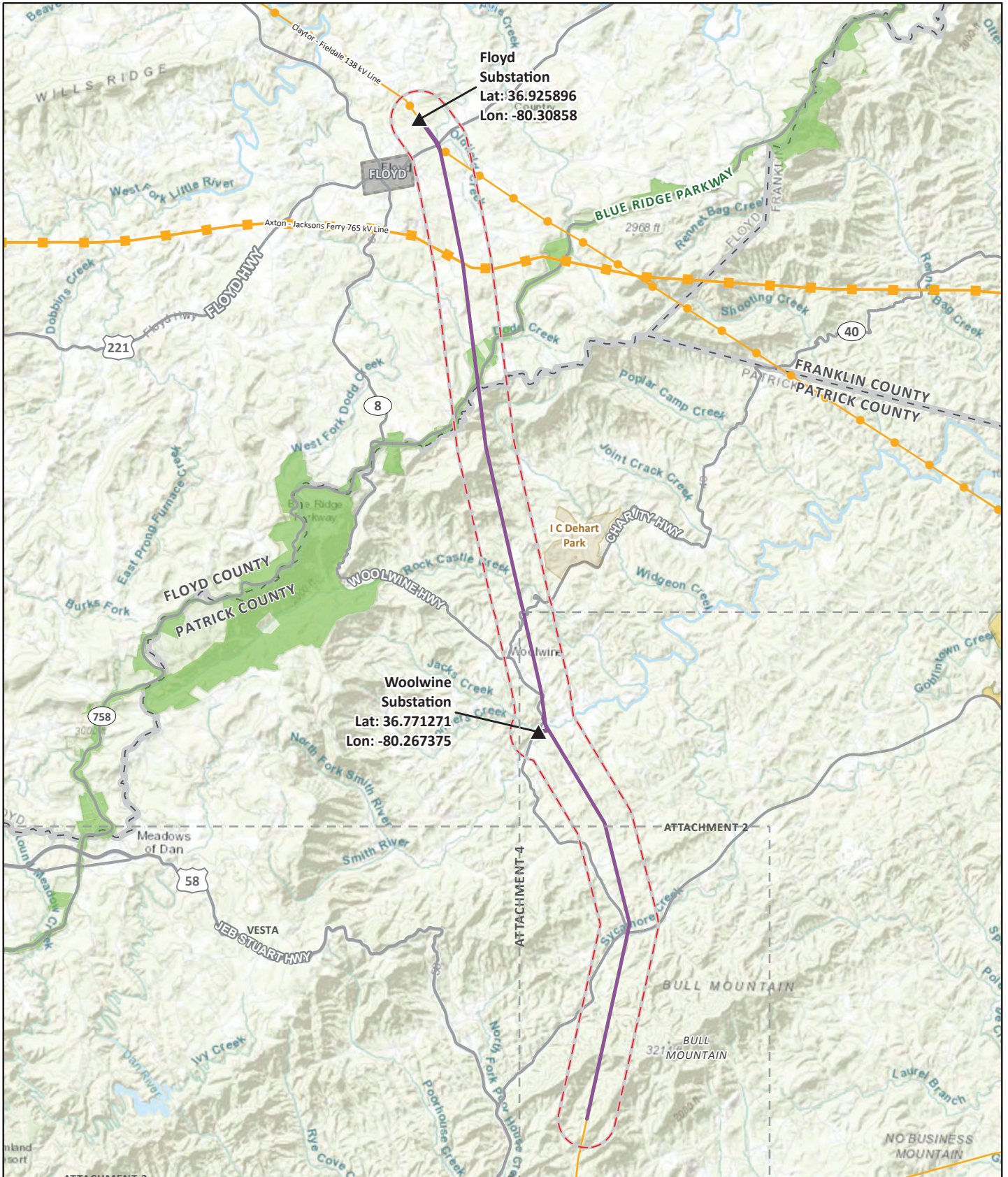
Carroll & Patrick Counties, Virginia

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

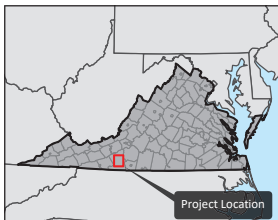
Date: 11/11/2021  
Author: CK  
POWER: 158529

**ATTACHMENT 2**  
Stuart Area Improvements Project

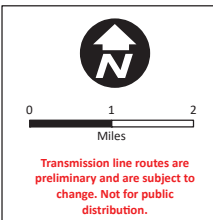





Path: C:\Ram120\_Projects\AEP\AEP\_StuartArea\Apps\158529\_AEP\_StuartArea\_Siting.aprx



- ▭ Study Area
- ▲ Existing AEP Substation
- 138 kV Study Segment (in or near Existing ROW)
- Existing AEP Transmission (69 kv or lower)
- Existing AEP Transmission (115 kv - 230 kv)
- Existing AEP Transmission (345 kv +)
- Highway
- Blue Ridge Parkway National Park
- County Boundary
- River (NHD)
- Town Boundary
- Local Park
- State Lands

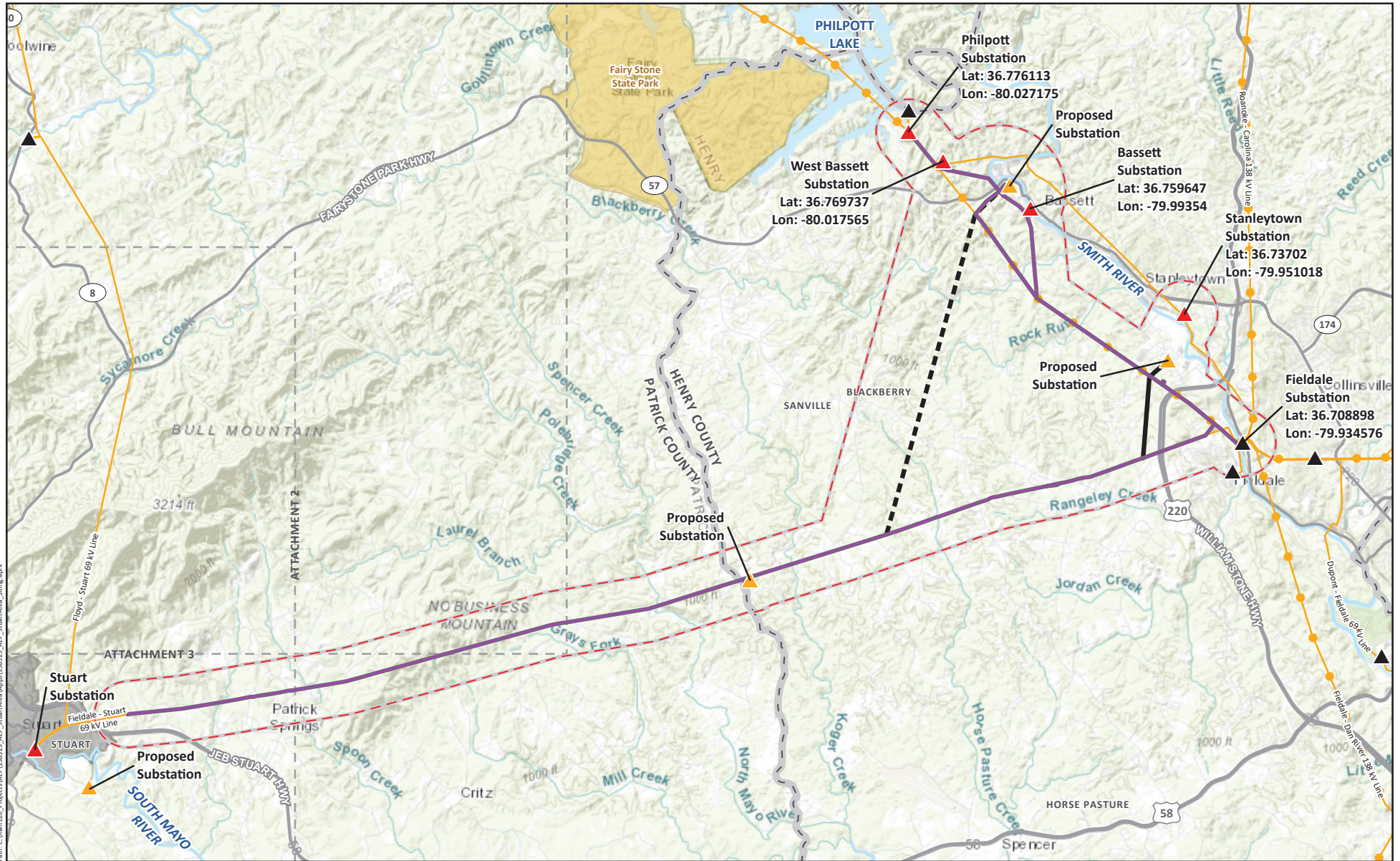


Floyd & Patrick Counties  
Virginia,

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

Date: 11/15/2021  
By: CK  
POWER: 158529

**ATTACHMENT 3**  
Stuart Area Improvements  
Project



Path: C:\Bram120\_Projects\AEP\158529\_AEP\_StuartArea\0pp\158529\_AEP\_StuartArea\_Single.aprx

Study Area	138 kV Study Segment (New ROW)	Highway
Proposed 138 kV Substation	Alternate 138 kV Line Under Review (New ROW)	County Boundary
Existing AEP Substation	Existing AEP Transmission (69 kv or lower)	River (NHD)
Substation to be Retired	Existing AEP Transmission (115 kv - 230 kv)	Town Boundary
138 kV Study Segment (in or near Existing ROW)	Road	State Lands

0 0.75 1.5  
Miles

Transmission line routes are preliminary and are subject to change. Not for public distribution.

Project Location

**PROJECT STUDY AREA**

Henry & Patrick Counties, Virginia

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

Date: 11/11/2021  
Author: CK  
POWER: 158529

**ATTACHMENT 4**  
Stuart Area Improvements Project

APPALACHIAN POWER  
POWER ENGINEERS



# COMMONWEALTH of VIRGINIA

Mark K. Flynn  
Director

**Department of Aviation**  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

December 7, 2021

Ms. Roya Pardis  
Power Engineers, Inc.  
7400 Beaufort Springs Drive  
Suite 316  
Richmond, Virginia 23225

RE:     Appalachain Power Company Stuart Area Improvements Project: Carroll, Floyd, Henry, Patrick Counties,  
          Virginia

Dear Ms. Pardis:

Thank you for your letter dated November 22, 2021 requesting our courtesy review of the above referenced project. Following our review the Department finds that a portion of the proposed project lies within 20,000 linear feet of the Blue Ridge Airport. This portion of the project is located between the proposed Stuart Substation and the Fieldale Substation.

Any portion of the proposed project that is within 20,000 linear feet of a public-use airport and/or reaches a height of 200' above ground level requires a 7460 Airspace Study to be submitted to the Federal Aviation Administration (FAA) for review. This airspace study will determine if the development of the project will result in the creation of a "hazard to air navigation". Provided the FAA determines the proposed project will not result in the creation of a hazard to air navigation, the Department has no objection to the project as it has been presented. Please note that a 7460 form should also be submitted for any construction crane that will reach a height above ground level of 200'.

Please contact me if you have any question regarding these comments or if you would like to discuss the project further. I can be reached at (804) 236-3638 or via email at [scott.denny@doav.virginia.gov](mailto:scott.denny@doav.virginia.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Scott Denny', written over a light blue circular stamp.

S. Scott Denny  
Senior Aviation planner  
Virginia Department of Aviation

**From:** Pardis, Roya  
**To:** Dombrowski, Cheryl  
**Cc:** Weyant, Ryan  
**Subject:** FW: Appalachian Power  
**Date:** Wednesday, December 8, 2021 1:58:21 PM  
**Attachments:** [image001.png](#)  
[Appalachian Power Company letter dtd 11222021.pdf](#)

Cheryl,  
See the attached response from FAA for our records. We can remove them from future lists and just use the state dept contacts moving forward.

Ryan,  
Is it too early in the project to file prelim Stuart structures using the OE/AAA tool or is this something we have completed at a high-level?

Thanks!

ROYA PARDIS  
ENVIRONMENTAL PLANNER  
281-765-5548  
[ROYA.PARDIS@powereng.com](mailto:ROYA.PARDIS@powereng.com)  
**POWER Engineers, Inc.**  
[www.powereng.com](http://www.powereng.com)

**From:** 9-AEA-AVS-RICASA (FAA) <9-AEA-AVS-RICASA@faa.gov>  
**Sent:** Wednesday, December 8, 2021 8:55 AM  
**To:** Pardis, Roya <roya.pardis@powereng.com>  
**Subject:** [EXTERNAL] Appalachian Power

**CAUTION:** This Email is from an **EXTERNAL** source. **STOP. THINK** before you **CLICK** links or **OPEN** attachments.

Good Morning:

We are in receipt of the attached letter but our office does not process this type of request. The correct office should be Obstruction Evaluation/Airport Airspace Analysis (OE/AAA):  
<https://ocaaa.faa.gov/ocaaa/external/portal.jsp> [[ocaaa.faa.gov](https://ocaaa.faa.gov/)].

The website provides for both On and Off airport construction.

**If construction or alteration IS NOT LOCATED on an airport:**  
File forms 7460-1 and 7460-2 electronically via this website - New User Registration.  
E-filing your proposal is preferred because  
- It's the fastest, most accurate method to submit to the FAA and immediately assigns an aeronautical study number to your case.  
- It establishes an electronic communications link with FAA and allows you to obtain project status and notifications directly from this site.  
or  
If you are unable to file electronically please click [here](#)  
**Questions?** Please contact the [appropriate representative](#).

**If construction or alteration IS LOCATED on an airport:**  
File forms 7460-1 and 7480-1 electronically via this website - New User Registration.  
or  
Find the [FAA Airports Region / District Office](#) having jurisdiction over the airport on which the construction is located, and file to that address.

V/r,  
Richmond FSDO-21 Admin Team  
5707 Huntsman Rd., Ste. 100  
Richmond, VA 23250  
Office (804) 222-7494, ext. 1  
Fax (804) 222-4843

**PRIVACY NOTICE:** The information in this email is confidential and may be legally privileged. Access to this email by anyone other than the intended addressee is unauthorized. If you are not the intended recipient of this message, any review, disclosure, copying, distribution, retention, or any action taken or omitted or to be taken in reliance on it is prohibited and may be unlawful. If you are not the intended recipient, please reply to or forward a copy of this message to the sender and delete the message, any attachments, and any copies thereof from your system.



**From:** [Pardis, Roya](#)  
**To:** [Dombrowski, Cheryl](#)  
**Subject:** FW: [EXTERNAL] Appalachian Power Company - Stuart Area Improvements  
**Date:** Monday, December 13, 2021 7:47:49 AM

---

FYI

ROYA PARDIS  
ENVIRONMENTAL PLANNER

[281-765-5548](tel:281-765-5548)  
[804-822-6659 cell](tel:804-822-6659)  
**POWER Engineers, Inc.**  
[www.powereng.com](http://www.powereng.com)

---

**From:** Wells, Jeffrey <[jeff.wells@vdh.virginia.gov](mailto:jeff.wells@vdh.virginia.gov)>  
**Sent:** Monday, December 13, 2021 7:47 AM  
**To:** Pardis, Roya <[roya.pardis@powereng.com](mailto:roya.pardis@powereng.com)>  
**Cc:** skennedy@aep.com; Ray Weiland <[ray.weiland@vdh.virginia.gov](mailto:ray.weiland@vdh.virginia.gov)>  
**Subject:** [EXTERNAL] Appalachian Power Company - Stuart Area Improvements

<p><b>CAUTION:</b> This Email is from an <b>EXTERNAL</b> source. <b>STOP. THINK</b> before you CLICK links or OPEN attachments.</p>
---

Dear Mr. Pardis,

We received your letter dated November 22, 2021 outlining proposed improvements to electrical infrastructure in Carroll, Floyd, Henry and Patrick Counties.

We do not have any comments or objections to the proposed work.

Thank you for the opportunity to comment and please call or email with any questions.

*Jeffrey S. Wells, P.E.*

*Field Director*

*VDH-Office of Drinking Water*

*211 Nor Dan Drive, Suite 1040*

*Danville, Virginia 24540*

*Mainline (434) 836-8416*

*Directline (434) 549-8314*

**From:** [Pardis, Roya](#)  
**To:** [Dombrowski, Cheryl](#)  
**Subject:** Fwd: [EXTERNAL] Re: NEW SCOPING Stuart Area Improvements Project, Carroll, Floyd, Henry, and Patrick Counties  
**Date:** Monday, December 13, 2021 5:15:47 PM

---

ROYA PARDIS  
ENVIRONMENTAL PLANNER

**POWER Engineers, Inc.**  
[www.powereng.com](http://www.powereng.com)

---

**From:** Warren, Arlene <arlene.warren@vdh.virginia.gov>  
**Sent:** Monday, December 13, 2021 4:57:52 PM  
**To:** Pardis, Roya <roya.pardis@powereng.com>  
**Cc:** rr Environmental Impact Review <eir@deq.virginia.gov>  
**Subject:** [EXTERNAL] Re: NEW SCOPING Stuart Area Improvements Project, Carroll, Floyd, Henry, and Patrick Counties

<b>CAUTION:</b> This Email is from an <b>EXTERNAL</b> source. <b>STOP. THINK</b> before you <b>CLICK</b> links or <b>OPEN</b> attachments.
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**Project Name: NEW SCOPING Stuart Area Improvements Project**

Project #: N/A

UPC #: N/A

**Location: Carroll, Floyd, Henry, & Patrick Counties**

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

The following public groundwater wells are located within a 1 mile radius of the project site (wells within a 1,000 foot radius are formatted in **bold**):

PWS ID Number	City/County	System Name	Facility Name
<b>1063220</b>	<b>FLOYD</b>	<b>FLOYD-FLOYD CO PSA</b>	<b>WELL NO. 6</b>
1063220	FLOYD	FLOYD-FLOYD CO PSA	WELL NO.1 - CHRISTIE WELL
1063220	FLOYD	FLOYD-FLOYD CO PSA	WELL NO.2 - SHORTT WELL
1063220	FLOYD	FLOYD-FLOYD CO PSA	WELL NO.3 - FRANK SWEENEY WELL
1063155	FLOYD	FLOYD ECO VILLAGE COMMUNITY CENTER	ECO VILLAGE COMMUNITY CENTER
5141285	PATRICK	DOLLAR GENERAL-WOOLWINE	WELL NO. 1
5141815	PATRICK	WOOLWINE ELEMENTARY SCHOOL	WELL NO. 1
5141815	PATRICK	WOOLWINE ELEMENTARY SCHOOL	WELL NO. 2
5141548	PATRICK	ORCHARD VIEW MARKET	DRILLED WELL
5141805	PATRICK	HANESBRANDS_ INC.	WELL NO. 3

The following surface water intakes are located within a 5 mile radius of the project site:

PWS ID Number	System Name	Facility Name

5141640

STUART\_ TOWN OF

SOUTH MAYO RIVER RAW WATER INTAKE

The project is within the watershed of the following public surface water sources:

PWS ID Number	System Name	Facility Name
1750100	RADFORD, CITY OF	INTAKE ON NEW RIVER
1121057	NRV REGIONAL WATER AUTH	NEW RIVER (RAW WATER) PUMP STATION
1121643	RADFORD ARMY AMMUNITION PLANT	NEW RIVER
5117310	CLARKSVILLE, TOWN OF	KERR RESERVOIR INTAKE
5089852	UPPER SMITH RIVER WATER SUPPLY	SMITH RIVER INTAKE
5117707	ROANOKE RIVER SERVICE AUTHORITY	LAKE GASTON INTAKE
5780600	HCSA- LEIGH STREET PLANT	RAW WATER INTAKE
5590100	DANVILLE, CITY OF	DAN RIVER INTAKE

Best Management Practices should be employed, including Erosion & Sedimentation Controls and Spill Prevention Controls & Countermeasures on the project site.

Well(s) within a 1,000 foot radius from project site should be field marked and protected from accidental damage during construction.

Materials should be managed while on site and during transport to prevent impacts to nearby surface water.

***The Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any questions, please let me know.***

Best Regards,

Arlene Fields Warren

**GIS Program Support Technician**

**Office of Drinking Water**

**Virginia Department of Health**

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Mon, Dec 6, 2021 at 2:05 PM Fulcher, Valerie <[valerie.fulcher@deq.virginia.gov](mailto:valerie.fulcher@deq.virginia.gov)> wrote:

**Good afternoon—attached is a request for scoping comments on the following:**

**Stuart Area Improvements Project: Carroll, Floyd, Henry and Patrick Counties**

If you choose to make comments, please send them directly to the project sponsor ([Roya.pardis@powereng.com](mailto:Roya.pardis@powereng.com)) and copy the DEQ Office of Environmental Impact Review: [eir@deq.virginia.gov](mailto:eir@deq.virginia.gov). We will coordinate a review when the environmental document is completed.

DEQ-OEIR's scoping response is also attached.

If you have any questions regarding this request, please email our office at [eir@deq.virginia.gov](mailto:eir@deq.virginia.gov).

Valerie

--

Valerie A. Fulcher, CAP, OM, Admin/Data Coordinator Senior

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

[804/698-4330](tel:8046984330)

Email: [Valerie.Fulcher@deq.virginia.gov](mailto:Valerie.Fulcher@deq.virginia.gov)

<https://www.deq.virginia.gov/permits-regulations/environmental-impact-review>  
[\[deq.virginia.gov\]](https://www.deq.virginia.gov)

**OUR ENFORCEABLE POLICIES HAVE BEEN UPDATED FOR 2021:** <https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency> [\[deq.virginia.gov\]](https://www.deq.virginia.gov)

For program updates and public notices please subscribe to Constant

Contact: <https://lp.constantcontact.com/su/MVcCump/EIR> [\[lp.constantcontact.com\]](https://lp.constantcontact.com)

Ann Jennings  
Secretary of Natural and Historic  
Resources and Chief Resilience Officer

Clyde E. Cristman  
Director



**COMMONWEALTH of VIRGINIA**  
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz  
Deputy Director of  
Administration and Finance

Nathan Burrell  
Deputy Director of  
Government and Community Relations

Darryl M. Glover  
Deputy Director of  
Dam Safety & Floodplain  
Management and Soil & Water  
Conservation

Thomas L. Smith  
Deputy Director of  
Operations

December 17, 2021

Cheryl Dombrowski  
POWER Engineers, Inc.  
7400 Beaufont Springs Drive, Suite 316  
Richmond VA, 23225

Re: 158529, Stuart Area Improvements Project

Dear Ms. Dombrowski:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

**Smith River Component**

According to the information currently in our files, this site is located within the Smith River Slope Conservation Site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Smith River Slope Conservation Site has been given a biodiversity significance ranking of B5, which represents a site of general significance. The natural heritage resources associated with this site are:

*Stewartia ovata*

Mountain Camellia

G4/S2/NL/NL

Mountain camellia is a mountain-coastal plain disjunct. Mountain camellia is uncommon throughout its range and is considered very rare in Virginia. A shrub of the tea family, mountain camellias have simple oval leaves and bear white flowers in mid-summer. They tend to grow on mesic to dry, mostly acidic forests, especially on river bluffs and ravine slopes among dense ericaceous shrubs. Threats to populations include direct habitat destruction from clearing or erosion and alteration of the species microclimate through clearing of adjacent lands (Clark, 1993). This species is currently known from only 4 locations and historically known from multiple locations in Virginia.

600 East Main Street, 24<sup>th</sup> Floor | Richmond, Virginia 23219 | 804-786-6124

*State Parks • Soil and Water Conservation • Outdoor Recreation Planning  
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

Additionally, the Rich Creek Conservation Site is located within the project site including a 100 foot buffer. The Rich Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Small-anthered bittercress                      Cardamine micranthera                      G2/S2/LE/LE

Small-anthered bittercress inhabits seepages, wet rock crevices, streambanks, sandbars, and wet woods along streams. Threats to this species include impoundment, channelization, conversion of habitat for agriculture/silviculture, and flooding (U.S. Fish and Wildlife Service, 1991). Small-anthered bittercress is known from one county, Patrick, in Virginia and one extant county, Stokes, in North Carolina. Surveys for small-anthered bittercress are recommended from April 22 -May 15 when the plant is in flower and most visible, as well as being most distinguishable from round-leaf watercress (*Cardamine rotundifolia*). Please note that this species is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Agriculture and Consumer Services (VDACS).

This project has the potential to impact a large percentage of the known populations of Small-anthered bittercress. In addition, according to DCR's predicted suitable habitat modeling and review by a DCR biologist, there is a potential for additional undocumented populations of Small-anthered bittercress to occur in the project area if suitable habitat exists on site.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for Small-anthered bittercress in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at [anne.chazal@dcr.virginia.gov](mailto:anne.chazal@dcr.virginia.gov) or 804-786-9014 to discuss availability and rates for field work. A list of other individuals who are qualified to conduct inventories may be obtained from the USFWS.

Furthermore, the Smith River - Jordan Creek Stream Conservation Unit (SCU) is located immediately downstream from the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Smith River – Jordan Creek SCU has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern associated with this site is:

*Percina rex*    Roanoke logperch    G1G2/S1S2/LE/LE

The Roanoke logperch is endemic to the Roanoke and Chowan River drainages in Virginia (Burkhead and Jenkins, 1991) and inhabits medium and large, warm and usually clear rivers with sandy to boulder spotted bottoms (NatureServe, 2009). Please note that this species is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Wildlife Resources (VDWR).

The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991).

In addition, the Smith River has been designated by the VDWR as a “Threatened and Endangered Species Water” for this species.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Roanoke logperch, DCR also recommends coordination with the USFWS and the VDWR to ensure compliance with protected species legislation.

DCR recommends avoidance of all conservation sites and impacts to associated natural heritage resources.

### Woolwine Component

According to the information currently in our files, the Oldfield Creek Seep Conservation Site is located within the project site including a 100 foot buffer. The Oldfield Creek Seep Conservation Site has been given a biodiversity significance ranking of B5, which represents a site of general significance. The natural heritage resource of concern at this site is:

<i>Epilobium leptophyllum</i>	Bog Willow Herb	G5/S2S3/NL/NL
-------------------------------	-----------------	---------------

Bog willow herb is a perennial plant that reaches a maximum height of 40 inches (Minnesota Wildflowers, 2021). It is found in bogs, fens, seeps and boggy meadows with a variety of soil chemistry often at higher elevations (Virginia Botanical Associates, 2021). The flowers are white to pink and give rise to a dry dehiscent fruit that produces numerous seeds (Minnesota Wildflowers, 2021).

The Thomas Grove Flats is also located within the project site including a 100 foot buffer. The Thomas Grove Flats Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

<i>Lilium grayi</i>	Gray’s lily	G3/S2/NL/NL
<i>Glyptemys muhlenbergii</i> ,	Bog Turtle	G3/S2/LT/LE
<i>Epilobium leptophyllum</i>	Bog Willow Herb	G5/S2S3/NL/NL
<i>Calopogon tuberosus</i>	Tuberous Grass-pink	G5/S1S2/NL/NL

Furthermore, both Slusher Bog Conservation Site and Robertson Bog Conservation Site occur within the project boundary. Slusher Bog Conservation Site and Robertson Bog Conservation Site have been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern associated with both conservation sites is:

<i>Glyptemys muhlenbergii</i> ,	Bog Turtle	G3/S2/LT/LE
---------------------------------	------------	-------------

The Dodd Creek- Rakes Mill Pond is also located within the project site including a 100 foot buffer. The Dodd Creek- Rakes Mill Pond Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern at this site is:

<i>Lilium grayi</i>	Gray’s lily	G3/S2/NL/NL
<i>Euphorbia purpurea</i>	Glad Spurge	G3/S2/NL/NL
<i>Glyptemys muhlenbergii</i> ,	Bog Turtle	G3/S2/LT/LE



Gray's lily is a Southern Appalachian endemic plant that typically inhabits bogs, seepages, grassy balds, moist forests, and wet meadows at medium to high elevations (Weakley, in prep). In Virginia, this plant occurs in western Virginia with the majority of the occurrences in the southern Blue Ridge region. Surveys for Gray's lily are recommended during the blooming period in June and July.

Growing to 1 meter (3 feet) in height glade spurge is named for the purplish, glandular bracts (leaves that enclose inflorescences) that are characteristic of members of its plant family. It is a perennial that forms from a thick rhizome. Its lightly fuzzy leaves are 1 to 3 cm long and occur alternate each other along the stem. This spurge blooms in May and forms small (6 to 8 mm long) fruits covered with irregular bumps.

This stout perennial is found in river bottoms and mesic lower slopes of river and larger stream valleys and is also known from higher-elevation seeps over calcareous or mafic substrates. It is known from the piedmont and mountains of the mid-Atlantic region from Delaware to Ohio and West Virginia and is rare throughout its range (NatureServe 2008). In Virginia the species can be found in a few sites along the Blue Ridge as well as the Ridge and Valley from Rockbridge County south to Russell County. Wetland alteration, grazing by deer and livestock, competition by non-native invasive species, and trampling by recreational activity pose a threat to its long-term survival. The optimal time for surveys for glade spurge is from May-June when the plant is in flower or fruit.

The bog turtle is a small, freshwater turtle which has a spotty distribution from New York through Maryland, and southwestern Virginia along the Blue Ridge into Georgia (Buhlmann et al., 2008). In Virginia, bog turtles are documented from Floyd, Carroll, Grayson, and Patrick counties. They inhabit small upland wetland seeps, marshes, and meadows with slow-moving streams (Mitchell, 1994).

Bog turtles are highly susceptible to man-induced alterations of their wetland habitats (Buhlmann, 1992). Ditching and draining of seeps, wet meadows, and other wetlands destroys quality bog turtle habitat (Buhlmann, 1992; Mitchell, 1994). They are also threatened by collection for the pet trade industry (Mitchell, 1994). Please note that this species is currently classified as threatened by the United States Fish and Wildlife Service (USFWS) and as endangered by the Virginia Department of Wildlife Resources (VDWR).

DCR recommends coordination with the US Fish and Wildlife Service (USFWS) and the VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation. DCR also recommends that work crews be given educational materials on the bog turtle and all sightings be reported to the appropriate regulatory authorities. If heavy equipment will be crossing sedge or bulrush-dominate habitats, DCR recommends that mats be used to reduce impacts.

The Smith River – Sycamore Creek – White Falls Stream Conservation Unit (SCU) is located downstream from the project site. The Smith River – Sycamore Creek – White Falls SCU has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern associated with this SCU is:

*Percina rex*

Roanoke logperch

G1G2/S1S2/LE/LE

In addition, the Smith River has been designated by the VDWR as a “Threatened and Endangered Species Water” and is downstream from the project site. The species associated with this T & E Water are the Roanoke logperch and the Orange-fin madtom (*Noturus gilberti*, G2/S2/SOC/LT).

DCR recommends avoidance of all conservation sites and impacts to associated natural heritage resources. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Roanoke logperch and Orange-fin madtom, DCR also recommends coordination with the USFWS and the VDGIF to ensure compliance with protected species legislation.

### Willis Gap

According to the information currently in our files, the Long Branch- Peters Creek is located within the project site including a 100 foot buffer. The Long Branch- Peters Creek has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

Small-anthered bittercress	<i>Cardamine micranthera</i>	G2/S2/LE/LE
Sweet-shrub	<i>Calycanthus floridus var. floridus</i>	G5T4/S1/NL/NL

Sweet-shrub is a state rare deciduous shrub, inhabits forested slopes and stream banks (Weakley, in prep.). This aromatic plant produces maroon flowers, which are often lighter at the tips, from April to May (Radford et. al., 1968). Sweet-shrub is currently known from four locations in Virginia's coastal plain and piedmont regions.

The Sandy Creek – Patrick County Conservation Site, Gilbert Mill Conservation Site, Elk Creek Northwest Tributary Conservation Site, Rich Creek Conservation Site, and Simmons Mountain Creek Conservation Site is located within the project site including a 100 foot buffer. The Sandy Creek – Patrick County Conservation Site, Elk Creek Northwest Tributary Conservation Site, and Gilbert Mill Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The Rich Creek Conservation Site, and Simmons Mountain Creek Conservation Site of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Small-anthered bittercress	<i>Cardamine micranthera</i>	G2/S2/LE/LE
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This project has the potential to impact a large percentage of the known populations of Small-anthered bittercress. In addition, according to DCR's predicted suitable habitat modeling and review by a DCR biologist, there is a potential for additional undocumented populations of Small-anthered bittercress to occur in the project area if suitable habitat exists on site.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for Small-anthered bittercress in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at [anne.chazal@dcr.virginia.gov](mailto:anne.chazal@dcr.virginia.gov) or 804-786-9014 to discuss availability and rates for field work. A list of other individuals who are qualified to conduct inventories may be obtained from the USFWS.

The Browns Dan River – Rt. 645 Bridge Crossing Stream Conservation Unit is located downstream from the project site. The Browns Dan River – Rt. 645 Bridge Crossing SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. Natural heritage resource associated with this site is:

*Thoburnia hamiltoni* Rustyside sucker G3/S2/NL/NL

The Rustyside sucker, a fish known only from the upper Roanoke drainage in Patrick County, occupies moderate and swift currents of riffles, runs, and heads of pools, with clean or very slightly silted gravel, rubble, boulder, and bedrock substrates (Burkhead & Jenkins, 1991). Larger individuals are restricted to moderate to swift riffles and runs, and the head of pools.

Land use practices that lead to siltation and industrial development are forms of habitat degradation that adversely affect the continued viability of the Rustyside sucker (Jenkins & Burkhead, 1993).

The Johnson Creek – Ararat River Stream Conservation Unit (SCU) is also located downstream from the project site. The Johnson Creek – Ararat River SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resource associated with this site is:

*Etheostoma brevispinum* Carolina Fantail darter G4/S1/NL/NL

The Carolina fantail darter, a state rare fish species, is found from South Carolina to Virginia (Blanton and Schuster, 2008). In Virginia, the Carolina fantail darter is only known from the Upper Pee Dee drainage (Blanton and Schuster, 2008). There is little information about *E. brevispinum* specifically, but this is a recently recognized species distinct from *Etheostoma flabellare* (Blanton and Schuster, 2008), so many life history traits may be similar. *E. flabellare* typically occurs in small to medium streams in areas where there are cobbles and rocks which provide suitable microhabitat for egg laying, protection from predators, and foraging (Jenkins and Burkhead, 1993).

Threats to the Carolina fantail darter may include conditions or events which degrade or alter the microhabitats such as siltation, water pollution, and channelization.

According to the information currently in our files, the Poorhouse Creek – Mayo River Stream Conservation Unit (SCU) is adjacent to the project site. The Poorhouse Creek – Mayo River SCU has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern associated with this SCU is:

*Noturus gilberti* Orangefin madtom G2/S2/SOC/LT

According to the information currently in our files, the Dan River – Rt. 645 Bridge Crossing Stream Conservation Unit (SCU) is located downstream from the project site. The Dan River – Rt. 645 Bridge Crossing SCU has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resources associated with this site are:

*Noturus gilberti* Orangefin madtom G2/S2/SOC/LT  
*Lasmigona subviridis* Green floater G3/S2/NL/LT

The Orangefin madtom is native to the Roanoke and James River systems of North Carolina and Virginia (NatureServe, 2009). The Orangefin madtom inhabits moderate to strong riffles and runs having little or no silt in

moderate-gradient, intermontane and upper Piedmont streams. This species is an intersticine dweller, found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that this species is currently classified as a species of concern (not a legal designation) by the United States Fish and Wildlife Service (USFWS) and as threatened by the Virginia Department of Wildlife Resources (VDWR).

Threats to the Orangefin madtom include channelization, siltation, various forms of chronic pollution, catastrophic chemical spills, impoundment, dewatering, and bait-seining (NatureServe, 2009). Its low reproductive rate and short life span (Simonson 1997, Simonson and Neves 1992, Simonson 1987) exacerbate these threats (Burkhead and Jenkins 1991).

The Green floater, a rare freshwater mussel, ranges from New York to North Carolina in the Atlantic Slope drainages, as well as the New and Kanawha River systems in Virginia and West Virginia (NatureServe, 2009). In Virginia, there are records from the New, Roanoke, Chowan, James, York, Rappahannock, and Potomac River drainages. Throughout its range, the Green floater appears to prefer the pools and eddies with gravel and sand bottoms of smaller rivers and creeks, smaller channels of large rivers (Ortman, 1919) or small to medium-sized streams (Riddick, 1973). Please note that this species has been listed as state threatened by the Virginia Department of Wildlife Resources (VDWR).

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

In addition, the Dan River has been designated by the VDWR as a “Threatened and Endangered Species Water” and is downstream from the project site. The species associated with this T & E Water are the Orangefin madtom and the Green floater.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Orangefin madtom and Green floater, DCR also recommends coordination with VDWR to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

## **General Comments**

If work occurs outside of established right-of-way (ROW), the proposed project will fragment Ecological Cores **(C1, C2, C3, C4 and C5)** as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection. Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <http://vanhde.org/content/map>.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The

cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (<http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf>) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

In addition there are documented rare plants in the transmission ROW within the project area. DCR recommends following these guidelines:

1. DCR recommends documenting and avoiding Natural Heritage Resources (Rare, Threatened and Endangered) within the ROW. The maintenance of the ROW as early-successional habitats with open canopy provide suitable habitat for many rare resources.
2. All rare plant sites are marked with signs from the transmission towers just outside the rare plant populations so that the population(s) are contained entirely within the defined area.
3. Right-of-Way Maintenance- Chemical Control of Vegetation -DCR recommends maintenance of vegetation using annual mowing in the non-growing season between 15 October and April 1 and minimal to no use of chemicals especially in sensitive areas with documented natural heritage resources.
4. When woody plant management is required, the woody species at these sites are carefully treated with herbicide. This treatment is conducted under a different contract than used on non-rare plant lines. The rate set up for this contract helps insure precise herbicide application with less accidental overspray.
5. When transmission lines intersect Virginia Natural Area Preserves, the same maintenance regime as defined in numbers 1-3 above is used and Natural Heritage staff are notified before management takes place.
6. A subset of rare plant populations are monitored carefully to make sure that this management prescription is effective in maintaining the rare plant populations.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity. However, the project area does intersect the Blue Ridge Parkway National Park, specifically the Woolwine component.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. Survey results should be coordinated with DCR-DNH and USFWS. Upon review of the results, if it is determined the species is present, and there is a likelihood of a negative impact on the species, DCR-DNH will recommend coordination with VDACS to ensure compliance with Virginia's Endangered Plant and Insect Species Act.

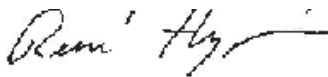
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$330.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24<sup>th</sup> Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Amy Martin at 804-367-2211 or [amy.martin@dwr.virginia.gov](mailto:amy.martin@dwr.virginia.gov).

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,



S. René Hypes  
Natural Heritage Project Review Coordinator

Cc: Amy Martin, VDWR  
Troy Andersen, USFWS

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# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Ann Jennings  
Secretary of Natural  
and Historic Resources

Julie V. Langan  
Director

Tel: (804) 367-2323  
Fax: (804) 367-2391  
TDD: (804) 367-2386  
[www.dhr.virginia.gov](http://www.dhr.virginia.gov)

December 22, 2021

Roya Pardis  
Power Engineers  
7400 Beaufort Springs Dr.  
Suite 316  
Richmond VA, 23225

Re: Stuart Area Improvements Project (Willis Gap, Floyd, Bassett)  
Carroll, Floyd, Henry, Patrick Counties, Virginia  
DHR File No. 2021-5024

Dear Roya,

We have received your request for comments on the project referenced above. The undertaking, as presented, involves multiple components including the upgrade of equipment, adding an additional power source to the area, upgrades to the voltage and two new distribution substations, and the construction of new transmission lines. Our comments are provided as technical assistance to Appalachian Power. We have not been notified by any state or federal agency of their involvement in this project; however, we reserve the right to provide additional comment pursuant to the National Historic Preservation Act, if applicable.

We understand that the proposed project meets the requirements to be filed with the Virginia State Corporation Commission (SCC). We recommend that Appalachian Power follows the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*, developed by DHR and the SCC to assist project proponents in developing transmission line projects that minimize impacts to historic resources.

We recommend that the project proponent establish a study area for each route alternative under consideration and gather information on known resources. A qualified cultural resources consultant in the appropriate discipline should perform an assessment of impact for each known historic resource present within the proposed study area.

Once the route alternatives have been finalized, DHR recommends that full archaeological and architectural surveys be performed to determine the effect of the project on all historic resources listed in or eligible for listing in the National Register. This process involves the identification and recordation of all archaeological sites and structures greater than 50 years of age, the evaluation of those resources for listing in the National Register, determining the degree of impact of the project on eligible resources, and developing a plan to avoid, minimize, or mitigate any negative impacts. Comments received from the public or other stakeholder

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5443  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7029  
Fax: (540) 868-7033

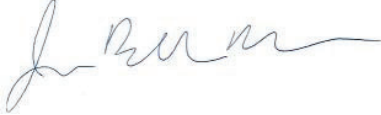
Eastern Region Office  
2801 Kensington Avenue  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391



regarding impacts to specific historic resources should be addressed as part of this survey and assessment process.

Thank you for seeking our comments on this project. If you have any questions at this time, please do not hesitate to contact me at [jennifer.bellville-marrion@dhr.virginia.gov](mailto:jennifer.bellville-marrion@dhr.virginia.gov).

Sincerely,



Jenny Bellville-Marrion, Project Review Archaeologist  
Review and Compliance Division



## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF TRANSPORTATION

731 HARRISON AVENUE  
SALEM, VIRGINIA 24153

Stephen Brich, P.E.  
COMMISSIONER

January 3, 2022

To: Roya Pardis  
POWER Engineers, Inc.

From: Carol J.L. Moneymaker, Planning Specialist  
VDOT Salem District Planning *Carol J.L. Moneymaker*

Subject: RE: Stuart Area Improvements Project: Carroll, Floyd, Henry and Patrick Counties

VDOT received a request to review transportation impacts of the above referenced project. Appalachian Power contracted POWER Engineers, Inc. (POWER) to conduct route selection studies for the Project's components and prepare the Certificate of Public Convenience and Necessity application for filing with the Virginia State Corporation Commission (SCC). The project will replace equipment that is 80 to 100 years old, add an additional power source to the area, upgrade the voltage of equipment from 69-kilovolt (kV) to 138-kV, and add two new distribution substations to improve the local distribution system. The project will be completed in three components: Stuart - Willis Gap, Stuart - Floyd, and Stuart - Bassett as detailed in the attachments.

The first component, Stuart - Willis Gap, is located in Carroll and Patrick counties and includes the following in a new 100-foot-wide right-of-way (ROW):

- Build approximately 22 miles of new 138 kV transmission line (Patrick and Carroll counties)
- Build approximately 1.5 miles of new double-circuit 138 kV at a proposed 138 kV substation (Patrick County)
- Build two new 138 kV substations (Patrick County)
- Retire the Stuart Substation (Town of Stuart)
- Upgrade the Willis Gap and Huffman substations (Carroll County)

The second component, Stuart - Floyd, is located in Patrick and Floyd counties, and includes the following in or near existing ROW:

- Rebuild approximately 20 miles of 69 kV line to 138 kV standards (Patrick and Floyd counties)
- Upgrade the Woolwine Substation (Patrick County)
- Expand the Floyd Substation (Floyd County)

The third component, Stuart - Bassett, is located in Patrick and Henry counties, and includes the following in or near existing ROW:

- Rebuild approximately 30 miles of 69 kV line to 138 kV standards (Patrick and Henry counties)
- Build approximately two miles of new 138 kV line (Henry County)
- Build two new 138 kV substations in Henry County
- Upgrade the Fieldale and Philpott substations (Henry County)
- Retire the Philpott Switch, West Bassett, Bassett, and Stanleytown substations (Henry County)

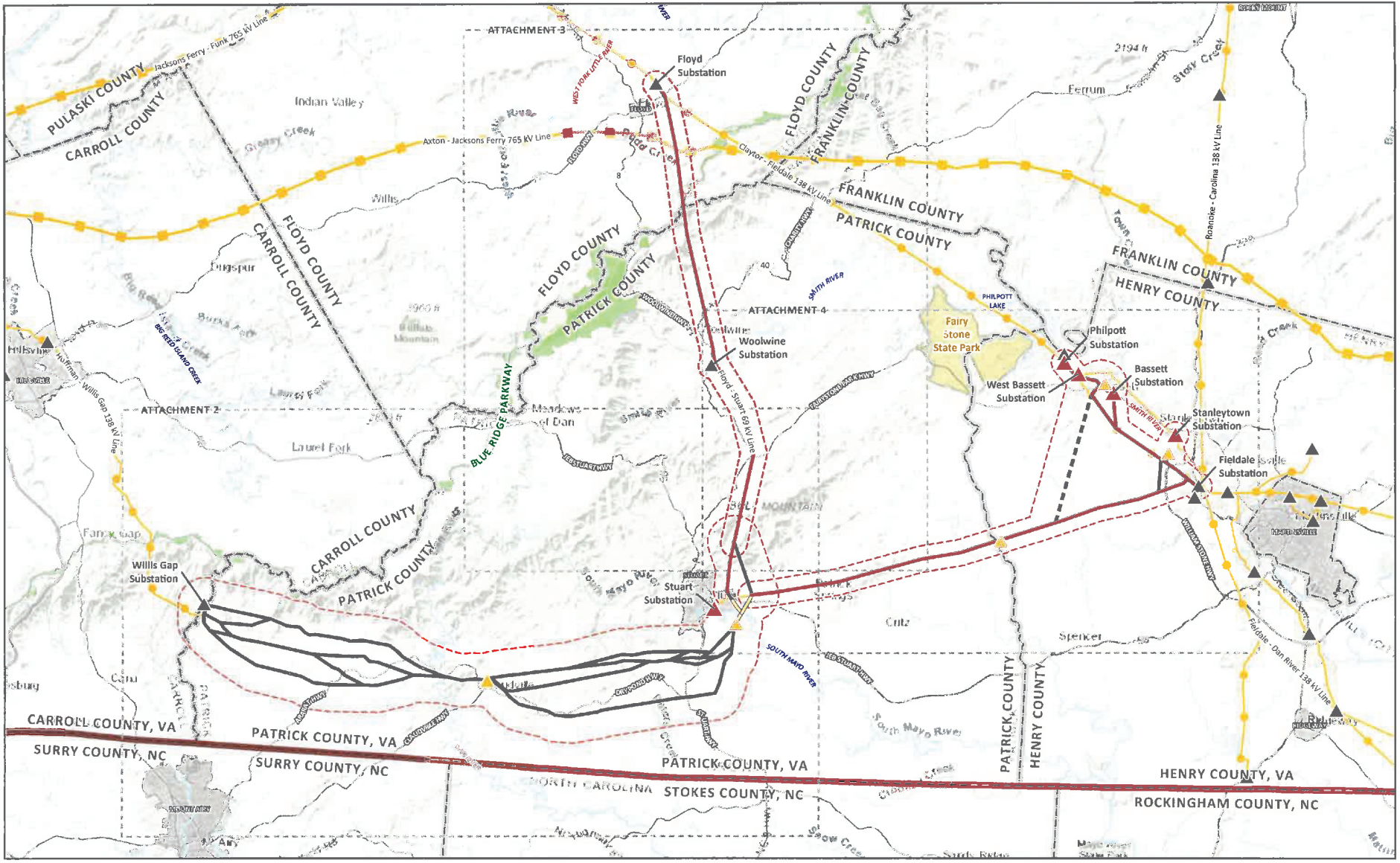
**Comments:**

- All circumstances where the proposed project may impact transportation operations should be coordinated with VDOT Residency staff:
  - Martinsville Residency covers Carroll, Henry and Patrick Counties,
  - Christiansburg Residency covers Floyd County.
- The areas of potential impact include roads adjacent to or being crossed by construction as well as pedestrian, bicycle, and transit operations near the construction sites.
- Activities requiring detours or other modifications to transportation operations should be conducted at times during which impacts will be minimized.
- Road signs should be provided to alert drivers, bicyclists, and pedestrians of utility work ahead, and any detours necessary to navigate around the work.

If you have questions or need additional information, please contact me at (540) 520-3515.

cc: Michael Gray – Salem District Planner  
Lisa Hughes – Martinsville Residency – Resident Engineer  
David Clarke – Christiansburg Residency – Resident Engineer  
Robin Simpson – Salem District Environmental Manager  
EIR Coordination Listserv

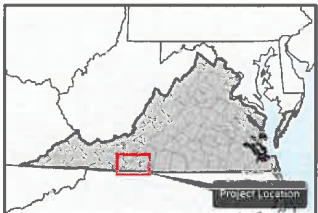
Attachments (4)



Study Area	138 kV Single Circuit Study Segments (New ROW)	Existing AEP Transmission (345 kV +)	Town Boundary
Proposed 138 kV Substation	138 kV Single Circuit Study Segment (Existing ROW)	Highway	County Boundary
Existing AEP Substation	Alternate 138 kV Line Under Review (New ROW)	River (NHD)	VA/NC State Boundary
Substation to be Retired	Existing AEP Transmission (69 kV or lower)	State Lands	Map Grid
138 kV Double Circuit	Existing AEP Transmission (115 kV - 230 kV)	Blue Ridge Parkway National Park	

0 1 2 4  
Miles

Transmission line routes are preliminary and are subject to change. Not for public distribution.





**PROJECT STUDY AREA**

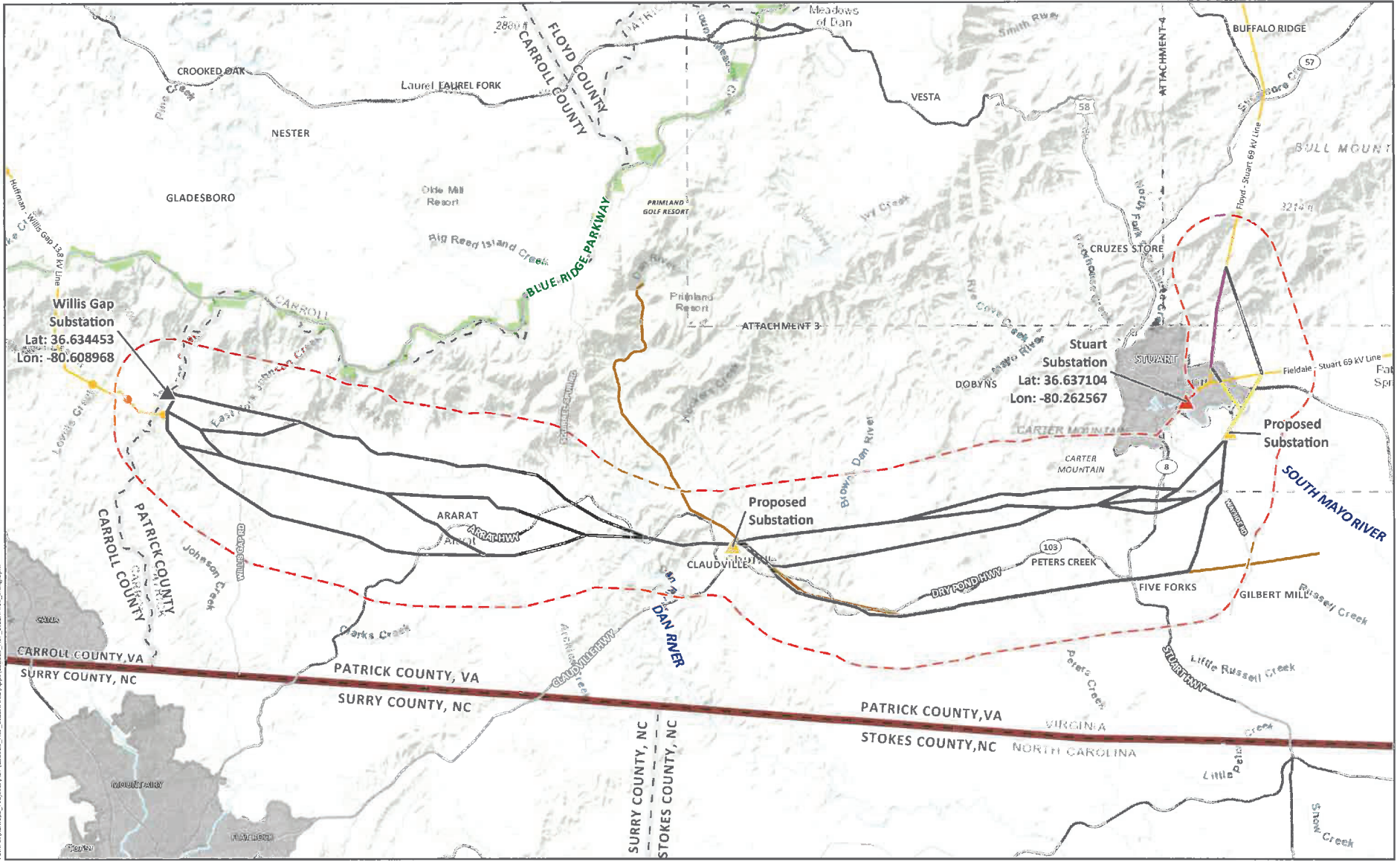
Carroll, Floyd, Henry, & Patrick Counties, Virginia

NAD 83 StatePlane Virginia South EPS 4502 Feet  
Lambert Conformal Conic  
North American 1983

Date: 11/15/2021  
Author: CK  
POWER: 158526

**ATTACHMENT 1**  
Stuart Area Improvements Project

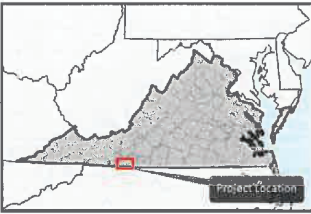





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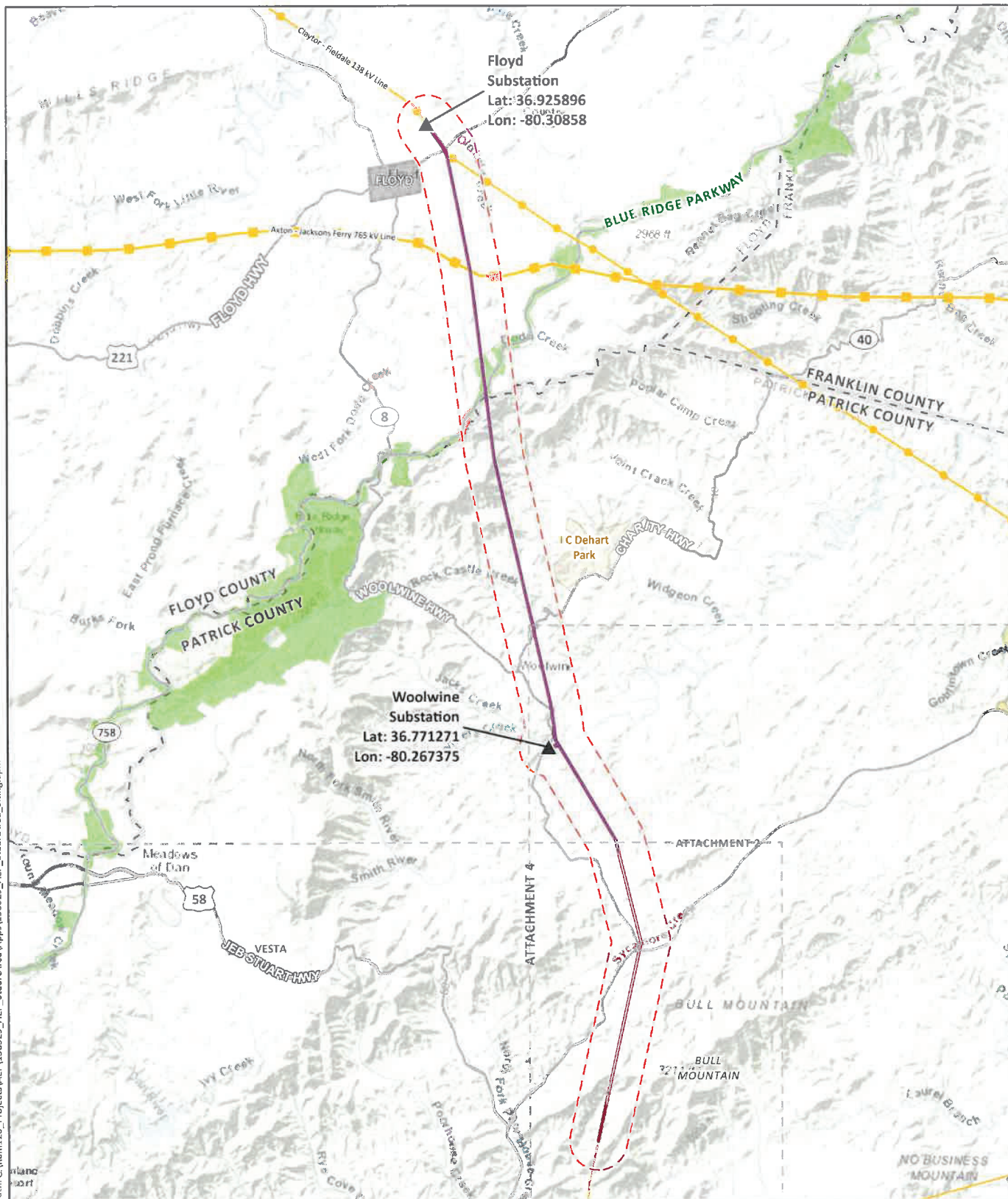
Study Area	138 kV Double Circuit Study Segments (New ROW)	River (NHD)
Proposed 138 kV Substation	Existing AEP Transmission (69 kv or lower)	Blue Ridge Parkway National Park
Existing AEP Substation	Existing AEP Transmission (115 kv - 230 kv)	County Boundary
Substation to be Retired	Existing AEP Transmission (345 kv +)	VA/NC State Boundary
138 kV Single Circuit Study Segments (New ROW)	City of Danville 69 kV Line (digitized)	Town Boundary
138 kV Single Circuit Study Segment (Existing ROW)	Highway	

Transmission line routes are preliminary and are subject to change. Not for public distribution.



**PROJECT STUDY AREA**  
 Carroll & Patrick Counties, Virginia  
NAD 1983 StatePlane Virginia South FIPS 4502 Feet  
 Lambert Conformal Conic  
 North American 1983  
 Date: 11/11/2021  
 Author: CK  
 POWER: 158529

**ATTACHMENT 2**  
 Stuart Area Improvements Project



Path: C:\Ram120\_Projects\AEP\158529\_AEP\_StuartArea\_Siting.aprx



- ▭ Study Area
- ▲ Existing AEP Substation
- 138 kV Study Segment (in or near Existing ROW)
- Existing AEP Transmission (69 kV or lower)
- Existing AEP Transmission (115 kV - 230 kV)
- Existing AEP Transmission (345 kV+)
- Highway
- Blue Ridge Parkway National Park
- County Boundary
- River (MHD)
- Town Boundary
- Local Park
- State Lands

Miles

Transmission line routes are preliminary and are subject to change. Not for public distribution.

Floyd & Patrick Counties  
Virginia,

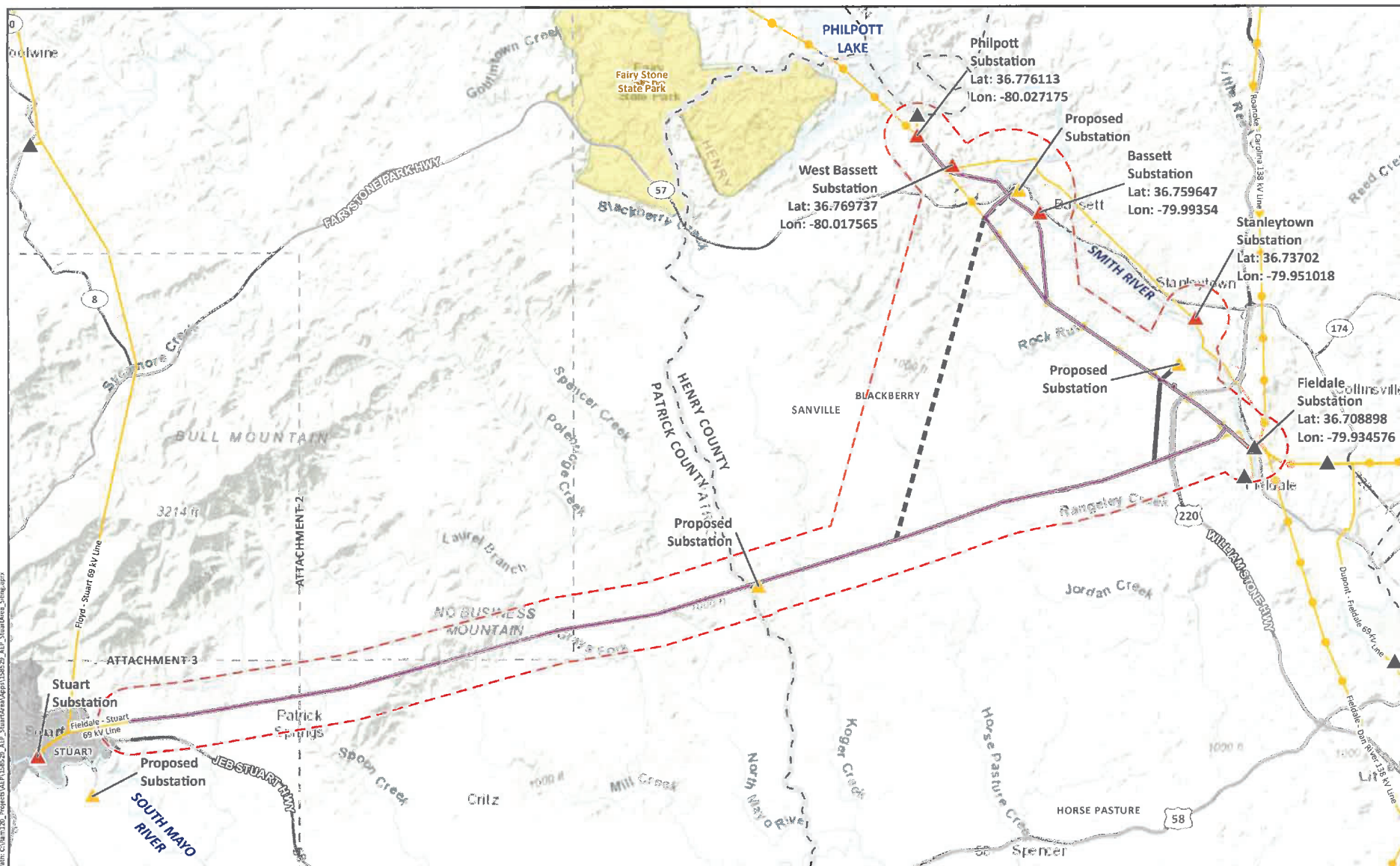
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NAD 1983 State Plane Virginia South  
FIPS 4502 Feet  
Lambert Conformal Conic  
North American 1983

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Date: 11/15/2021  
By: CK  
POWER: 158529

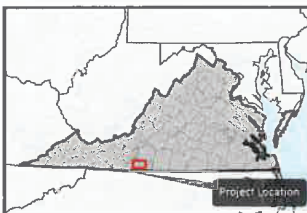
**ATTACHMENT 3**  
Stuart Area Improvements  
Project



Study Area	138 kV Study Segment (New ROW)	Highway
Proposed 138 kV Substation	Alternate 138 kV Line Under Review (New ROW)	County Boundary
Existing AEP Substation	Existing AEP Transmission (69 kv or lower)	River (NHD)
Substation to be Retired	Existing AEP Transmission (115 kv - 230 kv)	Town Boundary
138 kV Study Segment (In or near Existing ROW)	Road	State Lands

0 0.75 1.5  
Miles

Transmission line routes are preliminary and are subject to change. Not for public distribution.



**PROJECT STUDY AREA**

Henry & Patrick Counties, Virginia

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

Date: 11/11/2021  
Author: CK  
POWER: 158529

**ATTACHMENT 4**

Stuart Area Improvements Project

Robert Farrell  
State Forester



# COMMONWEALTH of VIRGINIA

## Department of Forestry

900 Natural Resources Drive, Suite 800 • Charlottesville, Virginia 22903  
(434) 977-6555 • Fax: (434) 296-2369 • [www.dof.virginia.gov](http://www.dof.virginia.gov)

Friday, January 7, 2022

Roya Pardis  
POWER Engineers, Inc.

Subject: Stuart Area Improvements Project

Dear Roya,

Thank you for the opportunity to provide input on the Stuart Area Improvements Project in Carroll, Floyd, Henry, and Patrick Counties as described in your letter to Karl Didier on November 22<sup>nd</sup>, 2021.

The study area for the first component, Stuart-Willis Gap, contains approximately 40,066 acres of forest, including nearly 9,000 acres of which are considered Very High or Outstanding Conservation Value according to the Virginia Department of Forestry's Forest Conservation Value map<sup>1</sup>. The study area for the second component, Stuart - Floyd contains approximately 9,052 acres of forest, including over 4,000 acres of which are considered Very High or Outstanding Conservation Value. The study area for the third component, Stuart-Bassett, contains approximately 17,951 acres of forest including 2,398 acres of which are considered Very High or Outstanding Conservation Value. These resources contribute to the maintenance of water quality, clean air, a healthy climate, forest and aquatic biodiversity, and scenic values. In addition, the forests and associated timber represent valuable economic assets for the Commonwealth and its residents. For these reasons, it is important to avoid as much as possible the removal of or impacts to forests and associated vegetation, especially riparian forests and high conservation value timber stands.

The Department of Forestry recommends that existing ROWs be utilized wherever possible and that if new ROW's must be established, that every effort be made to avoid or minimize disturbance to high conservation value forest, streams or wetlands, and conserved lands. In instances where trees or forest vegetation needs to be removed,

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<sup>1</sup> K Basiolli, J Pugh, M Santucci. 2020. Forest Conservation Value Model, 2020 Edition. Virginia Department of Forestry, Charlottesville, VA. See interactive GIS map at <https://arcg.is/18aWaf>. See PDF map and short description at <https://www.dcr.virginia.gov/natural-heritage/vaconvisforest>.



converted, or otherwise negatively impacted by project activities, we recommend mitigating these impacts by establishing new trees, forests, or forest vegetation on site or in the general vicinity in such a way as to maintain or improve overall water quality, ecosystem functions, scenic value, and value for timber or other forest products.

Once project plans are finalized for submission to the Department of Environmental Quality for review, we will be happy to provide more specific information on the impacts of the final set of proposed transmission pathways.

Should you require any advice or assistance with forest management, pre-harvest planning, or mitigation efforts, please feel free to contact me or other staff at the Department of Forestry.

Sincerely

*Sarah Parmelee*

Sarah Parmelee

Forestland Conservation Coordinator



January 20, 2022

[SENT VIA EMAIL]

Roya Pardis  
Power Engineers, Inc.  
7400 Beaufont Springs Drive  
Suite 316  
Richmond, VA 23225  
[roya.pardis@powereng.com](mailto:roya.pardis@powereng.com)

**RE: Appalachian Power Company - Stuart Area Improvements Project:  
Carroll, Floyd, Henry, Patrick Counties, Virginia**

Dear Roya Pardis:

The Virginia Outdoors Foundation (VOF) thanks you for the advance notice of the referenced project and the opportunity to provide direct comments regarding upgrades to this area.

Based on information received in early December 2021, the Appalachian Power Company is proposing a series of improvements comprised of several components in and around Stuart, Virginia. Per the November 22, 2021 letter, these improvements will replace equipment that is 80 – 100 years old, add an additional power source to the area, upgrade the voltage of equipment from 69-kilovolt (kV) to 138-kV, and add two new distribution substations to improve the local distribution system. Please accept these comments in response to your inquiry.

VOF, an agency of the Commonwealth, was established by the General Assembly in 1966 to promote the preservation of Virginia's natural and cultural resources by encouraging private philanthropy in fulfillment of state policy. As a result of Virginia's commitment to ensure a vibrant natural environment for today and future generations, VOF owns thousands of acres managed for public access and holds more than 4,000 open-space easements across the Commonwealth, which protect over 860,000 acres.

An open-space easement is a legal interest in real property that creates a relationship between the holders of the easement and the property owner. By means of the easement, VOF has an interest in specific conservation values of the property and a legal obligation to protect these values. VOF easements provide important public benefits by protecting in perpetuity significant tracts of mostly undeveloped land which may contribute to the protection of water quality, productive soils, natural heritage resources, historic resources, and scenic viewsheds. VOF easements represent over \$1 billion of public investment and fulfillment of Title XI of the Virginia Constitution and other public policies to ensure the conservation of natural and cultural resources.

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[virginiaoutdoorsfoundation.org](http://virginiaoutdoorsfoundation.org)

401 Commerce Road, Suite 411, Staunton, VA 24401

Page 1 of 2

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Regarding the first component, **Stuart – Willis Gap**, although VOF has no projects in this area, we encourage both POWER Engineers, Inc., and Appalachian Power Company to consider the natural, scenic, and cultural resources in area.

Concerning the second component, **Stuart – Floyd**, VOF holds open-space easements on three properties intersected by the project rebuild. These easements, directly and indirectly, protect numerous conservation values for the benefit of the public and contribute to the overall high quality of life in the Commonwealth. As such, VOF is concerned about the potential characteristics of the proposed replacement structures and associated project components. While recognizing engineering constraints, we strongly advocate for the replacement structures and the associated project components to be minimized in their presence on the landscape to the greatest extent possible, or at the least mimic the characteristics of the existing H-frame towers in height, size, and reflectivity. Furthermore, any proposal that would extend beyond the existing right-of-way would likely be limited and require extensive review by our Board of Trustees.

As for the third component, **Stuart – Bassett**, VOF holds one open-space easement in Henry County on a 231-acre property near Bassett, almost directly south of the Bassett Substation, where a presumed 69kV and 138kV line converge. This easement also, directly and indirectly, protects numerous conservation values for the benefit of the public and contributes to the overall high quality of life in the Commonwealth. As such, VOF is concerned about the potential characteristics of the proposed replacement structures and associated project components. While recognizing engineering constraints, we strongly advocate for the replacement structures and the associated project components to be minimized in their presence on the landscape to the greatest extent possible, or at the least mimic the characteristics of the existing H-frame towers in height, size, and reflectivity. That said, this particular open-space easement does appear to allow for some expansion of the right-of-way pending thorough review by VOF.

Thank you for the notice, and we look forward to working with POWER Engineers, Inc. and the Appalachian Power Company in the continued planning and development of this project. If you have any further questions or comments, please feel free to contact me at (540) 430-0292 or via email at [hhibbitts@vof.org](mailto:hhibbitts@vof.org).

Sincerely,



Harry Hibbitts  
*Assistant Director*

CC: Scott Kennedy, Appalachian Power Company  
DEQ Office of Environmental Impact Review