ARCHITECTURAL REVIEW BOARD STAFF REPORT

Project #/Name	**ARB-2020-31: Rappahannock Electric Cooperative System Enhancement Project**
Review Type	Advisory Review for a Special Use Permit
Parcel Identification	TMP 02100-00-00-012D0, -01200, -01500, -015G0, -016C0, -01600, -017C0, -017A0, -01900, -007A0, -007C0, -00700, -006A0, -006B0, -006D0, -006E2, -006I1, -006H0
Location	Beginning at 5045 Dickerson Road, running along the west side of Rt. 29, north to the Green County line
Zoned	Rural Areas (RA), Entrance Corridor (EC)
Owner/Applicant	Rappahannock Electric Corp. / Williams Mullen (Valerie Long)
Magisterial District	Rio
Proposal	To add a 115 kilovolt transmission line above the circuits on the utility poles standing in the 1.6-mile-long corridor adjacent to the southbound lanes of Route 29.
Context	The power line runs along the west side of the corridor, through Rural Areas zoned parcels that contain a mix of wooded, residential and commercially developed properties.
Visibility	The existing poles and lines are readily visible from the Entrance Corridor. The proposed tree cutting and trimming will open up the view of the poles and lines. The taller poles will be visible from greater distances. The expanded area of tree cutting and the taller poles will result in increased visual impact.
ARB Meeting Date	May 11, 2020
Staff Contact	Margaret Maliszewski

PROJECT HISTORY

The ARB has not reviewed any applications associated with this power line. The existing poles were installed in 2009 to carry by-right distribution lines. They were designed to accommodate the proposed upgrade to higher-voltage transmission lines, which requires a Special Use Permit.

PROJECT SUMMARY

- Add pole toppers to each existing pole. (See Fig. 1 for an example of a completed project constructed in Greene County.)
  - Toppers average 35' in height
  - Exiting poles average 50' in height
- Install higher voltage 115kV line.
- Increase existing 40' easement to 75' with an additional 17.5' in the VDOT right-of-way and an additional 17.5' on private property.
- No earth disturbance or grading is proposed. No additional poles are proposed.
- Tree removal and removal of limbs overhanging into the area of the easement are proposed to allow for maintenance/repairs and to keep trees from touching the lines. Stumps and roots will be left in place.
  - The applicant's narrative states that, with sunlight increased in the cleared area, seeds already in the ground will be supported and this will grow, over time, into a native Virginia meadow and low-growing shrub landscape.
  - The narrative also states that REC will promote native species pollinator gardens in the additional 17.5 feet of right-of-way, but no specific design has been proposed.
- The project narrative states that REC will work with individual property owners regarding landscaping preferences for their properties that do not interfere with powerline operation/maintenance, but there is no formal proposal for new landscaping.

ANALYSIS *This table lists the text of the Entrance Corridor Design Guidelines, issues identified by staff resulting from an analysis of the proposal based on the guidelines, and staff's resulting recommendations to the Architectural Review Board.*

REF	GUIDELINE	ISSUE	RECOMMENDATION
	Purpose		
1	The goal of the regulation of the design of development within the designated Entrance Corridors is to insure that new development within the corridors reflects the traditional architecture of the area. Therefore, it is the purpose of ARB review and of these Guidelines, that proposed development within the designated Entrance Corridors reflect elements of design characteristic of the significant historical landmarks, buildings, and structures of the Charlottesville and Albemarle area, and to promote orderly and attractive development within these corridors. Applicants should note that replication of historic structures is neither required nor desired.	Power poles and power lines do not reflect the traditional architecture of the area and, as proposed, the expansion includes no active steps toward promoting orderly and attractive development. Orderly and attractive development could be promoted by adding landscaping in areas currently devoid of planting and in areas that will be exposed to view by removal of vegetation in the proposed corridor expansion.	See landscape recommendations, below.
2	Visitors to the significant historical sites in the Charlottesville and Albemarle area experience these sites as ensembles of buildings, land, and vegetation. In order to accomplish the integration of buildings, land, and vegetation		

	characteristic of these sites, the Guidelines require attention to four primary factors: compatibility with significant historic sites in the area; the character of the Entrance Corridor; site development and layout; and landscaping.		
3-5, 9-16	***Compatibility with significant historic sites;*** **Structure design**	No buildings are proposed.	None.
	Accessory structures and equipment		
17	Accessory structures and equipment should be integrated into the overall plan of development and shall, to the extent possible, be compatible with the building designs used on the site.	The above-ground utility already exists. Establishing a new power line in a new location is not practical and would have greater impacts on natural resources in the Rural Areas. The existing power line has a negative visual impact along the EC. Increasing the height of the poles and lines, expanding the easements, and cutting and limbing trees will increase the negative visual impact by increasing the size of the intrusion and increasing visibility from distances. The impact will also be increased by the elimination of some vegetation standing between the poles and the street that currently provides screening. (These trees are located within the proposed additional easement needed for the new power lines.) In other areas, existing wooded area that positively contributes to the character of the corridor will be reduced. There are clear limitations associated with screening utility lines and no screening devices are proposed. Given the size, height, and character of the poles and lines, traditional screening methods are not practical. However, negative visual impacts could be mitigated with the addition of landscaping in areas that currently lack vegetation or would have reduced vegetation after the proposed cutting and limbing. Planting in an informal arrangement of mixed shade and ornamental trees would be compatible with the surrounding vegetation. (See “Landscaping” for	See landscape recommendations, below.
18	The following should be located to eliminate visibility from the Entrance Corridor street. If, after appropriate siting, these features will still have a negative visual impact on the Entrance Corridor street, screening should be provided to eliminate visibility. a. Loading areas, b. Service areas, c. Refuse areas, d. Storage areas, e. Mechanical equipment, f. Above-ground utilities, and g. Chain link fence, barbed wire, razor wire, and similar security fencing devices.		
19	Screening devices should be compatible with the design of the buildings and surrounding natural vegetation and may consist of: a. Walls, b. Plantings, and c. Fencing.		

		additional analysis.)	
20	Surface runoff structures and detention ponds should be designed to fit into the natural topography to avoid the need for screening. When visible from the Entrance Corridor street, these features must be fully integrated into the landscape. They should not have the appearance of engineered features.	No new stormwater features are proposed.	None.
21	The following note should be added to the site plan and the architectural plan: "Visibility of all mechanical equipment from the Entrance Corridor shall be eliminated."	Equipment is already visible. There are clear limitations associated with screening utility lines.	See landscape recommendations, below.
22-31	**Lighting**	No lighting is proposed.	None.
	Landscaping		
7	The requirements of the Guidelines regarding landscaping are intended to reflect the landscaping characteristic of many of the area's significant historic sites which is characterized by large shade trees and lawns. Landscaping should promote visual order within the Entrance Corridor and help to integrate buildings into the existing environment of the corridor.	There are a number of site conditions along the 1.6-mile corridor of the power line. These range from cleared residential (Fig. 2) and commercial (Fig. 3) properties, to wooded parcels with cleared frontage and open views of the power lines (Figs. 4a, 4b), to wooded area divided by the power lines with screening vegetation remaining along the street at varying densities (Figs. 5a-5d). Visual order and continuity would be promoted, and negative impacts of the proposal could be mitigated, by planting an informal arrangement of mixed shade and ornamental trees along the corridor. The informal arrangement would be more consistent with the surrounding vegetation than the regularly spaced and alternating trees that is more typical of commercial sites in the ECs. However, to avoid the conflicts between large shade trees and overhead power lines, new trees would have to be planted a considerable distance from the new lines. REC's vegetation management brochure (Attachment A), which appears to be geared toward distribution lines (not transmission lines), suggests that large trees should be planted no closer than 65' from utility lines. That is considerably more than the 37.5'	Provide an analysis of the entire project area and identify planting areas, either within the proposed easements or within additional easements, that will be used to meet the Entrance Corridor Design Guidelines. Existing plant material may be retained to meet this requirement where possible. Plantings should be proposed in areas where no planting currently exists, where screening will be removed, in areas exposed to view by the proposed clearing, and where trees will be removed once the proposed wider clear zones are in place.
8	Continuity within the Entrance Corridor should be obtained by planting different types of plant materials that share similar characteristics. Such common elements allow for more flexibility in the design of structures because common landscape features will help to harmonize the appearance of development as seen from the street upon which the Corridor is centered.		
32	Landscaping along the frontage of Entrance Corridor streets should include the following: a. Large shade trees should be planted parallel to the Entrance Corridor Street. Such trees should be at least 3½ inches caliper (measured 6 inches above the ground) and should be of a plant species common to the area. Such trees should be located at least every 35 feet on center. b. Flowering ornamental trees of a species common to the area should be interspersed among the trees required by the preceding paragraph. The ornamental trees need not alternate one for one with the large shade trees. They may be planted among the large shade trees in a less regular spacing pattern. c. In situations where appropriate, a three or four board		

	fence or low stone wall, typical of the area, should align the frontage of the Entrance Corridor street. d. An area of sufficient width to accommodate the foregoing plantings and fencing should be reserved parallel to the Entrance Corridor street, and exclusive of road right-of-way and utility easements.	that would be the new easement on both sides of the poles. The brochure indicates that medium and low trees can be planted much closer to utility poles. Though not proposed by REC, an additional increase in the proposed easement could provide for safe planting of trees on the west side of the utility corridor. Incorporating a mixture of medium to large shrubs and low trees would help harmonize appearances along the street and offset the negative visual impacts of the proposal along this important Entrance Corridor.	
33	Landscaping along interior roads:	No interior roads are proposed.	None.
34	Landscaping along interior pedestrian ways:	No pedestrian ways are proposed.	None.
35	Landscaping of parking areas:	No parking areas are proposed.	None.
36	Landscaping of buildings and other structures: a. Trees or other vegetation should be planted along the front of long buildings as necessary to soften the appearance of exterior walls. The spacing, size, and type of such trees or vegetation should be determined by the length, height, and blankness of such walls. b. Shrubs should be used to integrate the site, buildings, and other structures; dumpsters, accessory buildings and structures; "drive thru" windows; service areas; and signs. Shrubs should measure at least 24 inches in height.	No buildings are proposed. Shrubs could be added to the informal mix of shade and ornamental trees to broaden the diversity of the planting and to further balance the visual impact of the power poles and lines.	See #32.
37	Plant species: a. Plant species required should be as approved by the Staff based upon but not limited to the *Generic Landscape Plan Recommended Species List* and *Native Plants for Virginia Landscapes (Appendix D)*.	No new plants are proposed.	None at this time.
38	Plant health: The following note should be added to the landscape plan: "All site plantings of trees and shrubs shall be allowed to reach, and be maintained at, mature height; the topping of trees is prohibited. Shrubs and trees shall be pruned minimally and only to support the overall health of the plant."	No new plants are proposed.	None at this time.
	Site Development and layout; **Development pattern**		
6	Site development should be sensitive to the existing natural landscape and should contribute to the creation of an	This proposal does include tree removal, but no grading, no impact to river/stream valleys, and	Provide an analysis of the entire project area

	organized development plan. This may be accomplished, to the extent practical, by preserving the trees and rolling terrain typical of the area; planting new trees along streets and pedestrian ways and choosing species that reflect native forest elements; insuring that any grading will blend into the surrounding topography thereby creating a continuous landscape; preserving, to the extent practical, existing significant river and stream valleys which may be located on the site and integrating these features into the design of surrounding development; and limiting the building mass and height to a scale that does not overpower the natural settings of the site, or the Entrance Corridor.	no buildings. No new planting is proposed. The narrative indicates that the proposed clearing will provide the opportunity for a native Virginia meadow and low-growing shrub landscape to develop naturally in the expanded easement area. However, unmanaged areas, especially along roadways, are likely to be colonized by non-native invasive species. Also, the narrative mentions native species pollinator gardens, but no designs have been provided or planting areas specified. It is highly unlikely that the noted landscapes will establish without detailed management plans.	identifying locations where the native Virginia meadow strategy and pollinator gardens will be implemented. Outline the steps that will be taken, beyond tree clearing and trimming, to establish and maintain the meadows, low growing shrub landscapes, and native species pollinator gardens.
39	The relationship of buildings and other structures to the Entrance Corridor street and to other development within the corridor should be as follows: a. An organized pattern of roads, service lanes, bike paths, and pedestrian walks should guide the layout of the site. b. In general, buildings fronting the Entrance Corridor street should be parallel to the street. Building groupings should be arranged to parallel the Entrance Corridor street. c. Provisions should be made for connections to adjacent pedestrian and vehicular circulation systems. d. Open spaces should be tied into surrounding areas to provide continuity within the Entrance Corridor. e. If significant natural features exist on the site (including creek valleys, steep slopes, significant trees or rock outcroppings), to the extent practical, then such natural features should be reflected in the site layout. If the provisions of Section 32.5.2.n of the *Albemarle County Zoning Ordinance* apply, then improvements required by that section should be located so as to maximize the use of existing features in screening such improvements from Entrance Corridor streets. f. The placement of structures on the site should respect existing views and vistas on and around the site.	No travelways, buildings, or circulation systems are proposed. Trees exist in parts of the proposed easement area. No single specimen is known to be particularly significant, but as a whole, the wooded area contributes significantly to the character of the corridor. Increasing the height of the poles and lines, expanding the easements, cutting and limbing trees, and eliminating screening vegetation will change the view along the EC. This impact could be mitigated with the planting of new trees and shrubs.	See landscaping recommendations, above.
40-44	**Site Grading**	No grading is proposed.	None.

SUMMARY OF RECOMMENDATIONS

Staff recommends the following as the primary points of discussion:

1. Increased visual impact resulting from the increased height of the power poles and lines, tree removal, and limbing
2. Proposed treatment of the expanded easement areas
3. Other opportunities to mitigate visual impacts: new landscaping, additional expanded easements, planting and maintenance plans

Staff recommends that the ARB forward the following recommendation on the Special Use Permit to the Planning Commission and Board of Supervisors:

The ARB recognizes the need for a reliable power supply and the limitations associated with screening utility lines, as well as the opportunity to offset the increased negative visual impacts of REC's enhancement project in one of the County's primary Entrance Corridors. The ARB has no objection to the proposed use with the condition that landscaping is provided as follows, to the satisfaction of the ARB:

1. Provide an analysis of the entire project area and identify planting areas, either within the proposed easements or within additional easements, that will be used to meet the Entrance Corridor Design Guidelines. Existing plant material may be retained to meet this requirement where possible. Plantings should be proposed in areas where no planting currently exists, where screening will be removed, in areas exposed to view by the proposed clearing, and where trees will be removed once the proposed wider clear zones are in place.
2. Provide an analysis of the entire project area identifying locations where the native Virginia meadow strategy and pollinator gardens will be implemented. Outline the steps that will be taken, beyond tree clearing and trimming, to establish and maintain the meadows, low growing shrub landscapes, and native species pollinator gardens.

ATTACHMENTS

A: REC's "Vegetation Management" brochure
B: Applicant's proposal

TABLE A This report is based on the following submittal items:

Sheet #	Drawing Name	Drawing Date/Revision Date
1-7	Special Use Permit Plans: Title Sheet, Transmission Line Improvement Plan	2-18-20
	Project Narrative with Exhibits (SP)	2-18-20
	ARB Narrative – Supplement to SUP Narrative	2-18-20



Figure 1: View of completed power line upgrade in Greene County.



Figure 2: Google street view looking southwest showing the cleared frontage of a residential property in the corridor.



Figure 3: Google street view looking south showing the cleared frontage of a commercial property in the corridor.



Figure 4a: Photo looking south showing a representative frontage condition along the corridor with wooded, cleared ,frontage and open view of the power lines.



Figure 4b: Google street view looking north showing a representative frontage condition along the corridor with wooded area, cleared frontage, and an open view of the power lines.



Figure 5a: Photo looking north showing a representative frontage condition along the corridor with wooded area divided by the power lines and screening vegetation remaining along the street.



Figure 5b: Google street view looking south showing a representative frontage condition along the corridor with wooded area divided by the power lines and screening vegetation remaining along the street.



Figure 5c: Google street view looking north showing a representative frontage condition along the corridor with wooded area divided by the power lines and screening vegetation remaining along the street.



Figure 5d: Google street view looking south showing a representative frontage condition along the corridor with wooded area divided by the power lines and screening vegetation remaining along the street.

Trees are a valuable asset in commercial, private and public landscapes. They add beauty, help the environment and add value to the property. However, these same trees can be a major challenge for Rappahannock Electric Cooperative.

VEGETATION MANAGEMENT
RIGHT TREE, RIGHT PLACE

A service of:

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative

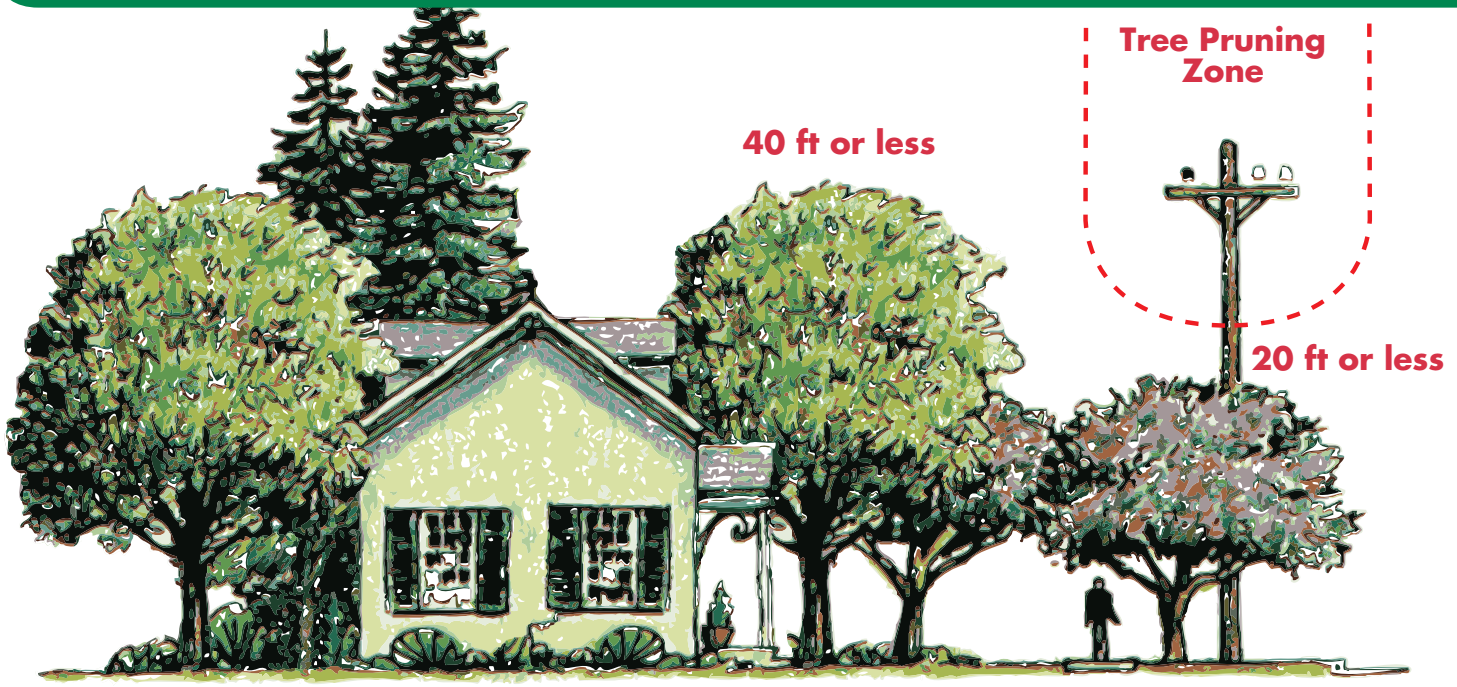
P.O. Box 7388
Fredericksburg, VA 22404
540.898.8500
800.552.3904

REC-VM 03/16



VEGETATION MANAGEMENT
RIGHT TREE, RIGHT PLACE

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative



Providing safe and reliable electric service is REC's top priority. Sometimes, trees make this difficult. Trees are one of the major causes of power outages in areas with overhead utility lines. When trees contact live wires they become conductors of electricity, causing power outages or creating dangerous situations for anyone coming in contact with the trees.

REC works hard maintaining its rights of way near overhead lines to provide safe and reliable electrical service. Although REC would prefer that no trees are planted within our rights of way with overhead lines, or within ten feet of our underground transformers, you can help by using the following guidelines when planting trees near overhead lines.

And, of course, before you plant, call VA811 at least three business days in advance to have your underground utilities marked.

Tree selection and planting

When selecting trees to plant on your property, you should consider the mature height of the tree when determining a suitable planting location. Native species will often grow better with fewer insect and disease problems than non-native trees. For areas near houses and overhead utilities, there are three tree height zones, as follows:

Low: The low height zone extends 15 feet on either side of overhead wires. Plant only large shrubs and small trees with mature heights of 20 feet or less within this area.

Medium: To accommodate the width of taller trees, the medium height zone begins at least 15 feet from all utility lines. Select trees that grow 40 feet or less for planting within this zone.

Tall:: The tall height zone begins at least 35 feet from buildings and 65 feet from utility lines. Trees that grow taller than 40 feet are suitable for planting in this area.

Height Zones

Low – Under utility lines

COMMON NAME	LATIN NAME	AVE. MATURE HEIGHT
Amur maple	*Acer tataricum* ssp. *ginnala*	15′–18′
Star magnolia	*Magnolia stellata*	15′–20′
Siebold viburnum	*Viburnum sieboldii*	15′–20′
Crape myrtle	*Lagerstroemia indica*	15′–25′
White fringetree*	*Chionanthus virginicus*	12′–20′
Common witchhazel*	*Hamamelis virginiana*	15′–25′
Little Gem magnolia	*Magnolia grandiflora* 'Little Gem'	10′–20′
Flameleaf sumac*	*Rhus copallina*	15′–25′
Smooth sumac*	*Rhus glabra*	15′–20′
Sweetbay magnolia*	*Magnolia virginiana*	15′–25′

Medium – Near utility lines

COMMON NAME	LATIN NAME	AVE. MATURE HEIGHT
Kousa dogwood	*Cornus kousa*	20′–30′
Carolina silverbell	*Halesia diptera*	25′–35′
Galaxy magnolia	*Magnolia x* 'Galaxy'	20′–30′
Flowering apricot	*Prunus mume*	20′–25′
Trident maple	*Acer buergerianum*	20′–30′
American hornbeam*	*Carpinus caroliniana*	20′–35′
Flowering dogwood*	*Cornus florida*	20′–30′
Eastern redbud*	*Cercis canadensis*	20′–35′
Sourwood*	*Oxydendrum arboreum*	25′–40′
Serviceberry*	*Amelanchier spp.*	15′–30′
Goldenraintree	*Koelreuteria paniculata*	25′–35′
Japanese snowbell	*Styrax japonicus*	20′–30′
Japanese maple	*Acer palmatum*	25′–40′
Chanticleer pear	*Pyrus calleryana* 'Chanticleer'	30′–40′

Tall – A few common examples

COMMON NAME	LATIN NAME	AVE. MATURE HEIGHT
Red maple*	*Acer rubrum*	60′–90′
Sugar maple*	*Acer saccharum*	60′–90′
Southern magnolia*	*Magnolia grandiflora*	60′–80′
Willow oak*	*Quercus phellos*	50′–80′
American beech*	*Fagus grandifolia*	60′–80′
White oak*	*Quercus alba*	80′–100′
Pin oak*	*Quercus palustris*	50′–90′
Leyland cypress	*X Cupressocyparis leylandii*	50′–70′

**Species native to Virginia*

February 18, 2020

Rappahannock Electric Cooperative

ARB Narrative – Supplement to SUP Narrative

The Rappahannock Electric Cooperative (REC) system enhancement project (the "Project") is designed to increase capacity and create electric system redundancy by providing a second source of power to the area if the existing source is lost. This will greatly reduce outage time following an electric power outage.

The system in place today consists of one source of power with two lower voltage lines serving REC's member customers in this area. There is no secondary source of power for the Albemarle area. The addition of this higher voltage line (115 kV) above the two existing lines will provide a second power source into Albemarle when its primary source is lost. With this project completed, Albemarle will have two power sources providing the County with substantially increased electric resiliency and economic development opportunities.

The Project requires the addition of a third circuit above the two circuits already in place along the 1.6-mile segment of Route 29 in Northern Albemarle County. This additional 115 kV circuit will be installed above the existing circuits as a pole "topper" or extension using the existing poles already. This additional pole section, or "topper." will increase the current average 45-foot pole height to an average height of 82 feet. There will be no need to install additional poles in this area, to reinforce the pole foundations, or carry out any grading. This approach creates the least disturbance to the natural environment, Entrance Corridor, and property owners. The only alternative to extending the height of the existing poles would be to establish a second utility corridor solely for the 115 kv line roughly parallel to the existing lines (or further to the west). That alternative would not eliminate the existing poles and circuits along the EC, but rather would result in a far greater visual and environmental impact on the EC and the surrounding area in the form of a second additional utility corridor. The new corridor would require the clearing of a new 70-foot cleared easement area for the new 115 kv line, and create and require a significantly greater impact on the landowners of each of the subject parcels. That alternative would not support the goal of protecting the Entrance Corridor. The current proposal results in the least amount of visual impact along the Entrance Corridor. Because the project uses existing poles that have been in place for decades, visual impacts are expected to be limited.

This third circuit will also require 17.5 feet of additional easement on both sides of the current 40-foot utility easement. To the east, this new easement overlaps with the VDOT right of way. To the west, the additional easement will extend 17.5 feet into privately owned parcels. REC does not own the land on which the poles and lines are located, but has easements with each of the affected property owners. REC will work collaboratively with these property owners in an effort to obtain wider easements for the additional 17.5 feet of easement area, and to

identify unique landscaping needs that do not interfere with electric powerline operation and maintenance, and that are acceptable to the individual property owners of each parcel.

The history for this project began in 2008, with REC anticipating the addition of this additional circuit, requiring the upgrade and replacement of the line's old wooden poles and conductors with galvanized steel poles. Due to the County's Special Use Permit process at that time, REC could not move forward with the addition of the third circuit; however, the County supported replacing the existing circuits with larger wire using galvanized steel base poles to increase electrical capacity and match the corridor's open sky view with the least visual impact. The foundation and pole diameter were engineered and designed to support the weight of the additional line and related equipment at the time, such that the project will utilize the existing poles, minimizing any impact on the property and the EC.

In 2018, REC once again began working toward the Special Use Permit to add the third circuit. The REC Team members met with County staff to learn more about the Entrance Corridor requirements and discussed landscaping compatible with electric power system delivery. In particular, the Team reviewed the County goal that "site development should be sensitive to the existing natural landscape." While the ARB Guidelines recommend large shade tree plantings every 35 feet, for traditional development, this project is merely a utility system infrastructure enhancement, and not a commercial development. Therefore, those guidelines are not directly applicable to this limited project. In addition, the EC along this corridor does not currently reflect the recommendations of these guidelines. Additionally, this recommendation is not compatible with electric power service delivery and having large shade trees within the utility easement corridor would be especially treacherous during wind, ice, and snowstorms. Trees and tree limbs are specifically removed from withing the easement area to ensure the power system stability and reliability during such storms and other weather events.

REC also researched the County's expectations for supporting native species. Fortunately, this is consistent with REC's customary right-of-way (ROW) maintenance procedures. REC crews typically work in a ROW segment to trim or cut trees and remove limbs that are growing toward the power lines, generally every five years. REC tree removal will take the tree trunk, but not the base or roots of the tree. The root system is left intact to provide soil stabilization and erosion control. The immediate effect of clearing (and subsequent maintenance) is increased sunlight to a given area; thus, supporting seeds already in the ground to become more fully exposed. Over time this area grows into a native Virginia meadow and low growing shrub landscape, that frequently develops into native species pollinator habitat.

Unlike wireless telecommunications facilities, an electric utility pole does not require the use of ground equipment or shelters that need to be screened from the Entrance Corridor. When the galvanized steel pole bases were first installed in 2009, with REC anticipating the need for this system expansion in the future, the poles were selected based on input from the County Planning Commission on pole styles preferred in this corridor. The galvanized steel is the closest material to a clear sky view and least impactful to the Entrance Corridor.

In this project's application, the existing poles are adjacent to the Route 29 Entrance Corridor along VDOT right-of-way. VDOT road access visibility requirements are more typical of open meadow. REC proposes to maintain that character with selective tree trimming and removal as well as promotion of native species pollinator gardens in the 17.5 feet of additional right-of-way. This method will continue to promote the expansive rural views that Albemarle County's rural area is already known for, without having an adverse impact on the Entrance Corridor.

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RAPPAHANNOCK ELECTRIC COOPERATIVE
TRANSMISSION LINE IMPROVEMENT
SPECIAL USE PERMIT PLANS
SP2020-000XX
FEBRUARY 18, 2020

VICINITY MAP:
SCALE: 1" = 2,000'



PROJECT DATA:

APPLICANT:

RAPPAHANNOCK ELECTRIC COOPERATIVE
P.O. BOX 7388
FREDERICKSBURG, VA 22404
CONTACT:
LEE BROCK
MANAGER OF ENGINEERING AND POWER SUPPLY
LBROCK@MYREC.COOP
(540) 891-5811

SURVEY SOURCE:

ALBEMARLE COUNTY GIS &
AS-BUILT DRAWINGS PREPARED BY POWERTEK
ENGINEERING LLC (08-09-2011)
(770) 209-9119

DATUM:

VERTICAL: NAVD88
HORIZONTAL: NAD83

DRINKING WATER WATERSHED:

NONE

TAX MAP/PARCEL #:

SEE TABLE BELOW

RAPPAHANNOCK ELECTRICAL COOPERATIVE - SPECIAL USE PERMIT - ENCUMBERED PARCELS (AS OF 2-17-2020)

PARCEL NUMBER	PHYSICAL ADDRESS	OWNER NAME	OWNER'S MAILING ADDRESS	DEED BOOK / INST #	ZONING
02100-00-00-012D0	5045 DICKERSON RD	RAPPAHANNOCK ELECTRIC CORP	5045 DICKERSON ROAD, CHARLOTTESVILLE, VA 22901	NONE LISTED	RA
02100-00-00-01200	NONE LISTED	GE INTELLIGENT PLATFORMS INC	P O BOX 4900, SCOTTSDALE, AZ 85261	4281/241	RA
02100-00-00-01500	NONE LISTED	EDWARD LEROY HAWN (by Deed of Confirmation and Will)	3911 IDLEWOOD ACRES RD, HICKORY, NC 28601 (still same)	1486/742	RA
02100-00-00-015G0	4886 SEMINOLE TRL	JAMES LEE HERRING OR BONNIE LEE HERRING	4886 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22911	4613/34 (TO JAMES); 762/476 (TO BONNIE LEE)	RA
02100-00-00-015B0	4912 SEMINOLE TRL	M. CLIFTON MCCLURE (TRUSTEE) & ROBERT M. CALLAGHAN (TRUSTEE)	P O BOX 5548, CHARLOTTESVILLE, VA 22901	1521/162	RA
02100-00-00-016C0	NONE LISTED	M. CLIFTON MCCLURE (TRUSTEE) & ROBERT M. CALLAGHAN (TRUSTEE)	P O BOX 5548, CHARLOTTESVILLE, VA 22901	1521/162	RA
02100-00-00-01600	5145 DICKERSON RD	CHARLOTTESVILLE DISTRICT UNITED METHODIST CHURCH	914 E JEFFERSON ST, SUITE 104, CHARLOTTESVILLE, VA 22902-5376	3509/575	RA
02100-00-00-017C0	4972 SEMINOLE TRL	PHILLIP HANEY	5214 DICKERSON RD, CHARLOTTESVILLE, VA 22901	2087/326	RA
02100-00-00-017A0	5046 SEMINOLE TRL	VTL INVESTMENTS LLC	5539 AMICUS ROAD, RUCKERSVILLE, VIRGINIA 22969	5111/388	RA
02100-00-00-01900	NONE LISTED	ROBERT RAY MESSICK	3989 PEACH ORCHARD RD, MCCONNELLSBURG, PA 17233	1091/133; WB113/571; DB 145/390;	RA
02100-00-00-007A0	NONE LISTED	ROBERT RAY MESSICK	3989 PEACH ORCHARD RD, MCCONNELLSBURG, PA 17233	1091/133	RA
02100-00-00-007C0	2831 FRAYS MILL RD	MARIE M. MYERS	7312 WAVERLY DRIVE, WARRENTON, VA 20186-7655	4955/198	RA
02100-00-00-00700	NONE LISTED	MARIE M. MYERS	7312 WAVERLY DRIVE, WARRENTON, VA 20186-7655	4955/198	RA
02100-00-00-006A0	2880 HILL TOP VIEW LN	IRENE C. D'GAMA	102 PROVIDENCE ROAD, CHARLOTTESVILLE, VA 22901	5214/757	RA
02100-00-00-006B0	2911 SHORT ROCK RD	LAUREN GAMA PROPERTIES LLC	102 PROVIDENCE ROAD, CHARLOTTESVILLE, VA 22901	4595/232	RA
02100-00-00-006D0	5532 SEMINOLE TRL	DAVID GEORGE KULUND	5532 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22911	5099/69	RA
02100-00-00-006E2	2907 HILL TOP VIEW LN	WILLIAM E. RINER OR LINDA L. RINER	2907 HILL TOP VIEW LANE, CHARLOTTESVILLE, VA 22911	1502/382	RA
02100-00-00-006I1	5548 SEMINOLE TRL	GARY A. HOWIE	2883 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22901	2653/710	RA
02100-00-00-006H0	2978 GREENE EDGE LN	BORDERLINE LLC (note: new owner as of September, 2019)	PO BOX 8183 CHARLOTTESVILLE VA, 22906	4327/307	RA

TOTAL PARCELS: 19

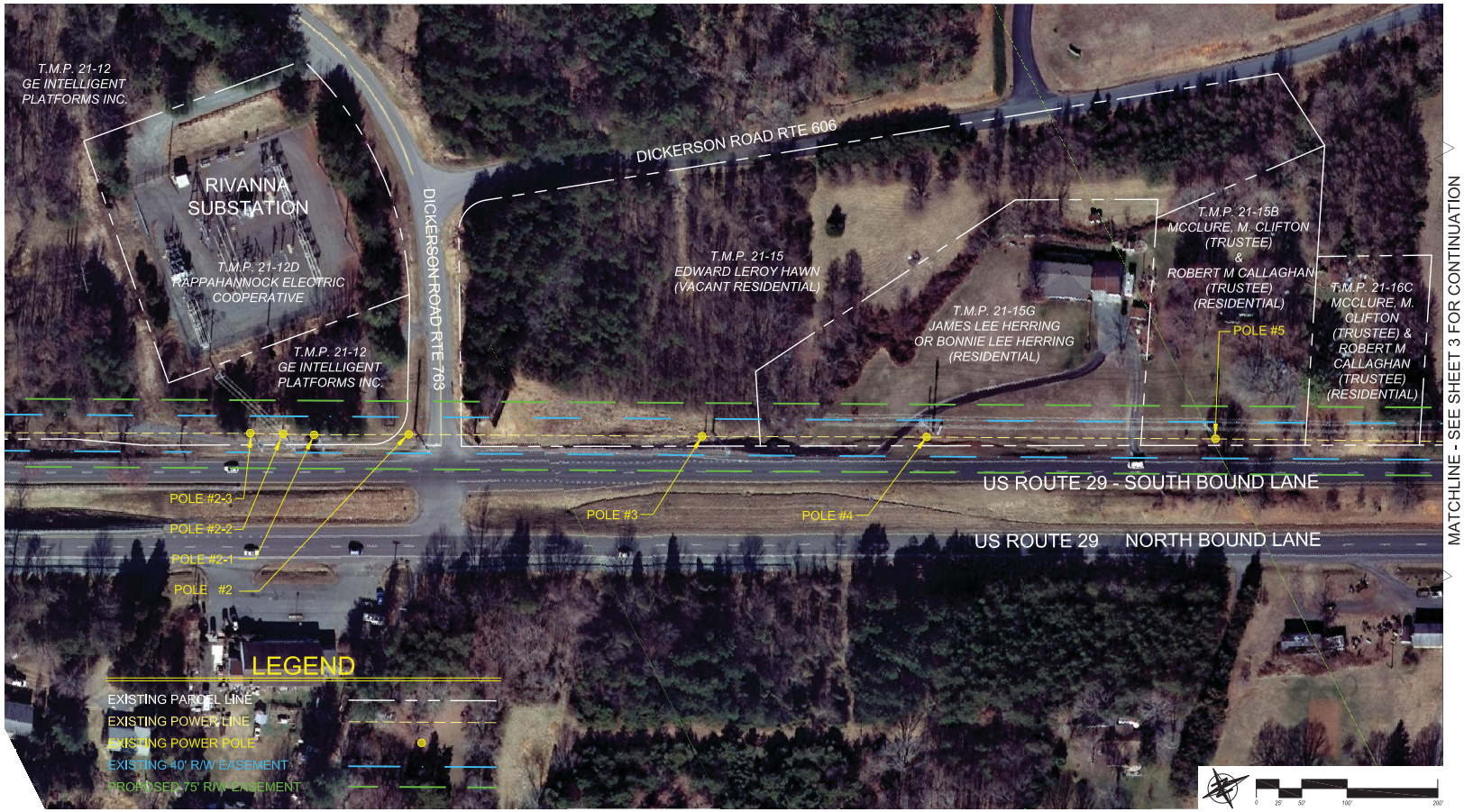
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alan@alanfranklinpe.com

COMMONWEALTH OF VIRGINIA
Alan G. Franklin
Lic. No. 39326
02-18-20
PROFESSIONAL ENGINEER

SPECIAL USE PERMIT (SP2020-000XX)
RAPPAHANNOCK ELECTRIC COOPERATIVE
ALBEMARLE COUNTY, VIRGINIA
TITLE SHEET

ISSUED: 02-18-20
SCALE: 1" = 50'
REVISIONS:

SHEET
1
OF 7



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RAPPAHANNOCK ELECTRIC COOPERATIVE

ALBEMARLE COUNTY, VIRGINIA

TRANSMISSION LINE IMPROVEMENT PLAN

ISSUED: 02-18-20
SCALE: 1" = 50'
REVISIONS:

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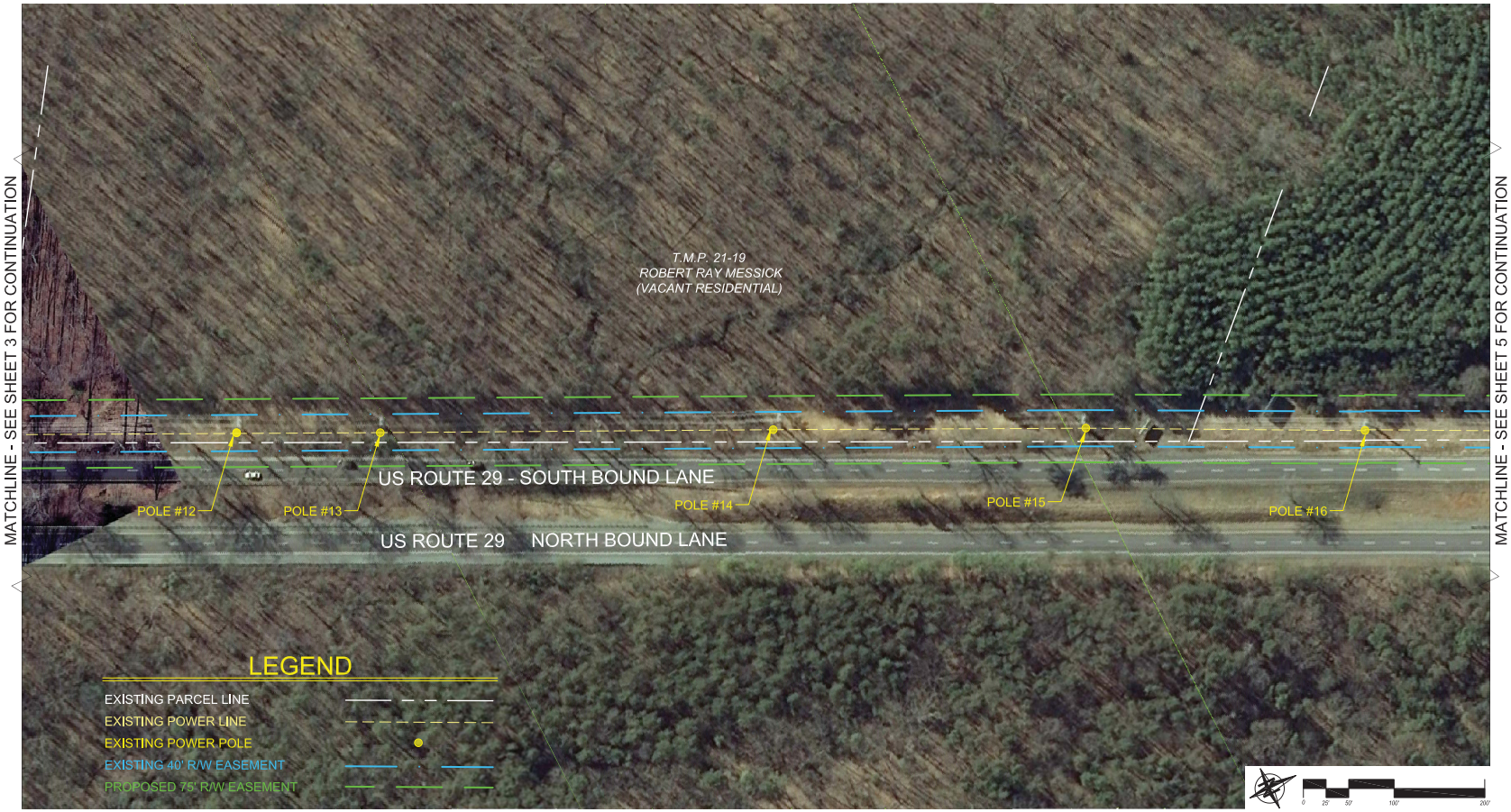
RAPPAHANNOCK ELECTRIC COOPERATIVE

ALBEMARLE COUNTY, VIRGINIA

TRANSMISSION LINE IMPROVEMENT PLAN

ISSUED: 02-18-20
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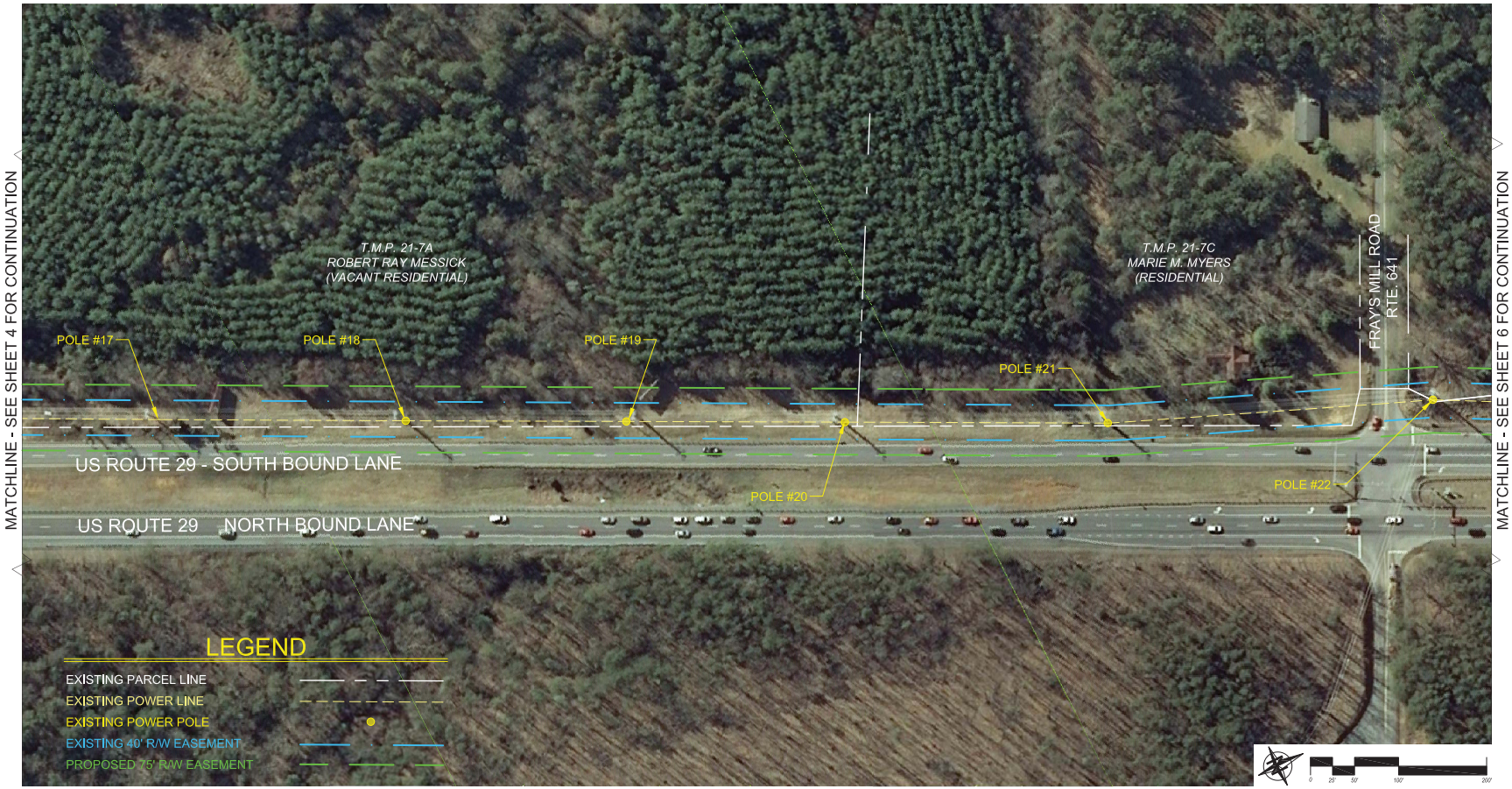
RAPPAHANNOCK ELECTRIC COOPERATIVE

ALBEMARLE COUNTY, VIRGINIA

TRANSMISSION LINE IMPROVEMENT PLAN

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ALBEMARLE COUNTY, VIRGINIA

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ALBEMARLE COUNTY, VIRGINIA

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ALBEMARLE COUNTY, VIRGINIA

TRANSMISSION LINE IMPROVEMENT PLAN

ISSUED: 02-18-20
SCALE: 1" = 50'
REVISIONS:

SHEET
7
OF 7

EXHIBIT A: RAPPAHANNOCK ELECTRICAL COOPERATIVE - SPECIAL USE PERMIT - ENCUMBERED PARCELS (AS OF 2-17-2020)					
Parcel Number	**Acres**	**Physical Address**	**Owner Name**	**Owner's Mailing Address**	**DEED BOOK / INST #**
02100-00-00-012D0	1.88	5045 DICKERSON RD	RAPPAHANNOCK ELECTRIC CORP	5045 DICKERSON ROAD, CHARLOTTESVILLE, VA 22901	NONE LISTED
02100-00-00-01200	7.39	NONE LISTED	GE INTELLIGENT PLATFORMS INC	P O BOX 4900, SCOTTSDALE, AZ 85261	4281/241
02100-00-00-01500	3.47	NONE LISTED	EDWARD LEROY HAWN (by Deed of Confirmation and Will)	3911 IDLEWOOD ACRES RD, HICKORY, NC 28601 (still same)	1486/742
02100-00-00-015G0	2	4886 SEMINOLE TRL	JAMES LEE HERRING OR BONNIE LEE HERRING	4886 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22911	4613/34 (TO JAMES); 762/476 (TO BONNIE
02100-00-00-015B0	1.23	4912 SEMINOLE TRL	M. CLIFTON MCCLURE (TRUSTEE) & ROBERT M. CALLAGHAN (TRUSTEE)	P O BOX 5548, CHARLOTTESVILLE, VA 22901	1521/162
02100-00-00-016C0	0.61	NONE LISTED	M. CLIFTON MCCLURE (TRUSTEE) & ROBERT M. CALLAGHAN (TRUSTEE)	P O BOX 5548, CHARLOTTESVILLE, VA 22901	1521/162
02100-00-00-01600	5	5145 DICKERSON RD	CHARLOTTESVILLE DISTRICT UNITED METHODIST CHURCH	914 E JEFFERSON ST, SUITE 104, CHARLOTTESVILLE, VA 22902	3509/575
02100-00-00-017C0	2	4972 SEMINOLE TRL	PHILLIP HANEY	5214 DICKERSON RD, CHARLOTTESVILLE, VA 22901	2087/326
02100-00-00-017A0	8.71	5046 SEMINOLE TRL	VTL INVESTMENTS LLC	5539 AMICUS ROAD, RUCKERSVILLE, VIRGINIA 22969	5111/388
02100-00-00-01900	40	NONE LISTED	ROBERT RAY MESSICK	3989 PEACH ORCHARD RD, MCCONNELLSBURG, PA 17233	1091/133; WB113/571; DB 145/390;
02100-00-00-007A0	57.97	NONE LISTED	ROBERT RAY MESSICK	3989 PEACH ORCHARD RD, MCCONNELLSBURG, PA 17233	1091/133
02100-00-00-007C0	5.49	2831 FRAYS MILL RD	MARIE M. MYERS	7312 WAVERLY DRIVE, WARRENTON, VA 20186-7655	4955/198
02100-00-00-00700	54.42	NONE LISTED	MARIE M. MYERS	7312 WAVERLY DRIVE, WARRENTON, VA 20186-7655	4955/198
02100-00-00-006A0	9.41	2880 HILL TOP VIEW LN	IRENE C. D'GAMA	102 PROVIDENCE ROAD, CHARLOTTESVILLE, VA 22901	5214/757
02100-00-00-006B0	3.17	2911 SHORT ROCK RD	LAUREN GAMA PROPERTIES LLC	102 PROVIDENCE ROAD, CHARLOTTESVILLE, VA 22901	4595/232
02100-00-00-006D0	5	5532 SEMINOLE TRL	DAVID GEORGE KULUND	5532 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22911	5099/69
02100-00-00-006E2	6.23	2907 HILL TOP VIEW LN	WILLIAM E. RINER OR LINDA L. RINER	2907 HILL TOP VIEW LANE, CHARLOTTESVILLE, VA 22911	1502/382
02100-00-00-006I1	0.74	5548 SEMINOLE TRL	GARY A. HOWIE	2883 SEMINOLE TRAIL, CHARLOTTESVILLE, VA 22901	2653/710
02100-00-00-006H0	1.9	2978 GREENE EDGE LN	BORDERLINE LLC (note: new owner as of September, 2019)	PO BOX 8183 CHARLOTTESVILLE VA, 22906	4327/307
TOAL ACRES	216.62				
TOTAL PARCELS:	**19**				

February 18, 2020

Rappahannock Electrical Cooperative

Special Use Permit Application SP 2020-000___

Project Narrative

PROJECT PROPOSAL

Summary of Project Proposal:

Rappahannock Electrical Cooperative ("REC") proposes to add an additional line above the existing circuits on the existing utility line poles within the portion of its service territory in Albemarle County along a 1.6-mile corridor along the southbound lanes of Route 29 north (the "Project"). The proposed new 115 kilovolt line will provide system resiliency by allowing REC's existing substations to back feed when outages occur on the current lines, which will enable REC to restore power to its members more quickly. It will also help REC meet its members' needs for more power in the future. The additional line would be installed by adding an extension or "pole topper" to the top of the existing REC poles. Because this 115-kV line is technically a transmission line, a Special Use permit is required for the Project.

Tax Map Parcel Numbers:

The existing REC lines in Albemarle County cross through the parcels listed below. For details on the ownership of each parcel, please see the cover sheet of the enclosed plans prepared by Alan Franklin, PC, entitled "Rappahannock Electrical Cooperative, Transmission Line Improvement, Special Use Permit Plans."

02100-00-00-012D0
02100-00-00-01200
02100-00-00-01500
02100-00-00-015G0
02100-00-00-015B0
02100-00-00-016C0
02100-00-00-01600
02100-00-00-017C0
02100-00-00-017A0
02100-00-00-01900
02100-00-00-007A0
02100-00-00-007C0
02100-00-00-00700
02100-00-00-006A0
02100-00-00-006B0
02100-00-00-006D0
02100-00-00-006E2
02100-00-00-006I1
02100-00-00-006H0

PUBLIC NEED OR BENEFIT

Starting with President Roosevelt issuing an Executive Order in 1935, and Congress enacting the Rural Electrification Act (the "REA") in 1936, the Federal government has provided support and funding for the installation of electrical distribution systems to serve isolated rural areas of the United States through federal loans to member-owned rural electric cooperatives. When the REA was enacted it was challenging to install electricity in these remote rural areas due to the economics of the systems then built in cities. These member-owned cooperatives were able to purchase power on a wholesale basis for local transmission and distribution to their members on their own network of transmission and distribution lines. By 1959 approximately 90% of US farms and rural homes had electricity compared to only 3% at the time the REA was enacted in 1936.

Almost 100 years later, electric power is more vital now than at the time of passage of the REA. Households and businesses alike rely on electric power for lighting and heating but also a myriad of appliances and tools needed for activities ranging from the manufacturing production at GE-Fanuc, to individual households engaged in elder care requiring special refrigerated medications or bio-medical devices. Nearly every residential and business customer requires power to power smart phones and computers. The REA has an 84-year track record of success with its mission to provide power to rural communities.

Rappahannock Electric Cooperative (REC) also has a lengthy history in providing excellent service to its nearly 170,000 connections to portions of 22 Virginia counties. The Cooperative was formed in 1980 after the consolidation of two cooperatives, Virginia Electric Cooperative in Bowling Green and Northern Piedmont Electric Cooperative in Culpeper. REC operates and maintains more than 17,000 miles of power lines through its service area, which ranges from the Blue Ridge Mountains to the tidal waters of the Chesapeake Bay. The Cooperative serves a variety of residential, commercial and industrial accounts, and the portion of its territory in Albemarle County is located in the northern edge of the County adjacent to the Greene County line, as shown on **Exhibit A**.

REC is requesting to upgrade an existing line in the rural area at the northern end of Albemarle County along Route 29. With increased customer demand and the more routine circumstances of extreme weather, REC is planning for a new line to be placed above the existing circuits on the existing poles along the 1.6-mile corridor within the Albemarle County portion of its territory. This new line of 115kV will provide system resiliency by allowing the substations to back feed when outages occur on the current lines. It will also help this network meet the needs for more power in the future. The REC network system serves over 2,000 Members in Albemarle County however, the project line installation affects a 1.6-mile long pole network from Dickerson Road north to the County line adjoining Greene County. The Project's proposed alignment, along an existing line, will mitigate the need to disturb any areas beyond the existing utility corridor, while meeting current and future power demands. See the project vicinity along the existing utility corridor on **Exhibit B**.

The REC system only touches a small region of Albemarle County, but it is an important segment in connecting Albemarle, Orange, Greene, and Madison Counties to the larger REC network (which includes a total of 22 Counties and 165,000 connections). It is also a key energy supplier to several of the County's larger business operations – GE Intelligent Platform Systems, MicroAire, a portion of the UVA Research Park and the Federal Government's Rivanna Station. By installing a line vertically above the existing lines, REC can add power supply and decrease downtime from outages, while having the *least* impact to the natural environment and rural areas. This is due to REC planning some time ago to enhance the system with the 115kV line. Plan implementation began in 2009 with the replacement of

wooden poles with stronger metal poles. The stronger poles can support all three circuits at a height that has minimal impact on the highway corridor.

While the REA and REC goals to provide power to the Cooperative members in rural areas are currently being met, this project will assure continued success in years to come. The proposed project to "Go Up" the current poles will create the needed capacity with little to no impact on the corridor aesthetics or to the environmental features along the 1.6-mile segment. Half of the existing 40-foot easement is on the roadway side, overlapping the VDOT right-of-way, the other half of this 40-foot easement is on private property with 17.5 feet of additional easement required to accommodate the new line.

REC provides needed electric power in its service district of over 2,000 customers in the northern section of the County of Albemarle. When built, the new line will more efficiently meet the needs of current REC and future business customers located in the County's designated development areas, including GE Intelligent Platform Systems, MicroAire, Rivanna Station, a portion of the UVA Research Park, and any new development in the area requiring available and reliable REC power supply. The Places 29 Master Plan designates a large area north of Rivanna Station for development, and the Project also would address the need for consistently reliable power in that area.

The Project not only provides more power in this Piney Mountain area, but also addresses system resiliency. If a line goes down due to ice accumulation, or other natural occurrences, the higher voltage line can be used to connect to a substation and get the power to the area experiencing the outage in minutes instead having to wait for repairs made by a repair team. This new line will provide backfeed capacity to help the system endure in periods of high demand and/or severe weather impacts. This portion of the REC system is served by two separate substations, Gordonsville and Profitt. If one experiences an outage, this proposed line can access power from the other Substation, creating a backfeed solution. See **Exhibit C**, Project Overview: Project Location.

The project will include the construction activity of adding "pole toppers" to each of the existing poles and installing the higher voltage 115kV circuit along this 1.6-mile corridor. The existing steel poles would remain in place and an additional pole segment will be installed on the top of these poles to carry the new 115-kV line. See **Exhibit D**, Project Overview: Structural Drawing, and **Exhibit E**, Project Overview: Before and After.

The height of the poles will increase from the current average height of 46 feet to the new average height of 82 feet, as shown in more detail in a chart attached as **Exhibit F**, Rivanna to Preddy Creek Poles.

The addition of this third circuit will require a wider easement on either side of the pole, from 40 feet to 75 feet, a net increase 35 feet or 17.5 feet on either side of the current easement, as shown in detail on the Special Use Permit Plans.

CONSISTENCY WITH THE COMPREHENSIVE PLAN

Electric power is a necessary element of any community, providing electric lighting, appliance power, heating, air conditioning, and computer support to households and businesses alike. It is also important for agricultural and other rural enterprises and uses. It can be augmented by other sources of renewable energy, such as solar and wind energy. All of these are tied together by an electric power system of distribution. This project is to be owned by the REC Member-owners. The project will benefit the 2000 REC members in Albemarle County. While not called out in the Comprehensive plan under Chapter 12.1

Community Facilities, electric power is the backbone of community facility service delivery (schools, police, fire & rescue). For example, REC electric power provides lighting to the Preddy Creek park natural area. Schools and student instruction depend on children in these rural areas having access to electric power. EMS services also rely on accessing electric power to serve their patients within the Project area as well.

Under the Comprehensive Plan Chapter 8, Development Areas, the primary goal is stated as follows,

Albemarle's Development Areas will be vibrant active places with attractive neighborhoods, high quality, mixed-use areas, thriving business and industry, all supported by services, infrastructure, and multimodal transportation networks.

This goal cannot be achieved without adequate electric power supply. Several of the County's major employers, such as GE Intelligent Platform Systems, MicroAire and the US government's Rivanna Station, as well as the UVA Research Park, are affected by this power supply and will benefit from the Project. Loss of power can reduce these respective operations' ability to thrive in the future as each potentially grow their businesses or employment levels. Other communities already have built-in electric power resiliency to better sustain these kinds of operations. With power system resiliency, Albemarle County can sustain its current employer operations and also compete for other economic development opportunities that request and always require two power sources that this Project will provide. Without power system resiliency, the County economy might face the possibility of these jobs moving away from Central Virginia, and the County will continue to miss economic development opportunities that have opted not to locate in Albemarle since it lacks such a resilient system.

This also affects similar goals stated in Chapter 6 – Economic Development. The Economic Development Comprehensive Plan Goal is for

"Albemarle's economy will be diverse, strong, and sustainable, and retain and benefit County citizens, existing businesses, and new local ventures."

Without resilient electric power, the three major business operations in this portion of the County - GE, Rivanna Station, and UVA Research Park - may lose jobs and ability to compete in the global economy. Without these jobs, Albemarle County's diversity is diminished rather than sustained. New job growth and other business expansion is unlikely to occur as planned in the neighborhood surrounding Rivanna Station, without a long-term commitment to reliable electric power.

Rural Areas Plan

All but two of the parcels in the Project are located in the Rural Area. Most fundamentally, the Rural Areas Plan promotes healthy rural and agricultural communities. The Project is consistent with the goals of the Rural Area Plan in that REC's system enhancement will support the agricultural and residential uses that are permitted in the Rural Areas by ensuring reliable and resilient electricity.

The Project is also consistent with the objectives of the Rural Area, given that it represents the least environmentally disruptive method of making necessary enhancements to REC's power lines. As such, the Project helps protect the surrounding "rural and historic landscapes that enhance the visitor's experience" in the Rural Area by modifying an existing power line corridor rather than creating a new one.

Places29 Master Plan

The two parcels located in the Development Area, which are discussed in greater detail in the Neighborhood Model section below, are designated for Office / R & D / Flex / Light Industrial uses in the Places29 Master Plan. This designation describes industrial uses of a low impact, other than increased traffic. See page 4-6 of the Places29 Master Plan. The existing substation has a low impact and the Project will not change the existing impacts or create new traffic in the development area. Accordingly, the Project is consistent with the Places29 Master Plan.

Principles of the Neighborhood Model

The County's Neighborhood Model Principles apply to neighborhood developments located in one of the Development Areas designated in the County's Comprehensive Plan. The County's Neighborhood Model Principles promote "innovative design tools for creating more urban livable neighborhoods." Albemarle County, The Neighborhood Model, page 5. Because the Project is located almost entirely in the Rural Areas (other than the parcels owned by REC and GE), and is an infrastructure project rather than a development project, most of these principles are not applicable. Nevertheless, as requested by staff, below is an analysis of the Project's consistency with the Neighborhood Model Principles:

The Project involves a total of 19 parcels, 2 of which make up the northernmost portion of the Piney Mountain-Places29 Development Area. The portion of the Project lying within the Development Area is very small relative to the overall project, given the acreage of the remaining 17 parcels. The Neighborhood Model Principles thus apply to that very small portion of the Project, located on a portion of two parcels.

In particular, the portions of Parcels 21-12 and 21-12D that front U.S. 29 are the only areas in the Project for which consistency with the Neighborhood Model Principles is directly relevant. Parcel 21-12D is owned by the Applicant and is the current site of the REC Rivanna substation. Given the existing use of Parcel 21-12D, and this application, redevelopment of this parcel to any other use is unlikely. Parcel 12-12- is vacant land zoned for Light Industry and owned by GE Intelligent Platforms, Inc. It is possible that an applicant could pursue a redevelopment of this parcel in the future to a different zoning district, in which case these Principles would apply. Below is our analysis of the Project's consistency with the applicable Neighborhood Model Principles:

1. *Pedestrian Orientation*

The Project does not prevent adjacent buildings and development that may be proposed on TMP 21-12 in the future from having a pedestrian orientation. This principle is not applicable to the remaining 17 parcels, since those parcels are in the Rural Areas and the Project is merely a utility infrastructure enhancement.

2. *Neighborhood Friendly Streets and Paths*

Likewise, this principle is not applicable to this Project. This is a utility infrastructure enhancement project that does not propose any streets or paths. In addition, the Applicant is an easement holder and does not have the right to create paths or streets within its easement area, nor are any proposed.

3. *Interconnected Streets and Transportation Networks*

Not applicable. The Project does not propose change the existing street network, or otherwise impact the street network in any way.

4. *Parks and Open Space*

Not applicable. This is a utility infrastructure enhancement project, and does not impact any parks or designated open space. However, the maintained land within the REC easement area can somewhat function as open space since buildings and other structures other than the existing poles and utility improvements are not permitted within that area.

5. *Neighborhood Centers*

While not located in a neighborhood center, the Project will provide improvements to the electrical infrastructure system and supply that supports existing and future neighborhood centers in the adjacent designated development area that comprises the REC service territory.

6. *Buildings and Spaces of Human Scale*

No new buildings or structure are proposed in the Project, merely the extension of existing poles to accommodate the necessary infrastructure improvements. Nothing about the Project will preclude the properties from developing consistent with this principle in the future if applicable.

7. *Relegated Parking*

This is not applicable, as the Project does not propose any new parking areas. Other than existing parking for service vehicles at the substation on Parcel 21-12D, the Project does not propose any parking spaces. The existing parking is relegated.

8. *Mixture of Uses*

This is not applicable, as the Project is merely an infrastructure enhancement project. However, the Project will not limit or impact the potential uses of the underlying parcels. The owners of the relevant parcels may continue to pursue such mixture of uses as allowed by the County's Comprehensive Plan and Zoning Ordinance.

9. *Mixture of Housing Types and Affordability*

Not applicable, as no dwelling units are proposed.

10. *Redevelopment*

Not entirely applicable. However, to the extent one considers the adaptive use of existing power poles for the infrastructure enhancement and system improvements instead of creating a new utility corridor just for this 115kv line as redevelopment, the Project satisfies this principle.

11. *Site Planning That Respects Terrain*

The Project will not involve any grading, since it will utilize existing poles that were previously designed and constructed in anticipation of the future installation of the third line, such that no new construction or site work will be required to accommodate the pole extension/topper.

12. *Clear Boundaries with the Rural Areas*

The proposed transmission line is permitted by SUP in all zoning districts, without regard for whether the parcels are located in the development areas or the rural areas. The Project is merely a utility enhancement project, and does not introduce any change the use of the land

IMPACTS ON PUBLIC FACILITIES AND PUBLIC INFRASTRUCTURE

Completing the loop between the Proffit and Gordonsville Substations will improve resiliency, enabling REC to restore power supply in minutes as opposed to hours or days in the event of extreme weather or other system damages. In the past six (6) years there have been several major extreme weather events that caused outages for extensive periods of time, including the following:

- July 2012 Derecho
- April 2018 Nor'easter
- September 2018 Hurricane Florence, which caused prolonged outages in southern Virginia. Hurricane Florence could have substantially impacted Central Virginia if weather patterns had manifested in a slightly different direction.

During a March 2018 event, there was an outage on the portion of REC's existing 115-kV line in Albemarle County between the Proffit and Rivanna Substations (refer to **Exhibit C)** and the entire area was out of power for close to 5 hours. Had there been an alternate source for this 115-kV line, it could have automatically transferred over to its alternate source in minutes with almost no outage time at all. Considering the increasing amount of extreme weather occurrences this area has seen in the last few years, having resilient systems would vastly decrease the time it takes to re-energize REC members. REC currently has a total customer base of over 170,000 services. Transmission line outages of 115 kV and above are not a "typical" occurrence; however, an outage of a transmission voltage line normally takes longer to restore than one of distribution voltage and affects many more Members, thus making the outage much more widespread. This 115-kV project segment connecting to REC's Rivanna Substation serves over 4,000 REC members, of which approximately 2,000 are located in Albemarle County. These members are a mix of both residential and commercial accounts (which also includes agricultural accounts).

The Project will not create any additional transportation impacts, as other than during the installation period, no additional vehicular trips will be generated in connection with the Project. And unlike most residential, commercial, and industrial projects, the REC Project will have no impacts of any kind on school capacity, the public water and sewer systems, parks and recreational resources, or create demands on any other County facilities or departments, such as libraries, police and fire departments, or other public infrastructure and facilities.

IMPACTS ON ENVIRONMENTAL FEATURES

The existing poles were designed and installed in 2009 to accommodate this 115-kV line in the future. The corridor lies in the rural area of Albemarle, except the one REC-owned parcel (TMP 21-12D), and follows along the Route 29 right of way to the County line. Effectively, the project will involve placing one circuit higher above the two lines already in place. No additional construction work or earth disturbance will be required to add the pole extensions and the additional line, for all such construction took place when the new poles were installed in 2009. The poles will not be relocated, nor will native vegetation, steep slopes, or stream buffers be affected in between the poles. Additional easement land will be needed to accommodate the 115kV line. This will include some tree removal within the additional easement area to allow for routine maintenance and emergency repairs, as well as to keep tree lines from touching the new line and causing safety problems. REC will foster Virginia native meadow growth in the expanded easement area. A review of the County aerial footage shows the utility line corridor not having impact on critical environmental features.

By simply placing a pole on top of the existing pole along the existing utility corridor, the project will not require or cause any earth disturbance, thus the project has no impact on any existing environmental features along the corridor. Construction staging will be handled by the general contractor hired by REC, however the most likely staging area will be the REC-owned parcel TMP 21-12D at the intersection of Dickerson Road and Route 29.

- Water Protection Ordinance Stream buffers. By simply placing a pole on top of the existing pole along the corridor, the project will not cause any impact to the stream buffer. GIS web shows three streams in the vicinity of the corridor line: 1) the North segment of Herring Branch, 2) just north of Short Rock Road and Route 29, 3) the residence at 4886 Seminole Trail. The REC Poles are located outside of these stream buffers, according to the 2013 One-Foot ortho-photography, and thus the project has no impact on any stream buffers.

- Historic districts. The existing Project corridor is not within any state, local or federal historic district, and thus will not have any impact on any historic districts or resources.

- Mountain Protection areas. The existing Project corridor line is outside of the County's Mountain Protection Areas, and thus has no impact on any mountain resources.

In addition, REC is a Rural Utility Services (RUS) borrower and, thus must adhere to all RUS federal agency rules and guidelines for capital projects such as installing this 115-kV line. One of these rules is to complete a Borrower's Environmental Review (BER), or also known as an Environmental Review (ER), for all construction projects before work can begin. This BER or ER consists of contacting all State and National environmental agencies to determine if any permit, or permits, are required. REC will comply with all applicable State and Federal environmental regulations as part of the construction of adding these pole toppers and installing the higher 115-kV line.

The REC System Enhancement project provides system resiliency to support its members, including several of the County's major employers. The proposed approach of existing the height of existing poles along an established utility corridor has the least impact to the environment and related systems (steep slopes, water systems, and native vegetation). The benefits are significant to not only the members who will be able to rely on consistent electric power well into the future, but also the County, as a whole, by supporting the needs of the existing major employers mentioned previously. It also serves the needs of the residences and agricultural operations in this area, providing safe and reliable power in the event of

an emergency. It meets the needs of a greater system, bringing REC system elements from Greene, Madison, and Orange to support this area in Albemarle County.

Description of the Construction Process:

As requested by the pre-application materials, we provide the following summary of the construction process. The additional easement area will be cleared of trees and limbs overhanging into the easement area. The stumps and tree roots will be left in place. Then the General Contractor that REC hires will bring each pole topper/extension from the construction staging area using either a line truck or a crane to the pole location. The General Contractor will install the equipment on the pole extension while it is on the ground within the easement area. Then the Contractor will use a line truck or crane to install the pole extension on the top of the existing pole. The Contractor will then install new conductors on the pole extension by pulling them through rollers attached to the newly installed pole extension. Then the new conductors would be attached to the insulators on the poles. This work will all take place within the easement area (a portion of which will include the VDOT right-of-way along Route 29). Again, no new earth disturbance or grading is required or planned as part of the Project.

Special Use Permit Criteria:

How the special use will not be a substantial detriment to adjacent parcels:

The Special Use Permit to extend pole height will not be detrimental to adjacent lots. REC's existing and future Members will be able to rely on a more consistent power supply and shorter periods of power outage. The pole locations will not change. The higher height will require an additional 17.5 feet of easement area on the west side for periodic pole and electric power line maintenance. The additional easement on the east side overlaps with the VDOT right-of-way. The existing lines will remain in place below the proposed 115-kV line. The Project will not generate any additional traffic, noise, dust, fumes, or other adverse impacts. The extension of the existing poles in the same location is not expected to cause a substantial detriment to adjacent parcels. The diameter of the existing poles will not increase, and no additional reinforcement of the pole foundations are required or planned. There will be no construction impacts due to the use of the existing poles, and the pole topper extensions are the only structures required for the Project.

How the character of the zoning district will not be changed by the proposed special use

A utility corridor with monopoles and power lines already exists in this area. Increasing the height of these poles as proposed in the existing corridor will not change the character of the area or the rural areas zoning district. The project is in the County Entrance Corridor along westside of Route 29. The existing poles have a history going back to at least 1977 when the Northern Piedmont Electric Cooperative purchased this line and substation from Virginia Power. This pre-dates the County's Entrance Corridor policy and overlay zoning district, as well as the creation of the County's designated development areas. These poles were built to serve both the rural and urban areas by connecting to a larger system grid. Furthermore, the proposed Project will not reduce any access to agricultural or forestal lands within the corridor. By contrast, the Project will substantially benefit all of the uses permitted in the Rural Areas zoning district, thus supporting the district's character.

Although the increase in the height of the existing poles will potentially increase visibility, the use of the existing poles and existing long-established utility corridor will help to limit visual impacts. If REC instead elected to create a new utility corridor just for the 115kv line, far more impacts would be crated within

the area and the RA zoning district. A new corridor would require far more tree clearing, easement acquisitions, and likely impacts on sensitive environmental features such as critical slopes and stream buffers, and would require substantial grading and earth disturbance. The modest increase in pole height and corresponding visibility is minimal compared to the impact that a new utility corridor would have on the area and on the Entrance Corridor.

REC upgraded the poles and circuits in 2009, designing this pole foundations to support and otherwise accommodate a future third line above the two existing lines without the need to further reinforce the pole foundations or to increase the diameter of the poles. These poles are also in Greene County and Counties where there is already a 115-kV segment in place without changing the pole diameter and with limited ground disturbance.

For line maintenance, the project will impact an added 17.5-foot easement from the current western edge of the Utility easement. The eastern 17.5-foot added easement will coincide with the VDOT right-of-way. As such, any landscaping desired by individual property owners must be compatible with VDOT's clear zone regulations and general highway safety vehicular traffic movement. REC will work with individual property owners on landscaping preferences on their properties, with a preference to enhance native species - Virginia meadow habitat. The rural road character will remain the same along the corridor.

How the special use will be in harmony with the following:

- *The purpose and intent of the Zoning Ordinance*. The proposed REC electric utility line meets the purpose and intent of the following sections of the Zoning Ordinance:
    - *Section 1.4(C): Facilitate creating a convenient, attractive and harmonious community;*
    - *Section 1.4(D): Facilitate providing adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports and other public requirements;*
    - Section 1.4(G): Encourage economic development activities that provide desirable employment and enlarge the tax base;
    - *Section* 10.1: Purpose and Intent of the RA Zoning District:
        - The Project will preserve agricultural forest lands and activities
        - The Project will preserve and protect the water supply
        - The Project will provide enhanced electrical service to the nearby designated development areas and to the rural areas at no cost to the County
        - The Project will conserve the natural, scenic, and historic resources of the area by avoiding any impacts on sensitive areas, minimizing any increased visibility as a result of the extension of the pole height (especially as compared to the visual impact created by a new separate utility corridor just for this 115kv line), and avoiding impacts on any historic resources

- Section 5.1.12 – Public Utility Structures/Uses:
    - Since 115kV is categorized as a "transmission line," it is only permitted by Special Use Permit approval. It is important to note that while this is categorized as a "transmission activity" due to the 115kV power level; in fact, it does not meet the State code definition as "providing wholesale power distribution." Instead, this new line will only serve its direct Members and complete the connection to other REC regions and counties for power system reliability and resiliency. This power line's 115kV segment will connect the 2000 homes and businesses in the northern portion of the County to the two closest substations for more resilient power. Resiliency in this context indicates the speed at which power is restored and connected to another power source during an outage. The 115kV line will act to bring power back to this area much more quickly than the current system, e.g., within minutes versus what could be several days, as was experienced following the 2012 Derecho.

- *Uses permitted by right in the zoning district.* Public utilities are in harmony with and supportive of agricultural and residential uses in the district. Electric utility lines are allowed by right in the Rural areas, however as stated above, voltage of 115kV is considered a transmission line by County of Albemarle zoning code and requires a special use permit.

- *Regulations provided in Section 5 of the Zoning Ordinance as applicable.* There do not appear to be any regulations within Section 5.1.12 of the Zoning Ordinance that apply to this project of adding an electric utility top to an existing electric utility line, since no new use is proposed and no earth disturbing activity is proposed, and no river crossing are proposed.

- *Public health, safety and general welfare.* The 115-kV line will be placed above the existing circuits, overhead at a height such that it will have no impact on activities at ground level. The additional 17.5-foot wide easement will ensure no impact from routine maintenance or emergency repairs. The third line will assure that system segments can be restored quickly in the event of an outage and that there is adequate infrastructure to meet the needs of this geographic area in years to come, as development occurs in the Piney Mountain development area. The additional system will address both the growing demand for electric power, as well as provide a back-up source of power to the currently served area when severe weather occurs. This 1.6-mile segment will complete a larger loop feed, and extend from the existing Proffit substation, over 30 miles to the Gordonsville substation, through four counties: Albemarle, Greene, Madison, and Orange. It will connect to seven substations and more than 9,300-member accounts. The Project will have significant positive impacts by providing consistent and resilient power supply to mitigate possible disruption from adverse weather. With this system enhancement, REC can backfeed against power outages in this vicinity.

System History

Originally fed by the Piney Mountain Delivery Point from Virginia Power's Hollymead Substation on Route 29, this delivery point served Northern Piedmont Electric Cooperative (NPEC), now REC, via three miles of 34.5 kV distribution line and a small substation located on Route 29 in Greene County (Dunnes Substation). In 1977, NPEC purchased this line and substation from Virginia Power. In the early 1990's, both the Proffit and Rivanna Substations were built, along

with the 115-kV transmission line between the two stations. In 2010, in order to prevent overloading due to the proposed growth in Rivanna Station and Boulders Road neighborhood, this line was rebuilt for more capacity with the ability to add a 115-kV circuit on top in the future. The history of REC includes several milestones to reach its current territory size which includes 22 Virginia counties:

1935	Farmers Rural Utilities organized as Virginia's first non-profit utility corporation.
1936	Farmers Rural Utilities energizes the first Rural Electrification Administration (REA) financed line in Virginia and on the East Coast, serving 73 member-owners.
1938	Northern Piedmont Electric Cooperative (NPEC) formed at a meeting in the Town of Culpeper. Farmers Rural Utilities reorganizes into Virginia Electric Cooperative (VEC).
1939	NPEC energizes its first REA-financed line in Brightwood.
1980	Rappahannock Electric Cooperative (REC) formed after the consolidation of VEC and NPEC.
2010	REC becomes Virginia's largest electric cooperative and the third largest utility in Virginia after acquiring 51,000 new members from the former Virginia based investor-owned utility Allegheny Power.
2013	REC celebrates 75 years and serves over 157,000 connections across 16,000 miles of power lines in portions of 22 counties.
2020	REC now has more than 170,000 services with almost 17,500 miles of power lines in portions of 22 counties.

List of Exhibits:

Exhibit A: REC Territory Map
Exhibit B: Project Location Map
Exhibit C: Project Overview: Project Location
Exhibit D: Project Overview: Structural Drawing
Exhibit E: Project Overview: Before and After
Exhibit F: Rivanna to Preddy Creek Poles

Exhibit A:

REC's Territory Map

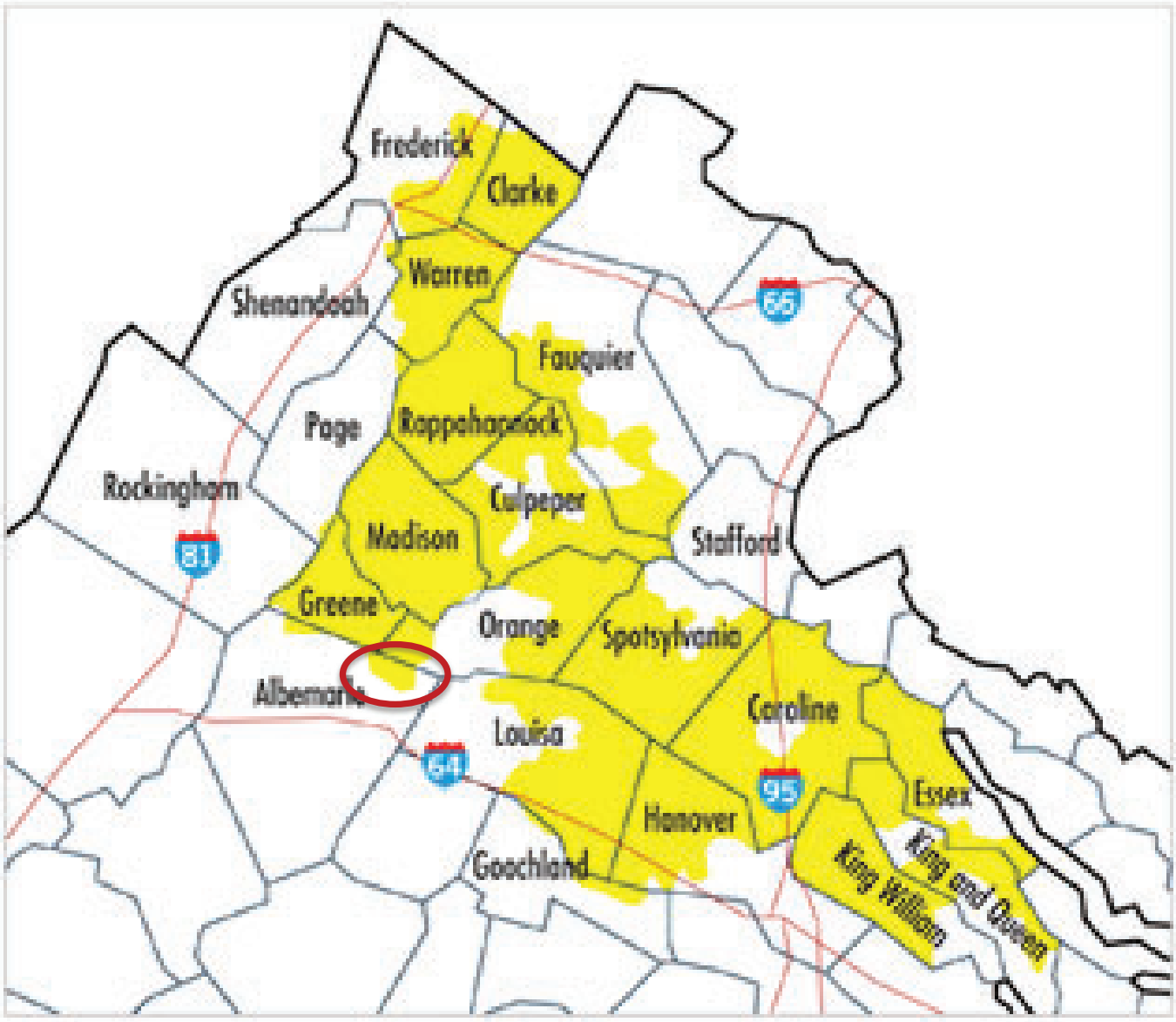
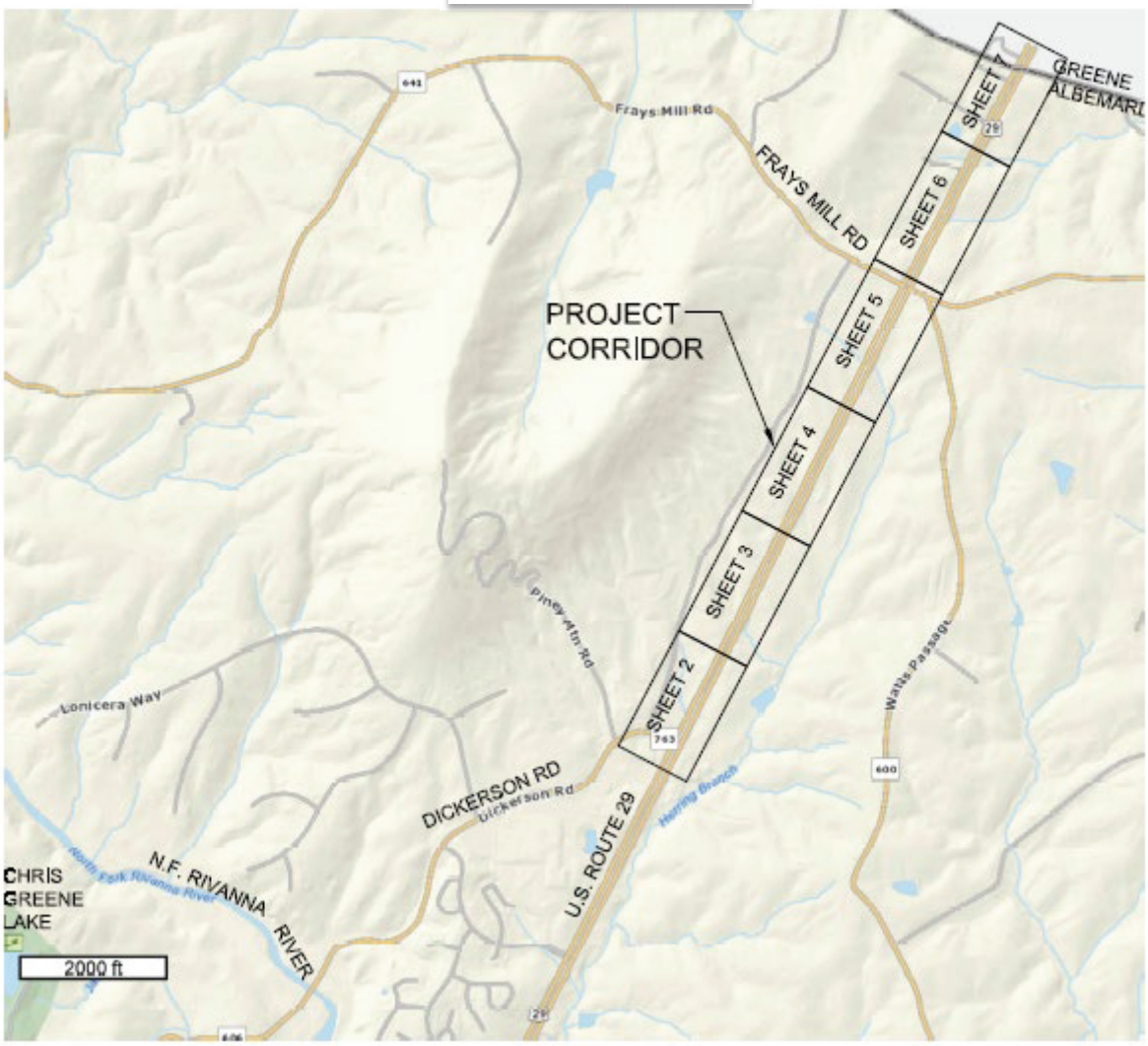


Exhibit B:

VICINITY MAP:



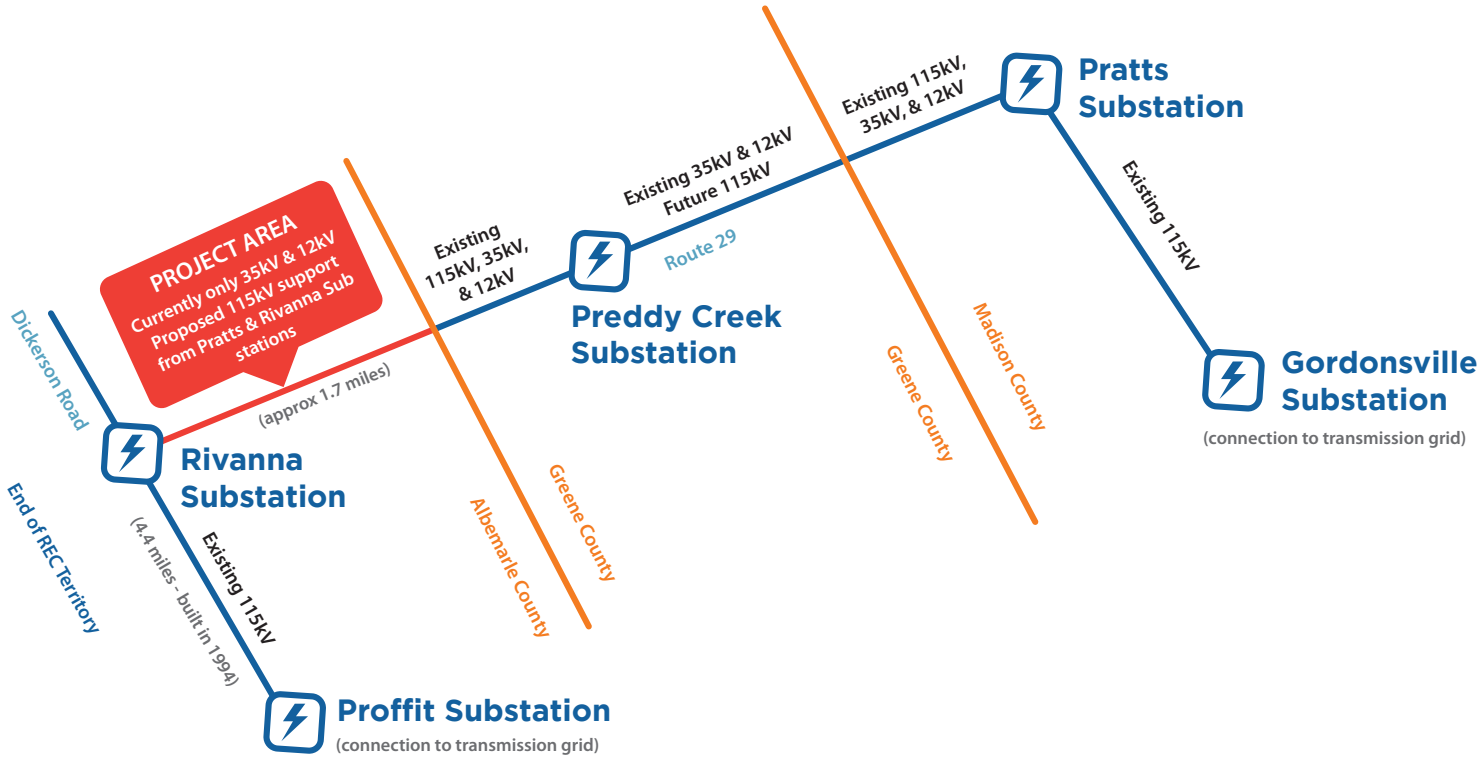
February 18, 2020

Exhibit C:

Project Overview: Project Location

Project Overview: **Project Location**

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative



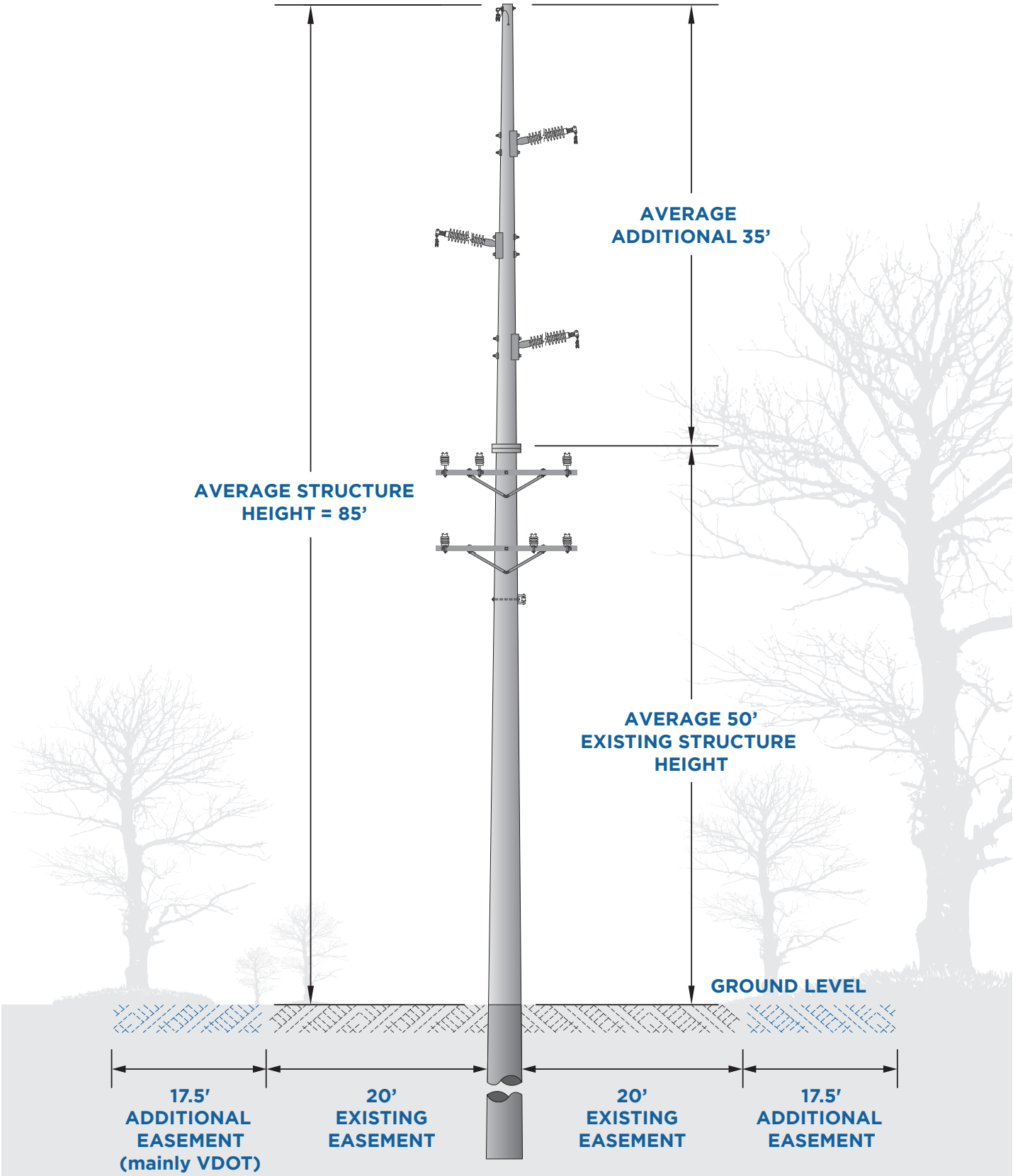
February 18, 2020

Exhibit D:

Project Overview: Structural Drawing

Project Overview:
Project Characteristics

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative



February 18, 2020

Exhibit E:

Project Overview: Before and After

Project Overview:
Before and After

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative



BEFORE

AFTER



Project Overview:
Before and After

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative





Project Overview:
Before and After

Rappahannock Electric Cooperative
A Touchstone Energy® Cooperative





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Exhibit F:

Rivanna to Preddy Creek Poles

Rivanna to Predddy Creek Poles

Str. #	Pole Length	Setting Depth	Total Pole Height	Pole Top Sections	Bottom Section Heights
2-1	55	7.5	47.5	47.5	0
2-2	55	7.5	47.5	47.5	0
2-3	55	7.5	47.5	47.5	0
2	100	12	88	35	53
3	105	12.5	92.5	35	57.5
4	95	11.5	83.5	35	48.5
5	95	11.5	83.5	35	48.5
6	90	11	79	35	44
7	95	11.5	83.5	35	48.5
8	110	13	97	35	62
9	90	11	79	35	44
10	95	11.5	83.5	35	48.5
11	85	10.5	74.5	35	39.5
12	90	11	79	35	44
13	90	11	79	35	44
14	95	11.5	83.5	35	48.5
15	90	11	79	35	44
16	95	11.5	83.5	35	48.5
17	90	11	79	35	44
18	100	12	88	35	53
19	100	12	88	35	53
20	100	12	88	35	53
21	105	12.5	92.5	40	52.5
22	110	13	97	40	57
23	105	12.5	92.5	40	52.5
24	100	12	88	35	53
25	100	12	88	40	48
26	90	11	79	35	44
27	110	13	97	35	62
28	95	11.5	83.5	35	48.5
29	100	12	88	35	53
30	90	11	79	35	44
31	100	12	88	35	53
32	95	11.5	83.5	35	48.5
Total Pole Height			2789.5		1542
Total # of Str.			34		34
Average Heights			82		45