

AGENDA REQUEST

**Sponsor:**

Dominion Virginia Power d/b/a Virginia Electric & Power Company, Owner/Applicant

Meeting Date:

March 10, 2022

Staff Lead:

Kara Krantz, Planner III

Department:

Community Development

Topic:

A Resolution to Approve Special Exception SPEX-21-016686 - Opal Substation - An Application for a Category 20 Special Exception to Allow for the Construction of the New Opal Substation (PIN 6980-54-6807-000, Lee District)

Topic Description:

The Applicant is seeking approval of a Category 20 Special Exception to allow for the construction of the new Opal Substation. The proposed substation would encompass +/- 2.5 acres of the 27.0-acre property. The property is located near the intersection of Covingtons Corner Road (Route 663) and Marsh Road (Route 17), Bealeton. On February 17, 2022, the Planning Commission unanimously determined that the proposal was substantially in accord with the Comprehensive Plan and voted unanimously to recommend approval of the Special Exception application.

Requested Action:

Conduct the Public Hearing and consider adoption of the attached Resolution.

Financial Impact Analysis:

None required.

Identify any other Departments, Organizations or Individuals that would be affected by this request:

- Dominion Virginia Power Customers
- Commissioner of the Revenue
- Neighboring Property Owners

ATTACHMENTS:

- ❏ [Staff Report](#)
- ❏ [Staff Presentation](#)
- ❏ [Statement of Justification](#)
- ❏ [Concept Development Plan](#)
- ❏ [Fence Detail](#)
- ❏ [Renderings from Applicant](#)
- ❏ [Additional Application Materials](#)
- ❏ [Aerial Photos](#)
- ❏ [Resolution](#)

Department of Community Development Staff Report

PROPERTY OWNER: Dominion Virginia Power d/b/a Virginia Electric & Power Company

APPLICANT: Dominion Virginia Power d/b/a Virginia Electric & Power Company

LOCATION: Near the Intersection of Covingtons Corner Road and Marsh Road

DISTRICT: Lee

PIN: 6980-54-6807-000

ACREAGE: Total: 27.0 Acres; Use Area: +/- 2.5 Acres

ZONING: Rural Agricultural (RA)

LAND USE: Rural

MEETING DATE: March 10, 2022

REQUEST: SPEX-21-016686 – Opal Substation: An application for a Category 20 Special Exception to allow for the construction of the new Opal Substation.

OUTSTANDING ISSUES: None identified.

RECOMMENDATION: The Planning Commission unanimously determined that the proposal was substantially in accord with the Comprehensive Plan. Additionally, the Planning Commission voted unanimously to recommend approval of SPEX-21-016686, subject to the conditions in the attached Resolution. It believes the application satisfies the standards of Zoning Ordinance Sections 5-006, 5-2001 and 5-2002.

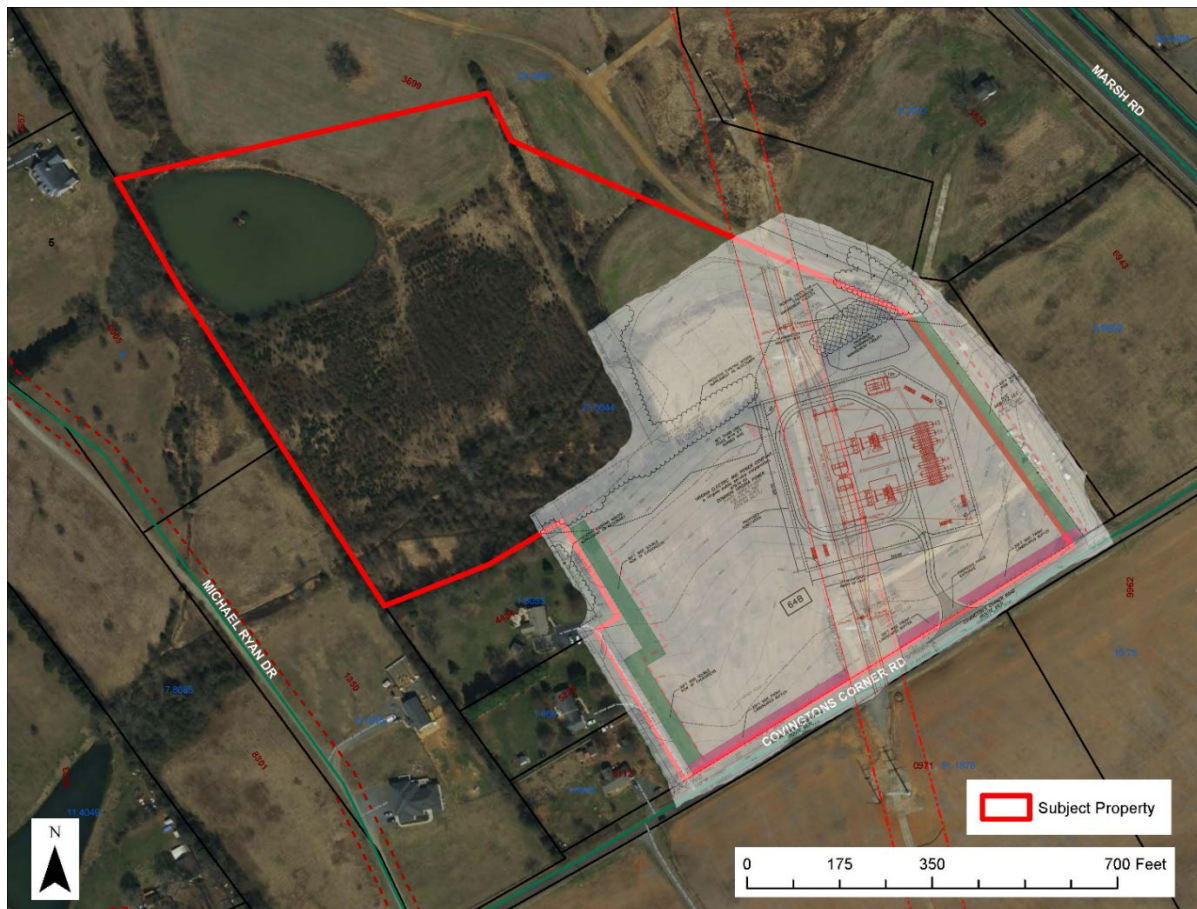
Topic Description:

The Applicant, Dominion Virginia Power d/b/a Virginia Electric & Power Company, is seeking approval of a Category 20 Special Exception to allow for the construction of the new Opal Substation.

The proposed Opal Substation compound is +/- 2.5 acres in size, approximately 9% of the total site area. The compound area is set back approximately 120 feet from Covingtons Corner Road, 60 feet from the closest adjoining property line (PIN 6980-55-3699-000) and 500 feet from the closest

residence (PIN 6980-54-4434-000). The Applicant has shown a 20-foot wide front yard buffer and a 30-foot wide dense evergreen tree screen along both the western and eastern property lines, as required by the Zoning Ordinance. The Applicant has indicated the compound area will be surrounded by a 12-foot tall, 5/8-inch aluminized mesh fence. The existing transmission line right-of-way is approximately 100 feet in width.

Aerial with Special Exception Plat



The Applicant has indicated that the Opal Substation is needed to address load growth within Fauquier County and provide distribution operational flexibility to maintain reliable electric service. The Opal Substation will operate continuously and provide relief to the near-capacity Warrenton Substation by shifting load and tying in existing distribution circuits for prudent contingency planning. Tying the circuits together with multiple substation sources will allow power to be shifted around to maintain reliability, rather than waiting until the cause of an outage can be fixed. This will help to avoid a prolonged outage and potentially avoid an outage altogether.

Dominion Virginia Power acquired the property in November 2014. The property is within an existing transmission line corridor, with a 230 kV transmission line crossing the property. The site was selected to provide relief to the near capacity Warrenton Substation by shifting load and tying in existing

distribution circuits. There are no new lines proposed with the facility, with the exception of lines that will go from the existing transmission lines to the substation components.

The Opal Substation layout is optimized to meet the National Electric Safety Code (NESC) and/or Institute of Electrical and Electronics Engineers (IEEE) clearance requirements. There is a minimum clearance of 15 feet, 5 inches from the 230 kV live parts to the security fencing. The 14-foot wide equipment access road and 55-foot vehicle-turning radius are required for equipment trailer access and unloading. The vertical clearance at equipment access roads is shown to be 26 feet, 3 inches, which was determined using the shipping height of the proposed transformers, height of the hauling trailer and the required phase to ground clearance, a minimum of 5 feet, 3 inches. The space around the power transformers is for oil containment and is sized to meet the IEEE requirements of having extra space around the backbones to provide adequate crane access to install the line conductors, insulators, risers and static wires.

Additionally, the Applicant has indicated the layout has been optimized to provide adequate access to the equipment for operation and maintenance, to route the distribution lines to the customer, for vehicle parking and spare equipment. There will be no public access to the site. The only access will be for routine monitoring and maintenance of the facilities, which will typically occur on a weekly basis by two Dominion Virginia Power employees.

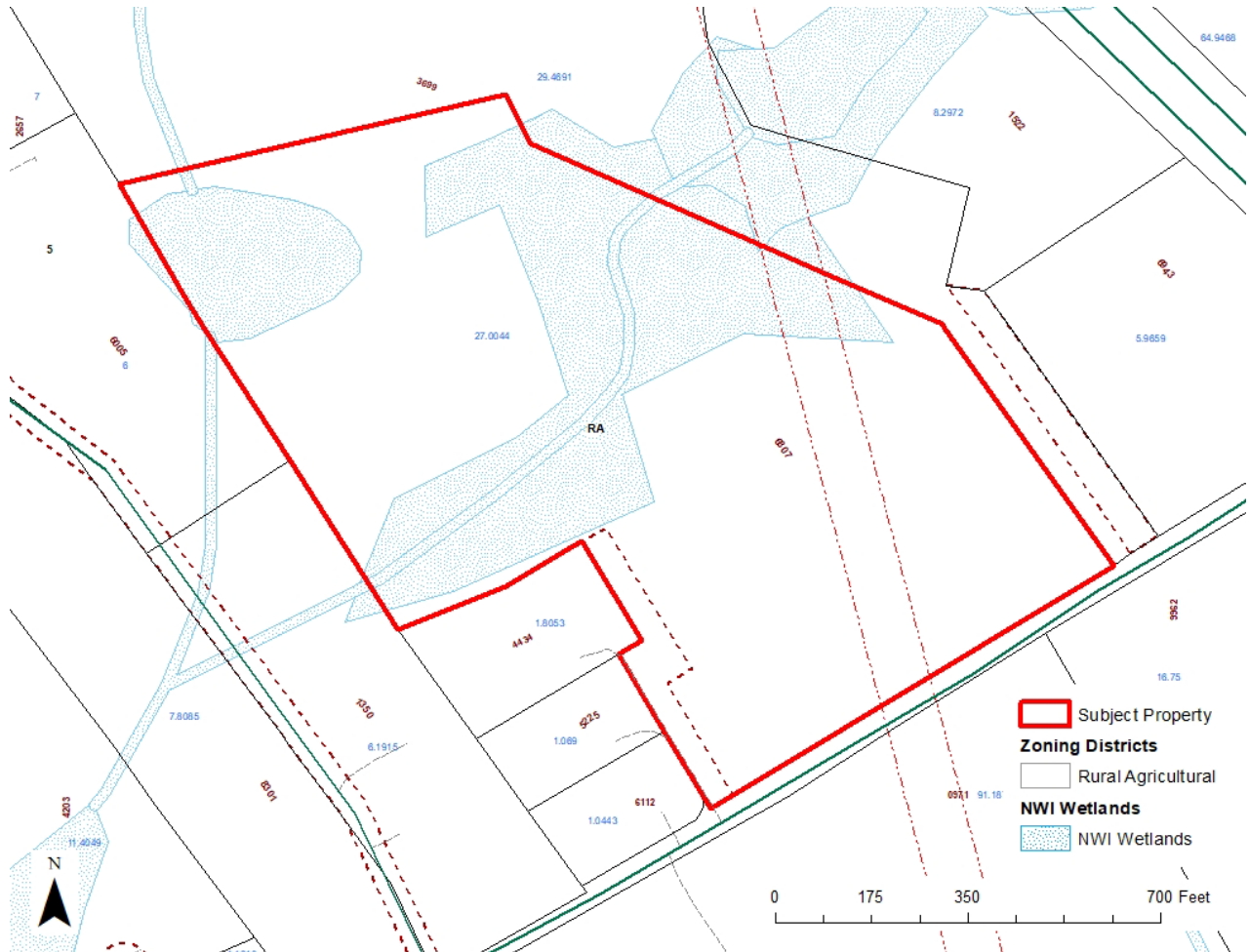
Planning Commission Action on February 17, 2022:

On February 17, 2022, the Planning Commission discussed this Special Exception at its work session and conducted a public hearing. They also conducted a Comprehensive Plan Compliance Review, in accord with *Code of Virginia* Section 15.2-2232, to determine whether the proposed location of the substation is substantially in accord with the Comprehensive Plan. Following the work session, one condition was added and one condition was modified to require additional evergreen shrubs under the existing transmission lines. There were no speakers during the public hearing. Following the public hearing, the Planning Commission unanimously determined that the proposal was substantially in accord with the Comprehensive Plan. Additionally, the Planning Commission voted unanimously to recommend approval of the Special Exception application to the Board of Supervisors, subject to the revised conditions.

Location, Zoning and Current Land Use:

The 27.0-acre property is located along Covingtons Corner Road (Route 663), west of the intersection with Marsh Road (Route 17). The property is zoned Rural Agriculture (RA). There is an existing 230 kV transmission line crossing the property. With the exception of the transmission line, the property is vacant and undeveloped. There is a pond in the northwestern corner of the property and wetlands on a large portion of the northern half of the property. The proposed substation should not impact the wetlands and the Applicant has indicated the wetlands will be appropriately delineated. A Non-Common Open Space easement was recorded in 2002 as part of a Boundary Line Adjustment. The proposed substation location and improvements will not affect the easement area.

Zoning and Wetlands Map



Surrounding Zoning and Current Land Use:

The adjacent properties are zoned Rural Agriculture (RA). These properties are primarily used for residential or agricultural purposes. Truth Baptist Church will be located at the intersection of Covingtons Corner Road and Marsh Road, to the northeast of the subject property.

Regional Aerial Map



Comprehensive Plan/Land Use:

The Comprehensive Plan designates the subject property as Rural. Rural and agricultural uses are sought in these portions of the County. Chapter 8, Rural Land Use Plan, of the Comprehensive Plan includes many goals aimed at enhancing and preserving agricultural areas and the rural character of the County. Chapter 8 states: “include a thorough evaluation of the impacts on scenic viewsheds in the design phase of any privately or publicly funded transportation, utility, communications, energy or other infrastructure project and work with Federal, State or County agencies to ensure that these projects include adequate safeguards for important scenic viewsheds that may be affected.”

Chapter 9 of the Comprehensive Plan, Public Facilities and Utilities, addresses the plan for utilities, including electric, gas and land-based telephone service. Dominion Virginia Power is the largest service provider in Fauquier County, serving the northern and central portions of the County. Additionally, Dominion Virginia Power maintains large transmission lines that transverse the County. The major goal identified by Chapter 9 is to maintain and protect the County’s viewsheds, as well as historic, cultural and environmental resources as new facilities are developed and existing facilities are improved.

Pursuant to the Fauquier County Zoning Ordinance, consistency with the Comprehensive Plan is to be considered when determining whether or not to approve a Special Exception request. With regard to this application, the chief consideration is the compatibility with adjoining agricultural and residential uses, as well as the impact on the County's scenic viewsheds. The Applicant has analyzed viewsheds as part of the submission preparation and has provided renderings showing landscape buffers. Staff believes that with appropriate landscaping to minimize the impact to surrounding properties and viewsheds, that the use is consistent with the Comprehensive Plan.

The Planning Commission evaluated the proposed use to determine if the general location, character and extent of the proposed Electrical Substation Distribution Center and Transformer Station is substantially in accord with the Comprehensive Plan. The Planning Commission unanimously found that the use was substantially in accord.

Special Exception Analysis:

The standards below apply to this Special Exception. Following each standard is a staff evaluation in *italics*.

5-006 General Standards for Special Permits and Special Exception Uses

1. The proposed use shall be such that it will not adversely affect the use or development of neighboring properties. It shall be in accordance with the applicable zoning district regulations and the applicable provisions of the adopted Comprehensive Plan. The location, size and height of buildings, structures, walls and fences, and the nature and extent of screening, buffering and landscaping shall be such that the use will not hinder or discourage the appropriate development and/or use of adjacent or nearby land and/or buildings or impair the value thereof.

With appropriate screening, the Planning Commission does not believe the construction of the Opal Substation will hinder or discourage the appropriate development and/or use of adjacent or nearby land and/or buildings or impair the value thereof. The Planning Commission has recommended conditions regarding landscaping, existing vegetation and maintenance. The Planning Commission believes the application is generally consistent with the applicable regulations of the Zoning Ordinance and it found that the application was substantially in accord with the Comprehensive Plan.

2. The proposed use shall be such that pedestrian and vehicular traffic generated will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood and on the streets serving the site.

The Applicant has indicated that there will be no public access to the site. There will be no pedestrian trips generated from the use. Typically, the substation will generate approximately four trips per week for routine monitoring and maintenance of the facilities. The Applicant has indicated monitoring and maintenance will occur on a weekly basis by approximately two Dominion Virginia Power employees. The Planning Commission believes the vehicular traffic generated will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood and on the streets serving the site.

3. In addition to the standards which may be set forth in this Article for a particular category or use, the BZA and Board may require landscaping, screening, yard requirements or other limitations found to be necessary and appropriate to the proposed use and location.

The Applicant has shown a 30-foot wide dense evergreen screen and a 20-foot wide front buffer yard, as required by Zoning Ordinance Section 7-604.3.i(2). Additionally, the Applicant has indicated there will be a 12-foot tall 5/8-inch aluminized steel fabric fence surrounding the substation compound area. The Planning Commission has recommended several conditions regarding landscaping, existing vegetation and maintenance.

4. Open space shall be provided in an amount at least equal to that specified for the zoning district in which the proposed use is located.

No open space is required with the proposed use in the RA zoning district.

5. Adequate utility, drainage, parking, loading, and other necessary facilities to serve the proposed use shall be provided. Low impact development techniques are encouraged by the County and shall be incorporated into the site and facility design when deemed appropriate by the applicant after consultation with appropriate county officials. Parking and loading requirements shall be in accordance with the provisions of Article 7.

Staff anticipates this standard will be met; it will be further evaluated during Site Plan review.

6. Signs shall be regulated by the provisions of Article 8, except as may be qualified in the Parts that follow for a particular category or use. However, the BZA and the Board, under the authority presented in Section 007 below, may impose more strict standards for a given use than those set forth in this Ordinance.

No signage is being requested with this application.

7. The future impact of a proposed use will be considered and addressed in establishing a time limit on the permit, if deemed appropriate. Existing and recent development, current zoning and the Comprehensive Plan shall be among the factors used in assessing the future impact of the proposed use and whether reconsideration of the permit after a stated period of time would be necessary and appropriate for the protection of properties in the vicinity and to ensure implementation of the Comprehensive Plan.

The Planning Commission did not recommend a condition establishing a time limit on the use.

8. The proposed use shall be such that air quality, surface and groundwater quality and quantity, are not degraded or depleted to an extent that would hinder or discourage the appropriate development and/or use of adjacent or nearby land and/or buildings or impair the value thereof.

The Planning Commission does not believe that the proposed use will deplete or degrade air quality, surface and groundwater quality and quantity, to an extent that would hinder or discourage the appropriate development and/or use of adjacent or nearby land and/or buildings.

9. Except as provided in this Article, all uses shall comply with the lot size, bulk regulations, and performance standards of the zoning district in which located.

All applicable standards of the RA zoning district appear to have been met.

5-2000 CATEGORY 20 PUBLIC UTILITIES

In addition to the general standards set forth in Section 006 above, the following standards shall apply:

5-2001 Additional Submission Requirements

1. In addition to the submission requirements set forth in Section 011 above, all applications for Category 20 uses shall be accompanied by the following:
 - A. Four (4) copies of a map showing the utility system of which the proposed use will be an integral part, together with a written statement outlining the functional relationship of the proposed use to the utility system.
 - B. Four (4) copies of a statement, prepared by a certified engineer, giving the basic reasons for selecting the particular site as the location for the proposed facility and certifying that the proposed use will meet the performance standards of the district in which located.

These items have been submitted with the application materials; see the attached Additional Submission Requirements.

2. A Special Exception application for a private individual sewage treatment system which discharges into an open ditch or water shall also include the following: *(standards not listed, see below)*

The application is not for a private individual sewage treatment system; therefore, these requirements are not applicable.

5-2002 Standards for All Category 20 Uses

1. Category 20 Special Permit and Special Exception uses shall not be required to comply with the lot size requirements or the bulk regulations set forth in the zoning district in which located in Part 4 Article 3. However, such requirements may be established in the conditions under which such a Special Permit or Special Exception is granted.

The Planning Commission did not recommend any additional conditions regarding lot size or bulk regulations.

2. No land or building in any district other than the Industrial Districts shall be used for the storage of materials or equipment, or for the repair or servicing of vehicles or equipment or for the parking of vehicles, except those needed by employees connected with the operation of the immediate facility.

The application does not include storage of materials or equipment or repair or servicing of vehicles or equipment. The only parking will be for the employees servicing the site.

3. In all zoning districts, other than the I-2 District, all equipment, machinery and facilities not located within an enclosed building shall be effectively screened.

The Planning Commission has recommended additional landscaping conditions to screen the use.

4. If the proposed location of a Category 20 use is in a Residential District there shall be a finding that there is no more suitable site available for such use in a Commercial or Industrial District, except that in the case of electric transformer stations and telephone and telegraph exchanges or dial centers, there shall be a finding that there is no alternative site available in a Commercial or Industrial District within distance of one mile, unless there is a substantial showing that is impractical for satisfactory service to be rendered from an available location in such Commercial or Industrial District.

The proposed location is in a Rural District; therefore, this standard is not applicable. Furthermore, while there is Commercial and Industrial property located within one mile from the subject property, the transmission lines do not cross those properties.

5. A Special Exception for a private individual sewage treatment system which discharges into an open ditch or water, shall be allowed only to replace an existing sewage system which is presently serving an existing use. That existing sewage system must have failed and have been certified by the Virginia Department of Health to pose a real or potential health threat and a discharging sewage treatment system is the only alternative for the repair. In approving such a system, the Board may establish conditions including but not limited to use, maintenance and testing.

The application is not for a private individual sewage treatment system; therefore, this standard is not applicable.

6. For those failed non-residential sewage systems located in a Commercial or Industrial District, which are to be replaced with a private individual sewage treatment system that discharges into an open ditch or water, an increase in the failed system capacity is allowed with approval of a Special Exception, subject to the following standards: *(standards not listed, see below)*

The application is not for a private individual sewage treatment system; therefore, this standard is not applicable.

7. Notwithstanding 5-2002.5 and 5-2002.6, above, a private individual sewage treatment system which discharges into an open ditch or water may be approved in the RA/Rural Agriculture zoning district for a farm supply establishment where the standards listed below are met: *(standards not listed, see below)*

The application is not for a private individual sewage treatment system; therefore, this standard is not applicable.

Agency Comments:

Staff and the appropriate referral agencies have reviewed the application and have the following comments. Staff has noted how the items will be addressed in *italicized* language following the comments.

Zoning:

1. If the Comprehensive Plan Compliance Review and Special Exception is approved, approval of a Major Site Plan will be required prior to construction.

The Planning Commission has recommended a condition requiring a Site Plan.

2. Article 7 of the Zoning Ordinance describes the minimum buffers required for non-residential uses. The Preliminary Concept Exhibit shows a 30-foot wide dense evergreen screen as required by Zoning Ordinance 7-604.3.i(2) and the front buffer yard as required by Zoning Ordinance 7-604.3.i(2)(a). The rendering provided does not appear to adequately screen the site from Covingtons Corner Road. Zoning staff would suggest a berm in addition to the required plantings. The Board of Supervisors can require additional buffer plantings greater than required by the Zoning Ordinance as part of the Special Exception pursuant to Zoning Ordinance 5-006.3.

The Planning Commission has recommended a condition requiring a berm, which is at least 36 inches higher than the finished grade, be provided along the property's Covingtons Corner Road frontage. The canopy and understory trees shall be planted on top of the berm.

3. The Preliminary Concept Exhibit shows a tree line being removed in order to construct the proposed stormwater facility. Removal of this tree line will require additional screening of the project from the adjacent PIN 6980-55-3699-000. The majority of the tree line to be preserved appears to be located on the adjacent PIN and does not count towards the screening requirement.

Provided for reference. The Planning Commission has recommended several conditions regarding landscaping, existing vegetation and maintenance.

4. The fence on the Preliminary Concept Exhibit is labeled 8-foot chain link with 1-foot barbed wire. The Statement of Justification indicates the fence is 12-feet tall. In a recent meeting with Dominion Virginia Power, they indicated a solid wall as a fence option, which if used would provide additional screening from Covingtons Corner Road and the adjacent property.

The Applicant has clarified that the fence will be 12 feet tall. It will be constructed with 5/8-inch chain link aluminized steel fabric. There will be no barbed wire on top of the fence. The Applicant has provided a fence detail, subject to final engineering; see attached Fence Detail.

Virginia Department of Transportation (VDOT)

1. VDOT's understanding is that the property will be served by one (1) entrance and that the proposed electrical substation will generate 10 or fewer trips per day.

2. The proposed entrance shall meet the requirements in Appendix F (Access Management Design Standards for Entrances and Intersections) of the VDOT Road Design Manual.
3. Provide dimensions for the proposed entrance width and radius.

The above comments are provided for reference; they will be addressed during Site Plan review.

Engineering

1. The proposed project will convert more than 10,000 square feet of land to impervious surface and thus will require a Major Site Plan. (Fauquier County Zoning Ordinance Section 12-501)
2. The proposed project will have to meet the stormwater management water quality and water quantity requirements in Part II B of the Virginia Stormwater Management Program Regulations (9VAC25-870-63 through 69). (Fauquier County Design Standards Manual Section 205.2.B)
3. The proposed project will require a Phase I and Phase II Erosion and Sediment Control Plan with the submission of the Site Plan. (9VAC25-840-10 through 90 and Virginia Erosion and Sediment Control Handbook, Chapter 6).
4. An access easement from Covingtons Corner Road to any proposed stormwater management facilities will be required to allow County personnel to access the facilities for inspection purposes. (Fauquier County Design Standards Manual Sections 205.6 and 209.3)

The above comments are provided for reference; they will be addressed during Site Plan review.

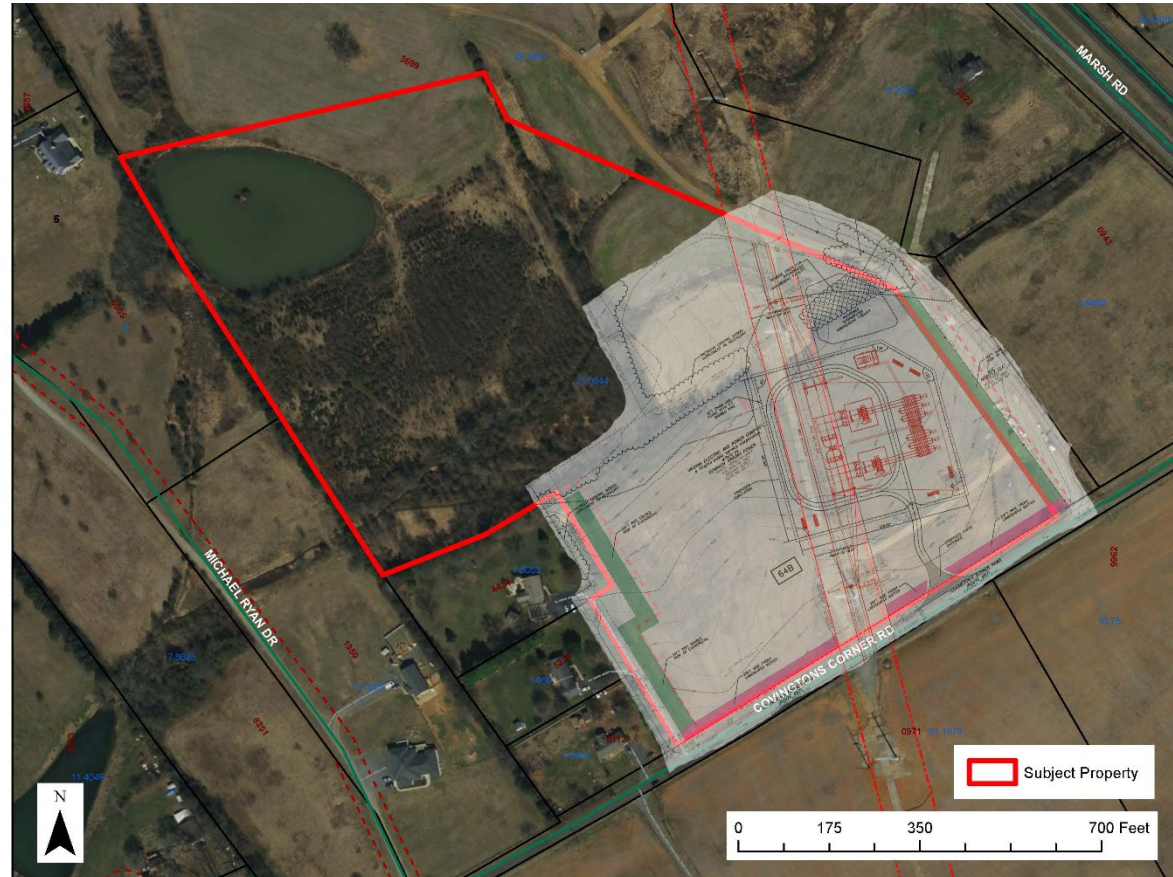
Soils

1. A Type I or Preliminary Soil Report will be required with the first submission of the Site Plan (Zoning Ordinance 12-503.46). This is a detailed soil map and report. The Type I Soil Report is prepared by the County Soil Scientist. A Preliminary Soil Report is prepared by a private Virginia-licensed professional soil scientist. Please note that a Preliminary Soil Report must be reviewed and approved by the County Soil Scientist. The standards for the Soil Report are in Subdivision Ordinance Section 9-5C.

The above comment is provided for reference; it will be addressed during Site Plan review.

Opal Substation

Category 20 Special Exception



SPEX-21-016686

REGIONAL AERIAL



Subject Property:

- Near the Intersection of Covingtons Corner Road and Marsh Road
- Total Area: 27 acres
- Use Area: +/- 2.5 acres

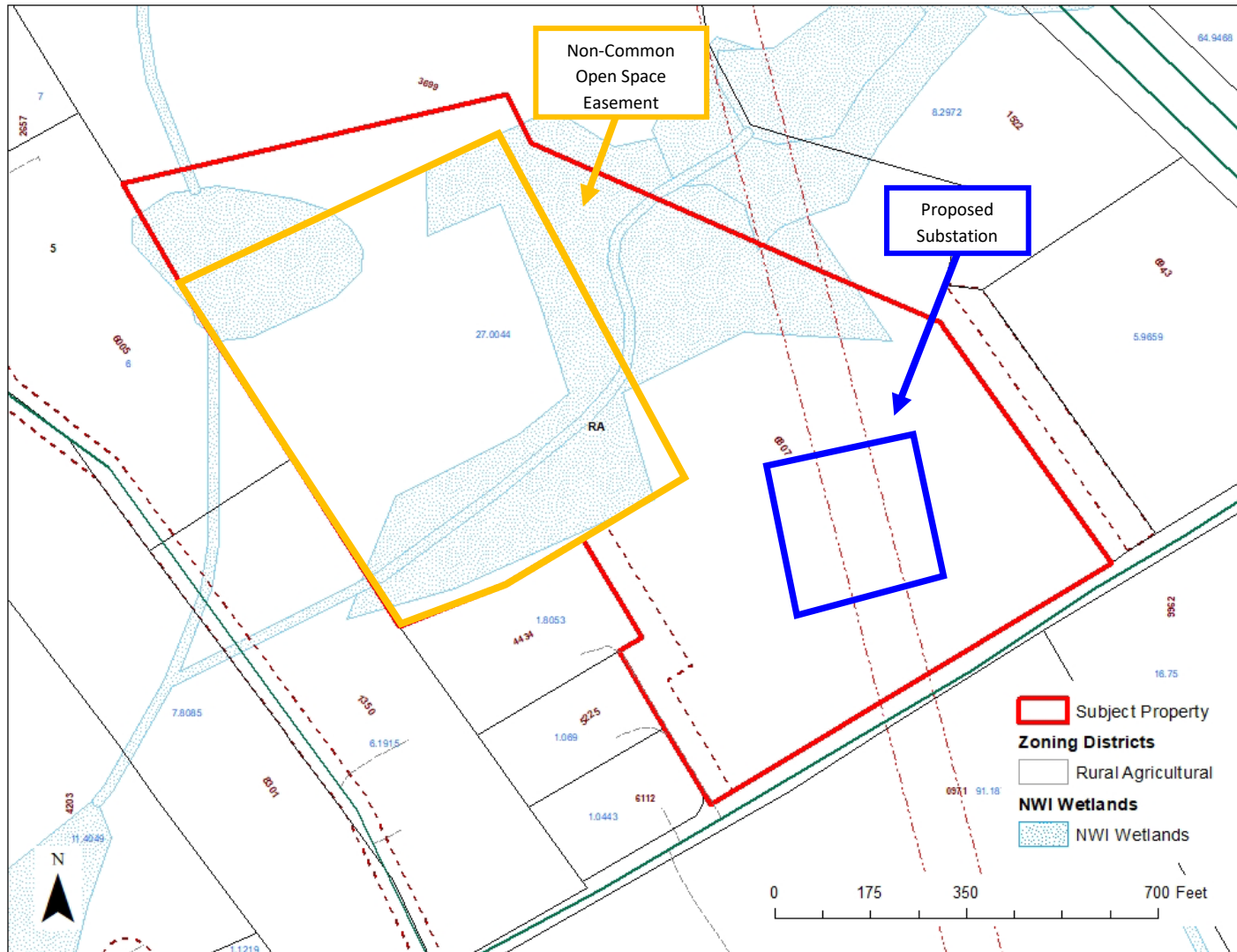
Request:

- Category 20 SE to allow for the construction of the new Opal Substation

Project History:

- February 17, 2022 – PC found the project to be substantially in accord with the Comprehensive Plan and recommended approval of the SE

ZONING AND WETLANDS MAP



Property Information:

- Zoning District: Rural Agriculture (RA)
- Surrounding Properties: Rural Agriculture (RA)
 - Residential and Agricultural Uses
 - Truth Baptist Church at the intersection of Covingtons Corner Road and Marsh Road
- Existing 230 kV transmission line crossing the property
- Non-Common Open Space Easement

Comprehensive Plan:

- Land Use: Rural

SITE PHOTOS



Justification and Site Selection:

- Substation is needed to address load growth within Fauquier and provide distribution flexibility to maintain reliable electric service
- The facility will operate continuously
- It will provide relief to the near-capacity Warrenton Substation by shifting the load and tying in existing distribution circuits for contingency planning
- Dominion purchased the property in November 2014
- Part of a transmission line corridor with existing 230 kV lines crossing the property

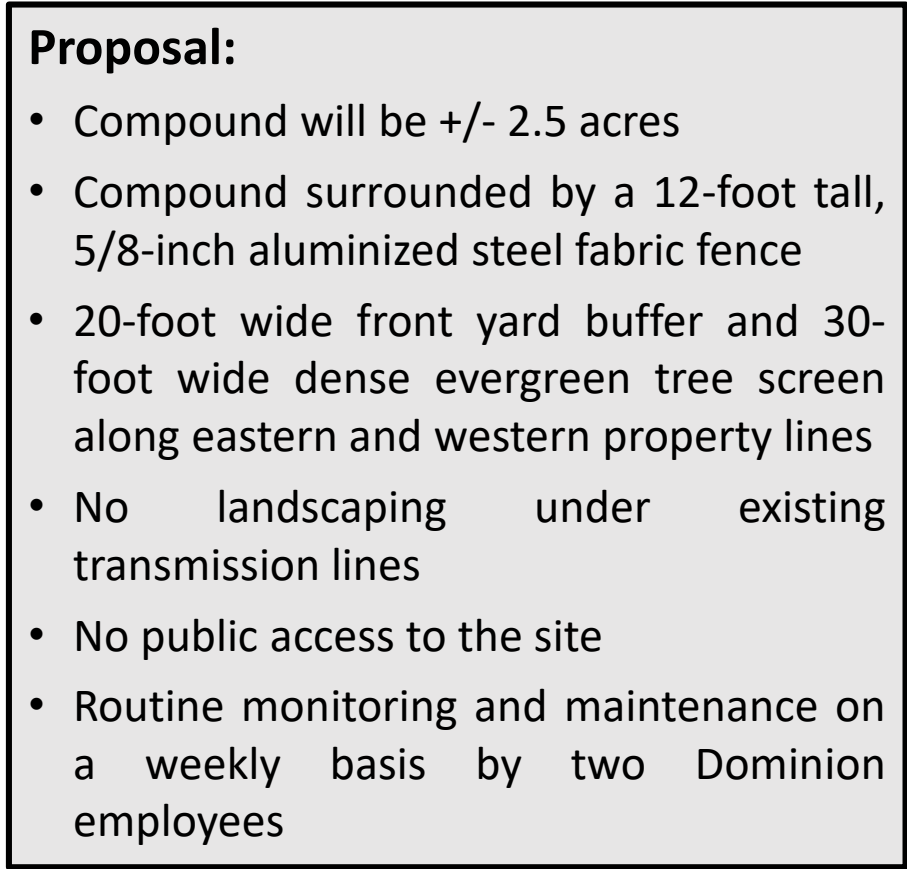


SITE AERIAL

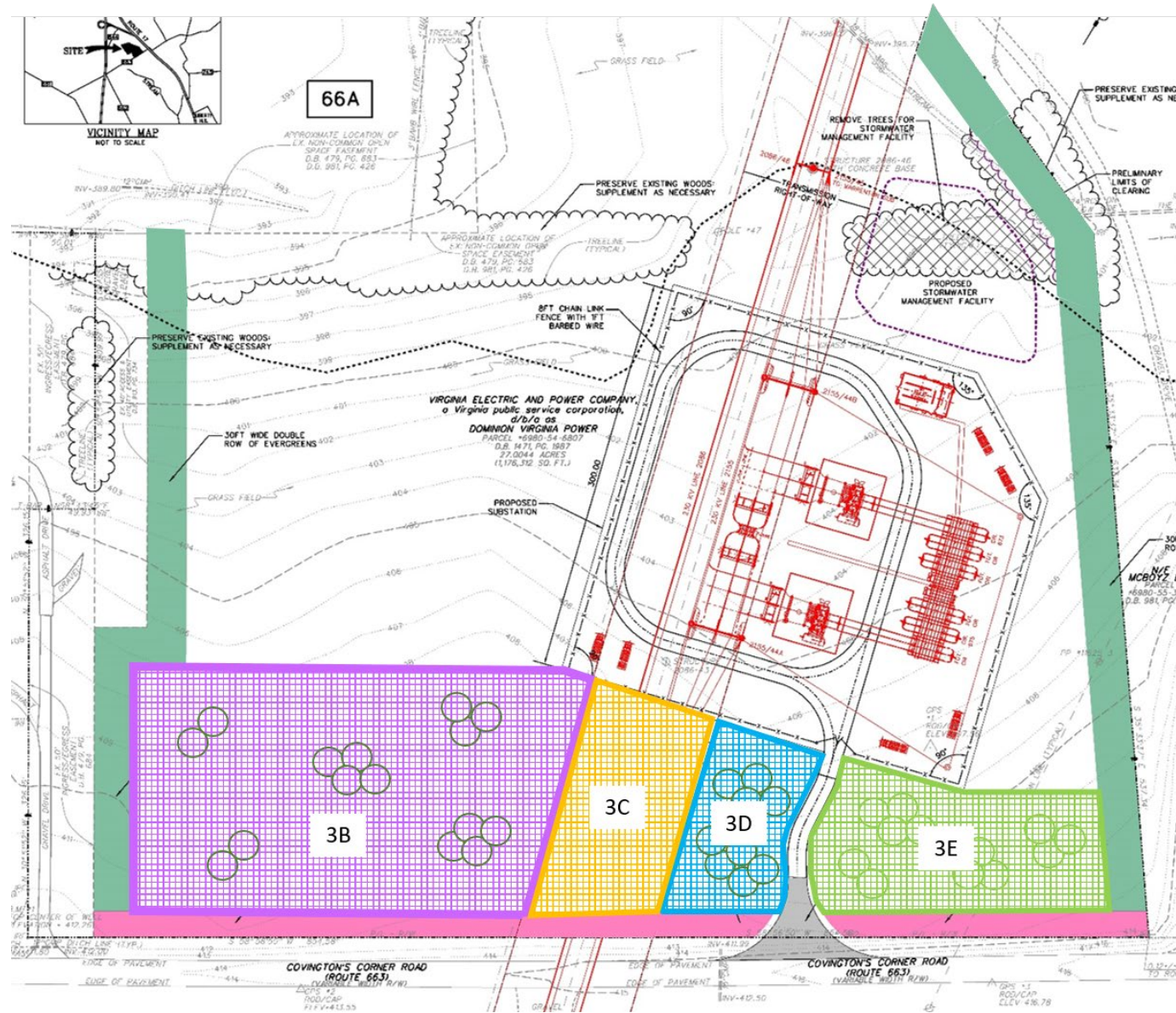


Comprehensive Plan:

- Rural Land Use
 - Protect and preserve farmland, historic sites and open space
 - Preserve the physical beauty, historical heritage and environmental quality of the county, while growing the rural and agricultural economy
- Non-Agriculturally Related Commercial Uses May Be Permitted if the Use:
 - Is agriculturally and rurally compatible in scale and intensity
 - Poses no threat to public healthy, safety and welfare
 - Contributes to preservation of historically significant structures or landscapes
 - Helps to preserve farmland and open space and continue agricultural operations



SE BUFFERING EXHIBIT

**Included Buffering Conditions:**

- 3A – 30-foot wide dense evergreen tree screen on the eastern and western property lines
- 3B (15), 3D (9), 3E (12) evergreen trees, clustered in a random, natural pattern
- 3C – 36 large evergreen shrubs clustered in a random, natural pattern
- 3F – 20-foot wide front yard buffer with at least 3 canopy, 3 understory and 24 evergreen shrubs per 100 linear feet and a berm at least 36 inches higher than the finished grade
- At planting, 30% of evergreen trees required by 3B, 3D and 3E shall be a minimum of 8 feet in height and 30% a minimum of 10 feet in height

	See Condition 3A		See Condition 3D
	See Condition 3B		See Condition 3E
	See Condition 3C		See Condition 3F

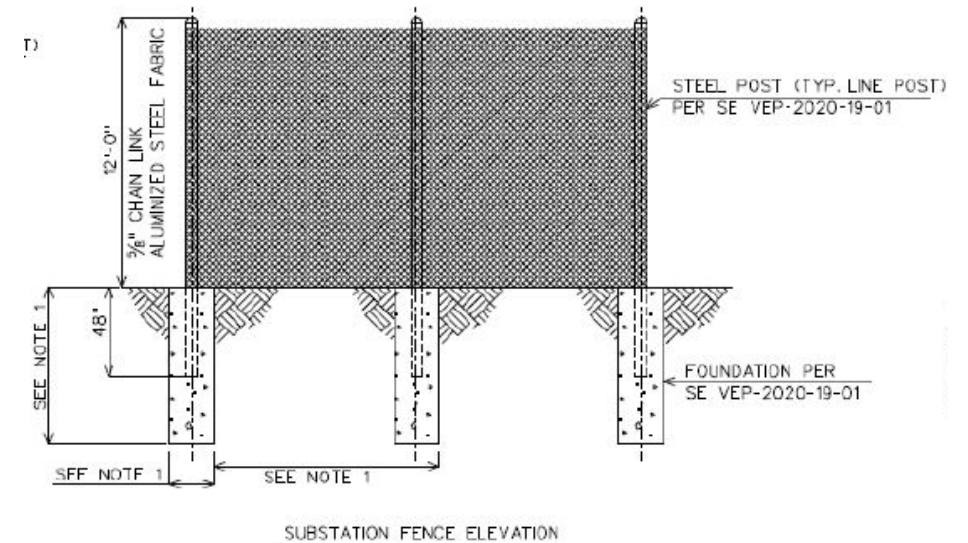
Note: Tree placement in 3B, 3D and 3E is for illustrative purposes only.

SITE PHOTOS AND FENCE DETAIL



Other Included Conditions:

- Tree preservation easement for existing vegetation used for screening
- Compound surrounded by 12-foot tall, 5/8 inch aluminized steel fabric fence
- Fencing and landscaping maintenance
 - Plantings replaced with same species at least equal to height at initial planting
- Site Plan required



Proposed Dominion Energy Opal Substation Statement of Justification

(in support of the Special Exception and Comprehensive Plan Compliance Review)

Introduction

The Virginia Electric and Power Company (d/b/a Dominion Energy) is proposing to build a new electrical substation on the 6500 block of Covingtons Corner Road (referred to as the Opal Substation) on a 27.004 acre parcel. The property is owned by Dominion Energy and is further identified by PIN number 6980-54-6807-000. The proposed substation will add an area of approximately 2.5 acres (total subject to final engineering design) of impervious land cover to the parcel. Landscaped front and side buffers, and a security fence with 5/8" mesh that is 12' tall will also be added to the substation for the improved aesthetic appeal. The fence will be gray in color.

The intent of the proposed electrical substation is to serve as a public facility to primarily be a reliable electrical source within the county.

Project Need

The purpose of the Opal Substation is to address load growth within Fauquier County and provide distribution operational flexibility to maintain reliable electric service within the County. Opal Substation will operate continuously and will provide relief to the near-capacity Warrenton Substation by shifting load and tying in existing distribution circuits for prudent contingency planning. Broadly, distribution's operational preference is "switch before fix," meaning, in the event of an unplanned event, in order to avoid a prolonged outage or avoid an outage all together, by tying circuits together with multiple substation sources, power can be shifted around to maintain reliability rather than waiting until the cause of the outage is fixed first. Opal Substation adds and enhances reliability within Fauquier County amongst its current citizenry, while also accommodating moderate growth into the future.

Existing Site Characteristics

This site is currently zoned Rural Agriculture and is primarily grassed, with some trees, streams and wetlands. Wetlands will be delineated for appropriate mitigation while the proposed expansion occurs. Buffer and canopy ordinances will be met and as part of the site plan process.

Special Exception Justification

The purpose of this Special Exception is to allow for the proposed Opal Substation on a Rural Agriculture zoned parcel under ordinance 3-320 Public Utilities (Category 20) "electrical substation distribution centers and transformer stations".

The substation layout is optimized to meet the National Electric Safety Code (NESC) and/or Institute of Electrical and Electronics Engineers (IEEE) clearance requirements, adequate access to the equipment for operation and maintenance, routing the distribution lines to the customer, vehicle parking and spare equipment lay down. Per the NESC Code, Table 110-1, the minimum electrical clearance from the 230 kV live parts to the fence is 15'-5". The minimum clearance between the 230 kV live conductor and the grounded part is 5'-3" (NESC Table 124-1). The typical phase to phase clearance for the 230 kV bus is 13 feet (derived using IEEE Code Section 1427). The above safety requirements also facilitate the adequate space for the man-lift during construction as well as

maintenance. In general, the 14 feet wide equipment access road and 55 feet vehicle turn radius are required for equipment trailer access and unloading. The vertical clearance at equipment access roads is 26'-3", which was determined using the shipping height of the proposed transformers, height of the hauling trailer and the required phase to ground clearance per NESC Table 124-1.

Other considerations include the following:

- The space around the power transformers is for the oil containment and it is sized to meet the IEEE 980-1994 requirements. It is required to have extra space around the backbones to have adequate crane access to install the line conductors, insulators, risers, static wires etc.

There is no public access to this site and has security protocols in place to limit access or any other interference within the perimeter fence.

The hours of the substation will be continuous. Routine monitoring and maintenance of facilities will continue on a weekly basis by approximately two Dominion Energy employees. Therefore, the proposed substation is not anticipated to have an impact on local traffic.

Comprehensive Plan Compliance Review Justification

As a public facility per Section 15.2-2232 of the Code of Virginia, a Comprehensive Plan Compliance Review is necessary to evaluate the location, character and extent of the project.

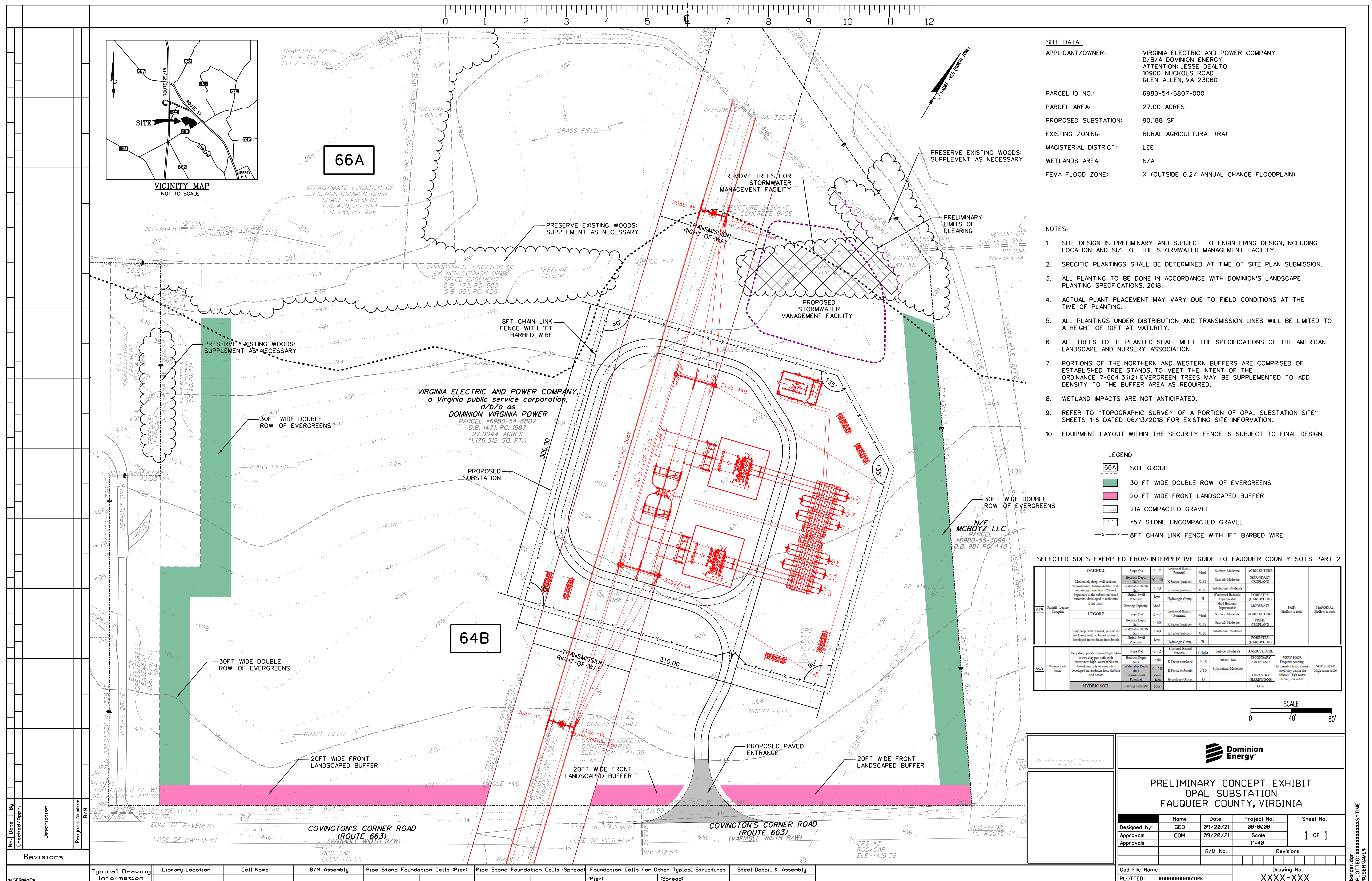
Location: The location of this project is proposed on land already owned by the applicant and within the existing transmission line corridor, eliminating the need for additional transmission lines to feed the substation. This is consistent with Chapter 9 (Public Facilities and Utilities) of the Comprehensive Plan as it relates to utility providers ensuring that transmission lines are located to minimize impacts to the surrounding community. Additionally, electrical substations are permitted with a Category 20 Special Exception on RA-zoned districts, making the location consistent with applicable zoning ordinances.

Character: Chapter 8 of the Comprehensive Plan (Rural Land Use Plan) has a goal of preserving the rural character of the majority of Fauquier County. Therefore, the impact of the scenic viewsheds as related to this project have been analyzed and renderings have been included with this application and depict all required landscaped buffers. The substation is also proposed setback significantly from the road to further minimize visual impacts to adjacent properties.

Extent: The proposed substation will meet future electrical demand resulting from immediate and projected growth and provide distribution operational flexibility to maintain reliable electric service within the County. No adverse effects are anticipated from the proposed facility, including little to no light or noise generated from the substation use, and once constructed minimal impact on surrounding roadways.

Conclusion

Based on the justifications above, the stated purpose of the substation, and the proposed buffers, the proposed substation location will exceed the public purpose by providing reliable electrical services within the corridor while at the same time meet the intent of the ordinance with design features that mitigate the modifications.



OPAL SUBSTATION

SUMMARY OF SOIL CHARACTERISTICS AND USE POTENTIAL:
Table Summary of Soil Characteristics and Use Potential

MAP UNIT SYMBOL SOIL NAME SLOPE			SOIL DESCRIPTION	General Characteristics					LAND POTENTIALS	DEVELOPMENT POTENTIAL AND PROBLEMS USING	
				SOIL FEATURES			K _{Sat}			CENTRAL WATER AND CENTRAL SEWER	CONVENTIONAL SEPTIC TANK AND DRAINFIELD
64B	Oakhill - Legore Complex	OAKHILL	Slope (%)	2 - 7	Erosional Hazard Potential:	Mod.	Surface: Moderate	AGRICULTURE	FAIR Shallow to rock	MARGINAL Shallow to rock	
			Bedrock Depth (in.)	20 - 40	K Factor (surface):	0.32	Subsoil: Moderate	SECONDARY CROPLAND			
			Waterable Depth (in.)	> 40	K Factor (subsoil):	0.28	Substratum: Moderate				
			Shrink-Swell Potential:	low	Hydrologic Group:	B	Weathered Bedrock: Impermeable	FORESTRY (HARDWOOD)			
			Bearing Capacity:	Mod.			Hard Bedrock: Impermeable	MODERATE			
		LEGORE	Slope (%)	2 - 7	Erosional Hazard Potential:	Mod.	Surface: Moderate	AGRICULTURE			
			Bedrock Depth (in.)	> 60	K Factor (surface):	0.32	Subsoil: Moderate	PRIME CROPLAND			
			Waterable Depth (in.)	> 40	K Factor (subsoil):	0.28	Substratum: Moderate				
			Shrink-Swell Potential:	low	Hydrologic Group:	B		FORESTRY (HARDWOOD)			
66A	Waxpool silt loam	Very deep, poorly drained, light olive brown clay pan soils with intermittent high water tables on broad nearly level summits; developed in residuum from diabase and basalt	Slope (%)	0 - 2	Erosional Hazard Potential:	Slight	Surface: Moderate	AGRICULTURE	VERY POOR Frequent ponding; Extremely plastic shrink- swell clay pan in the subsoil; High water table; Low relief	NOT SUITED High water table	
			Bedrock Depth (in.)	> 60	K Factor (surface):	0.43	Subsoil: low	SECONDARY CROPLAND			
			Waterable Depth (in.)	0 - 10	K Factor (subsoil):	0.15	Substratum: Moderate				
			Shrink-Swell Potential:	Very High	Hydrologic Group:	D		FORESTRY (HARDWOOD)			
		HYDRIC SOIL	Bearing Capacity:	low				LOW			

GENERAL SITE INFORMATION:

OWNER: VIRGINIA ELECTRIC & POWER COMPANY
D/B/A DOMINION VIRGINIA POWER
ATTENTION: CRAIG HURD
120 TREDEGAR STREET
RICHMOND, VA 23219

PROJECT LOCATION: STREET ADDRESS NOT ASSIGNED

PARCEL ID NO.: 6980-54-6807

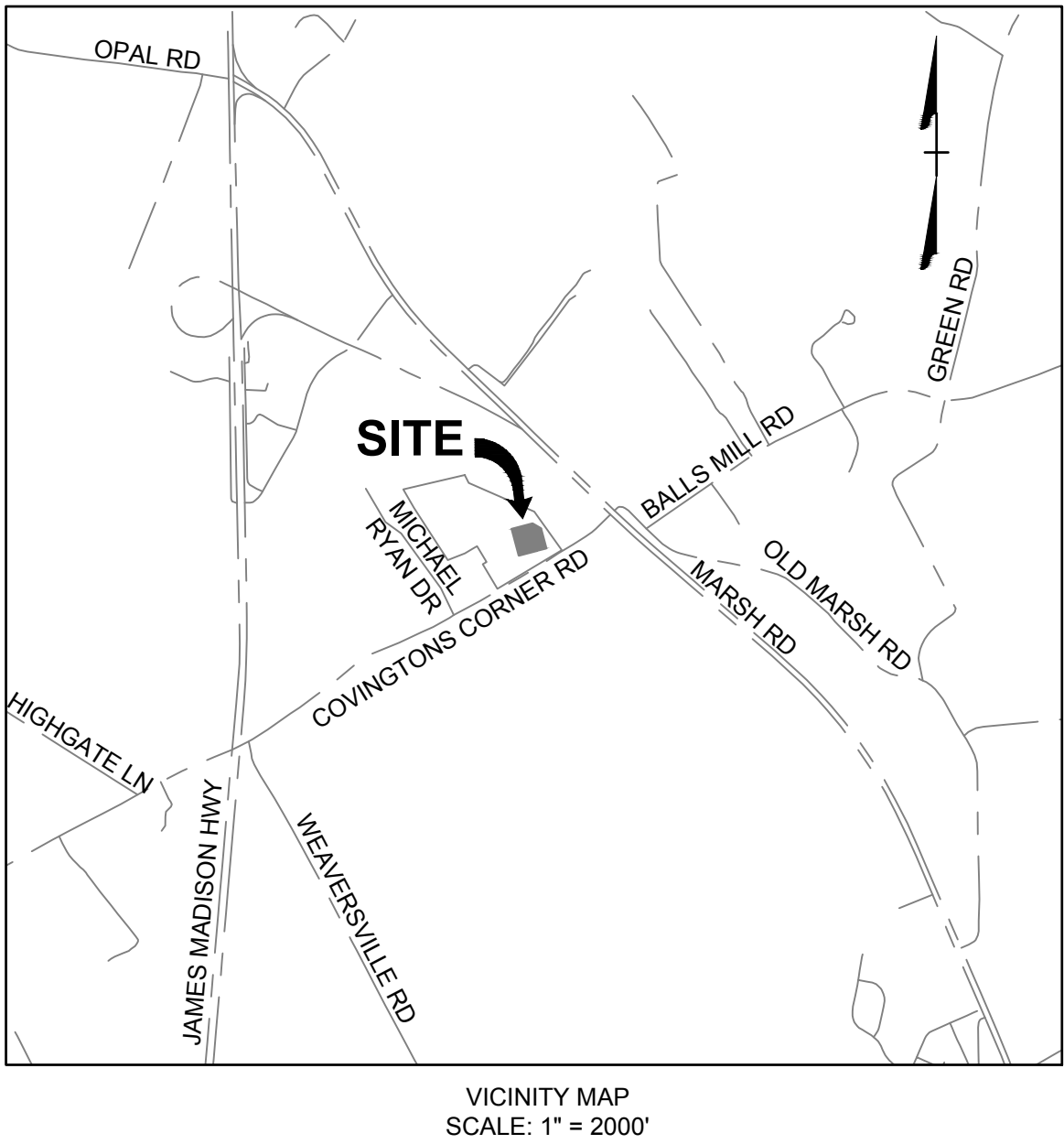
PARCEL AREA: 27.00 ACRES

EXISTING ZONING: AGRICULTURE - (RA)

MAGISTERIAL DISTRICT: LEE

WETLANDS: DELINEATION PENDING

FEMA FLOOD ZONE: "X" (AREA OF MINIMAL FLOOD HAZARD)
51061C0410C EFFECTIVE: 2/6/2008



SURVEY NOTES:

- THE PROPERTY DELINEATED HEREON IS LOCATED ON FAUQUIER COUNTY TAX ASSESSMENT MAP PARCEL NUMBER 6980-54-6807 AND IS ZONED AGRICULTURE - (RA). SETBACK INFO: FRONT = 75' , SIDE/REAR = 25' (SEE FAUQUIER COUNTY ARTICLE 3 - DISTRICT RESTRICTIONS)
- THE PROPERTY IS NOW IN THE NAME OF VIRGINIA ELECTRIC AND POWER COMPANY, A VIRGINIA PUBLIC SERVICE CORPORATION, D/B/A AS DOMINION VIRGINIA POWER, AS RECORDED IN DEED BOOK 1471 AT PAGE 1987 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA.
- BOUNDARY INFORMATION AS SHOWN HEREON IS BASED ON A PLAT PREPARED BY BOWMAN CONSULTING GROUP ENTITLED "BOUNDARY SURVEY ON THE PROPERTY OF EQUITY TRUST COMPANY, D.B.A. STERLING TRUST CUSTODIAN FBO DONALD STEVEN MACSHANE, IRA", RECORDED IN DEED BOOK 1471 AT PAGE 1987 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA.
- BOUNDARY AND NORTH MERIDIAN INFORMATION AS SHOWN HEREON IS ON VIRGINIA STATE GRID NAD83, NORTH ZONE AND IS BASED OFF A STATIC GPS SURVEY COMPLETED ON SEPTEMBER 16, 2014 BY BOWMAN CONSULTING GROUP USING NGS MONUMENT OPAL ERDL 1959 (HV3758). VERTICAL DATUM IS NAVD88.
- THIS PLAT HAS BEEN PREPARED WITH THE BENEFIT OF A TITLE REPORT PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, COMMITMENT NUMBER 14-001506, EFFECTIVE DATE JUNE 16, 2014 AT 8:00 AM. THE TITLE REPORT HAS BEEN REVIEWED AND ALL EASEMENTS THAT ARE APPLICABLE OR PLOTTABLE ARE SHOWN.
- THE PROPERTY SHOWN HEREON IS IN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAPS FOR FAUQUIER COUNTY, VIRGINIA, COMMUNITY-PANEL NUMBER 51061C0410C, EFFECTIVE DATE FEBRUARY 6, 2008.
- NO UNDERGROUND UTILITIES WERE MARKED OR SHOWN HEREON CONTRACTOR SHALL VERIFY THE LOCATIONS, SIZE AND DEPTHS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

T.B.M.'S:

- EXISTING SITE B.M. TOP CENTER OF WELL ELEVATION = 412.26
- EXISTING SITE B.M. SOUTHERN EDGE OF CONCRETE PAD ELEVATION = 411.39

SURVEY CONTROL:

- GPS #2 ROD & CAP SET N: 6904189.21 E: 11685962.37 ELEV: 413.55
- GPS #3 ROD & CAP SET N: 6904464.65 E: 11686411.50 ELEV: 416.78
- TRAVERSE #1605 ROD & CAP SET N: 6904010.02 E: 11685661.96 ELEV: 412.09
- TRAVERSE #1606 ROD & CAP SET N: 6904686.71 E: 11686772.49 ELEV: 421.33
- NAIL SET #1607 N: 6904928.08 E: 11686016.15 ELEV: 398.62
- NAIL SET #1609 N: 6905078.64 E: 11685693.47 ELEV: 395.64
- TRAVERSE #2070 ROD & CAP SET N: 6904753.57 E: 11685635.59 ELEV: 393.83
- TRAVERSE #2077 ROD & CAP SET N: 6904655.02 E: 11685587.34 ELEV: 393.04
- TRAVERSE #2079 ROD & CAP SET N: 6904854.91 E: 11685573.25 ELEV: 391.40

EXISTING CONDITIONS LEGEND:

- EDGE OF WOODS
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- FENCE
- POWER POLE
- GUY WIRE
- WELL
- OVERHEAD UTILITY LINES
- PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE PIPE AND SIZE
- GROUND ELEVATION (DIRT GRADE)
- MONUMENT FOUND
- IRON ROD FOUND
- IRON PIPE FOUND

DRAWING LIST

- 1 OF 3 TITLE SHEET
- 2 OF 3 EXISTING CONDITIONS
- 3 OF 3 PROPOSED CONDITIONS

PREPARED BY:

Geosyntec consultants

9211 ARBORETUM PARKWAY, SUITE 200
RICHMOND, VIRGINIA 23236
TELEPHONE: (804) 767-2206

ANA GORDON, PE
TELEPHONE: (804) 665-2808
EMAIL: AGORDON@GEOSYNTEC.COM

SIGNATURE OF PLAN PREPARER DATE

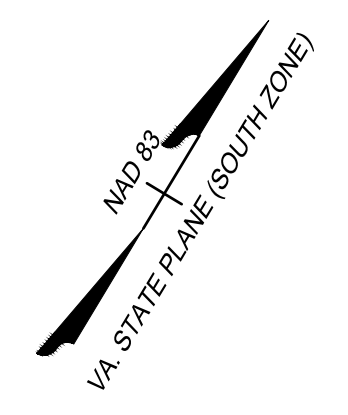
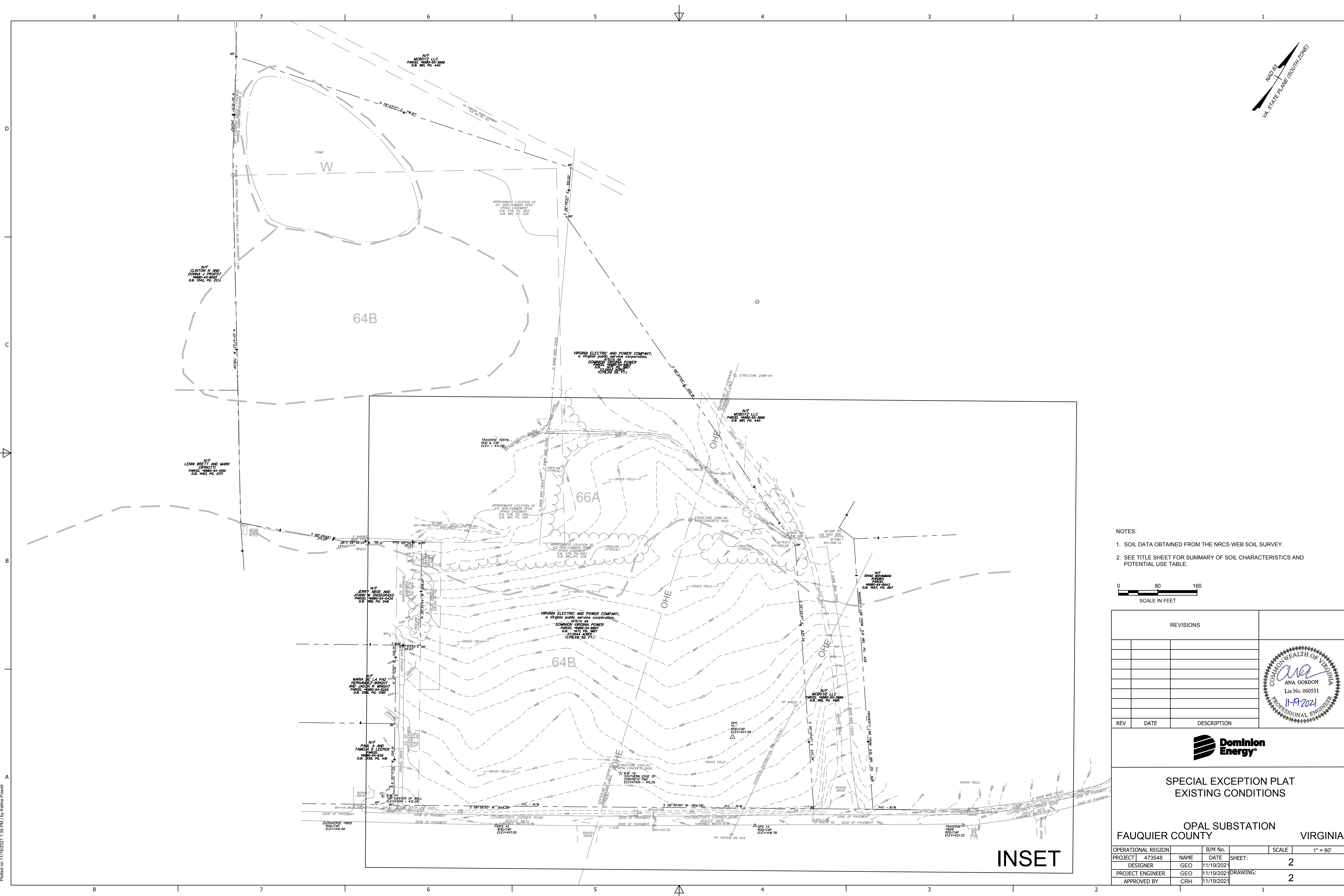


10900 NUCKOLS ROAD
GLEN ALLEN, VA 23060
www.dom.com

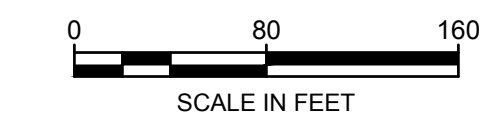


SPECIAL EXCEPTION APPLICATION
OPAL SUBSTATION
FAUQUIER COUNTY, VIRGINIA

K:\Project Explorer (S)\Design\Projects\Opal Substation\47-3548-A Final Site & Grading Plan\Civil\CAD\Exhibits\473548-A-Exhibit Existing.dwg
Printed on 11/19/2021 1:38 PM by Kiana Power



- NOTES:
1. SOIL DATA OBTAINED FROM THE NRCS WEB SOIL SURVEY.
 2. SEE TITLE SHEET FOR SUMMARY OF SOIL CHARACTERISTICS AND POTENTIAL USE TABLE.

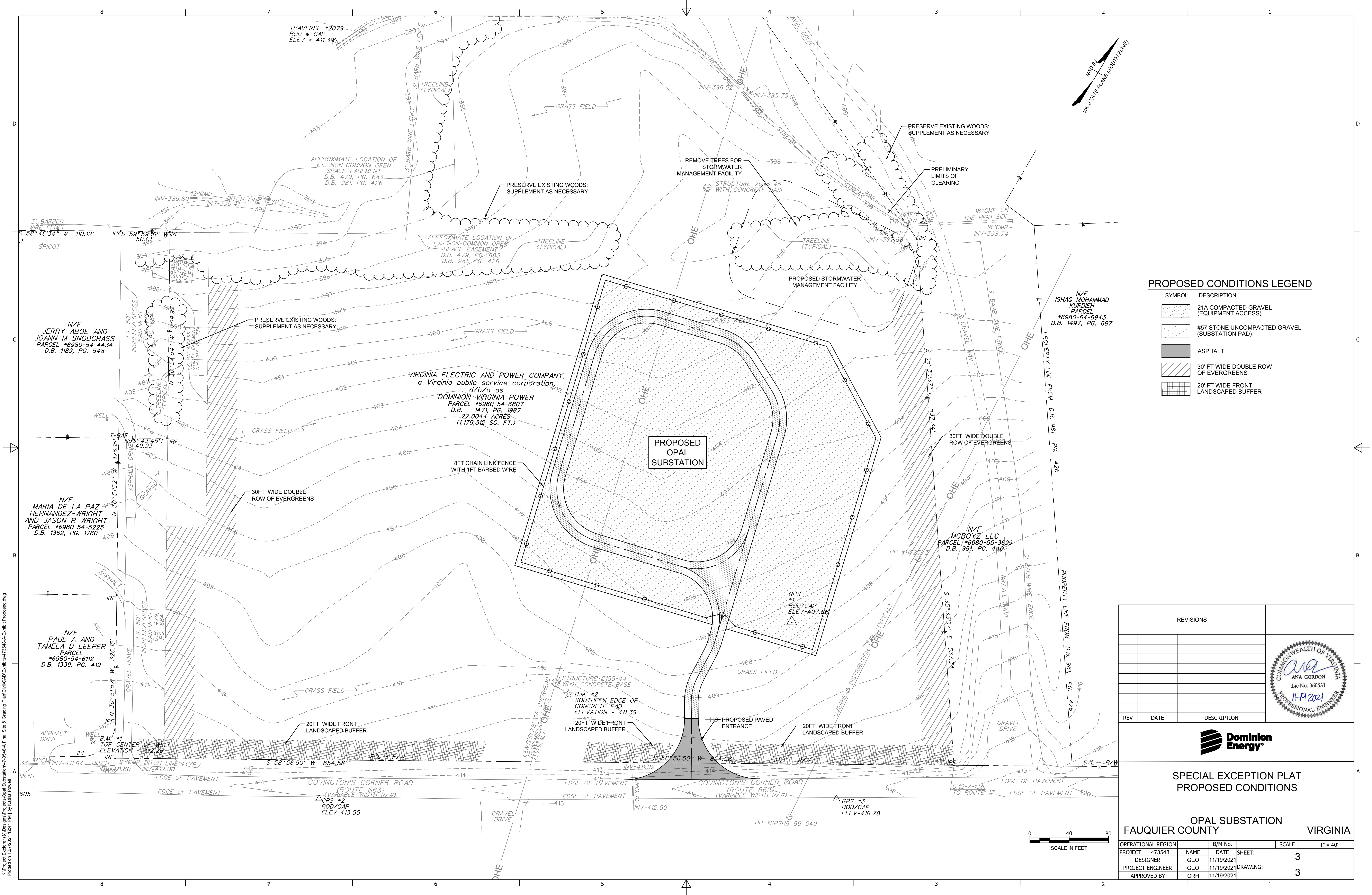


REVISIONS		
REV	DATE	DESCRIPTION

**SPECIAL EXCEPTION PLAT
EXISTING CONDITIONS**

**OPAL SUBSTATION
FAUQUIER COUNTY VIRGINIA**

OPERATIONAL REGION	B/M No.	SCALE	1" = 80'
PROJECT 473548	NAME DATE SHEET:	2	
DESIGNER GEO	11/19/2021	2	
PROJECT ENGINEER GEO	11/19/2021	2	
APPROVED BY CRH	11/19/2021	2	



PROPOSED CONDITIONS LEGEND

SYMBOL	DESCRIPTION
	21A COMPACTED GRAVEL (EQUIPMENT ACCESS)
	#57 STONE UNCOMPACTED GRAVEL (SUBSTATION PAD)
	ASPHALT
	30' FT WIDE DOUBLE ROW OF EVERGREENS
	20' FT WIDE FRONT LANDSCAPED BUFFER

REVISIONS		
REV	DATE	DESCRIPTION

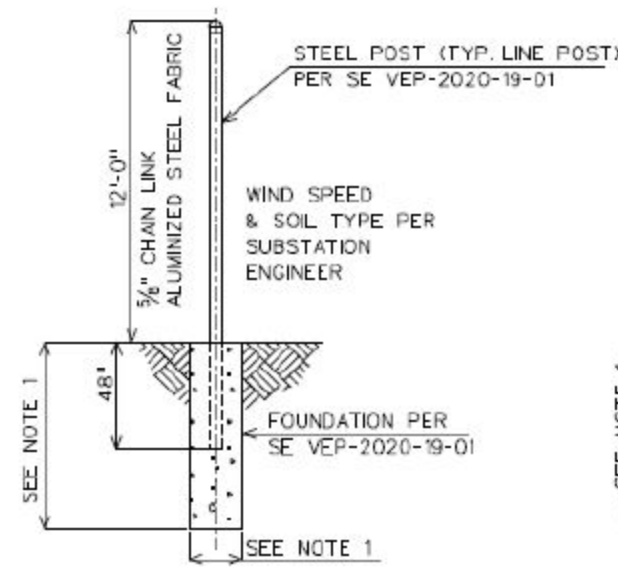


SPECIAL EXCEPTION PLAT
PROPOSED CONDITIONS

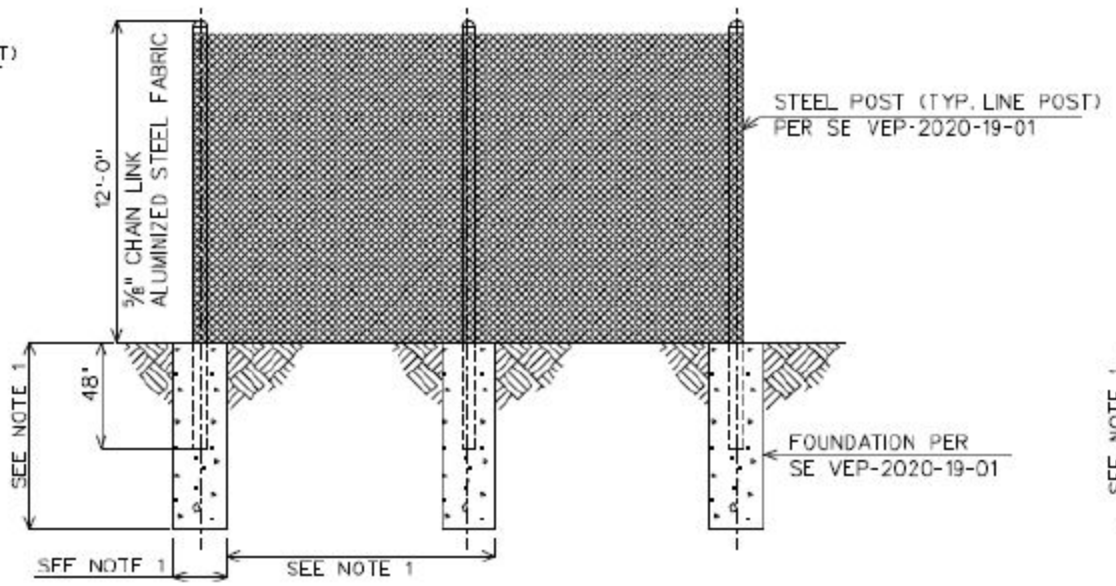
OPAL SUBSTATION					
FAUQUIER COUNTY				VIRGINIA	
OPERATIONAL REGION		B/M No.		SCALE	1" = 40'
PROJECT	473548	NAME	DATE	SHEET:	3
DESIGNER	GEO	11/19/2021			
PROJECT ENGINEER	GEO	11/19/2021		DRAWING:	3
APPROVED BY	CRH	11/19/2021			

Hi Kara,

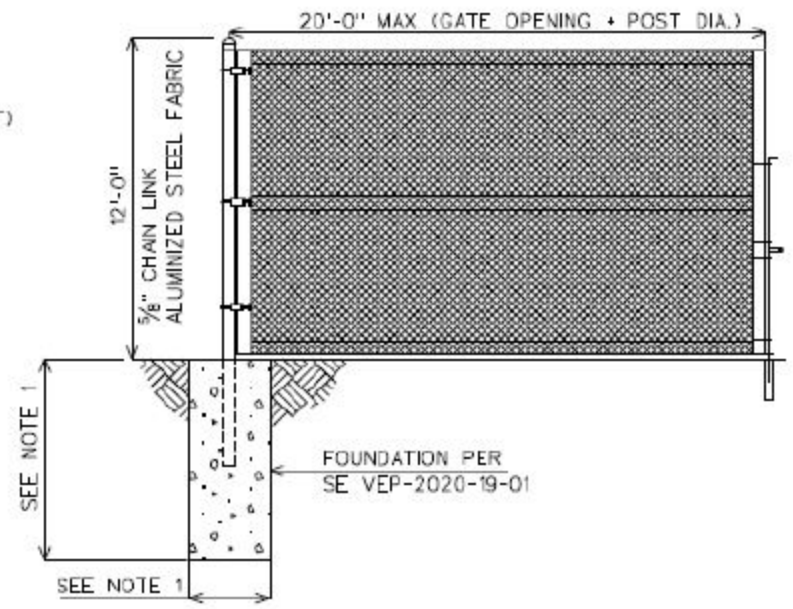
Please see below. The detail is subject to final engineering design but generally representative. Thank you!



SUBSTATION FENCE DETAIL



SUBSTATION FENCE ELEVATION



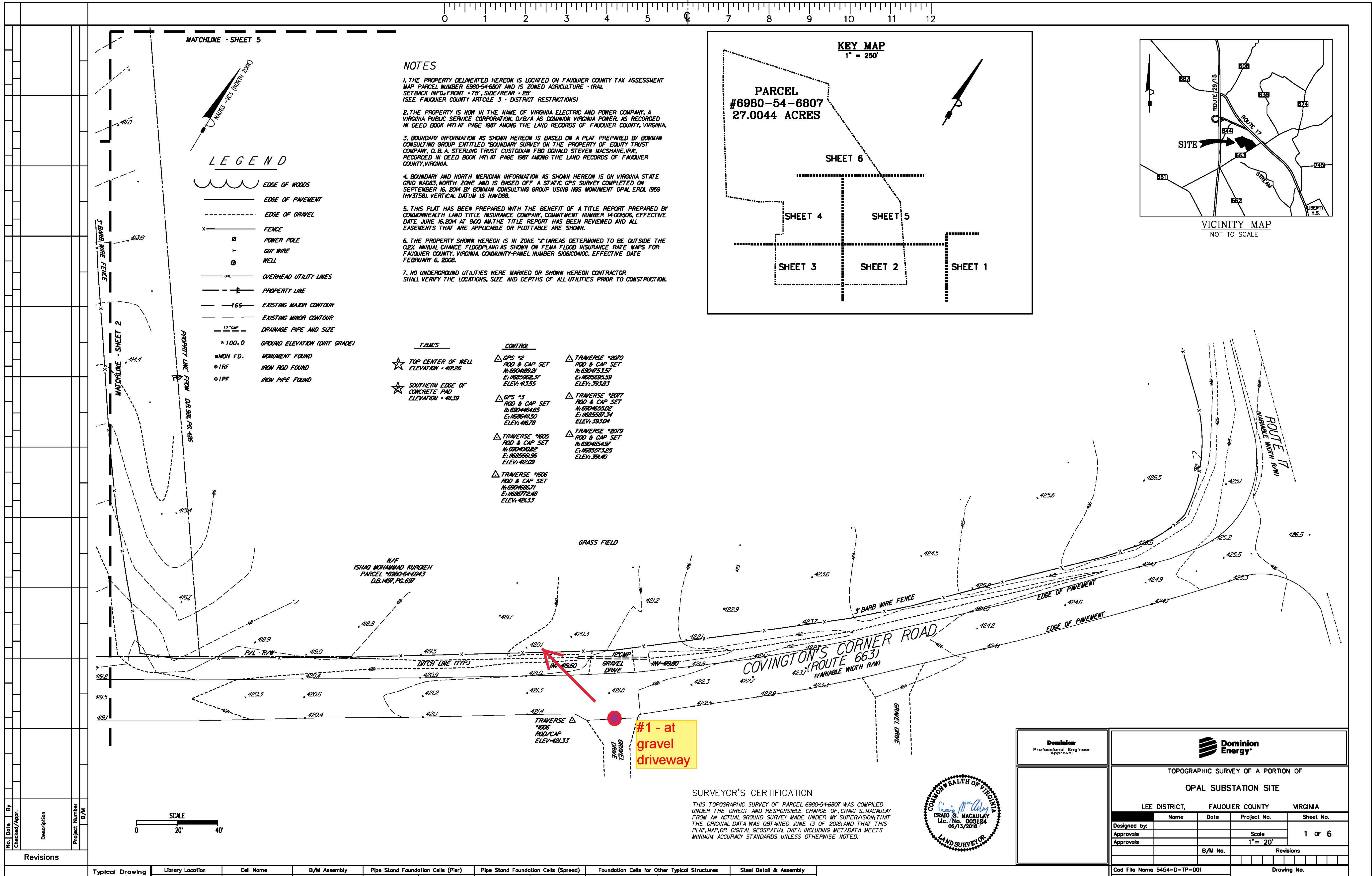
SUBSTATION FENCE
SWING TYPE GATE
FOR ILLUSTRATIVE PURPOSES ONLY

NOTES:
1. REFER TO DOMINION FENCE SPECIFICATIONS FOR DIMENSIONS.

1
31
DETAIL
SECURITY FENCE
(NTS)

Thanks,
Ana

RENDERING VIEWSHEDS





Description	Project Number	B/M

SCALE

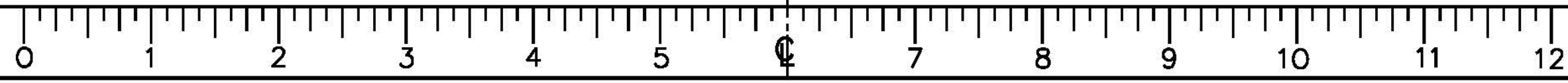


0 20' 40'

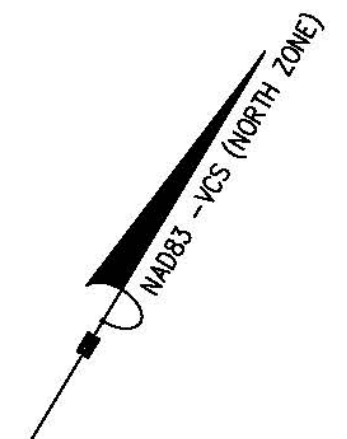
Typical Drawing Information	Library Location	Cell Name	B/M Assembly	Pipe Stand Foundation Cells (Pier)		Pipe Stand Foundation Cells (Spread)		Foundation Cells for Other Typical Structures		Steel Detail & Assembly
								(Pier)	(Spread)	

LEE DISTRICT,		FAUQUIER COUNTY		VIRGINIA	
	Name	Date	Project No.	Sheet No.	
Designed by:				1 OF 6	
Approvals			Scale		
Approvals			1" = 20'		
		R/O No.	Revisions		

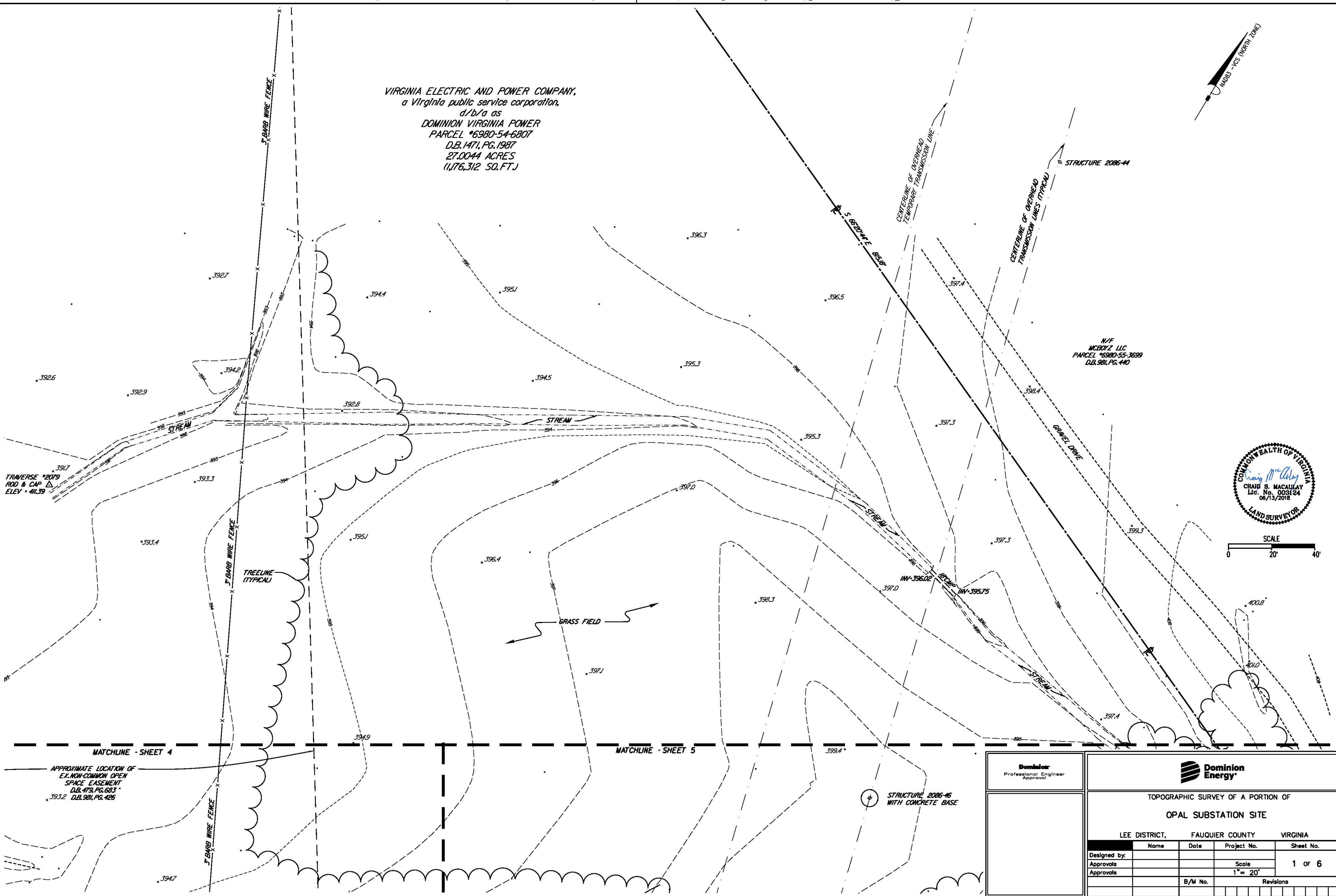
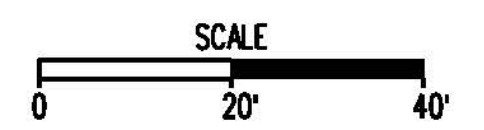
Cad File Name 5454-D-TP-001	Drawing No.
PLOTTED:	



VIRGINIA ELECTRIC AND POWER COMPANY,
a Virginia public service corporation,
d/b/a as
DOMINION VIRGINIA POWER
PARCEL #6980-54-6807
D.B. 1471, PG. 1987
27.0044 ACRES
(1,176,312 SQ. FT.)



M/F
MCB012 LLC
PARCEL #6980-55-3699
D.B. 981, PG. 440



No.	Date	By	Description	Project Number	B/M																
Revisions																					
Typical Drawing Information						Library Location		Cell Name		B/M Assembly		Pipe Stand Foundation Cells (Pier)		Pipe Stand Foundation Cells (Spread)		Foundation Cells for Other Typical Structures		Steel Detail & Assembly			
														(Pier)		(Spread)					
						Cod File Name 5454-D-TP-001				Drawing No.											
						PLOTTED:															

VIEWSHED #1

LANDSCAPING AT INSTALLATION



VIEWSHED #1

LANDSCAPING AT MATURITY



VIEWSHED #2

LANDSCAPING AT INSTALLATION



VIEWSHED #2

LANDSCAPING AT MATURITY



Fauquier County
Special Exception Application
Opal Substation
November 22, 2021

Substation Justification

Opal Substation will sit on a single parcel of land that is owned by Dominion Energy, with access off Covington's Corner Road (Route 663). The proposed substation is located under an existing 230kV line which favors the overall constructability.

The purpose of Opal Substation is to address load growth within Fauquier County and provide operational flexibility for the electric distribution system to maintain reliable electric service within the County. Opal Substation will operate continuously and provide relief to the existing Warrenton Substation, which is near capacity, by picking-up some of its load on a permanent basis. Additionally, circuit ties between Opal and Warrenton Substations will be created to accommodate load transfers during contingency situations. Opal Substation will enhance the electric distribution infrastructure as described above, allowing Dominion Energy to continue reliably serving the citizens of Fauquier County, and specifically the Lee District, while accommodating moderate future growth.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark R. Gill". The signature is fluid and cursive, with the first name "Mark" being the most prominent.






Mark R. Gill, P.E. (VA License #0402025247)
Consulting Engineer
Electric Transmission Planning
Dominion Energy

Functional Relationship of Opal Substation Within Utility System

Due to new developments in Fauquier County, the new Opal Substation is needed to relieve capacity from the existing Warrenton Substation. This will ultimately position and enable Dominion to serve new growth and developments in Warrenton and potentially other areas of Fauquier County. The new substation will also assist and have the capability to enhance reliability efforts by providing additional capacity under emergency events, minimizing customer outages.

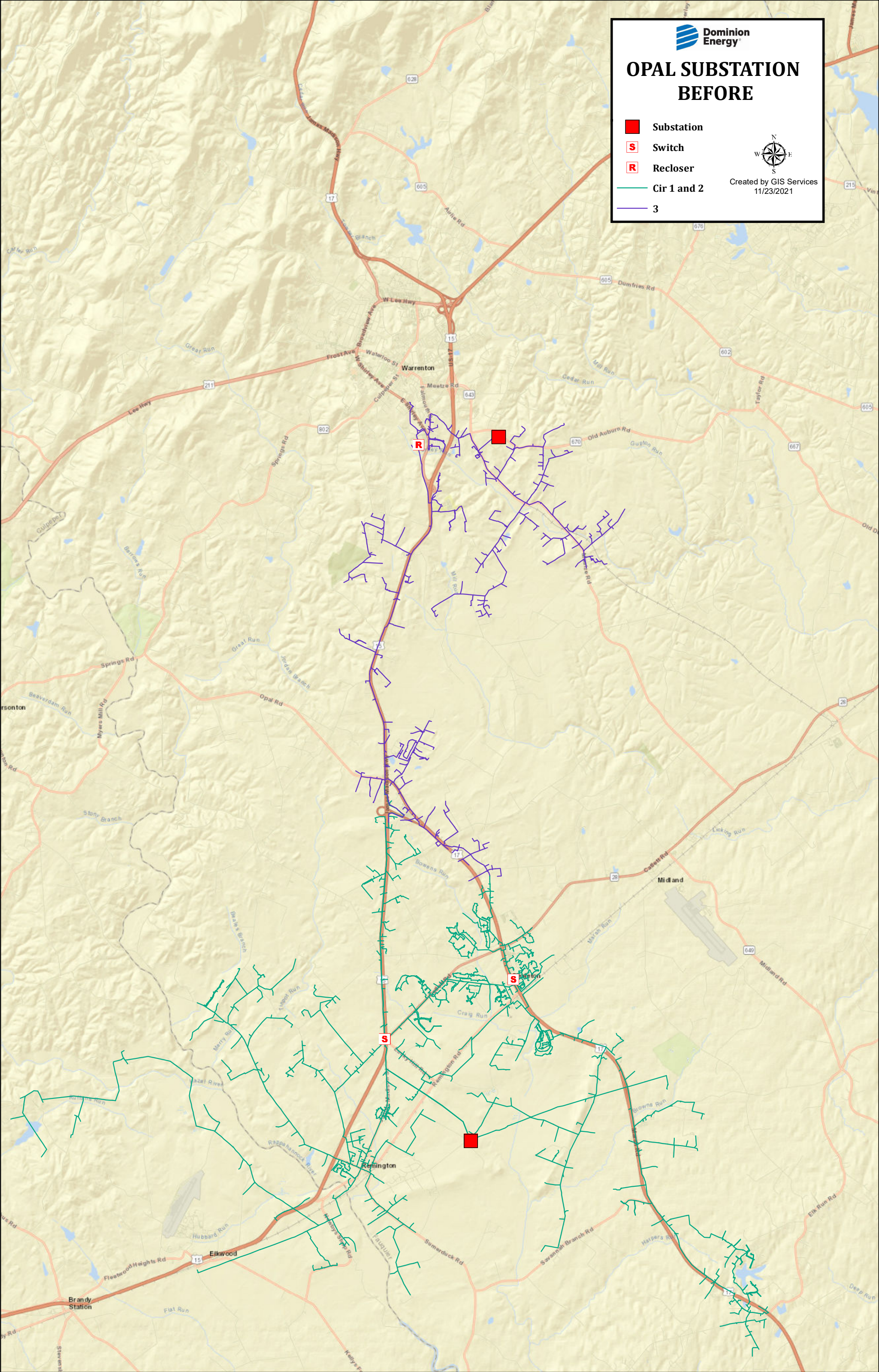


OPAL SUBSTATION BEFORE

-  Substation
-  Switch
-  Recloser
-  Cir 1 and 2
-  3



Created by GIS Services
11/23/2021



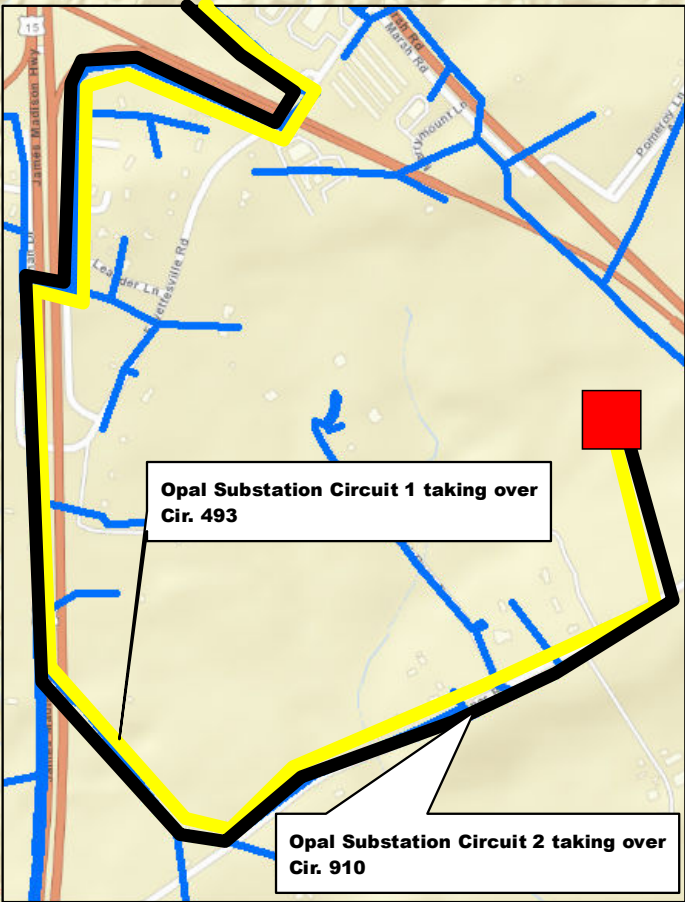


OPAL SUBSTATION ONLINE

- Substation
- Switch
- Recloser
- Opal Sub Circuits 1 and 2
- Cir 1 and 2
- 3

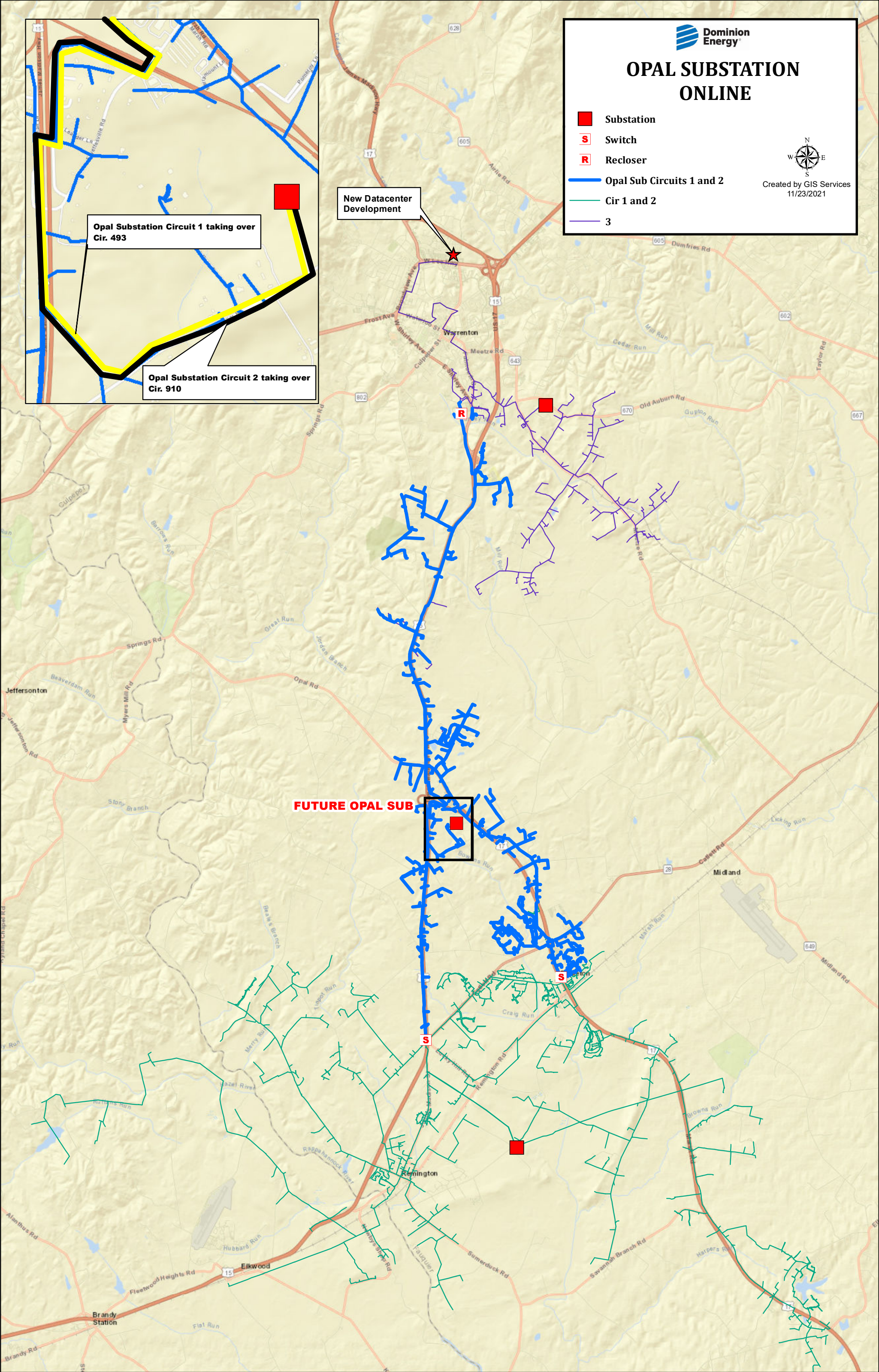


Created by GIS Services
11/23/2021



New Datacenter
Development

FUTURE OPAL SUB





Road (VA F1077)

Pomeroy Lane

Lightingle Lane
Oakridge Lane

Marsh Road (VA F1077)

Covingtons Corner Road (CR 663)



oy Lane

Marsh Road (VA F1077)

Covingtons Corner Road (CR 963)

0

0

5



Covingtons Corner Road (CR 663)

Marsh Road (VA F1077)

Lettlesville Road





RESOLUTION

A RESOLUTION TO APPROVE SPEX-21-016686 – OPAL SUBSTATION – AN APPLICATION FOR A CATEGORY 20 SPECIAL EXCEPTION TO ALLOW FOR THE CONSTRUCTION OF THE NEW OPAL SUBSTATION (PIN 6980-54-6807-000, LEE DISTRICT)

WHEREAS, Dominion Virginia Power d/b/a Virginia Electric & Power Company (Owner/Applicant), has submitted a request for a Category 20 Special Exception and a Comprehensive Plan Compliance Review to locate an electrical substation on property located near the intersection of Covingtons Corner Road and Marsh Road, Bealeton on PIN 6980-54-6807-000; and

WHEREAS, *Code of Virginia* §15.2-2232.A, requires all public utility facilities or public service corporation facilities, unless shown on the Comprehensive Plan, be reviewed by the Planning Commission and found as being substantially in accord with the adopted Comprehensive Plan or part thereof; and

WHEREAS, on February 17, 2022, the Fauquier County Planning Commission held a public hearing on the Comprehensive Plan Compliance Review and determined that locating an Electrical Substation Distribution Center and Transformer Station on the property located near the intersection of Covingtons Corner Road (Route 663) and Marsh Road (Route 17) (PIN 6980-54-6807-000) is substantially in accord with the adopted Fauquier County Comprehensive Plan or part thereof; and

WHEREAS, on February 17, 2022, the Fauquier County Planning Commission held a public hearing on the Special Exception request and recommended that the application be approved; and

WHEREAS, on March 10, 2022, the Board of Supervisors conducted a public hearing and considered written and oral testimony; and

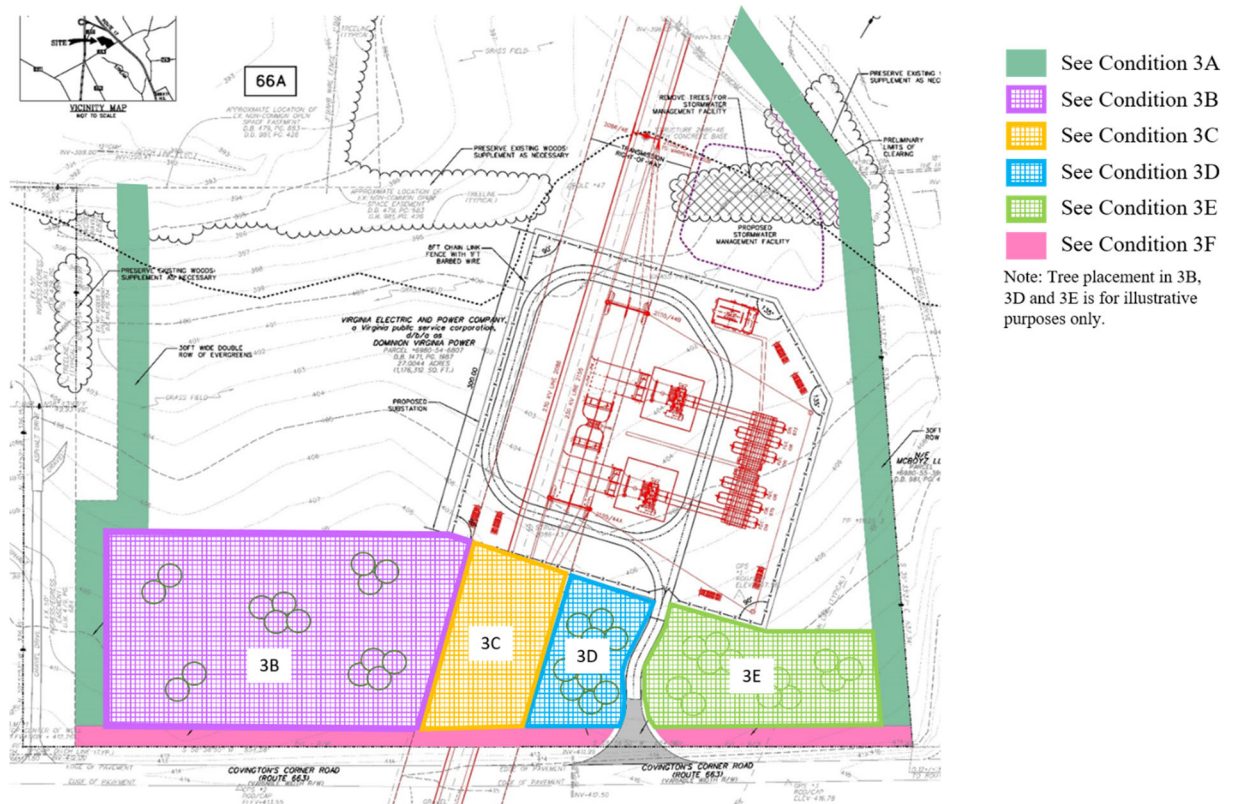
WHEREAS, the Board of Supervisors has concurred with the Planning Commission and determined that the application satisfies the standards of Zoning Ordinance Sections 5-006, 5-2001 and 5-2002; now, therefore, be it

RESOLVED by the Fauquier County Board of Supervisors on this 10th day of March 2022, That SPEX-21-016686 be, and is hereby, approved, subject to the following conditions:

1. The Special Exception is granted only for PIN 6980-54-6807-000, runs with the land as indicated in the application, and shall not be transferred to other land.
2. This Special Exception is granted only for the purpose(s), structure(s) and/or uses indicated on the Preliminary Concept Exhibit Opal Substation dated September 20, 2021 and received by Community Development on December 16, 2021, except as qualified by these development conditions, and the security fence detail received on January 25, 2022.

3. The following landscape screening and buffering shall be provided as indicated on the Buffering Exhibit and further described below:

Buffering Exhibit



- a. A 30-foot wide dense evergreen tree screen on the eastern and western property lines.
- b. Fifteen (15) evergreen trees, clustered in a random, natural pattern, in the area indicated as 3B on the Buffering Exhibit.
- c. Thirty-six (36) evergreen shrubs, which will reach five (5) to six (6) feet in height at maturity, clustered in a random, natural pattern, in the area indicated as 3C on the Buffering Exhibit.
- d. Nine (9) evergreen trees, clustered in a random, natural pattern, in the area indicated as 3D on the Buffering Exhibit.
- e. Twelve (12) evergreen trees, clustered in a random, natural pattern, in the area indicated as 3E on the Buffering Exhibit.
- f. A 20-foot wide front yard buffer, which contains at least three (3) canopy trees, three (3) understory trees and 24 evergreen shrubs per 100 linear feet, and a berm, which is at least 36 inches higher than the finished grade, shall be provided along the property's Covingtons Corner Road frontage. The canopy and understory trees shall be planted on top of the berm. Where the front yard buffer crosses under the

- transmission lines, an additional nine (9) evergreen shrubs, in lieu of the canopy trees and understory trees, shall be placed on top of the berm.
- g. At the time of installation, 30 percent of the evergreen trees required by 3b, 3d and 3e shall be a minimum of eight (8) feet in height and 30 percent shall be a minimum of 10 feet in height.
- 4. All existing vegetation used for screening shall be placed in a tree preservation easement, prior to release of the Site Plan.
 - 5. The compound shall be surrounded by a 12-foot tall, 5/8-inch aluminized steel fabric fence, as shown on the fence detail submitted by the Applicant and received by Community Development on January 25, 2022.
 - 6. Maintenance of the fencing and landscaping shall be required as long as the facility is standing. Should any required plant materials die, they shall be replaced with new material of the same species, which is at least equal to the size of the material at the time of initial planting.
 - 7. A Site Plan shall be required.