

MEMORANDUM
Case # SPEC-6-16-15384



To: Franklin County Planning Commission
From: Terrance L. Harrington, AICP
Date: July 26, 2016
Tax #s: Tax Parcel # 0530012101
District: Union Hall
Applicant: Appalachian Power Company
Owner: Franklin Real Estate Company

REQUEST

This is a request of Appalachian Power Company seeking approval of a Special Use Permit to allow the construction of a 138kV electric substation (to be known as the Redwood Substation). The proposed substation and associated access drive would be developed on approximately four (4) acres of a 38.136 site located near the intersection of Powells Store Road and Webster Road in the Union Hall District.. The proposed fenced-in pad for the substation will be approximately 1.2 acres.

The proposed substation is part of a system upgrade and will be a replacement for the Glade Hill Substation located on Rt. 40 near the intersection of Byrd's Mill Road. When the proposed Redwood substation is completed and brought on-line, the Glade Hill Substation will be taken off-line, dismantled and the equipment will be removed from the site;

RECOMMENDATION

The staff recommends that the Planning Commission consider and **recommend approval with conditions** of the Special Use Permit for the proposed 138 kV Redwood Substation as requested by the Appalachian Power Company.



BACKGROUND

The applicant has provided information describing the current system design stating that the development of a new substation in this area of the county is necessary to continue to provide reliable electric service in the Rocky Mount, Redwood and Glade Hill areas of Franklin County. The new substation will be connected to an existing 138kv line that is adjacent to the site. Connection will be made via a new 600 foot transmission line tap. (See Application Exhibit 2) The substation upgrade project will also involve replacement of approximately four (4) miles of existing distribution line. The County does not review or exercise zoning authority over such line replacements.

SITE STATISTICS AND SURROUNDING LAND USES

| | |
|---------------------------------|---|
| <i>Location:</i> | Vacant property located near the intersection of Powells Store Road and Webster Road |
| Parcel Zoning | A-1 Agriculture |
| Parcel/Project Size | 38.136 acres/ 4 acres |
| Existing Land Use: | Vacant – Wooded and Pasture |
| Topography: | Varied. Proposed site of substation will be approximately 50 feet below the elevation of adjoining roads |
| Adjoining Zoning: | A-1 Agriculture |
| Adjoining and Nearby Land Uses: | Vacant Agriculture/Single Family. Closest residence is approximately 700 feet from the proposed location of the substation pad. |

PUBLIC UTILITIES

The proposed substation will not require public water, wastewater or natural gas services. Once construction is completed, no employees will be working at the site on a daily basis.



SITE LIGHTING

The applicant is proposing downward directed dusk to dawn security lighting at the substation site. Existing topography, vegetation and distance to surrounding residences will minimize the off-site impact of this lighting.

TRANSPORTATION

Construction access to the site is proposed to be off of Powells Store Road. The same access location will be used for periodic maintenance personnel. VDOT has not yet formally reviewed the access location, but will do so after receiving information on the level of traffic anticipated during construction.

ENVIRONMENTAL

There is an existing stream and possible wetland on the property. Both are located outside the anticipated limits of development. The applicant will undertake the necessary and appropriate geotechnical, archaeological and wetland studies prior to approval of the formal site plan for the project.

PUBLIC COMMENTS

The staff has not received any inquiries or public comments on this request.

ANALYSIS

In planning for this upgrade, the applicant evaluated alternative sites for this new substation. Redevelopment of the existing Glade Hill substation site on Route 40 was considered but rejected due to the small the size of the site, and its proximity to surrounding residences.

Two sites were evaluated in the Powells Store/Webster Road area. The proposed site was chosen due to its large size (38+ acres), and its topography which allows the substation to be located at an elevation significantly below the road. It was also chosen due to its forested character, which will allow the substation pad site to be significantly screened by existing mature vegetation. Evergreen screening is being proposed along a portion of Powells Store Road to partially screen the proposed access road.

RECOMMENDATION:

Staff recommends that the Planning Commission consider and **approve** the special use permit petition as requested by the applicant, with the following conditions:



1. The substation site and proposed access road will be developed in substantial accord with the submitted concept plan titled Redwood 138 kV Substation concept plan dated June 28, 2016, prepared by Earth Environmental and Civil.
2. All site lighting shall be of a downward directed design. No site lighting shall exceed .5 foot candles at any property line
3. VDOT shall approve the location and design of the proposed access road's connection to Powells Store Road prior to commencement of construction.
4. The County shall approve all required site plans, erosion and sediment control plans, and storm water plans prior to commencement of construction.
5. The existing Glade Hill Substation will be dismantled and the equipment will be removed from the site within 18 months of the completion of the system upgrades associated with the proposed Redwood 138 kV substation.



SUGGESTED MOTIONS:

The following suggested motions are sample motions that may be used.

(APPROVE) I find that the proposal will not be of substantial detriment to adjacent property, that the character of the projected future land use of the community will not be adversely impacted, that such use will be in harmony with the purpose and intent of the zoning ordinance and with the public health, safety and general welfare. Therefore I move to recommend approval, with the suggested conditions, of the petitioner's request for a Special Use Permit to allow the construction and operation of a proposed new Redwood 138 kV Substation.

OR

(DENY) I find that the proposal is of substantial detriment to adjacent and surrounding property and that such use will not aid in the creation of a convenient, attractive, or harmonious community. Therefore I move to recommend denial of the request.

OR

(DELAY ACTION) I find that the required information for the submitted petition is incomplete. Therefore I move to delay action until additional necessary materials are submitted to the Planning Commission.



exceeding expectations confidently

Special Use Permit Application
Appalachian Power Company
Proposed New 138 kV Redwood Substation

stability through growth. growth through expertise.
discover our expansive capabilities.

engineers, geologists, scientists, planners

June 29, 2016



Earth Environmental and Civil
235 Claiborne Avenue, Suite 100
Rocky Mount, Virginia 24151

www.earthenv.com

P: 540.483.5975

F: 540.483.2221

TF: 888.663.9719

earth@earthenv.com

- > Special use permit is effective immediately after action by the Board of Supervisors
- > Special use permits expire in 18 months if there is no commencement of the use or related activity

FRANKLIN COUNTY
PETITION/APPLICATION FOR SPECIAL USE PERMIT
 (Type or Print)

I/We, Appalachian Power Company, as Owner(s), Contract Purchasers, or Owner's Authorized Agent of the property described below, hereby apply to the Franklin County Board of Supervisors for a special use permit on the property as described below:

1. Petitioners Name: Appalachian Power Company

2. Property Owner's Name: Franklin Real Estate Company

Phone Number: Shawn R. Altizer - (540) 562-7094 - sraltizer@aep.com

Address: P.O. Box 2021
Roanoke, VA Zip: 24022

3. Exact Directions to Property from Rocky Mount: From Franklin County Government Center. Head east on Franklin St. toward Dent st. 1.2 mi, turn right onto N Main st. 180 ft. turn left onto Pell ave. 0.7 mi, Pell ave. turns left and becomes Tanyard rd. 0.4 mi, continue onto VA-40 E/Old Franklin Turnpike 3.7 mi, turn left onto State Rte 655, 0.3 mi, Slight right to stay State Rte 655, 2.6 mi, Destination on your right.

4. Tax Map and Parcel Number: 0530012101

5. Magisterial District: Union Hall

6. Property Information:

A. Size of Property: 38.136 acres

B. Existing Zoning: A1

C. Existing Land Use: Pasture/Wooded

D. Is property located within any of the following overlay zoning districts:

Corridor District Westlake Overlay District Smith Mountain Lake Surface District

E. Is any land submerged under water or part of a lake? Yes No If yes, explain.

Property has a "blue line" stream running thru a portion of the property
(according to the Franklin County Web GIS)

7. Proposed Special Use Permit Information:

A. Proposed Land Use: New Redwood 138 kV Substation to replace Glade Hill Substation

B. Size of Proposed Use: 4 Acres

C. Other Details of Proposed Use: _____

Checklist for completed items:

- Application Form
- Letter of Application
- List of Adjoining Property Owners and Addresses
- Concept Plan
- Application Fee

I certify that this application for a special use permit and the information submitted herein is correct and accurate.

Petitioner's Name (Print): APPALACHIAN POWER Co

Signature of Petitioner: ^{By:} Sharon R. Aldridge (PROXY MGR)

Date: 6/28/16

Mailing Address: P.O. Box 2021
ROANOKE, VA 24022

Telephone: 540-613-2870

Owner's consent, if petitioner is not property owner:

Owner's Name (Print): _____

Signature of Owner: _____

Date: _____

Date Received by Planning Staff: _____

Time: _____

Clerk's Initials: _____

CHECK #: _____

RECPT. #: _____

AMOUNT: _____

Checklist for completed items:

- Application Form
- Letter of Application
- List of Adjoining Property Owners and Addresses
- Concept Plan
- Application Fee

I certify that this application for a special use permit and the information submitted herein is correct and accurate.

Petitioner's Name (Print): Appalachian Power Co.
Signature of Petitioner: by: Todd J. Bonny
Date: 7/1/2016 (authorized signer)
Mailing Address: P.O. Box 2021
Roanoke VA 24022-2121
Telephone: 540-562-7277

Owner's consent, if petitioner is not property owner:

Owner's Name (Print): Franklin Real Estate Co.
Signature of Owner: by: Todd J. Bonny
Date: 7/1/2016 (authorized signer)

Date Received by Planning Staff: _____

Time: _____

Clerk's Initials: _____

CHECK #: _____

RECPT. #: _____

AMOUNT: _____

ADJACENT PROPERTY OWNERS

Adjacent property owners are mailed a notice of the request. Please provide each owner's name and mailing address plus zip code for every property adjacent to the site and directly across from any public right-of-way adjoining the site. Names and addresses are available in the County Real Estate office in the Courthouse.

NAME: Jamison Richards L Sr ADDRESS: 10 Jamison Farm Lane

TAX MAP NUMBER: 0530012400 Rocky Mount VA, 24151

NAME: Bessett Robert K ADDRESS: 266 Powells Store Road

TAX MAP NUMBER: 0530011904 Glade Hill VA , 24092

NAME: Richards James & Tabitha D ADDRESS: 208 Powells Store Road

TAX MAP NUMBER: 0530012000 Glade Hill VA , 24092

NAME: Cooke Ricky J ADDRESS: 346 Powells Store Road

TAX MAP NUMBER: 5300119000 Glade Hill VA , 24092

NAME: Divers Charles Hudson & Robert Peyton ADDRESS: 65 Powells Store Road

TAX MAP NUMBER: 0530012100 Glade Hill VA , 24092

NAME: Lynch Billy T ADDRESS: 129 Powells Store Road

TAX MAP NUMBER: 0530006600 Glade Hill VA , 24092

NAME: Franklin Real Estate Company ADDRESS: P.O Box 16428

TAX MAP NUMBER: 0530002300 Columbus OH , 43216

NAME: Mills Robert K (Trustee) (Alice K Mills Living) ADDRESS: P.O Box 368

TAX MAP NUMBER: 0530001700 Rocky Mount VA , 24151

NAME: _____ ADDRESS: _____

TAX MAP NUMBER: _____

NAME: _____ ADDRESS: _____

TAX MAP NUMBER: _____

NAME: _____ ADDRESS: _____

Date: June 29, 2016

Re: Appalachian Power Company's proposed Redwood Substation (Tax Map ID No. 0530012101)

Steven Sandy, Director
Planning & Community Development
1255 Franklin Street, Suite 103
Rocky Mount, VA 24151

Dear Mr. Sandy:

Appalachian Power Company ("Appalachian Power"), a subsidiary of American Electric Power, is proposing to retire an existing 34/12 kV distribution substation (the "Glade Hill Substation"), build a new approximately 1.2 acre 138/12 kV distribution substation (the "Redwood Substation"), and build approximately 600 feet of associated 138 kV transmission line into the new substation ("transmission line tap"). These improvements will also require an upgrade of approximately four miles of existing distribution lines in Franklin County. The proposed Redwood Substation will replace the 60 year old Glade Hill Substation (located on State Route 40 near Glade Hill) to ensure continued reliable electric service to customers in the Rocky Mount-Redwood-Glade Hill area of Franklin County. The proposed substation and associated transmission line tap will be entirely located on a 38 acre parcel (Tax Map ID. No. 0530012101, zoned A-1) owned by Appalachian Power near the intersection of Powells Store Road (Route 839) and Webster Road (Route 655) and approximately two miles north of the existing Glade Hill Substation. Appalachian Power requests the following:

- **Special Use Permit ("SUP"):** Pursuant to the Franklin County (VA) Zoning Ordinance (Section 25-179), the Company seeks an SUP for the proposed Redwood Substation and the associated transmission line tap.
- **Comprehensive Plan Accordance:** Pursuant to Va. Code § 15.2-2232, the Company seeks a determination by the County that the general or approximate location, character and extent of the proposed Redwood Substation and the associated transmission line tap are substantially in accord with the County's adopted comprehensive plan.

In support of this request, provided are the following: (i) special use permit application, (ii) list of names, addresses and tax map and parcel numbers of abutting property owners, (iii) project summary, (iv) proposed project description, (v) project need description, (vi) substation site selection description, and (vii) exhibits (including a concept plan). I also include a check for \$445 in payment of the application fee.

Sincerely,



Shawn R. Altizer, Project Manager
Appalachian Power Company
P.O. Box 2021
Roanoke, VA 24022
Ph: (540) 562-7094

PROJECT SUMMARY

Reason for the Request

The new Redwood Substation and associated transmission line tap will replace the 60 year old Glade Hill Substation, located on State Route 40 near Glade Hill, to ensure continued reliable electric service to customers in the Rocky Mount-Redwood-Glade Hill area of Franklin County. See the attached General Location Map - **Exhibit 1**.

Proposed Use of the Property:

Currently, the 38 acre site for the proposed substation is mostly wooded and includes approximately five acres of cleared pasture used for cattle grazing. Appalachian Power's existing Westlake-Penhook 138 kV transmission line parallels the eastern boundary of the property. The proposed transmission line tap connects the proposed substation to the existing 138 kV transmission line. Accordingly, the proposed transmission line tap will be entirely located on property already owned by Appalachian Power. As a result of the construction of the project, approximately 1.2 acres of pasture/wooded area will be converted to electrical substation use. The remaining 36.5 acres will remain agricultural in character and use. See the attached Concept Plan - **Exhibit 2**.

Effect of the Use Change

No adverse impact on the surrounding area is anticipated. The substation will be located within a 38 acre property, which is surrounded by existing trees/screening. Additionally, the substation site is located approximately 40 feet lower in elevation than Powells Store Road, Webster Road and the adjacent residences. The perimeter character and use of the property will not change.

Project Cost

The preliminary cost estimate for the proposed project is approximately \$6 million. The annual property taxes on the project after completion are estimated to be about \$20,000.

Timeline

Appalachian Power desires to start construction in October 2016 with an expected in-service date of October 2017.

PROPOSED PROJECT DESCRIPTION

1. Proposed Redwood Substation:

The proposed substation will include the following (see the concept plan attached as **Exhibit 2**):

- Fenced gravel area of approximately 220 feet by 240 feet (1.2 acres).
- Two approximately 50-foot tall H-Frame structures will be required to receive the associated transmission line tap. Lightning spikes approximately 10-feet tall will be installed on these structures.
- One approximately 35-foot tall rural distribution bay structure will be required for the distribution lines.
- Two approximately 45-foot tall monopoles will be necessary to hold the lightning shield wire.
- One 138/12 kV transformer to step the 138 kV transmission line down to the required 12 kV distribution voltage.
- One 16 feet by 18 feet drop-in control module (DICM) control building approximately 12 feet tall will be required.

See below for further description:

- **Lighting:** Downward-directed dusk-to-dawn security lighting will be required for the substation. Because of topography, existing vegetation screening and distance, the substation lighting is not expected to affect adjacent properties.
- **Noise:** During construction some temporary noise is expected. After the project is placed in service, no additional noise from substation operation or equipment is expected to be discernible beyond the property boundary.
- **Traffic:** No increase in traffic is expected after construction.
- **Effect on Groundwater:** None.
- **Environmental:** No adverse impacts on natural, water, scenic and cultural resources are anticipated. The appropriate environmental studies will be completed including archaeological, wetland, and geotechnical. A wetland area was identified on the site, however, company engineers expect to avoid or minimize impacts on it.
- **Signage:** None will be visible from any adjoining property.
- **Fire and Safety:** Meets all National Safety Electrical Code requirements.
- **Outdoor or Fuel Storage:** None.
- **Access Road:** A permanent gravel access road will be required. The appropriate VDOT entrance permits will be obtained.
- **Fencing:** 8-foot tall chain-link fencing around the graveled substation yard is required for security.

- **Gate:** A gate will be installed on the access road near the state road.
2. **Proposed Transmission Line Tap:** The proposed substation is located adjacent to the existing Westlake-Penhook 138 kV transmission line. This transmission line, built in 2011, will be a robust source for the distribution substation. To connect the proposed substation to the existing line, approximately 600 feet of new transmission line will be looped in/out of the new substation. Two monopole double-circuit 138 kV transmission line structures, approximately 80 to 100 feet tall (above ground) and approximately 3 to 6 feet in diameter, will be required. These proposed structures are comparable to the existing Westlake-Penhook 138 kV transmission line structure heights. See the attached **Exhibit 4**.
 3. **Associated Distribution Line Upgrades:** Approximately four miles of existing distribution line will be upgraded (e.g., some pole replacements and reconductoring).
 4. **Existing Glade Hill Substation Retirement:** This existing substation will be replaced by the new Redwood Substation at the new proposed location. The existing substation is located near the Glade Hill community approximately six miles east of Rocky Mount on State Route 40 near Byrds Mill Road intersection. The physical address of the adjacent parcel is 6731 Old Franklin Turnpike, Glade Hill 24092. The approximately 0.75 acre Appalachian Power property is currently located in a residential area and zoned R-1 and RPD. Appalachian Power will remove the existing equipment and currently has no future plans for the property. See the attached **Exhibit 5**.

PROJECT NEED DESCRIPTION

Extreme winter weather in 2014 and 2015 pushed the company's existing electric distribution infrastructure in the Rocky Mount-Glade Hill-Redwood area to maximum capacity, resulting in the following identified existing and projected overloads that would be relieved by the proposed project:

- The Franklin #3, 138-34.5 kV 30 MVA transformer at the Company's Franklin Substation in Rocky Mount (which transformer is the sole source of power for the Glade Hill Substation, via the 8 mile long Franklin-Glade Hill 34.5 kV subtransmission line) experienced a winter 2014/15 peak load of 41.8 MVA. This heavy loading could become a serious problem in the event that the Franklin #3 transformer were to fail because there are no viable opportunities to transfer load from that transformer and because the largest mobile transformer available on the AEP system can accommodate no more than 30 MVA of load. Thus, without the proposed project in service, if the Franklin #3 transformer were to fail under heavy loading conditions, customers in the Rocky Mount-Glade Hill-Redwood area served from that transformer would face the possibility of rotating blackouts even if a mobile transformer could be put in service.

- The Glade Hill/Redwood distribution circuit is projected to overload its 10.57 MVA winter capability by the winter of 2015/16.
- The Glade Hill 34-12 kV, 8.4 MVA transformer is projected to overload its 14.85 MVA winter capability by the winter of 2021/2022.
- The Franklin #5, 138-12 kV 20 MVA transformer at the Company's Franklin Substation experienced a winter 2014/15 peak load of 32.36 MVA, which exceeded its 31.7 MVA winter capability by 2%.

The long-term solution to the foregoing reliability issues consists of replacing the constrained and aging (60 year old) Glade Hill Substation with the proposed Redwood Substation to ensure continued reliable electric service to customers in Rocky Mount-Glade Hill-Redwood area in Franklin County. Because the existing substation site is located in a residential area, the site is constrained and cannot be expanded. Furthermore, the substation has a weak source (the Franklin-Glade Hill 34.5 kV subtransmission line). The proposed Redwood Substation is located in better strategic location and adjacent to a robust source (the Westlake-Penhook 138 kV transmission line, which was built in 2011). In summary the project will:

- Address the existing and projected overloads.
- Provide alternate ways to serve customers during unexpected power outages and during scheduled maintenance outages.
- Maintain a reliable supply of electricity essential for existing local customers and ongoing development in the area.
- Reduce the length of certain distribution circuits and thus the exposure to outages (see attached **Exhibit 6**).

SUBSTATION SITE SELECTION DESCRIPTION

The existing Glade Hill Substation site was reviewed and rejected as a site for the new substation. Because it is located in a residential area, the existing Glade Hill Substation site is constrained and cannot be expanded. Additionally, the substation has a weak source (the Franklin-Glade Hill 34 kV subtransmission line). Two alternative sites were identified near the Powells Store Road and Webster Road intersection. See attached **Exhibit 7**. The primary reason that Alternative 1 was chosen over Alternative 2 is that it is less visible from adjoining properties than Alternative 2. See the below summary of the desirable attributes of Alternative 2:

- The location is strategic and optimal to address the identified electric reliability issues, maintain reliable electric service, and reduce the length of certain existing distribution circuits.
- The site is adjacent to the existing Westlake-Penhook 138 kV transmission line, which provides a robust source for the proposed distribution substation without the need to construct any new transmission facilities outside the substation property.
- The large 38 acre site provides a buffer from adjacent residential areas. The nearest residence is located approximately 700' to the east.

- The site is located approximately 40 to 50 feet lower than Powells Store Road and surrounding residences, further reducing visibility.
- The site is surrounded by existing trees and screening, further reducing visibility.
- The site is zoned A-1 which permits electric substations with a SUP.
- The site is relatively secure and accessible from a state-maintained road.
- Appalachian Power Company owns the property in fee.

List of Exhibits

EXHIBIT 1: General Location Map

EXHIBIT 2: Concept Plan

EXHIBIT 3: Proposed Redwood Substation

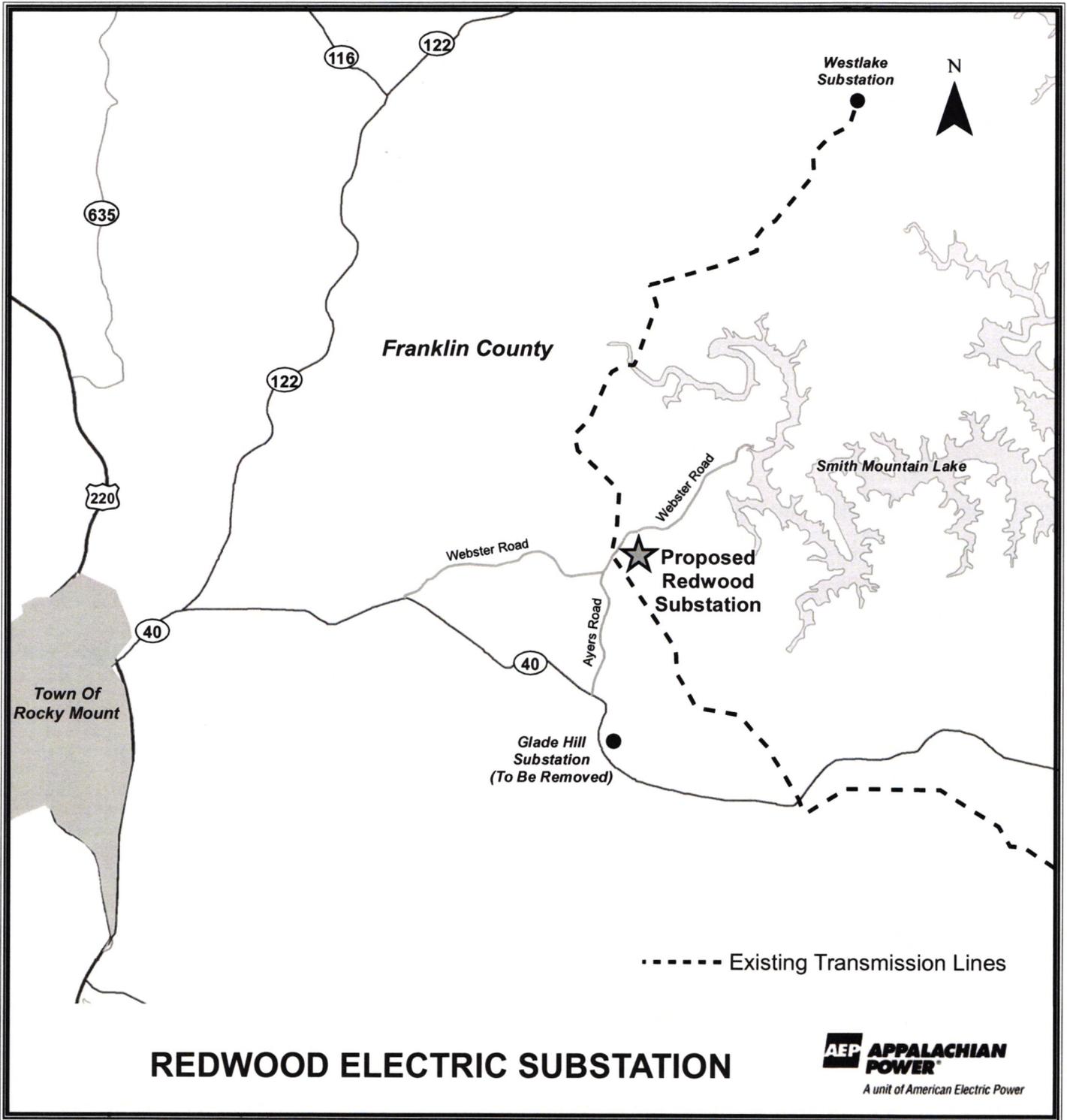
EXHIBIT 4: Proposed 138 kV Transmission Structures

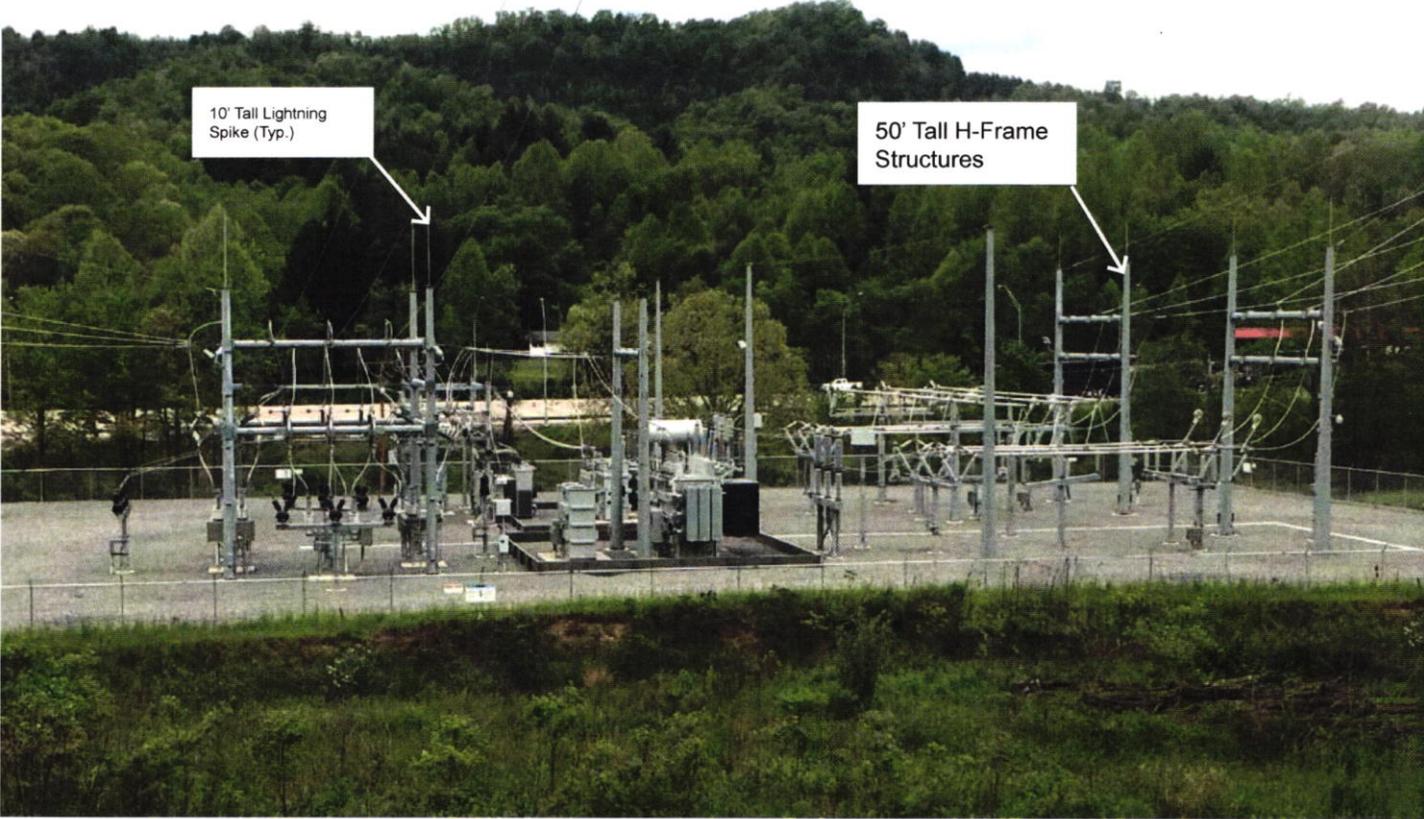
EXHIBIT 5: Existing Glade Hill Substation

EXHIBIT 6: Existing and Proposed Distribution Circuits

EXHIBIT 7: Substation Site Alternatives

EXHIBIT 1
GENERAL LOCATION MAP





Comparable Existing Substation

Franklin Co. Property Information

Tax Map# 0530012101

Owner: Franklin Real Estate Company
Owners Address: P O Box 16428
 Columbus, Oh 43216
Property Address:
Legal Desc.: Rt 839-powells Store Road
 Rt 655-webster Road

Assessment Values:
Building: \$0
Land: \$150,000
Total: \$150,000
Total Acres: 38.136
Land Use Value: 0

Magisterial District: Union Hall
Zoning: A1 - Agricultural
Class Code: AGR/UNDDEV 20-99 ACR

DISCLAIMER: While every effort has been made to ensure the accuracy of the information presented, Franklin County is not responsible for the accuracy of the content contained herein and will not be liable for its mis-use or any decisions based on this report's contents.

Zoning

Zoning Classifications **Approved Special Use Cases** **Approved Variance Cases**
 A1 - Agricultural
Rezone Case #s: **Approved**

Transfer History

| | Legal Documentation | Date | Price | Grantor |
|-------------|--|-----------|-----------|--------------------------|
| Most Recent | Deed Bk: 978 Pg: 2416, Inst.Type: DB, Inst.Year: 2010, Inst.Number: 2944 | 4/29/2010 | \$521,600 | DIVERS MARTHA H (ESTATE) |
| Previous 1 | Not On File, Inst.Type: WB, Inst.Year: 2010, Inst.Number: 64296 | 4/14/2010 | | DIVERS MARTHA H |

Land Value Details

| Size in Acres | Lump Sum or | | Adj. % | Utility Value | Acreage Value | Total Acreage Value |
|---------------|-------------|------------|--------|---------------|---------------------|---------------------|
| | Per Acre | Unit Value | | | | |
| 1.00 | Lump Sum | 20,000 | 0.00 | 0 | 20,000 | 20,000 |
| 37.14 | Per Acre | 3,500 | 0.00 | 0 | 129,976 | 129,976 |
| | | | | | Total Value: | \$150,000 |

*rounded to the nearest 100

Other Improvement Details

| Description | Dimensions (l x w)(ft) | Size (sq.ft.) | Imp. Value |
|---------------------|------------------------|---------------|------------|
| BARN | --- | --- | \$0 |
| Total Value: | | | \$0 |

Building 1 Details

Building 1 Value: \$0

Exterior

Year Built: 0 **Foundation:**
Occupancy Type: Vacant Land **Ext. Walls:**
Condition: Average **Roofing:**
 Roof Type:

Garage:
No. of Cars: 0
Carport:
No. of Cars: 0

Interior

Story Height: **Heating:**
No. of Rooms: **A/C:** No
No. of Bedrooms: **Fireplaces:**
Full Baths: **Flues:**
Half Baths:

Finished Sq Ft:
Finished Bsmt Sq Ft:
Total Bsmt Sq Ft:
Base Living Sq Ft:
Unfinished Bsmt Sq Ft: 0
Interior Walls:
Floors:

Site Information

Right of Way: Public **Terrain Char:** Rolling/sloping **Water:** None **Electric:** Yes
 Easements: Paved **Sewer:** None **Gas:** No

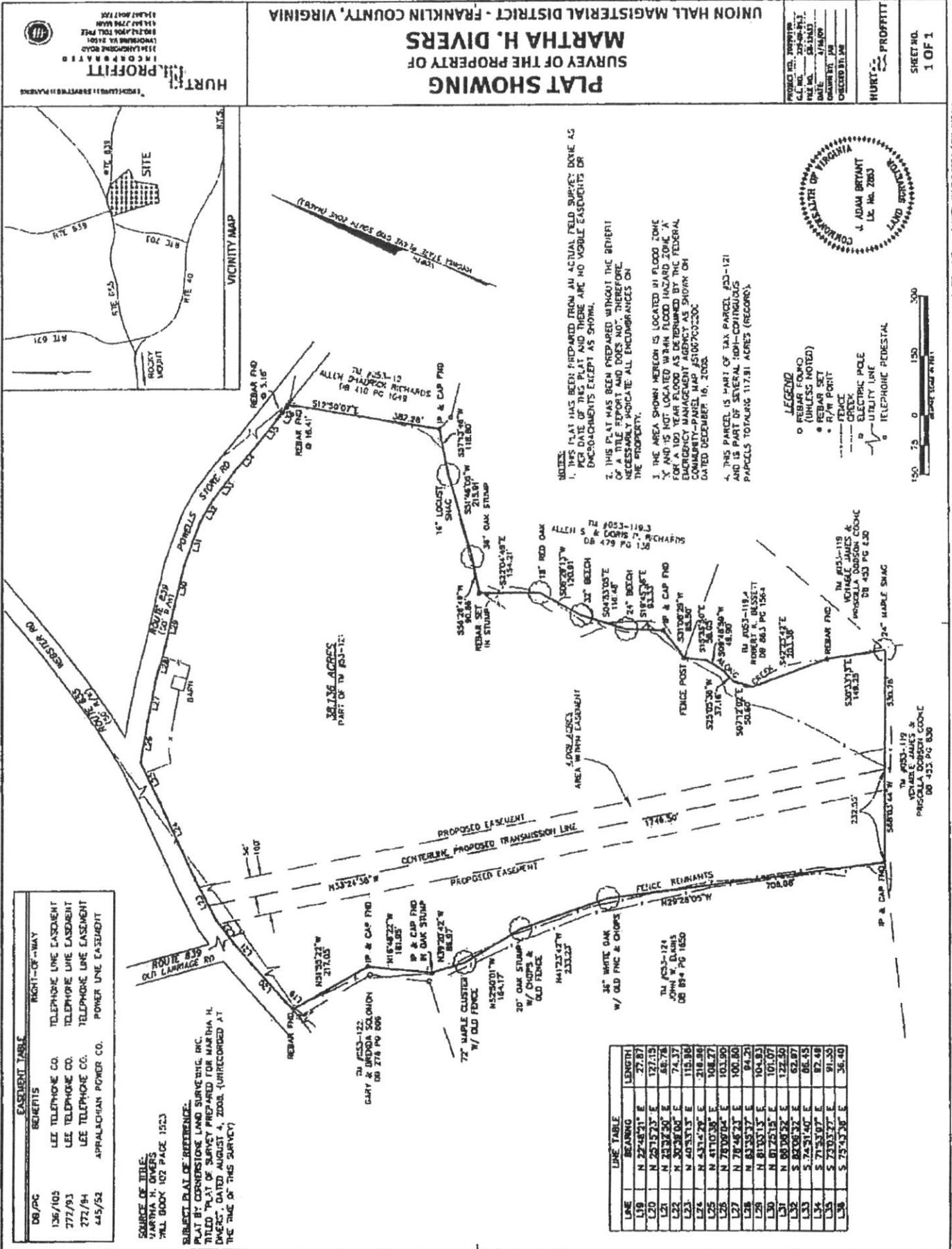


EXHIBIT 4

PROPOSED 138 kV TRANSMISSION STRUCTURES (Page 1 of 2)

Double Circuit Steel Monopole with Davit Arms

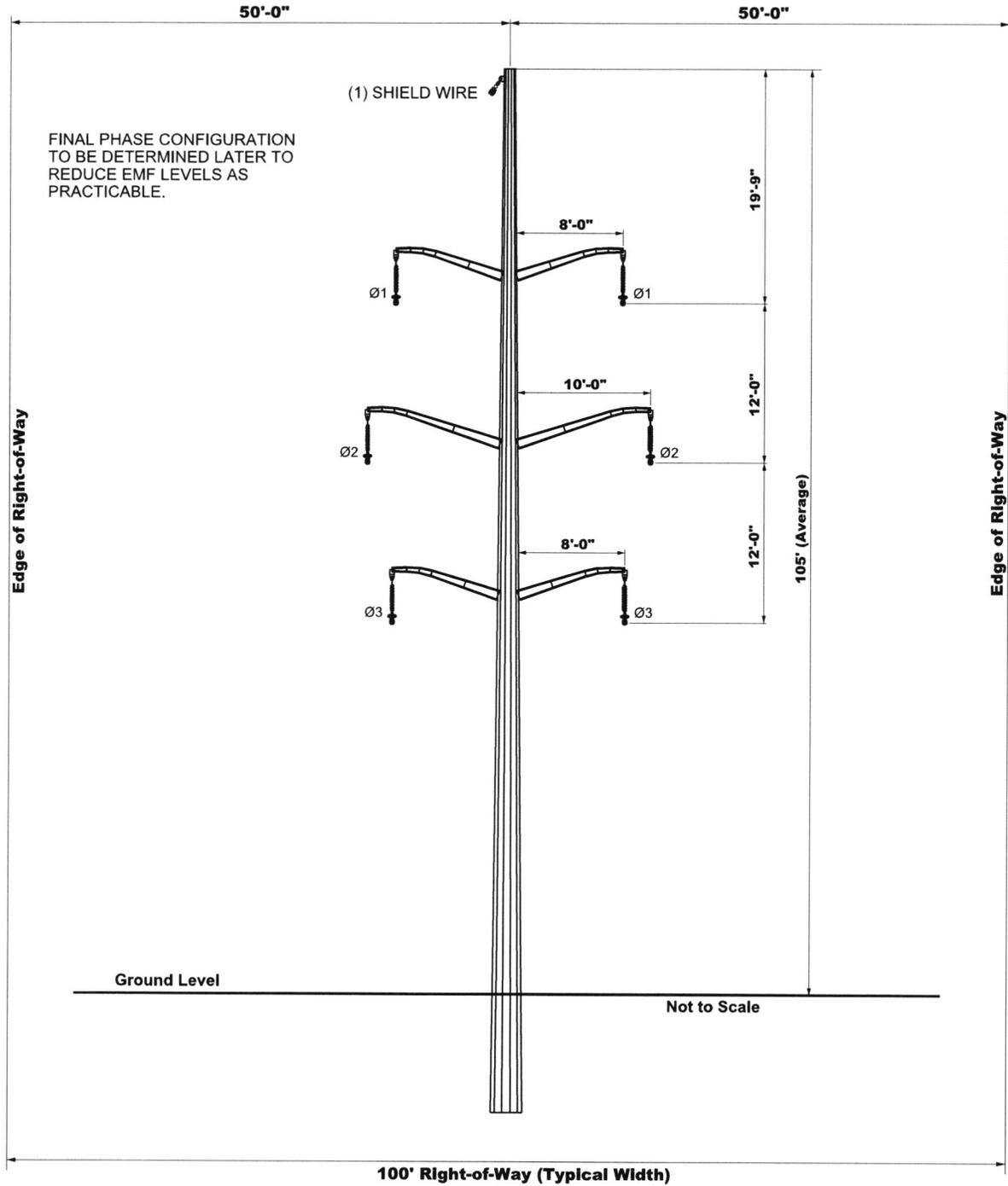
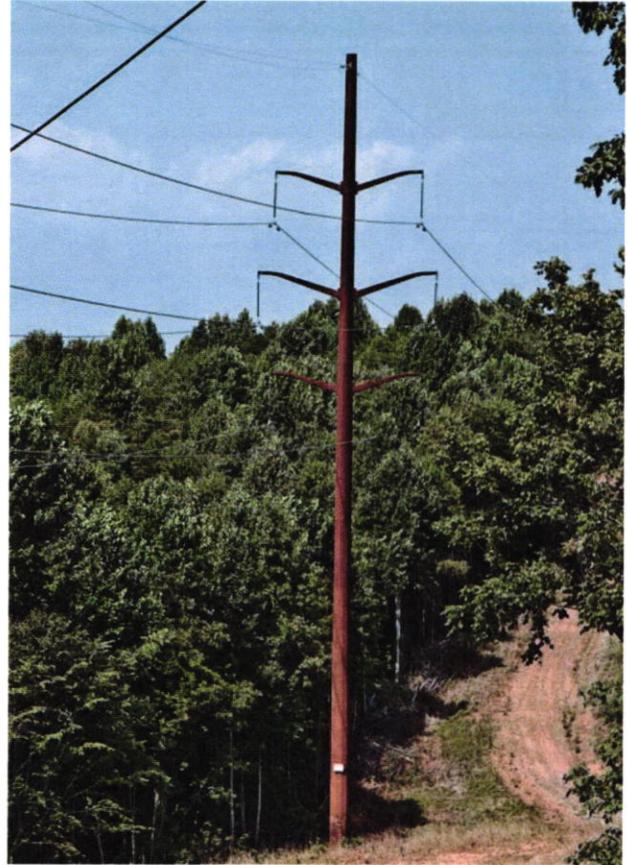
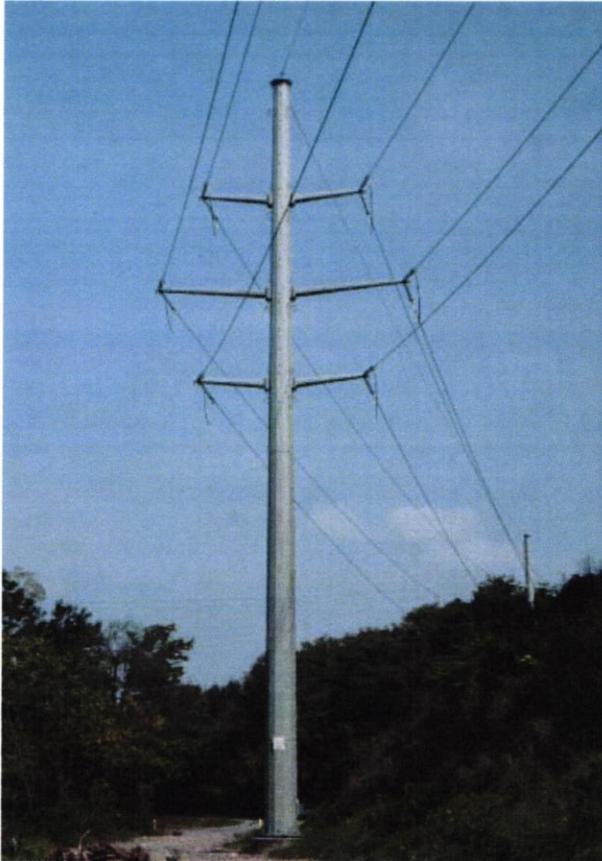


EXHIBIT 4

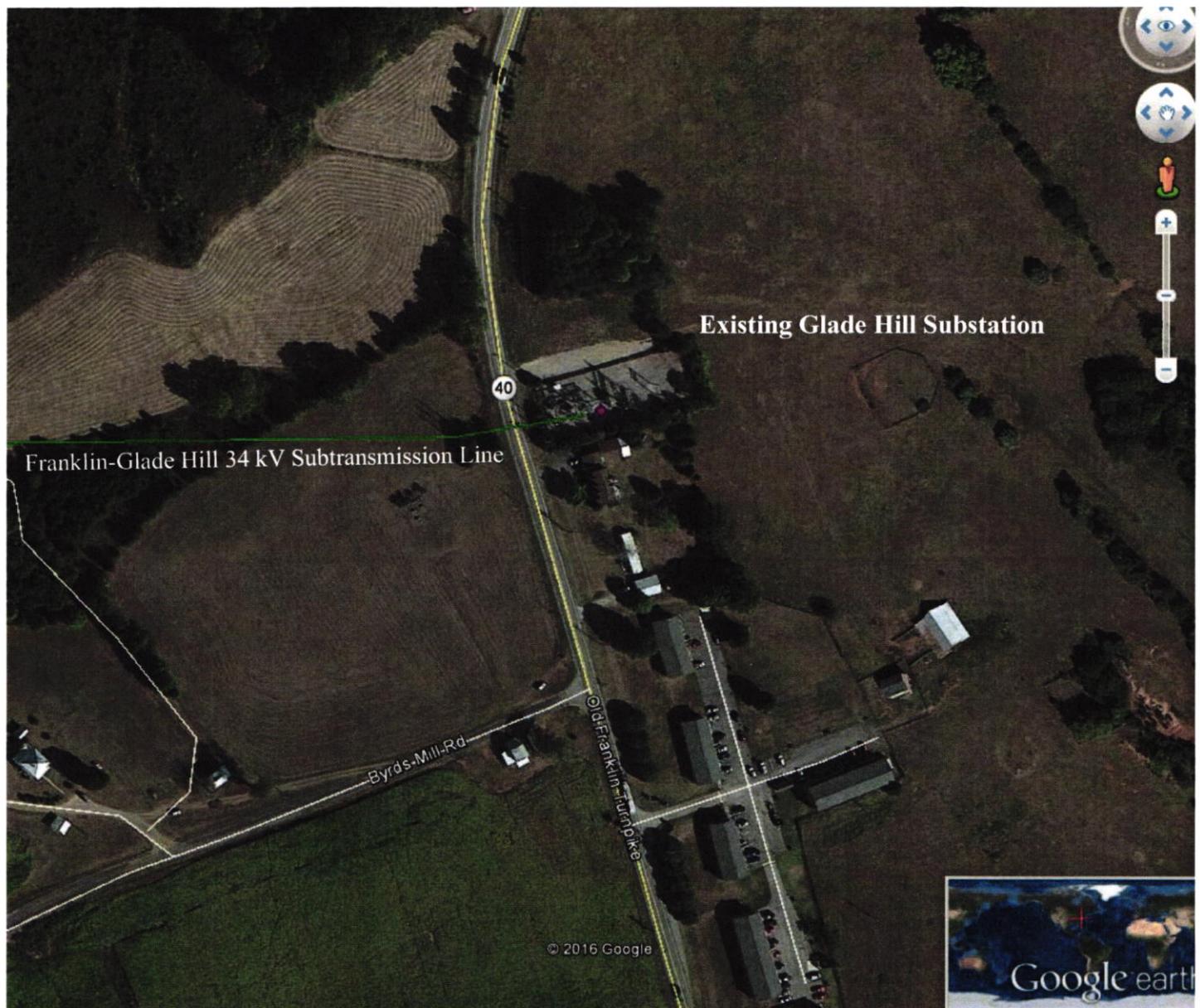
PROPOSED 138 kV TRANSMISSION STRUCTURES (Page 2 of 2)

Double Circuit Steel Monopole with Davit Arms



Either a galvanized steel structure with a dulled finish (left) or a weathering steel structure (right) will be used, to be determined during final engineering.

COMPARABLE EXISTING STRUCTURE PHOTOGRAPHS



This existing substation will be replaced by the new Redwood Substation at the new proposed location. The existing substation is located near the Glade Hill community approximately six miles east of Rocky Mount on State Route 40 near Byrds Mill Road intersection. The physical address of the adjacent parcel is 6731 OLD FRANKLIN TPKE, GLADE HILL 24092.

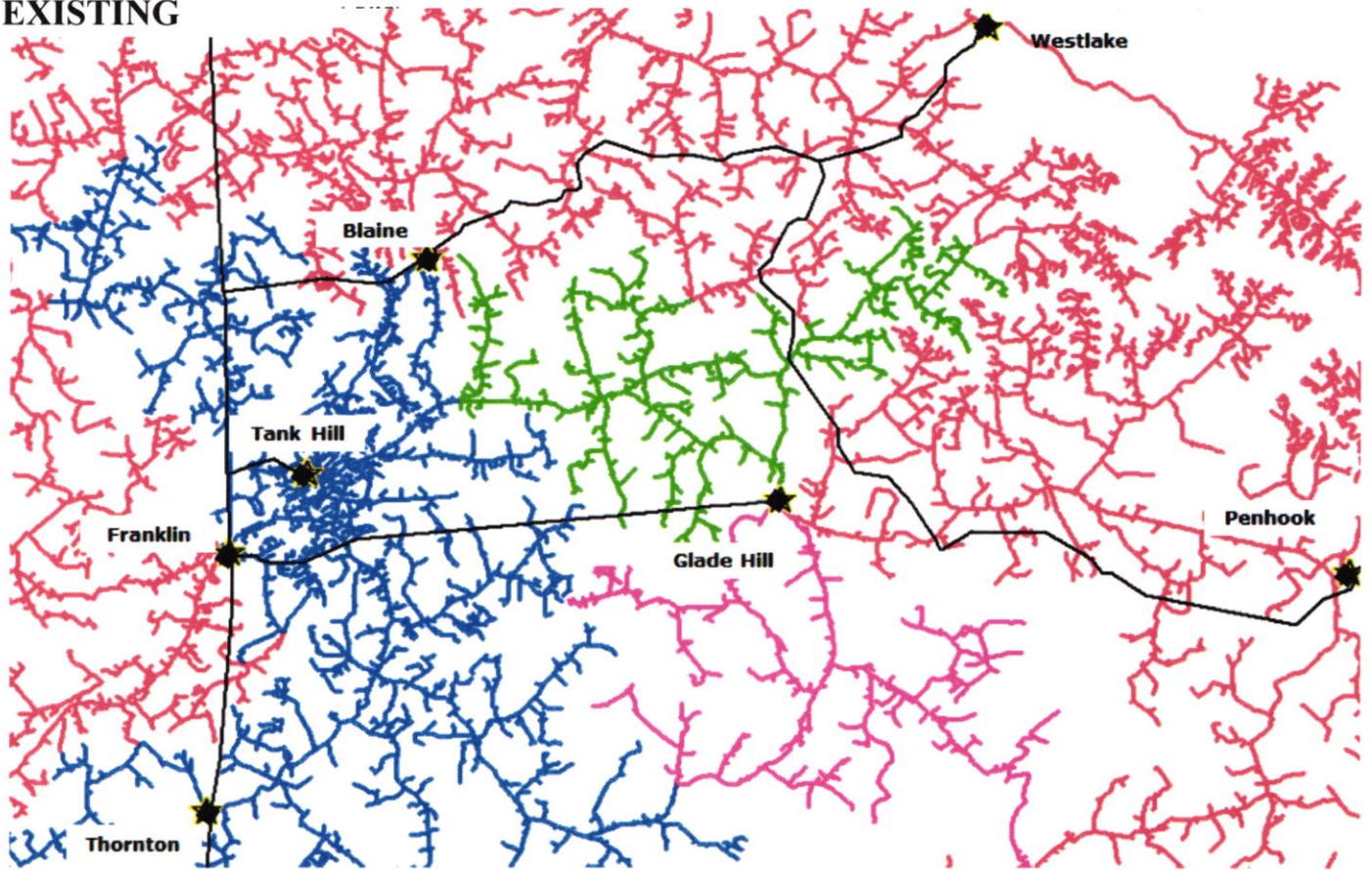


State Route 40: Viewing South

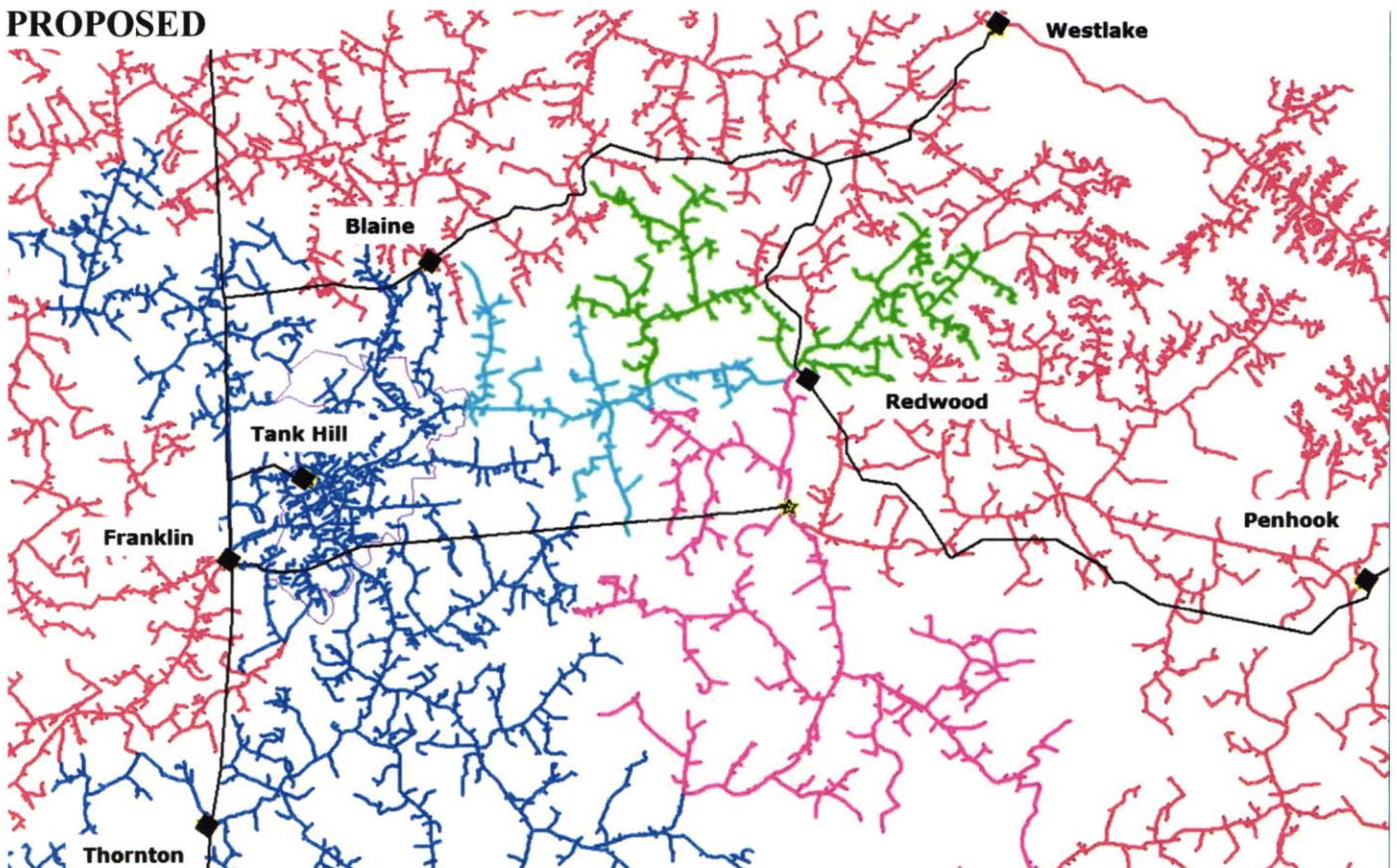


State Route 40: Viewing North

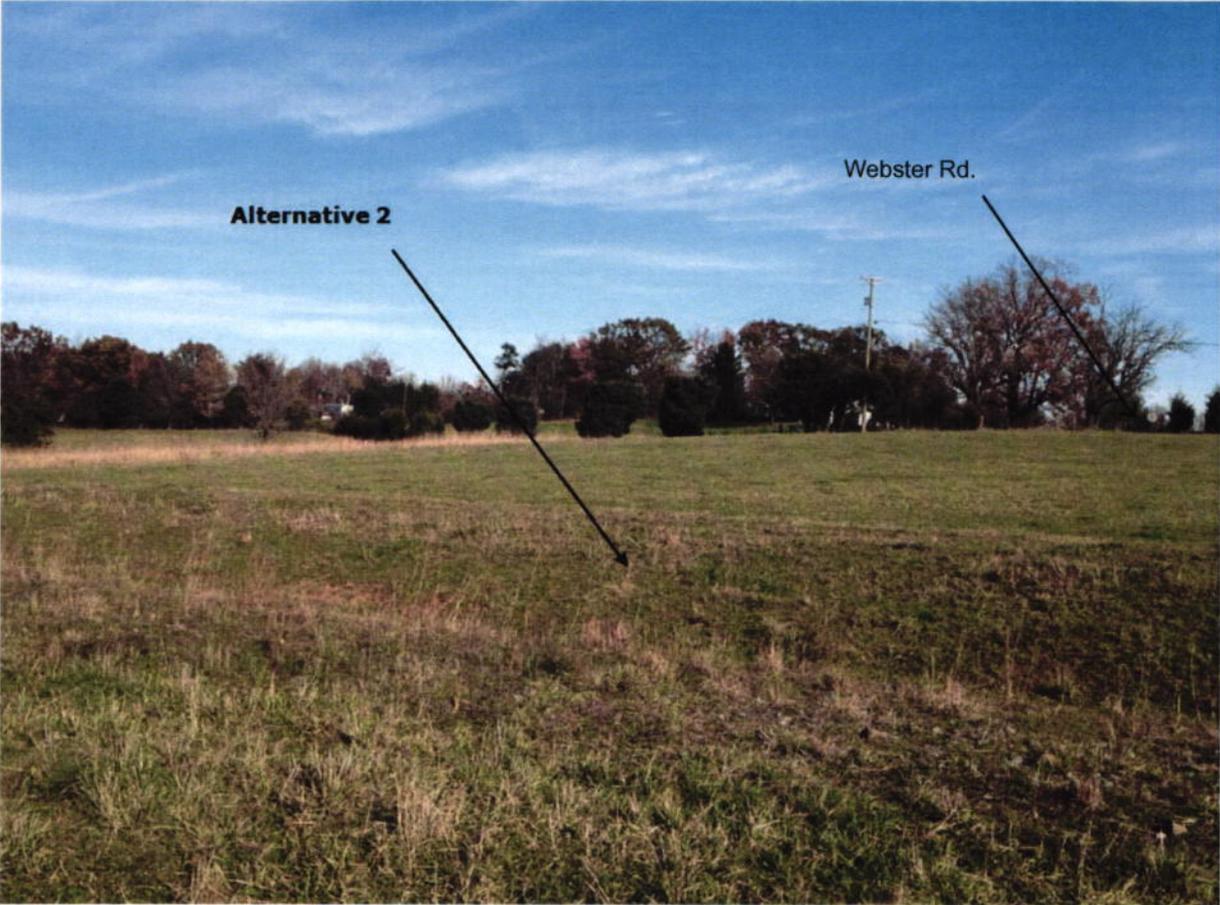
EXISTING

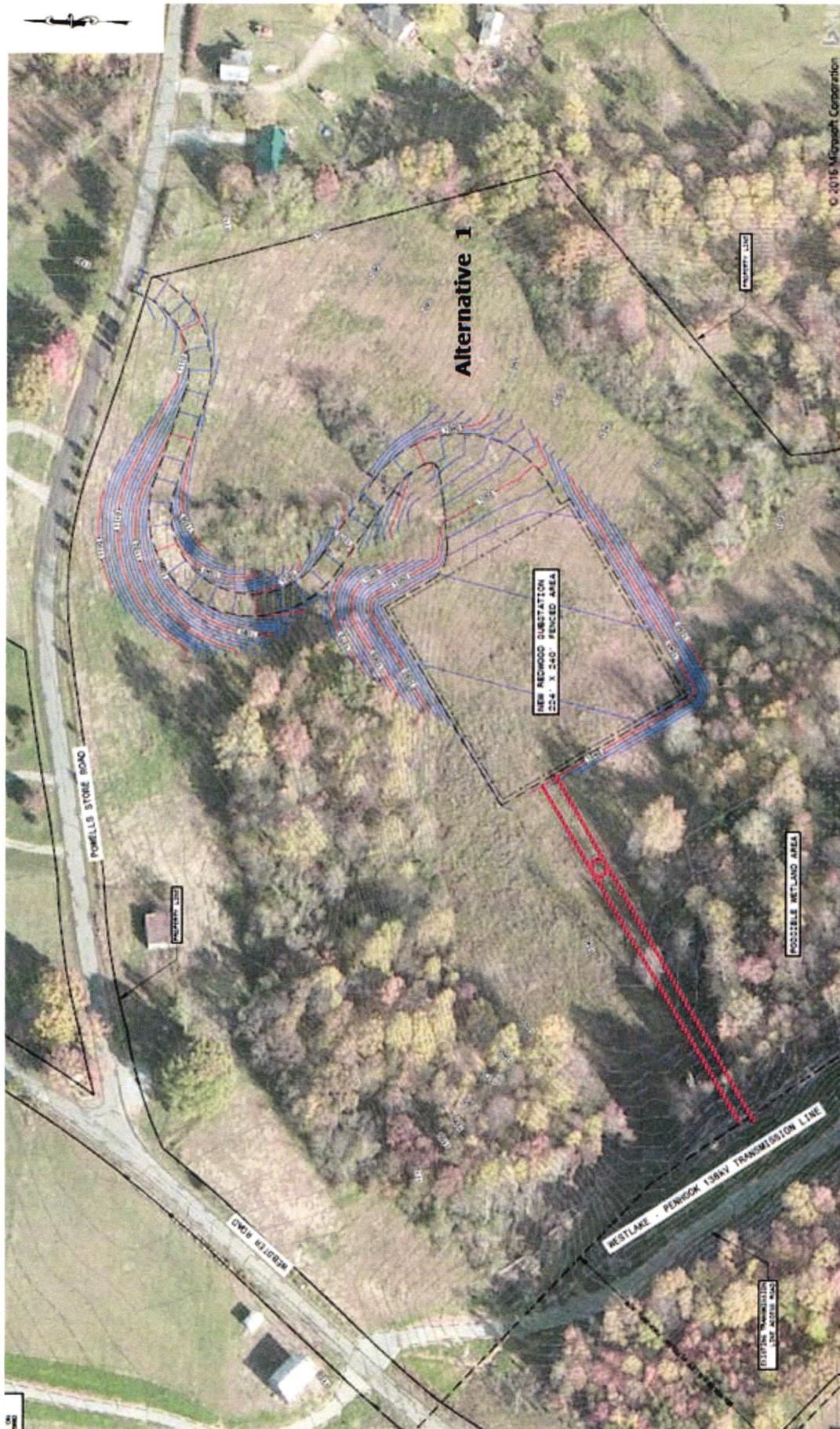


PROPOSED









Powells Store Road
Alternative 1



Powells Store Road



Alternative 1



PLAN DETAILED REPORT (SPEC-06-2016-15384)

| | | |
|-------------------------------|-----------------------------|-------------------------------------|
| Plan Type: Special Use | Project: | App Date: 06/30/2016 |
| Work Class: None | District: Union Hall | Exp Date: 06/30/2017 |
| Status: Under Review | Square Feet: 0.00 | Complete Date: NOT COMPLETED |
| Description: | Valuation: \$ 0.00 | Assigned To: |

| | | | |
|------------|------|-----------------|---|
| 0530012101 | Main | Address: | Zone: A1 (A1 - IMPORTED FOR ENERGOV) |
|------------|------|-----------------|---|

Owner: Applicant
 Jim Lovell
 Po Box 16428
 Columbus, OH 43216

| Invoice No. | Fee | Fee Amount | Amount Paid |
|-----------------------------|--|-----------------|-----------------|
| 00040562 | Residential/Agricultural - Special Use | \$445.00 | \$445.00 |
| Total for Invoice 00040562 | | \$445.00 | \$445.00 |
| Grand Total for Plan | | \$445.00 | \$445.00 |

| Condition | Comments | Date Created | Satisfied |
|-----------|----------|--------------|-----------|
|-----------|----------|--------------|-----------|



Parcel Results

Parcel Id : 0530012101

Zone: A1

Owner: FRANKLIN REAL ESTATE COMPANY

Address: P O BOX 16428

City: COLUMBUS

State: OH

Zip: 43216

Description 1: RT 839-POWELLS STORE ROAD

Description 2: RT 655-WEBSTER ROAD

Description 3:

Description 4:

Acreage: 38.136

Land Value: 150000

Building Value: 0

Deed Book: 978

Deed Page: 2416

Instrument Type: DB

Instrument Year: 2010

Instrument Number: 2944

District: UH

Sale Price: 521600

Sale Date: 4/29/2010

Plat Book: 978

Plat Page: 2422

Options

[Map this parcel](#)
[Property Information](#)

Related Links

- [Franklin County Website](#)
- [Franklin County ArcGIS Web](#)

Disclaimer

This map was prepared from the Franklin County Geographic Information System. Franklin County has made substantial efforts to ensure the accuracy of location and labeling contained on this map. Franklin County does not warrant or recommend the independent use of any digital data contained on this map to the user. Franklin County makes no other assertion as to the fitness of this map for any particular purpose and neither Franklin County nor its agents or employees are liable for any claim alleged to have arisen from any use thereof.

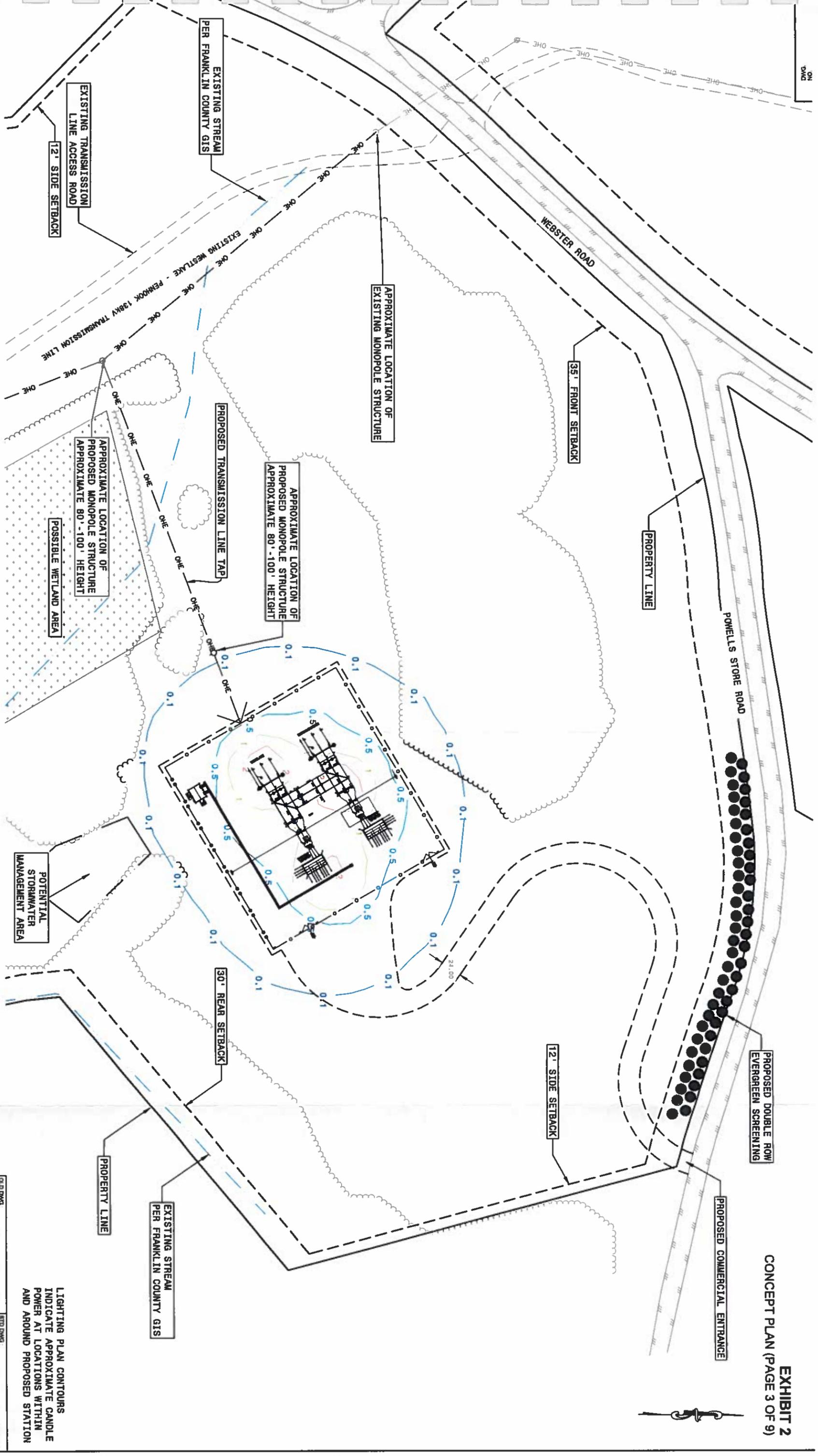
RECEIPT (TRC-100648-30-06-2016)

BILLING CONTACT

FRANKLIN REAL ESTATE COMPANY
Po Box 16428
Columbus, Oh 43216



| Reference Number | Fee Name | Transaction Type | Payment Method | Amount Paid |
|--------------------|--|------------------|------------------|-----------------|
| SPEC-06-2016-15384 | Residential/Agricultural - Special Use | Fee Payment | Check #1182 | \$445.00 |
| | | | SUB TOTAL | \$445.00 |
| | | | TOTAL | \$445.00 |

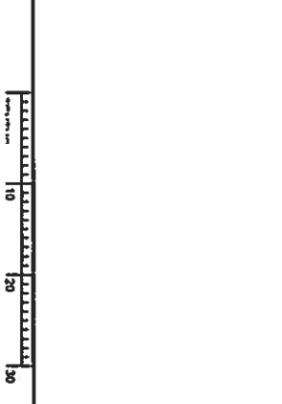


SITE STATISTICS
 224' X 240' FENCED AREA
 24' GRAVEL ACCESS ROAD FROM POWELLS STORE ROAD

TOTAL CUT VOLUME: 15,500 CY
 TOTAL FILL VOLUME: 15,600 CY

PARCEL ACREAGE: 38.136 AC
 APPROXIMATE LIMITS OF DISTURBANCE: 3.990 AC

HEIGHT OF SUBSTATION STRUCTURES - 50' APPROXIMATE MAX (PLUS 10' LIGHTING SPIKE)
 SUBSTATION SIGN WILL BE LOCATED ON SUBSTATION FENCE (APPROXIMATE 3' X 5')



| NO. | DATE | REVISION DESCRIPTION | APP'D | DR | ENG 1 | CHK | ISSUED |
|-----|------|----------------------|-------|----|-------|-----|--------|
| | | | | | | | |

IF THIS DRAWING IS A REDUCTION
 GRAPHIC SCALE MUST BE USED

SCALE: 1" = 100'

OLD DWG: []
 NEW DWG: []

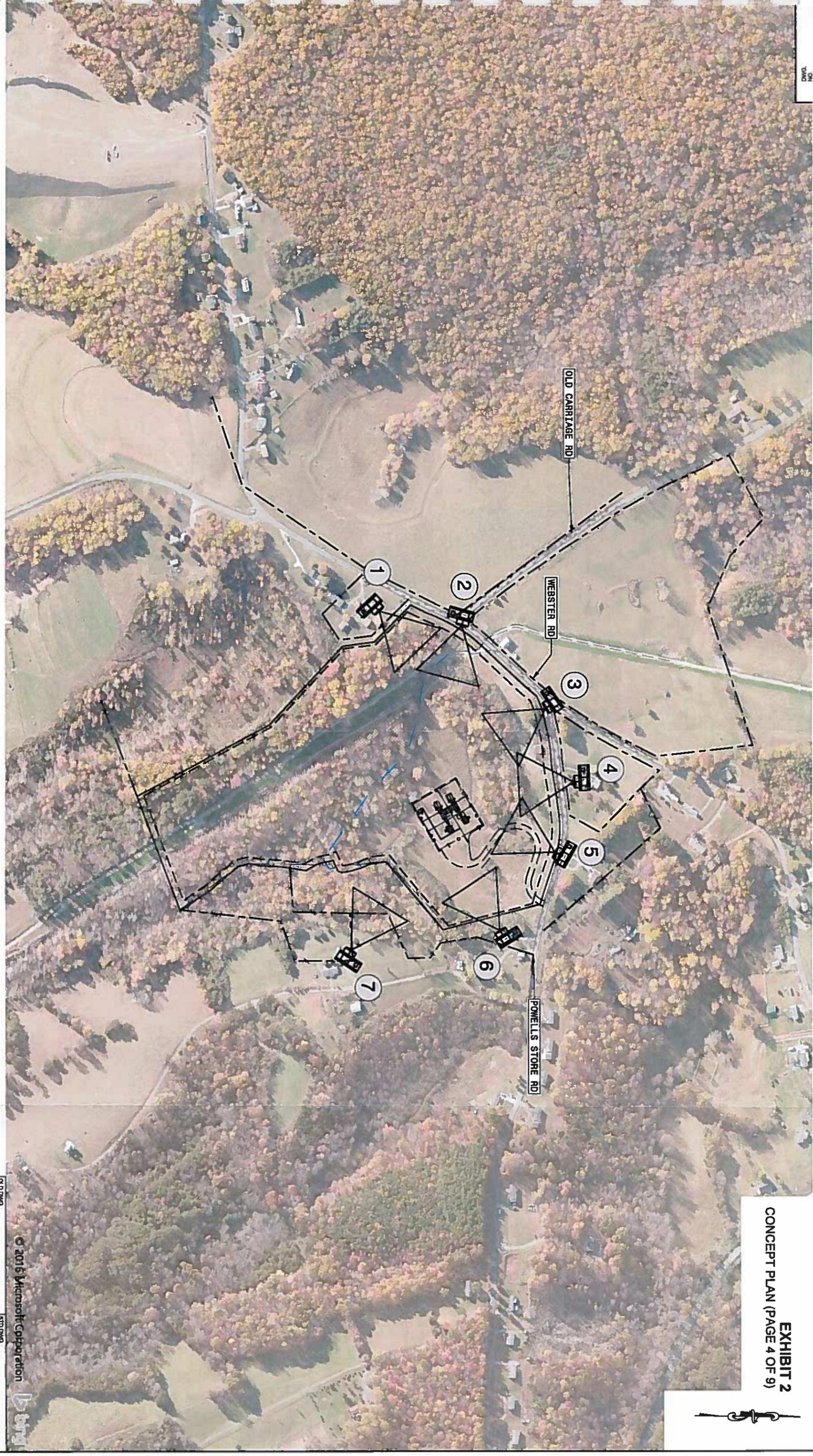
REDWOOD
 REDWOOD 138KV SUBSTATION
 VIRGINIA

SUBSTATION SECURITY LIGHTING PLAN

| | | | |
|------------------|-----------------|----------|----------|
| SCALE: 1" = 100' | DR: [] | ENG: [] | CHK: [] |
| APP: [] | DATE: 6/28/2016 | NO: 3 | REV: 0 |

REDWOOD POWER COMPANY
 APPLICATION FOR CONCEPT PLAN FOR THE REDWOOD 138KV SUBSTATION
 138KV SUBSTATION
 138KV SUBSTATION
 138KV SUBSTATION

LIGHTING PLAN CONTOURS
 INDICATE APPROXIMATE CANDLE
 POWER AT LOCATIONS WITHIN
 AND AROUND PROPOSED STATION



SITE STATISTICS
 224' X 240' FENCED AREA
 24' GRAVEL ACCESS ROAD FROM POWELLS STORE ROAD
 TOTAL CUT VOLUME: 15,500 CY
 TOTAL FILL VOLUME: 15,600 CY
 PARCEL ACREAGE: 38.136 AC
 APPROXIMATE LIMITS OF DISTURBANCE: 3.990 AC
 HEIGHT OF SUBSTATION STRUCTURES - 50' APPROXIMATE MAX (PLUS 10' LIGHTING SPIKE)
 SUBSTATION SIGN WILL BE LOCATED ON SUBSTATION FENCE (APPROXIMATE 3' X 5')



| NO. | DATE | REVISION DESCRIPTION | APP'D | DR | ENG | CR | ISSUE# |
|-----|------|----------------------|-------|----|-----|----|--------|
| | | | | | | | |

© 2016 Microsoft Corporation

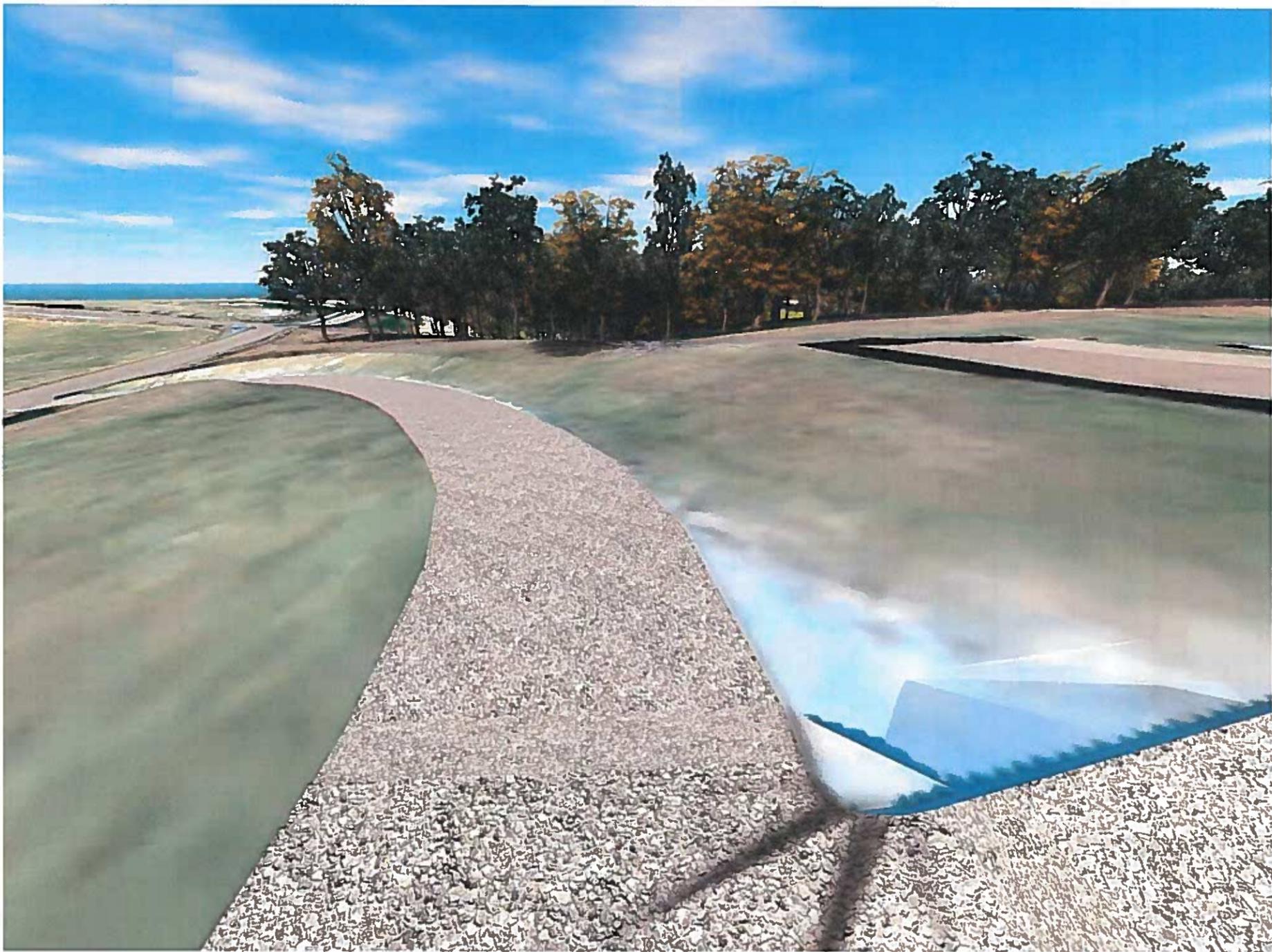
REDWOOD
 REDWOOD 138KV SUBSTATION
 VIRGINIA

SCALE: 1" = 400'

IF THIS DRAWING IS A REDUCTION
 GRAPHIC SCALE MUST BE USED

LINE OF SIGHT KEY

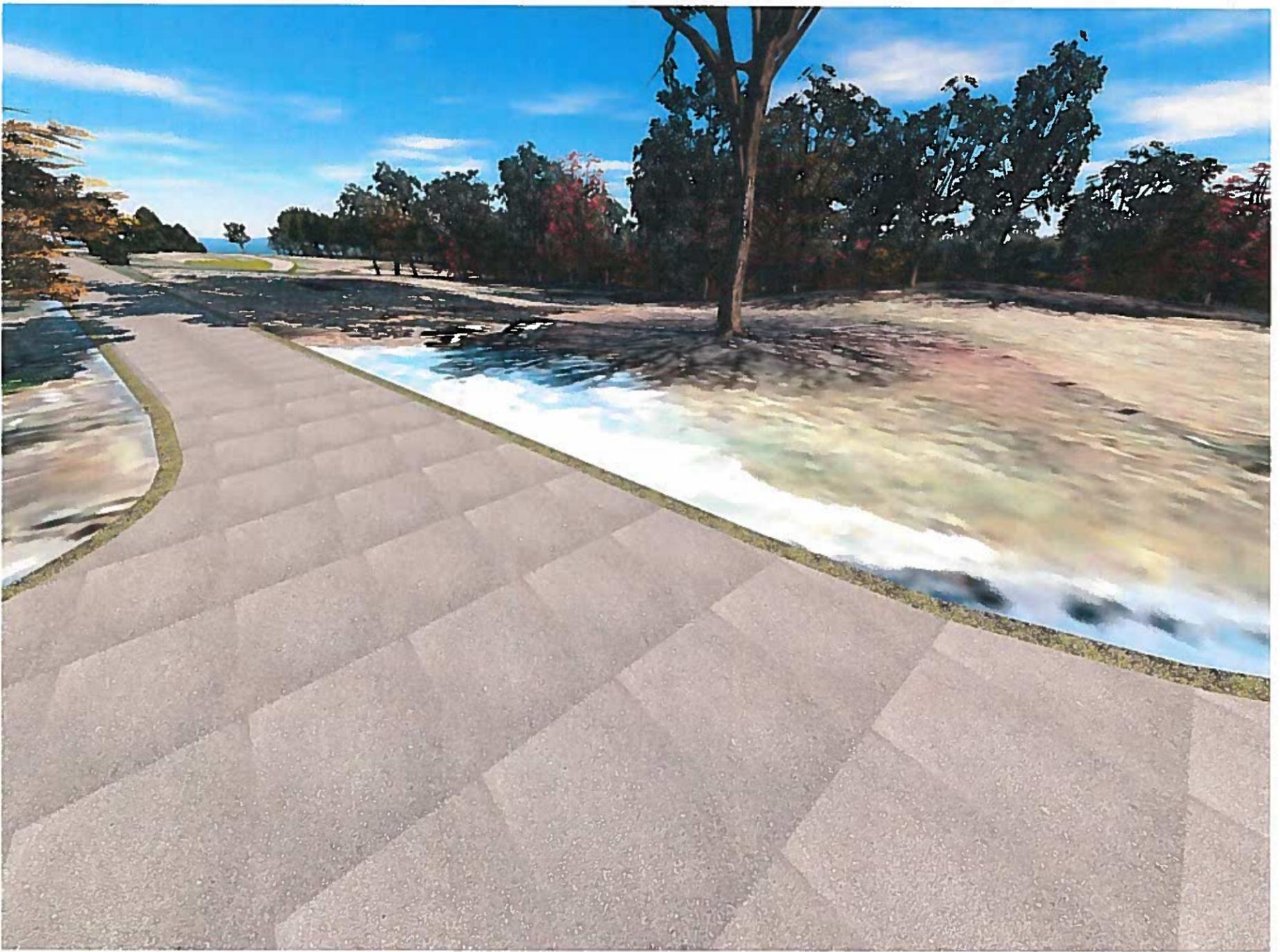
| | | | |
|---------------------|------------------------|-------------|-----------------|
| SCALE: 1" = 400' | DR: AOC | ENG: BRS | CHK: JML |
| APP: AMERICAN POWER | WORK: 1 PROPOSED P&ID | APPD: DML 4 | DATE: 8/28/2016 |
| | COLLABORATOR: CW 42715 | DWG. NO.: | 0 |



Line of Sight – Location 1 (Solomon Residence)



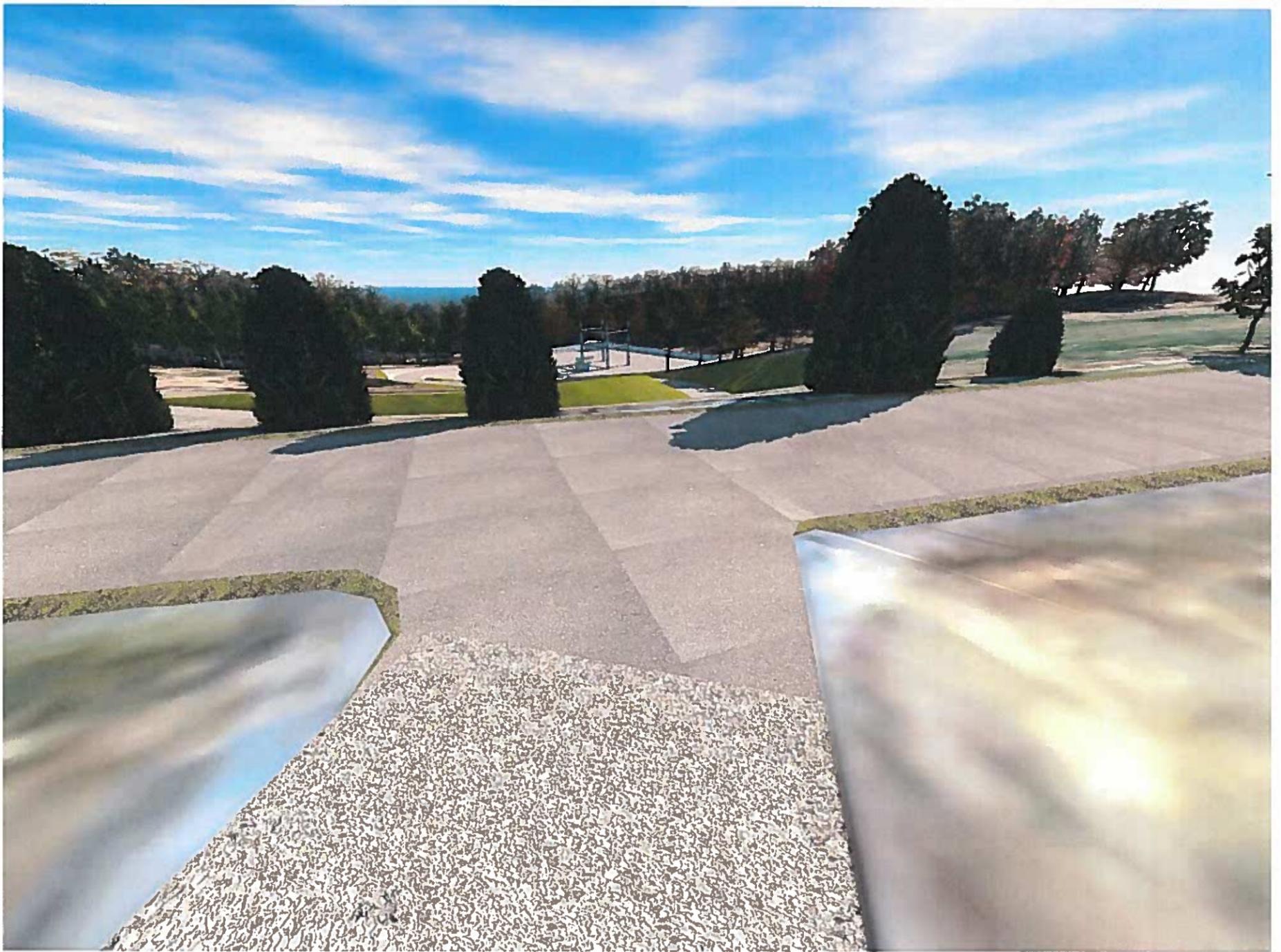
Line of Sight – Location 2 (Intersection of Webster and Old Carriage)



Line of Sight - Location 3 (Intersection of Webster and Powells Store)



Line of Sight - Location 4 (Divers Residence)



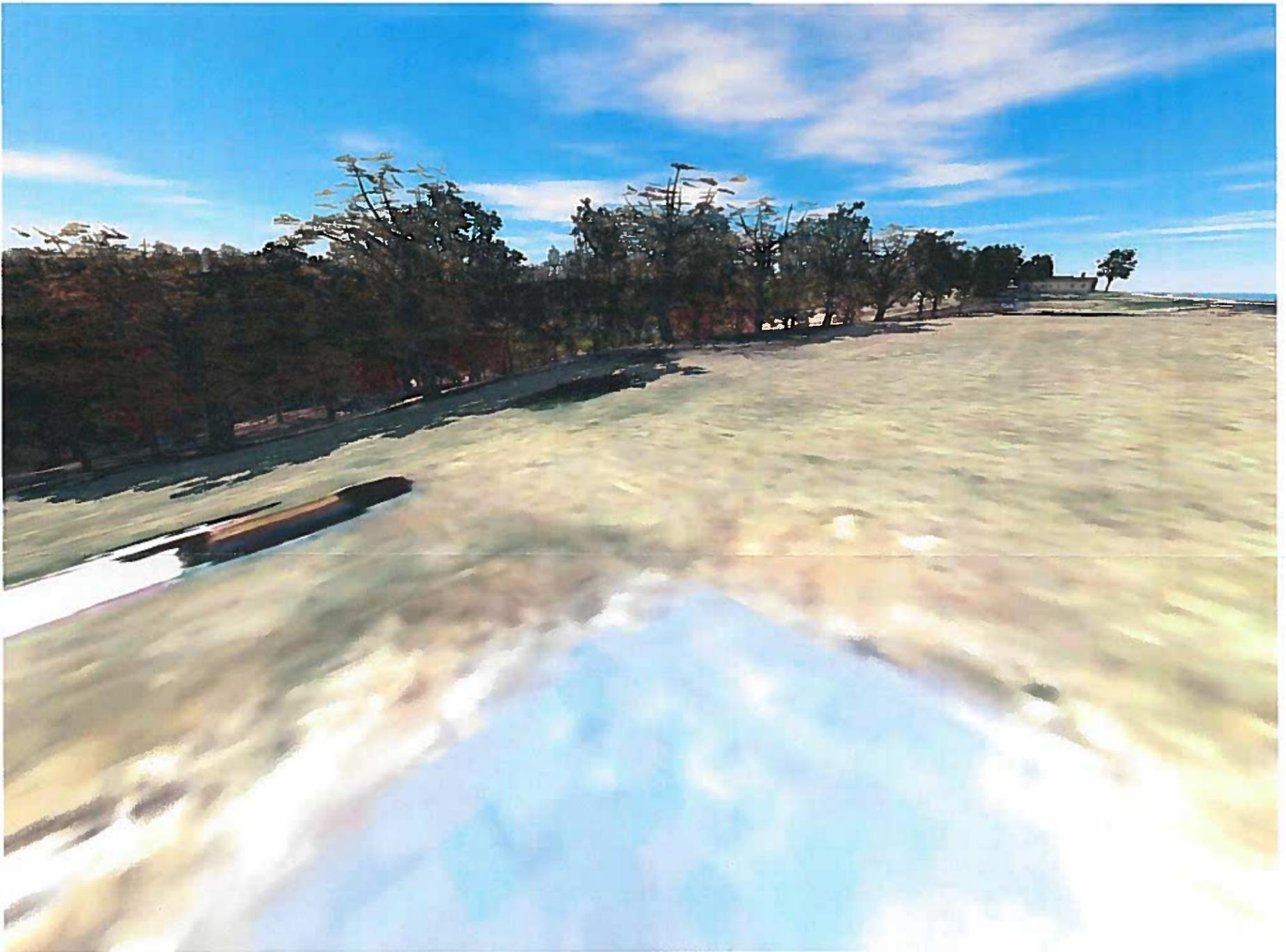
Line of Sight – Location 5 (Lynch Residence)



Line of Sight – Location 5 (Lynch Residence with Proposed Screening)



Line of Sight – Location 6 (Rear of Richards Residence)



Line of Sight – Location 7 (Besset Residence)



Overall Rendering from Northwest



Overall Rendering from Southeast