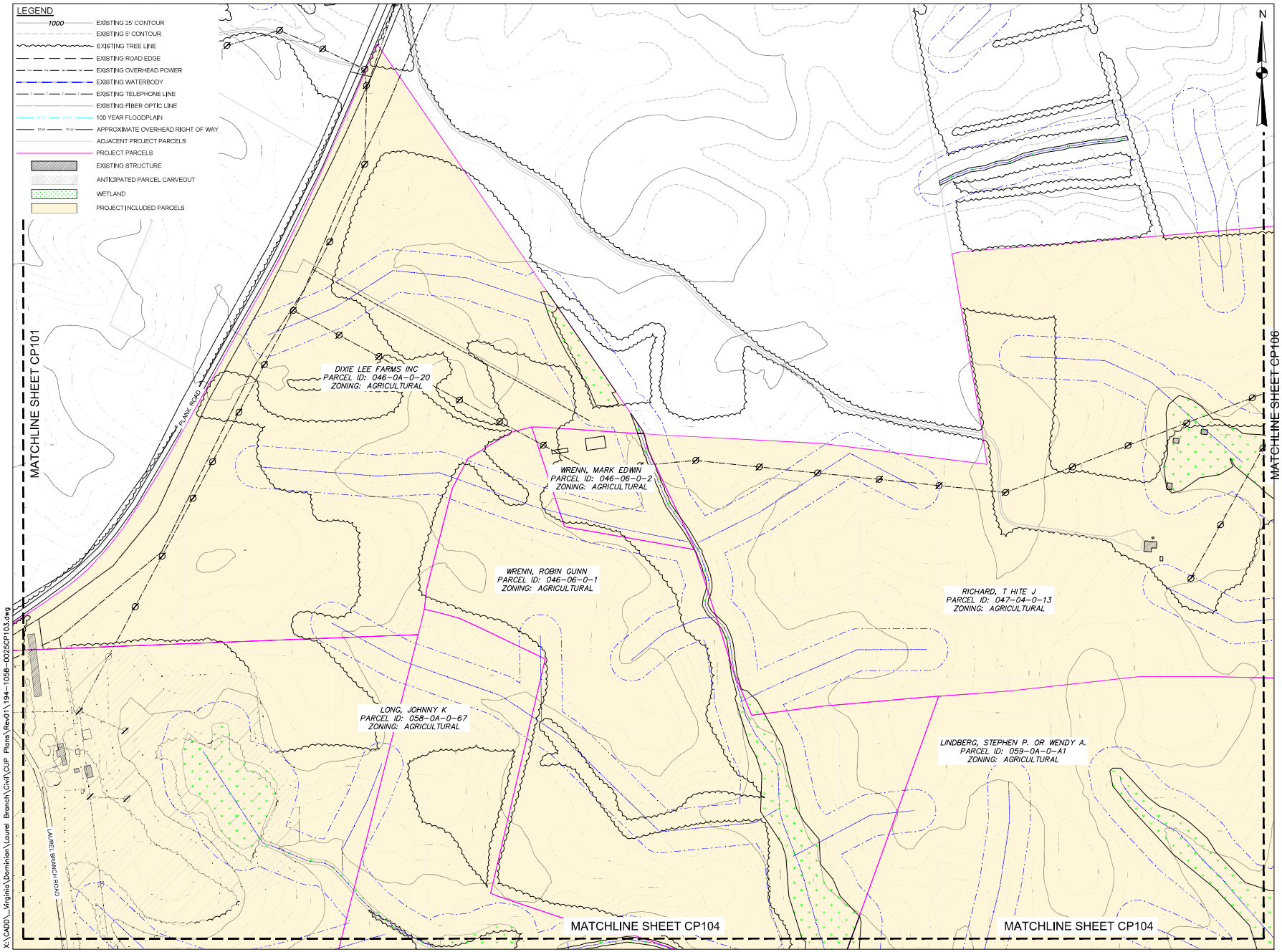

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Dominion Energy

TETRA TECH
TETRA TECH, INC.
4101 COX ROAD,
SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
EXISTING CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

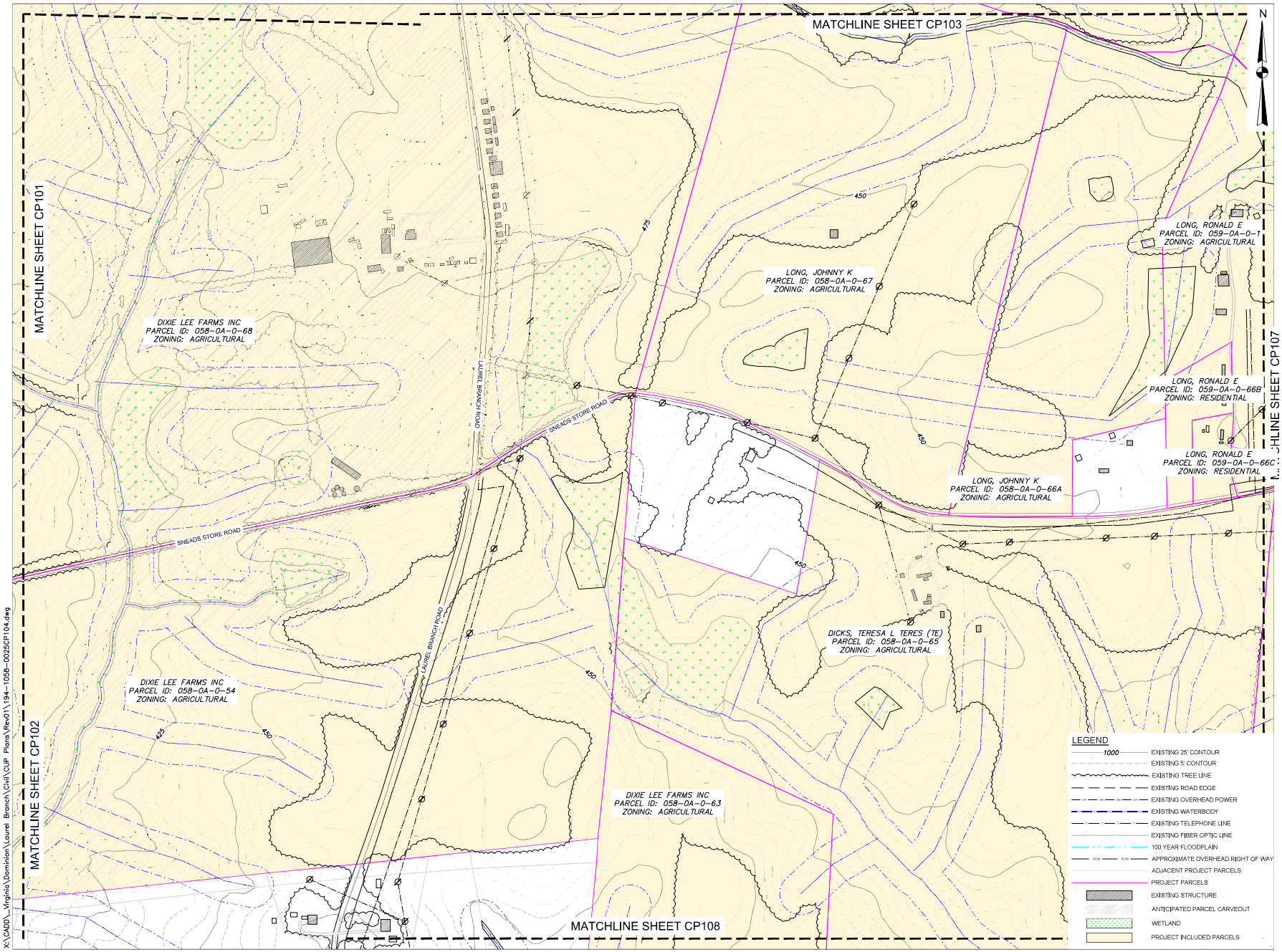
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP103



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Dominion Energy

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TETRA TECH, INC.
4101 COX ROAD,
SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
EXISTING CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

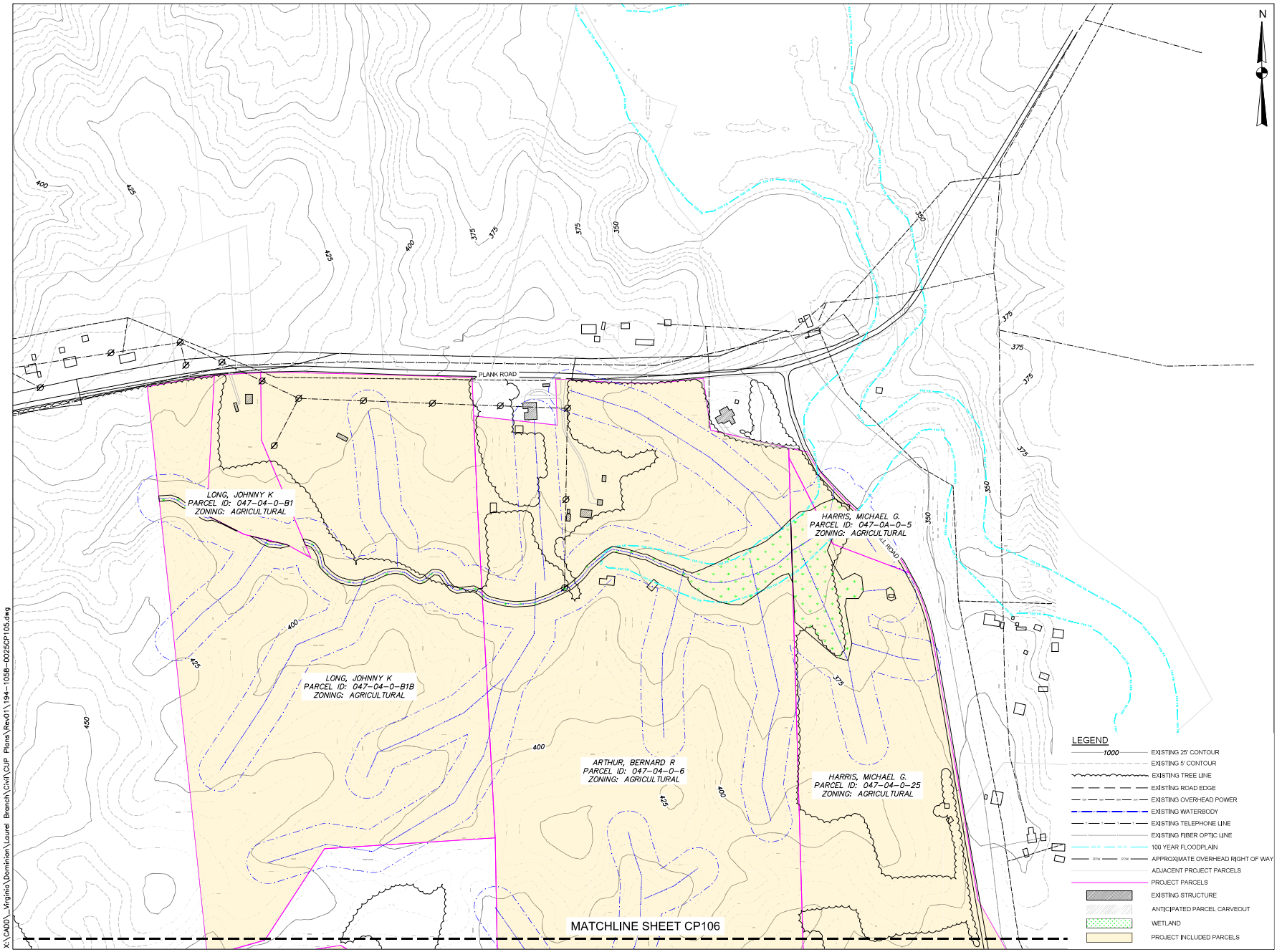
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP104



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GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

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05/17/2022
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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
EXISTING CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

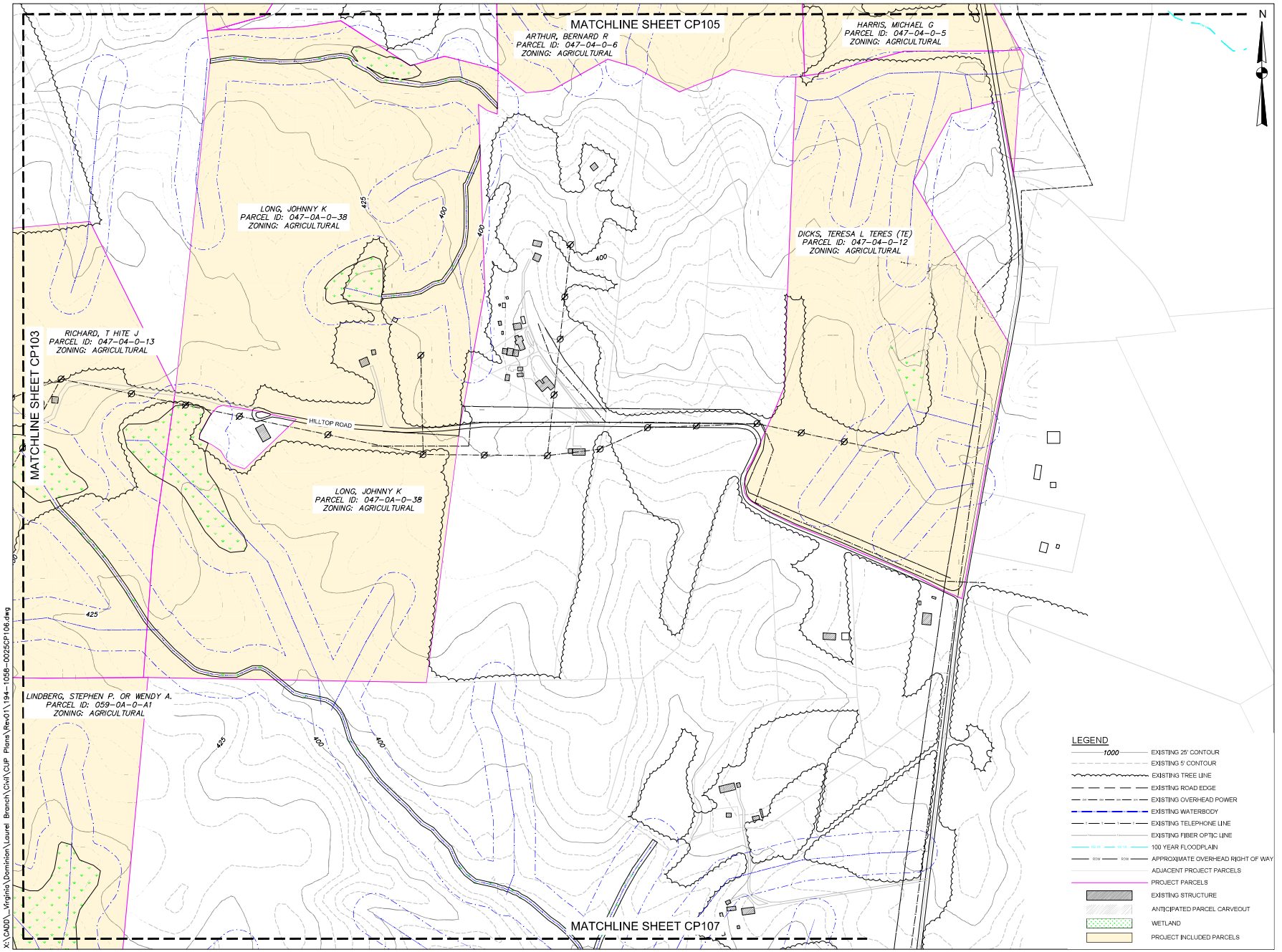
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP105



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Dominion Energy

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05/17/2022
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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
EXISTING CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

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01	CUP APPLICATION	09/2/2022	GAR

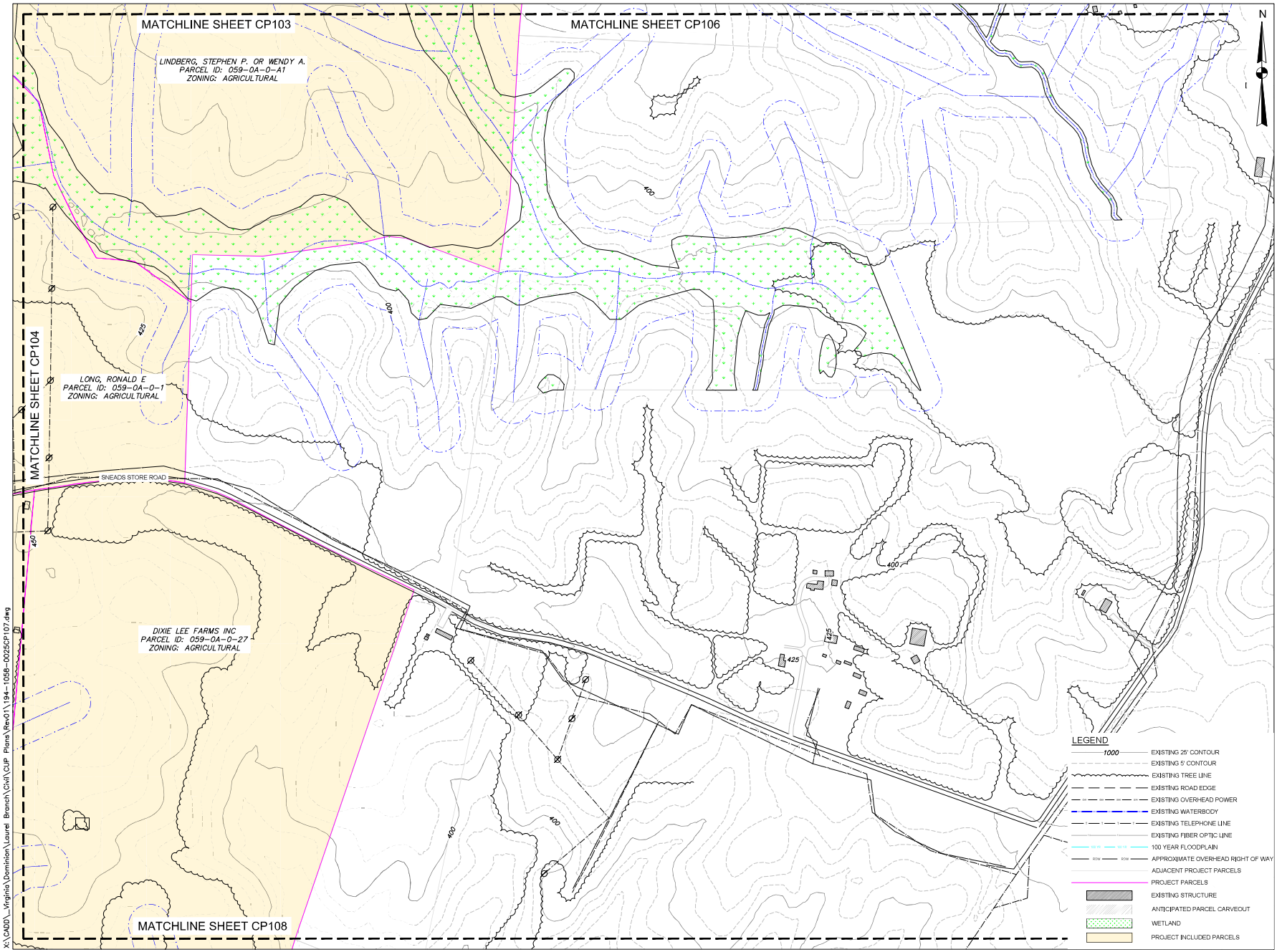
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP106



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Dominion Energy

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DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
EXISTING CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
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0 ½" 1"

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01	CUP APPLICATION	09/2/2022	GAR

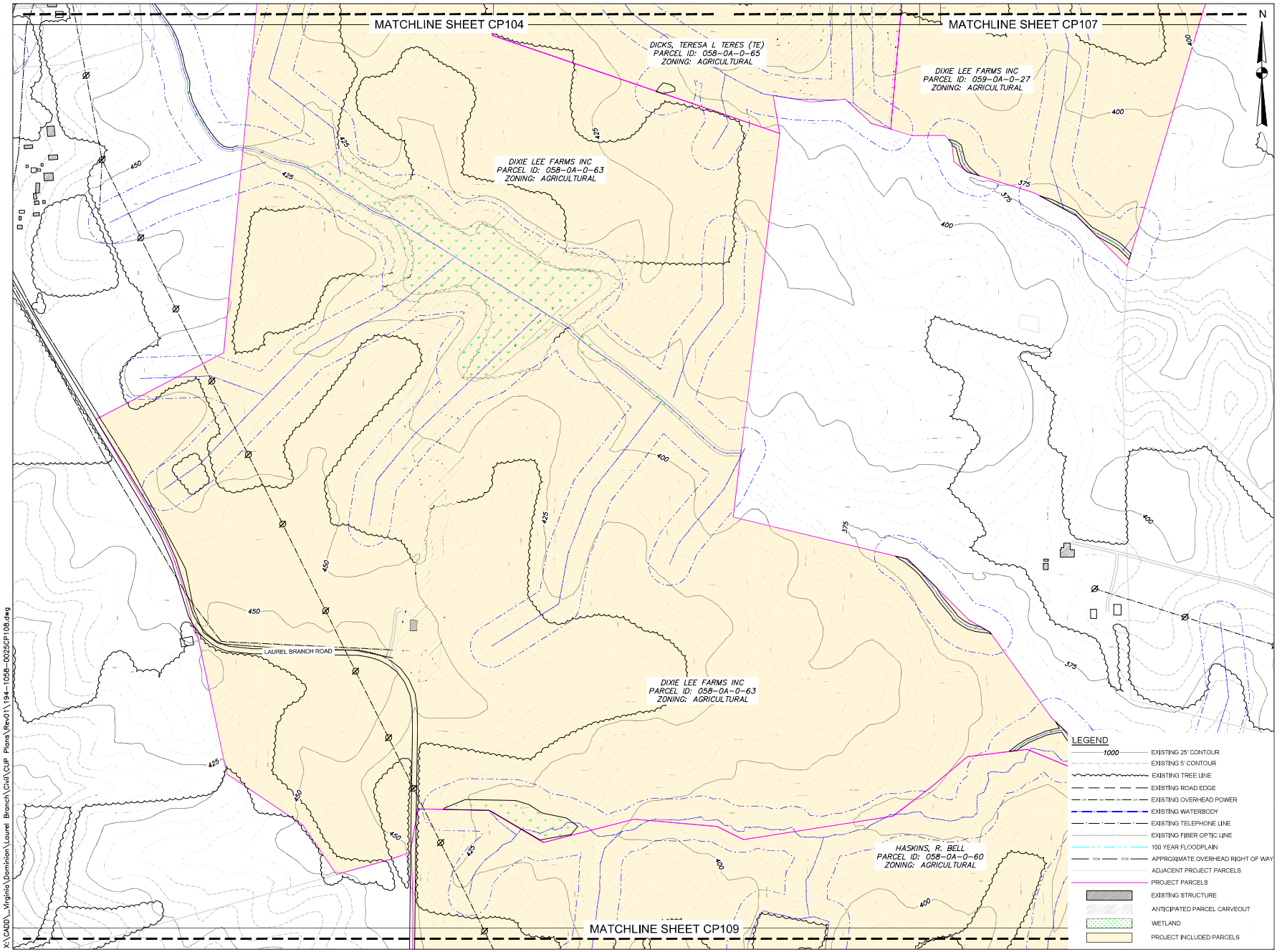
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP107



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VIRGINIA

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DATE:	09/2/2022
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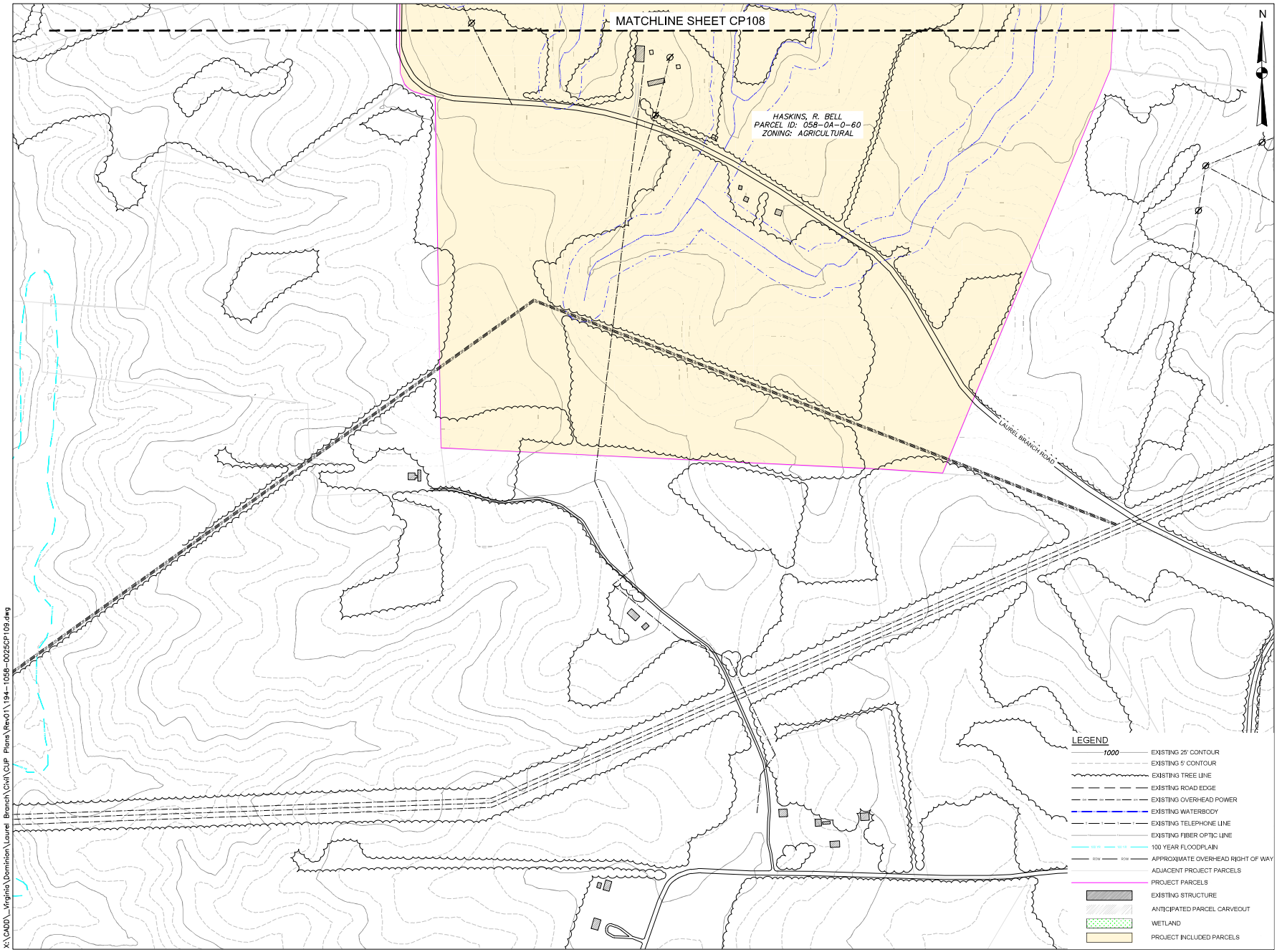
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP108



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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
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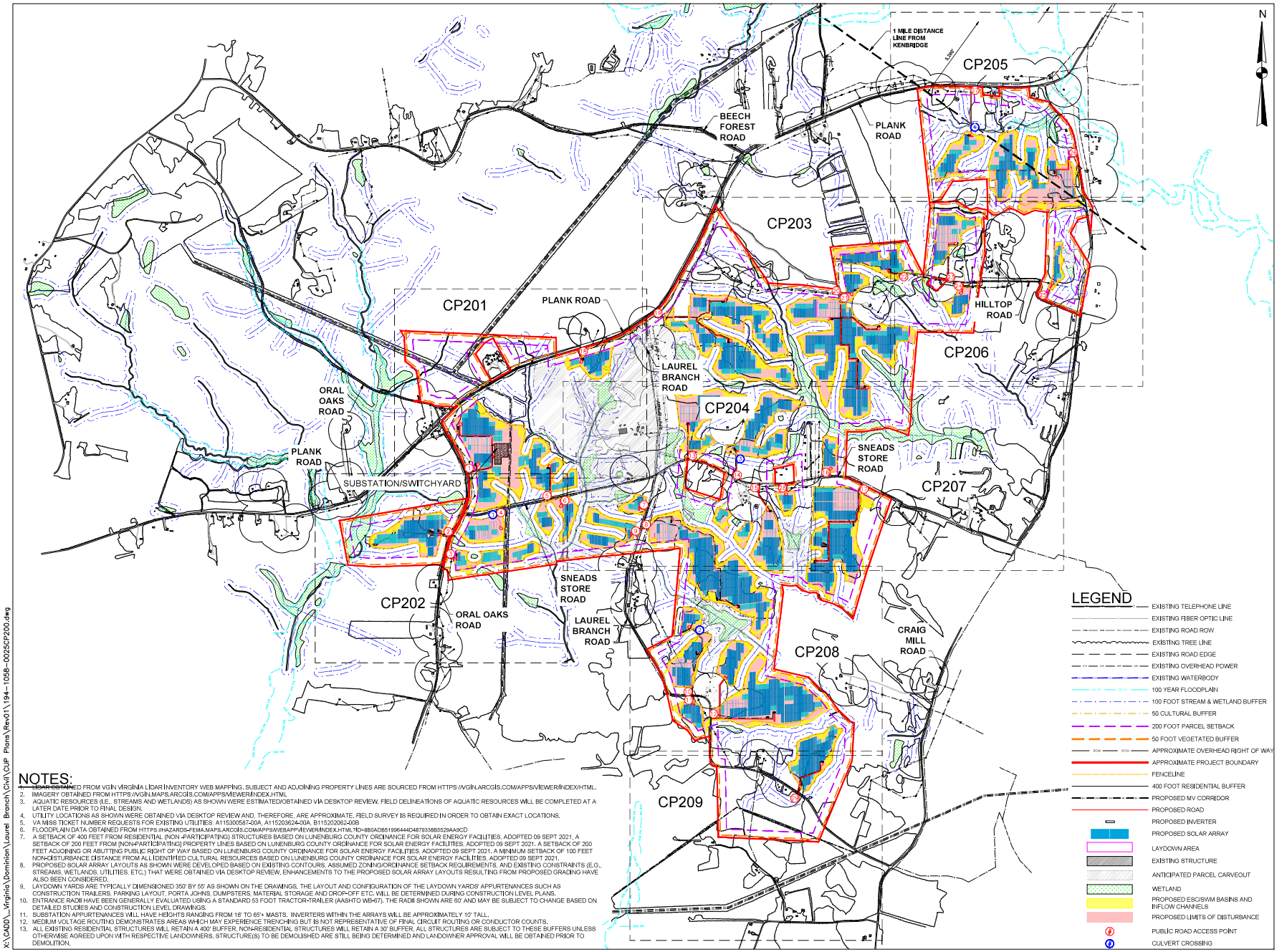
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP109



NOTES:

1. TERR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING. SUBJECT AND ADJOINING PROPERTY LINES ARE SOURCED FROM HTTPS://VGIN.ARCGIS.COM/APPS/VIEWER/INDEX/HTML.
2. IMAGERY OBTAINED FROM HTTPS://VGIN.MAPS.ARCGIS.COM/APPS/VIEWER/INDEX.HTML
3. AQUATIC RESOURCES (I.E., STREAMS AND WETLANDS) AS SHOWN WERE ESTIMATED/OBTAINED VIA DESKTOP REVIEW. FIELD DELINEATIONS OF AQUATIC RESOURCES WILL BE COMPLETED AT A LATER DATE PRIOR TO FINAL DESIGN.
4. UTILITY LOCATIONS AS SHOWN WERE OBTAINED VIA DESKTOP REVIEW AND, THEREFORE, ARE APPROXIMATE. FIELD SURVEY IS REQUIRED IN ORDER TO OBTAIN EXACT LOCATIONS.
5. VA MISS TICKET NUMBER REQUESTS FOR EXISTING UTILITIES: A115005870-00A, A115203624-00A, B115202062-00B
6. FLOODPLAIN DATA OBTAINED FROM HTTPS://HAZARDS-FEMA.MAPS.ARCGIS.COM/APPS/WEBAPPVIEWER/INDEX.HTML?ID=8B0ADB51996444D4879338B5529AA9CD
7. A SETBACK OF 400 FEET FROM RESIDENTIAL (NON-PARTICIPATING) STRUCTURES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021, A SETBACK OF 200 FEET FROM (NON-PARTICIPATING) PROPERTY LINES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021, A SETBACK OF 200 FEET ADJOINING OR ABUTTING PUBLIC RIGHT OF WAY BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021, A MINIMUM SETBACK OF 100 FEET NON-DISTURBANCE DISTANCE FROM ALL IDENTIFIED CULTURAL RESOURCES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021.
8. PROPOSED SOLAR ARRAY LAYOUTS AS SHOWN WERE DEVELOPED BASED ON EXISTING CONTOURS, ASSUMED ZONING/ORDINANCE SETBACK REQUIREMENTS, AND EXISTING CONSTRAINTS (E.G., STREAMS, WETLANDS, UTILITIES, ETC.) THAT WERE OBTAINED VIA DESKTOP REVIEW. ENHANCEMENTS TO THE PROPOSED SOLAR ARRAY LAYOUTS RESULTING FROM PROPOSED GRADING HAVE ALSO BEEN CONSIDERED.
9. LAYDOWN YARDS ARE TYPICALLY DIMENSIONED 350' BY 55' AS SHOWN ON THE DRAWINGS. THE LAYOUT AND CONFIGURATION OF THE LAYDOWN YARDS' APPURTENANCES SUCH AS CONSTRUCTION TRAILERS, PARKING LAYOUT, PORTA-JOHNS, DUMPSTERS, MATERIAL STORAGE AND DROP-OFF ETC. WILL BE DETERMINED DURING CONSTRUCTION LEVEL PLANS.
10. ENTRANCE RADII HAVE BEEN GENERALLY EVALUATED USING A STANDARD 53 FOOT TRACTOR-TRAILER (AASHTO WB-67). THE RADII SHOWN ARE 60' AND MAY BE SUBJECT TO CHANGE BASED ON DETAILED STUDIES AND CONSTRUCTION LEVEL DRAWINGS.
11. SUBSTATION APPURTENANCES WILL HAVE HEIGHTS RANGING FROM 16' TO 65'+ MASTS. INVERTERS WITHIN THE ARRAYS WILL BE APPROXIMATELY 10' TALL.
12. MEDIUM VOLTAGE ROUTING DEMONSTRATES AREAS WHICH MAY EXPERIENCE TRENCHING BUT IS NOT REPRESENTATIVE OF FINAL CIRCUIT ROUTING OR CONDUCTOR COUNTS.
13. ALL EXISTING RESIDENTIAL STRUCTURES WILL RETAIN A 400' BUFFER, NON-RESIDENTIAL STRUCTURES WILL RETAIN A 30' BUFFER, ALL STRUCTURES ARE SUBJECT TO THESE BUFFERS UNLESS OTHERWISE AGREED UPON WITH RESPECTIVE LANDOWNERS. STRUCTURE(S) TO BE DEMOLISHED ARE STILL BEING DETERMINED AND LANDOWNER APPROVAL WILL BE OBTAINED PRIOR TO DEMOLITION.

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Dominion Energy

TETRA TECH

TETRA TECH, INC.
4101 COX ROAD,
SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS INDEX SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

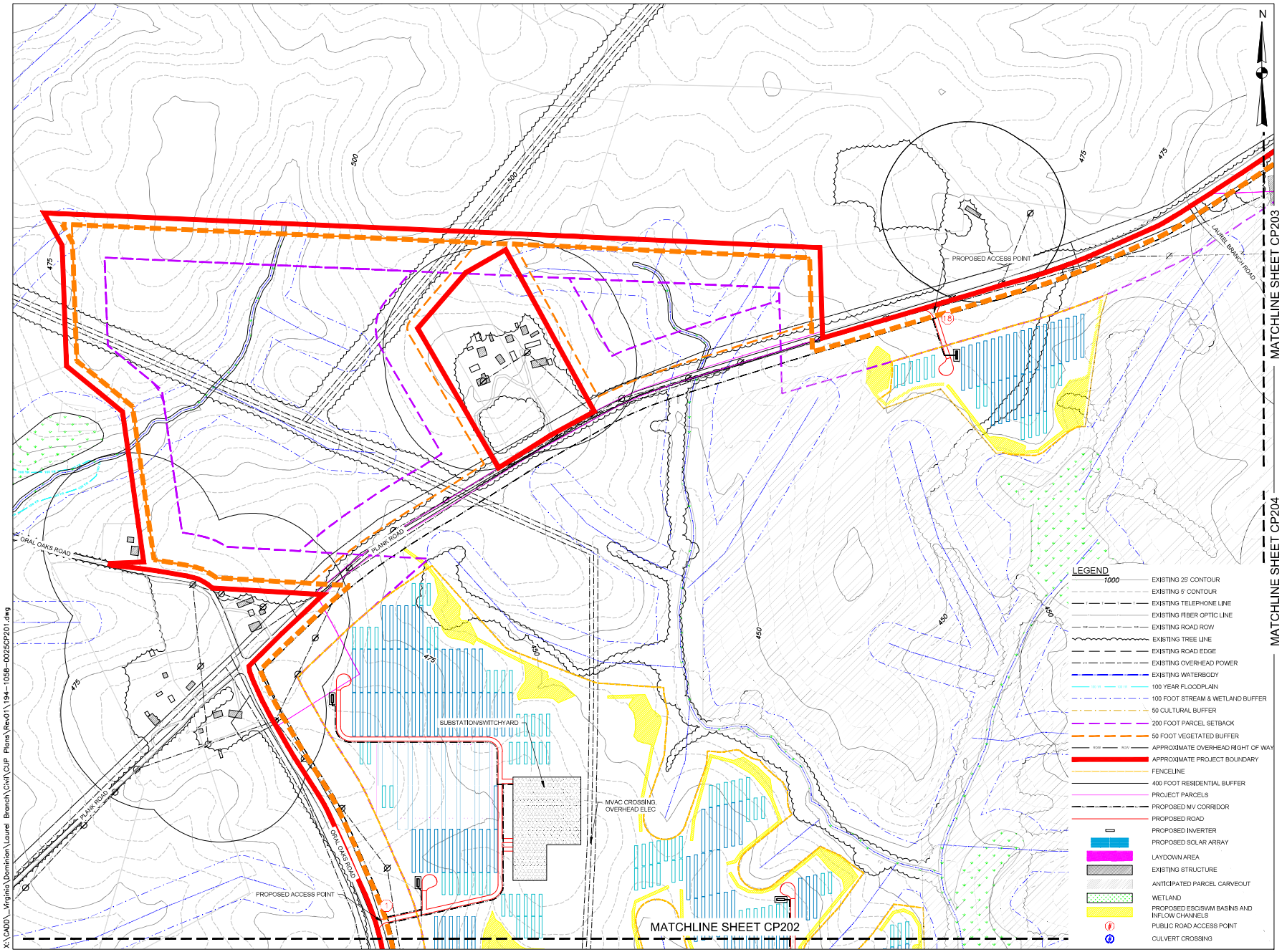
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 800'

SHEET NO.:
CP200



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05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

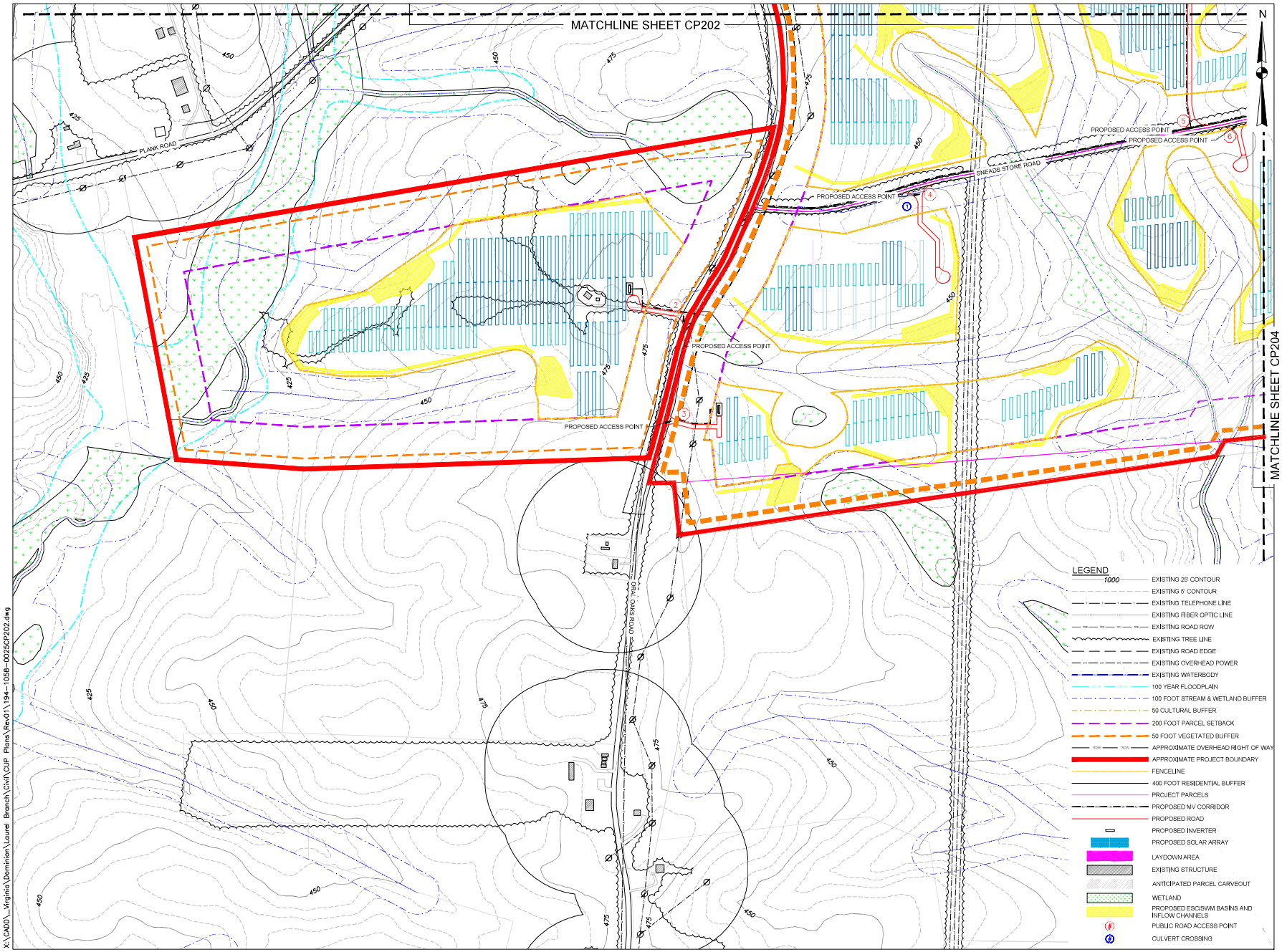
va811.com Dig With Ease

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP201



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Dominion Energy

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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
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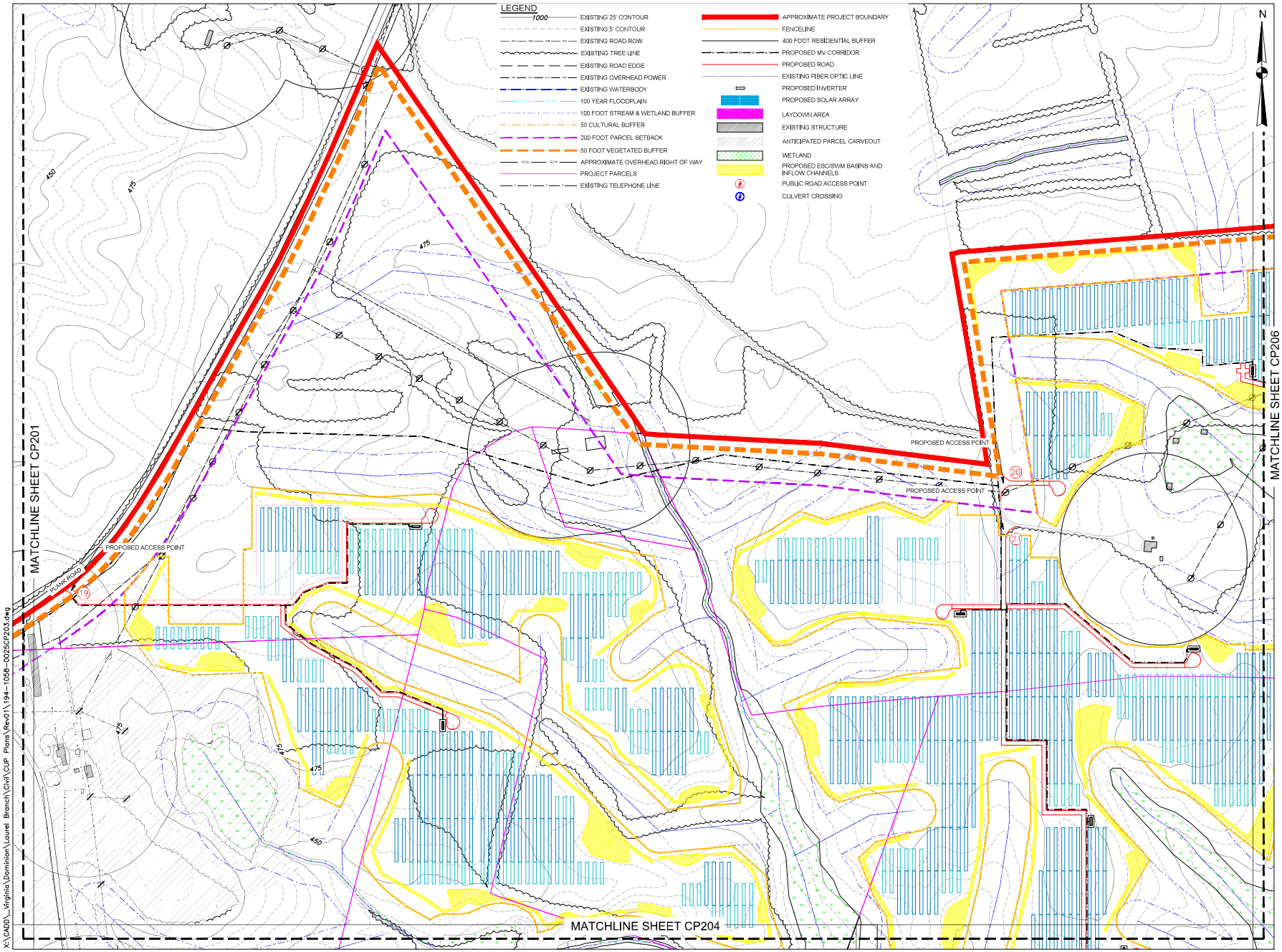
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP202



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LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

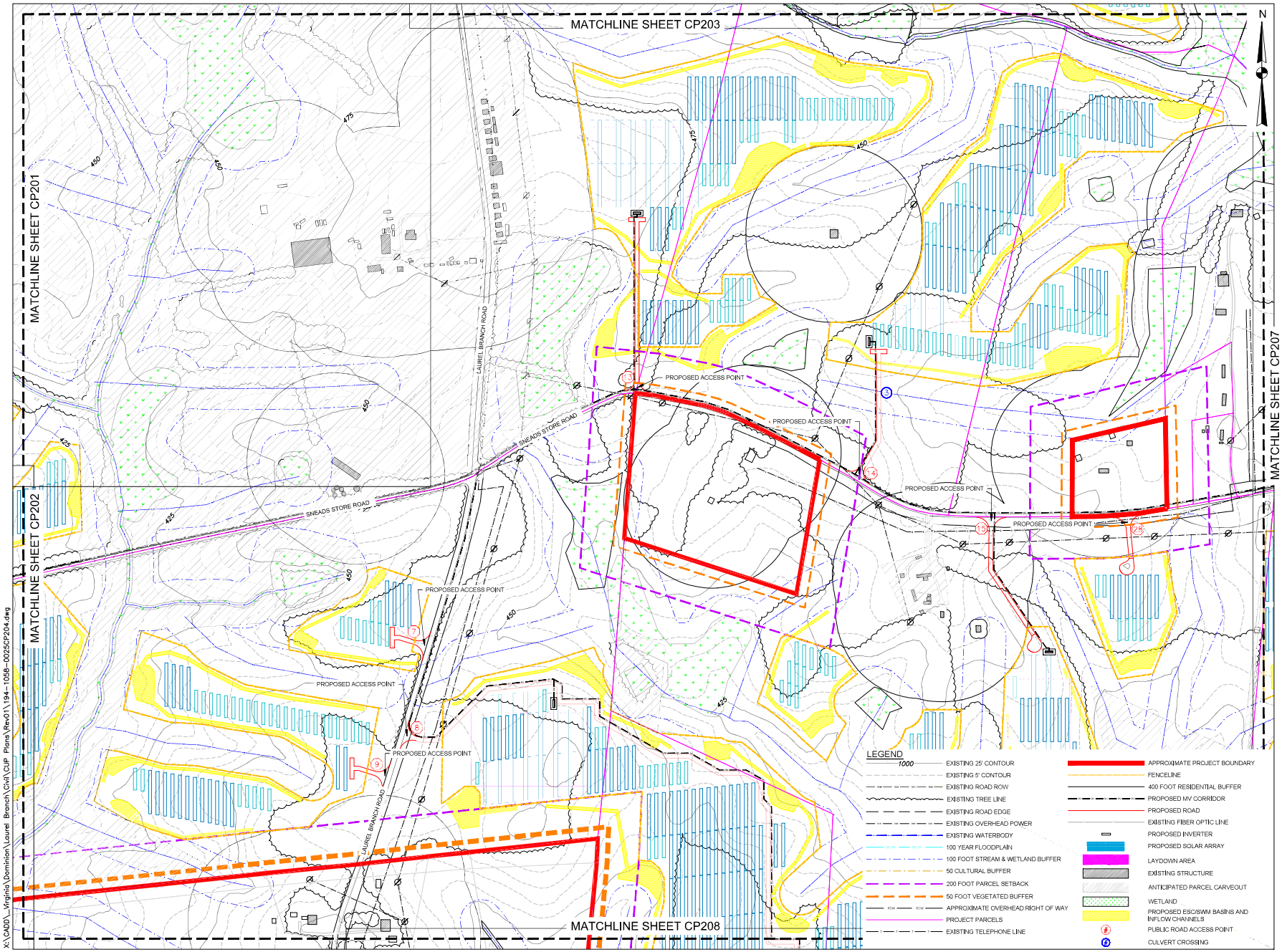
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP203



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VIRGINIA

PROJECT NUMBERS:
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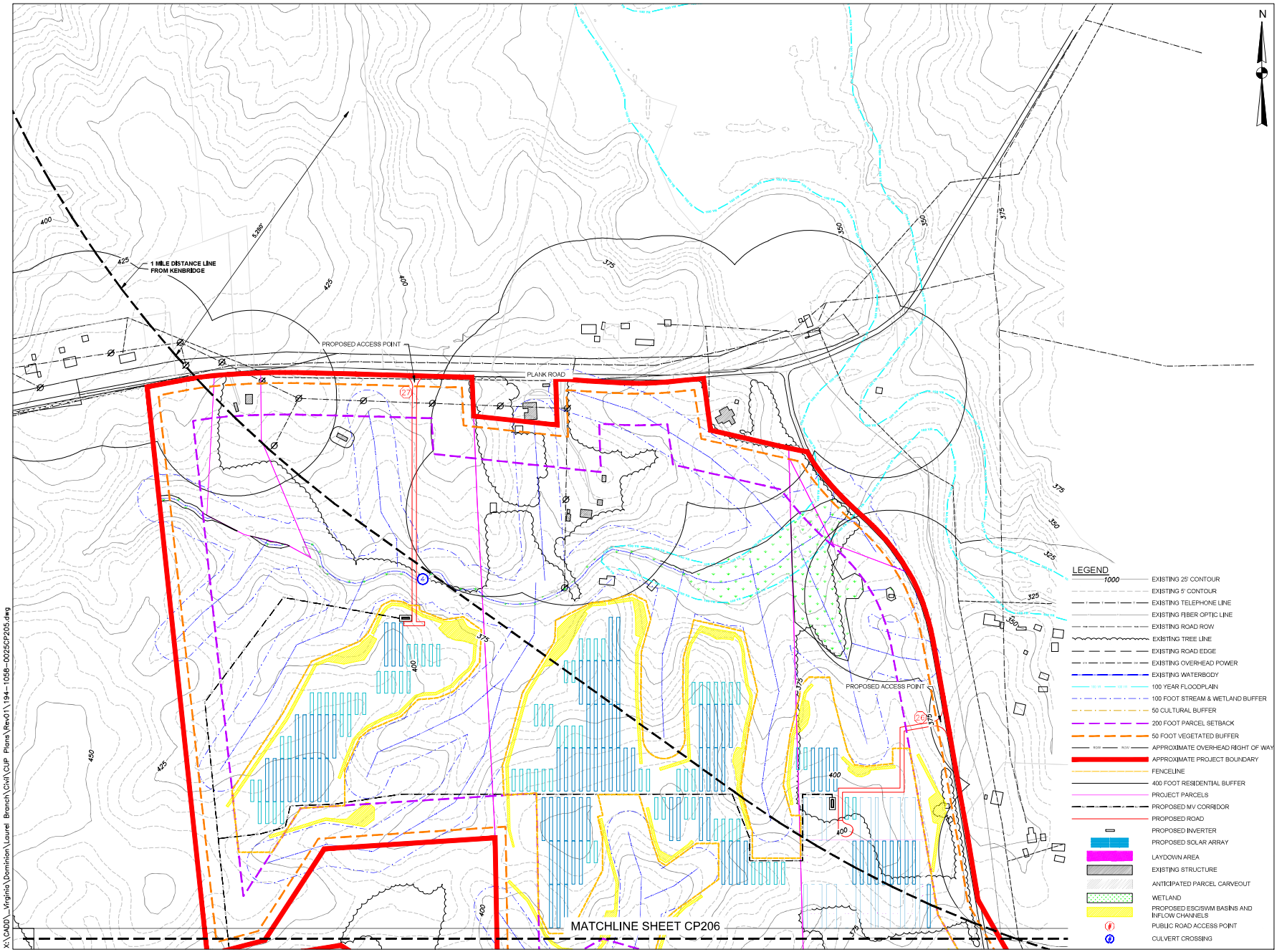
DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP204



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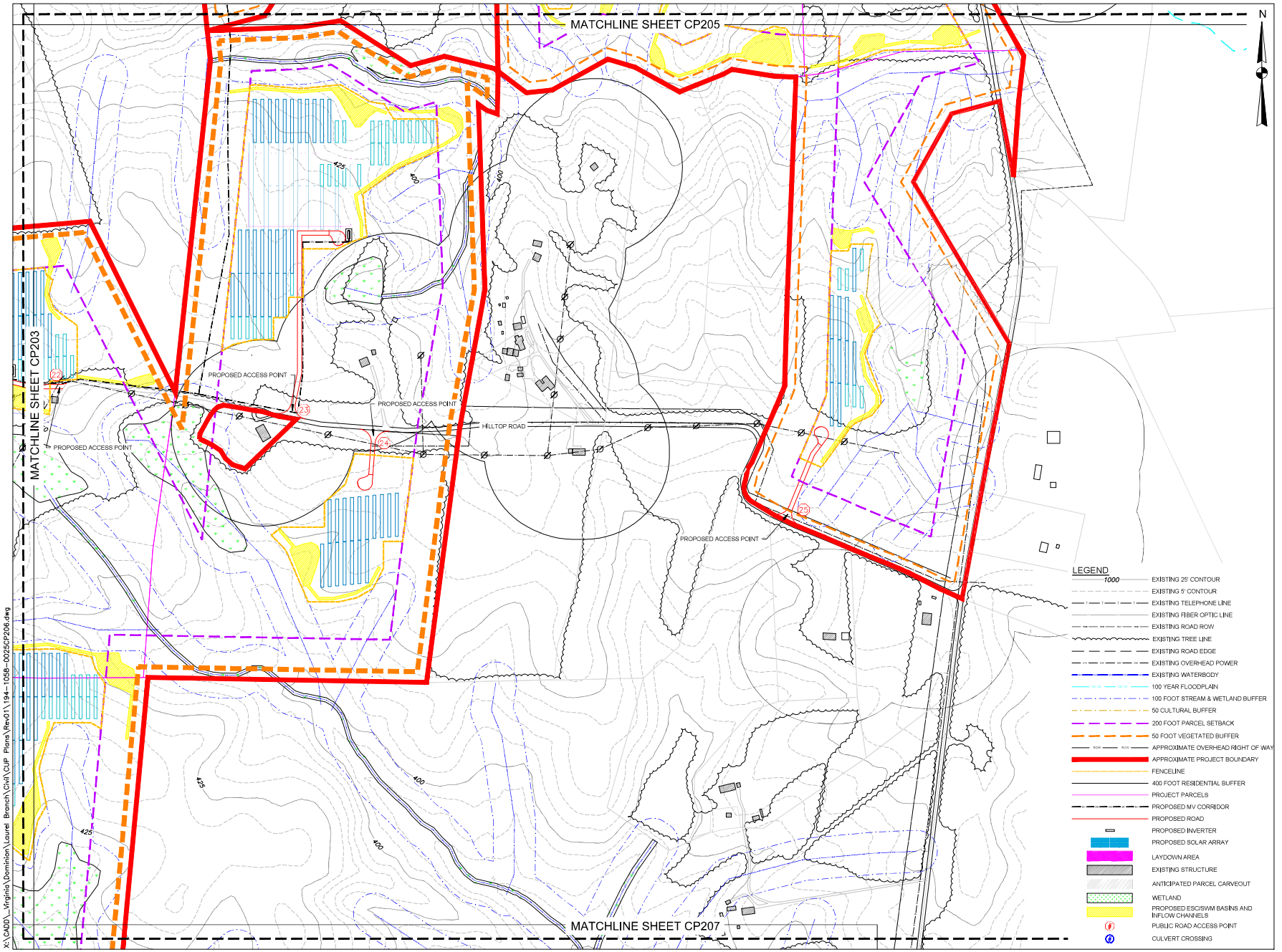
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP205



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Dominion Energy

TETRA TECH

TETRA TECH, INC.
4101 COX ROAD,
SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

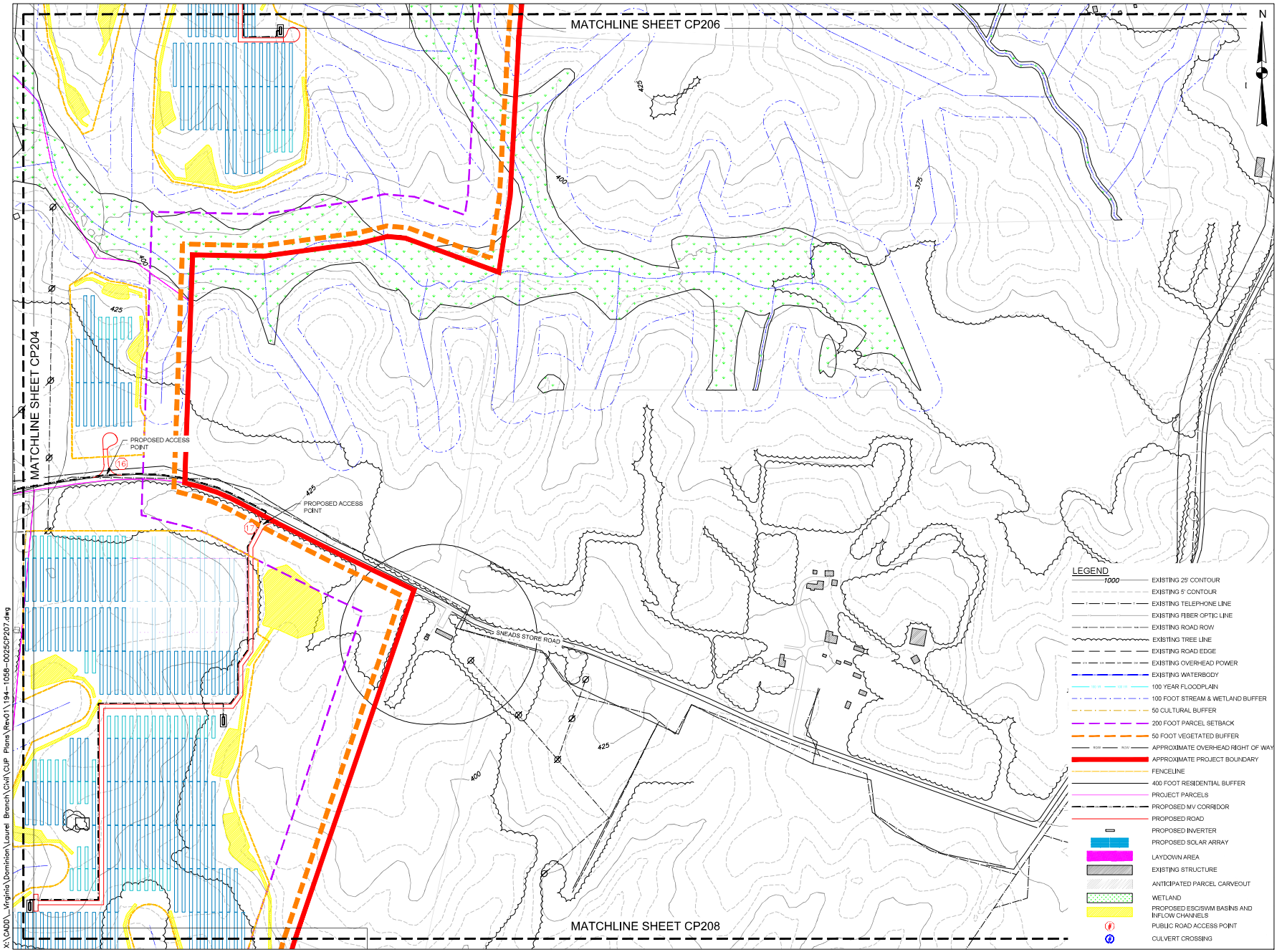
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP206



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Lic. No. 047828
05/17/2022
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DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
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PROJECT NUMBERS:
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SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
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0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

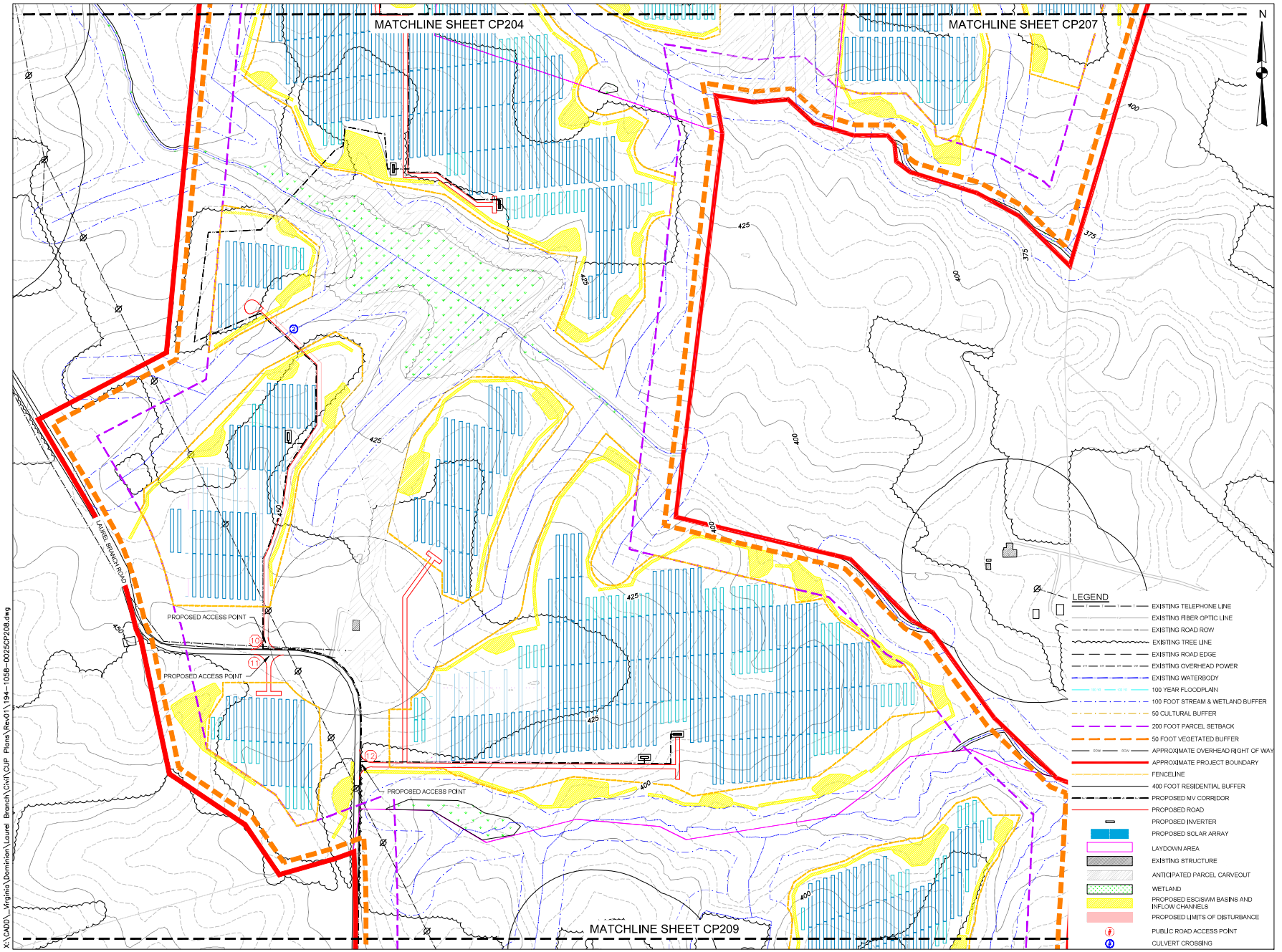
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP207



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GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

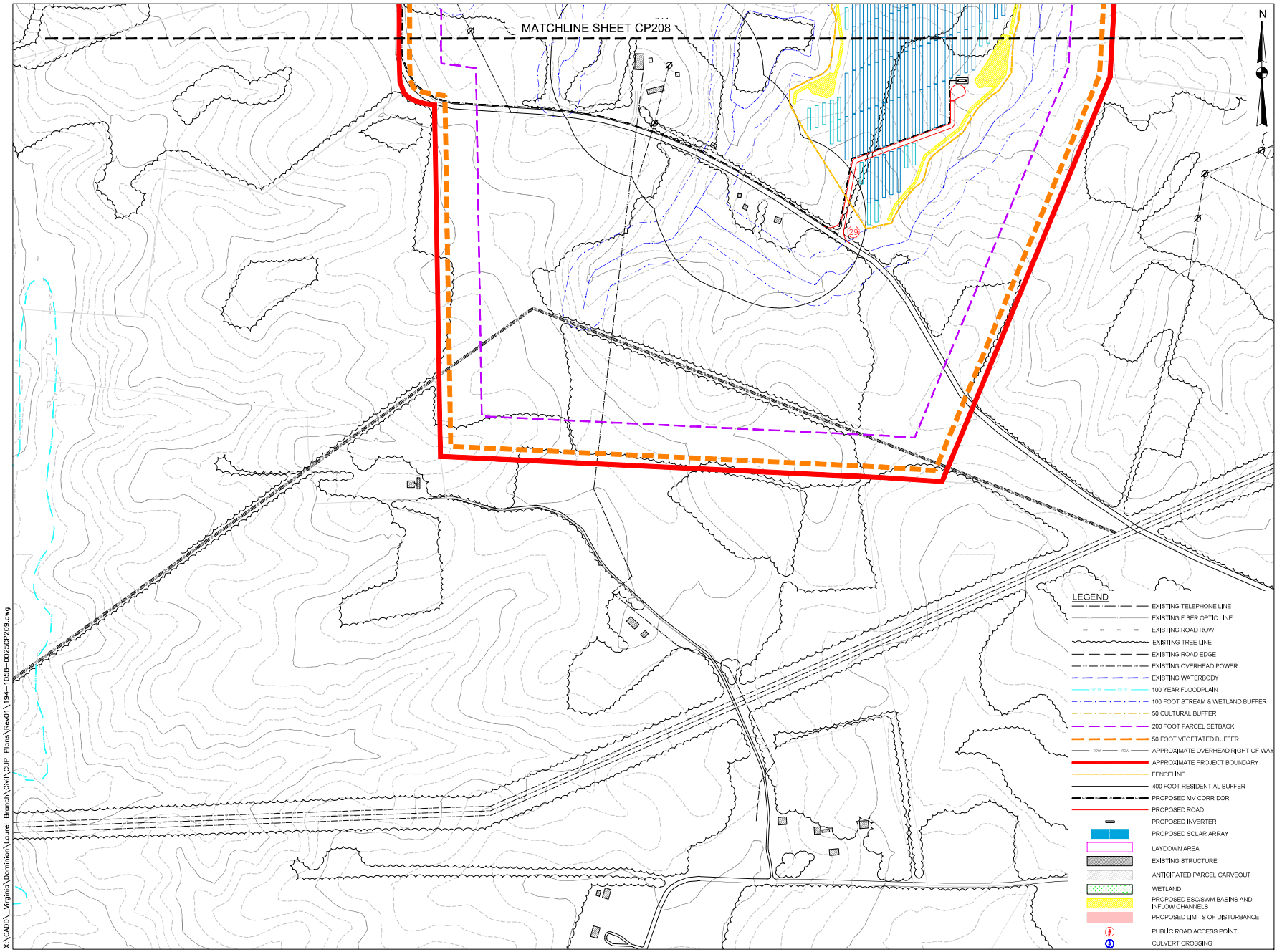
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 200'

SHEET NO.:
CP208



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Dominion Energy

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SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4321
FAX: (804) 270-2739

STAMP:

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Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN SHEET

SHEET SIZE: ARCH "D"
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0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

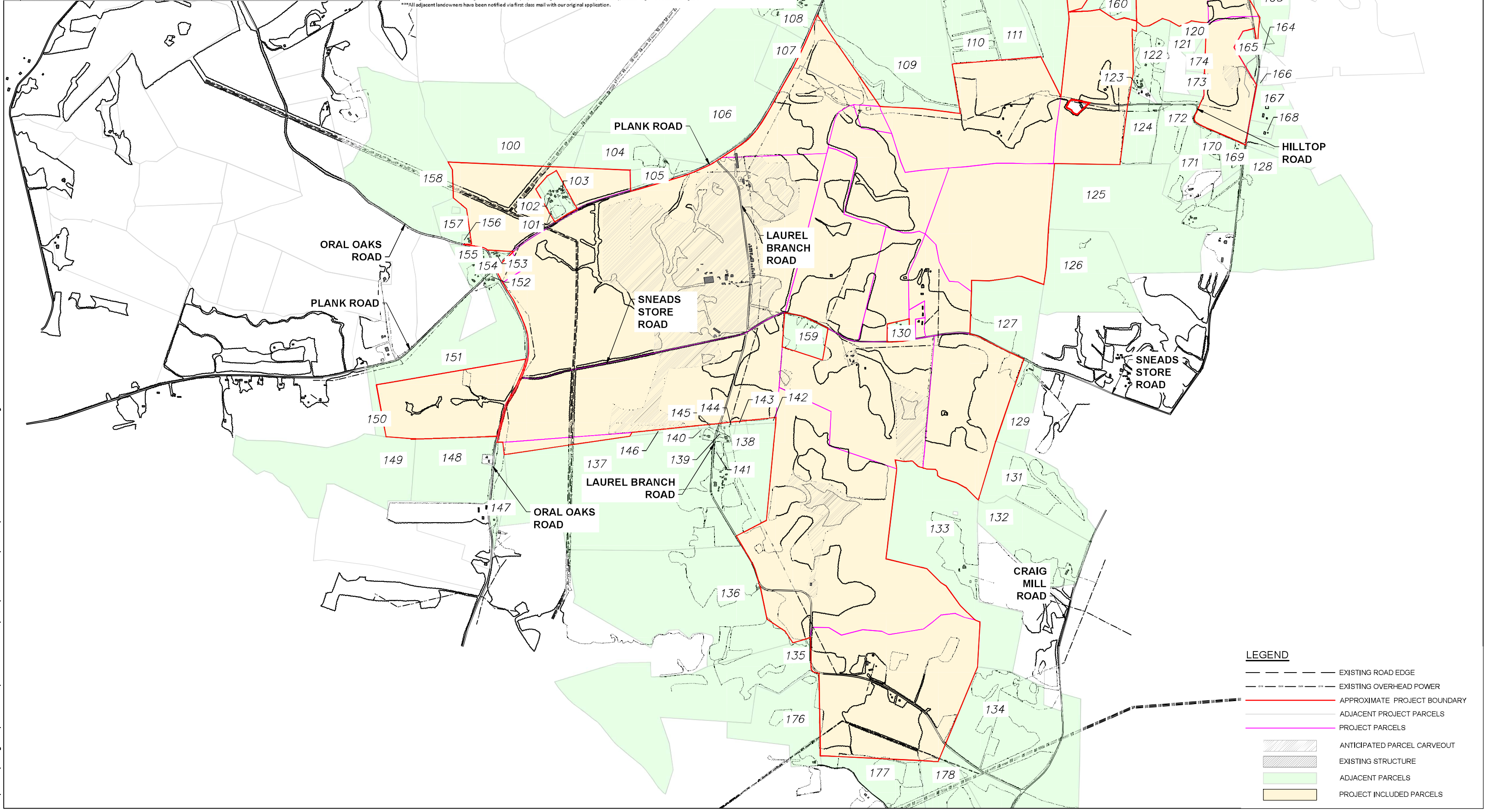
SCALE:
1" = 200'

SHEET NO.:
CP209

No.	Name	APN	Address	Zoning
100	Clemons, Lucious H. and Faye C. Johnson	046-0A-0-28	Null (owner address: 1600 Lakeside Avenue, Henrico, VA 23228)	AGRI
101	Campbell, James M. and Wanda S.	046-0A-0-40	Null (owner address: 10663 Plank Road)	RES
102	Campbell, James M. and Wanda S.	046-0A-0-39	10663 Plank Road	RES
103	Hall, Vicky J.	046-0A-0-38	10695 Plank Road	RES
104	Hall, Derrick S. or Lucy Lafoon	046-0A-0-26	11075 Plank Road	AGRI
105	Dixie Lee Farms Inc	046-0A-0-25	1121 Plank Road	RES
106	Bishop, Bernice Leonard	046-0A-0-24	Null (owner address: 716 East 6th Avenue)	AGRI
107	Bishop, Bernice Leonard	046-0A-0-23	Null (owner address: 716 East 6th Avenue)	RES
108	Wrenn, Mark E. or Robin Gunn	046-0A-0-22	11961 Plank Road	AGRI
109	Bishop, Bernice Leonard	047-04-0-15	Null (owner address: 716 East 6th Avenue)	AGRI
110	Wallace, Wiley P. or Carole F.	047-08-0-1	12640 Plank Road	AGRI
111	Morterud, Dennis K. or Patricia J.	047-08-0-2	12690 Plank Road	AGRI
112	Yeatts, Claude W. or Terry Cummins	047-04-0-B2	Null (owner address: 9235 Mahixon Trail, Mechanicsville, VA 23116)	AGRI
113	Hawthorne, Mildred E.	047-04-0-3A	Null (owner address: 13085 Plank Road)	RES
114	Hawthorne, Mildred E.	047-04-0-3B	Null (owner address: 13085 Plank Road)	RES
115	Flat Rock LLC	047-04-0-3C	Null (owner address: 4809 Lockgreen Circle, Richmond, VA 23226)	RES
116	Flat Rock LLC	047-04-0-2A	Null (owner address: 4809 Lockgreen Circle, Richmond, VA 23226)	AGRI
117	Flat Rock LLC	047-04-0-2	13551 Plank Road	AGRI
118	Flat Rock LLC	047-04-0-1	13551 Plank Road	AGRI
119	Hazelwood, Lillian M.	047-04-0-6A	11847 Craig Mill Road	RES
120	Bisserup, Barbara A. and Camille and Stanley Carter	047-09-0-3	Null (owner address: 8100 Dayfield Road, Apt. 23E, Columbia, SC 29223)	RES
121	Edmonds, Robert L and Samuel E. Rhodes	047-09-0-2	Null (owner address: 39-53 45th Street, Sunnyside, NY 11104)	RES
122	Spencer, Frank T.	047-0A-0-35 and 047-0A-0-36	Null (owner address: 3610 Ghent Drive, Chesterfield, VA 23832)	RES
123	Spencer, Clyde	047-0A-0-35B	434 Hilltop Road	RES
124	Spencer, Clyde J. or Betty S.	047-0A-0-37	441 Hilltop Road	AGRI
125	Hardell, Ruth R.H	047-0A-0-32C	10507 Craig Mill Road	AGRI
126	Martin, Dorothy S.	059-0A-0-3	Null (owner address: 13301 Kingsmill Road, Midlothian, VA 23113)	AGRI
127	Ross, S.T.	059-0A-0-2	Null (owner address: 540 Morrison Drive)	AGRI
128	Hoye, Samuel R. or Nelda Slaughter	047-0A-0-31	1099 Mayflower Road	AGRI
129	Martin, Dorothy S.	059-0A-0-25	1976 Sneads Store Road	AGRI
130	Lee, Howard D.	058-0A-0-66	1525 Sneads Store Road	RES
131	Callahan, Bessie M.	059-0A-0-26	Null (owner address: 4525 Oral Oaks Road)	AGRI
132	Light, John E.	059-0A-0-30 and 059-0A-0-31	8923 Craig Mill Road	AGRI
133	Connor, Westley R. or Christian K.	059-0A-0-28	8859 Craig Mill Road	AGRI
134	Herrington Brenda Reese et al	058-0A-0-46	Null (owner address: 603 Windsor Ave, Lawrenceville, VA 23868)	AGRI
135	Stupasky, Louis S. or Coral S. Love	058-0A-0-58A	Null (owner address: 1283 Laurel Branch Road)	AGRI
136	Stupasky, Louis S. or Coral S. Love	058-0A-0-56A	Null (owner address: 1283 Laurel Branch Road)	AGRI
137	Stupasky, Louis S. or Coral S. Love	058-0A-0-56	1283 Laurel Branch Road	AGRI
138	Stupasky, Sue L. and Merry Donna Emerson and Patricia L. Long	058-0A-0-56C	Null (owner address: 1101 Laurel Branch Road)	RES

No.	Name	APN	Address	Zoning
139	Stupasky, Sue L. and Merry Donna Emerson and Patricia L. Long	058-0A-0-64	1101 Laurel Branch Road	RES
140	Stupasky, Louis S. or Coral S. Love	058-0A-0-55	1110 Laurel Branch Road	RES
141	Stupasky, Sue L. and Merry Donna Emerson and Patricia L. Long	058-0A-0-56D	Null (owner address: 1101 Laurel Branch Road)	RES
142	Stupasky, Louis S. or Coral S. Love	058-0A-0-54A	Null (owner address: 1283 Laurel Branch Road)	RES
143	Stupasky, Sue L. and Merry Donna Emerson and Patricia L. Long	058-0A-0-54E	Null (owner address: 1101 Laurel Branch Road)	RES
144	Stupasky, Sue L. and Merry Donna Emerson and Patricia L. Long	058-0A-0-54D	Null (owner address: 1101 Laurel Branch Road)	RES
145	Stupasky, Louis S. or Coral S. Love	058-0A-0-54C	Null (owner address: 1283 Laurel Branch Road)	RES
146	Stupasky, Louis S. or Coral S. Love	058-0A-0-54B	Null (owner address: 1283 Laurel Branch Road)	RES
147	Andrews, Dorothy H. or Evelyn H. Bodrick	058-0A-0-53	7350 Oral Oaks Road	RES
148	Tucker, Merry D.	058-0A-0-7	Null (owner address: 1101 Laurel Branch Road)	AGRI
149	Roseburg Resources Co	058-0A-0-8	Null (owner address: 3660 Gateway Street, Springfield, OR 97477)	AGRI
150	Barnes, Iona V.	058-01-0-1	Null (owner address: 3555 Whiskey Bottom Road, Laurel, MD 20724)	AGRI
151	Hoerauf, David S. or Teresa M. Cummings	058-0A-0-5	Null (owner address: 15200 Mt. Nebo Road, Poolesville, MD 20837)	AGRI
152	Daniel, Robert C. or Cassie E.	058-0A-0-6	10326 Plank Road	RES
153	Callahan, Bessie M.	058-0A-0-70	10359 Plank Road	RES
154	Smith, Doretha J.	058-0A-0-71A	10291 Plank Road	RES
155	Macwelch, Sheila	058-0A-0-71	10241 Plank Road	RES
156	Good Hope Church	046-0A-0-37	8510 Oral Oaks Road	NG
157	Illinois Municipal Retirement Fund	046-0A-0-36	Null (owner address: PO Box 1288, Mobile, AL 36633)	RES
158	Illinois Municipal Retirement Fund	046-0A-0-33	Null (owner address: PO Box 1288, Mobile, AL 36633)	AGRI
159	Bauer, Theodore	058-0A-0-65A	1202 Sneads Store Road	RES
160	Spencer, Frank T.	047-04-0-B1A	Null (owner address: 3610 Ghent Drive, Chesterfield, VA 2382)	AGRI
161	Town of Kenbridge	047-0A-0-24A	Flat Rock Creek	GOV
162	Graham, Harris M.	047-0A-0-24	11592 Craig Mill Road	AGRI
163	Jones, James L.	047-0A-0-26	11388 Craig Mill Road	AGRI
164	Hawthorne, Nancy B.	047-04-0-8	Null (owner address: PO Box 202, Kenbridge, VA 23944)	AGRI
165	Johnson, Hubert et. al.	047-04-0-11	Null (owner address: 10922 Craig Mill Road, Kenbridge, VA 23944)	RES
166	Compton, Terry & David	047-04-0-10A	11016 Craig Mill Road	RES
167	Johnson, Hubert et. al.	047-04-0-10	10922 Craig Mill Road	AGRI
168	Johnson, Gordon C. or Zona M.	047-04-0-10B	10894 Craig Mill Road	RES
169	Bailey, James C. or Hollie A.	047-0A-0-31A	38 Hilltop Road	RES
170	Slaughter, Bonnie R.	047-0A-0-32B	109 Hilltop Road	RES
171	Hardell, Ruth R.H.	047-0A-0-32	Null (owner address: PO Box 192, Kenbridge, VA 23944)	RES
172	Hopson, W.	047-0A-0-33	Null (owner address: 3610 Ghent Drive, Chesterfield, VA 23832)	AGRI
173	Brydie, Lamont	047-09-0-5	Null (owner address: 2409 Emanuel Church Road, Powhatan, VA 23139)	RES
174	Spencer, Clyde J.	047-09-0-4	Null (owner address: 434 Hilltop Road, Kenbridge, VA 23944)	RES
175	Clyde, Rupert or Velma L.	047-04-0-63	13474 Plank Road	RES
176	Morrison Bessie R & Rhonda M Marshall OR	058-0A-0-59	540 Morrison Drive	AGRI
177	Long Johnny K	058-0A-0-44A	Null (owner address: 3502 Laurel Branch Road)	AGRI
178	Bishop Virginia H Estate	059-0A-0-47	Null (owner address: PO Box 219, Blackstone, VA 23824)	AGRI

* Unless otherwise noted, all addresses are located in Kenbridge, VA 23944.
**Zoning abbreviations: AGRI = agricultural/undeveloped; RES = single family residence (suburban); NG = non-governmental / religious
***All adjacent landowners have been notified via first class mail with our original application.



Dominion Energy

TETRA TECH
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FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
ADJACENT PARCEL INFORMATION SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 1000'

SHEET NO.:
CP300

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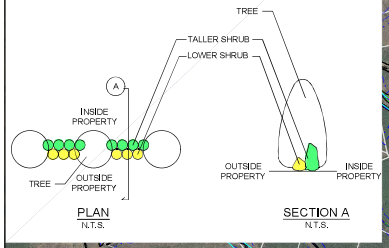
PLANT LIST

Evergreen Tree	Eastern White Pine	Pinus strobus L.	80 Ft	Pyramidal form
	Eastern Hemlock (Spruce)	Tsuga canadensis (L.) Carr.	60-100 Ft	Broadbase, Pyramid form
	Eastern Redcedar	Juniperus virginiana L.	40-60 Ft	Dense form
	American Holly	Ilex opaca	30-50 Ft	Pyramidal form
	White Spruce	Picea glauca	30-50 Ft	Conical form
Evergreen Shrub	American Holly	Ilex opaca	30-50 Ft	Pyramidal form
	Mountain Laurel	Kalmia latifolia	5-15 Ft	Lower Shrub
	Southern Bayberry, Southern Wax Myrtle	Myrica Cerifera	15-20 Ft	Taller Shrub
	Swamp Bayberry	Myrica heterophylla	7-10 Ft	Lower Shrub
Semi-evergreen/ Deciduos sohrub	Winter Berry	Ilex verticillata	3-16 Ft	Lower Shrub Red berry in winter
	Great Rhododendron	Rhododendron Maximum	15 Ft	Taller Shrub
	Rose Azelea	Rhododendron prinophyllum	3-5 Ft	Lower Shrub

Sources:

pied-net-plants-pdf (virginia.gov)
Native Plants for Conservation, Restoration and Landscaping (virginia.gov)
Kalmia latifolia - Plant Finder (missouribotanicalgarden.org)
Evergreens | Virginia, USA | Plant NOVA Natives
Hedges and screens | Virginia, USA | Plant NOVA Natives
Native Plants for Southern Piedmont – Plant Virginia Natives
Wikipedia, the free encyclopedia



NOTES:

1. LIDAR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING.
2. IMAGERY OBTAINED FROM HTTPS://VGIN.MAPS.ARCGIS.COM/APPS/VIEWER/INDEX.HTML?APPID=CBE6A0C1B2C440168E228EE33B89CB38.
3. AQUATIC RESOURCES (I.E., STREAMS AND WETLANDS) AS SHOWN WERE ESTIMATED/OBTAINED VIA DESKTOP REVIEW. FIELD DELINEATIONS OF AQUATIC RESOURCES WILL BE COMPLETED AT A LATER DATE PRIOR TO FINAL DESIGN.
4. UTILITY LOCATIONS AS SHOWN WERE OBTAINED VIA DESKTOP REVIEW AND, THEREFORE, ARE APPROXIMATE. FIELD SURVEY IS REQUIRED IN ORDER TO OBTAIN EXACT LOCATIONS.
5. FLOODPLAIN DATA OBTAINED FROM HTTPS://HAZARDS-FEMA.MAPS.ARCGIS.COM/APPS/WEBAPPVIEWER/INDEX.HTML?ID=88DADB51996444D4879338B5529AA9CD
6. PROPOSED SOLAR ARRAY LAYOUTS AS SHOWN WERE DEVELOPED BASED ON EXISTING CONTOURS, ASSUMED ZONING/ORDINANCE SETBACK REQUIREMENTS, AND EXISTING CONSTRAINTS (E.G., PROPERTY LINES, UTILITIES, ETC.) THAT WERE OBTAINED VIA DESKTOP REVIEW. ENHANCEMENTS TO THE PROPOSED SOLAR ARRAY LAYOUTS RESULTING FROM PROPOSED GRADING HAVE ALSO BEEN CONSIDERED.
7. NO CULTURAL RESOURCES WITHIN THE PROJECT AREA AS DEPICTED ON THE VCRIS MAP.
8. THE PROPERTY BUFFER SHOWN IS 200'. THE LANDSCAPE BUFFER IS 50'.
9. ALL VEGETATIVE BUFFERS DEPICTED WILL BE MAINTAINED FOR THE LIFE OF THE FACILITY.

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05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
LANDSCAPE BUFFER SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

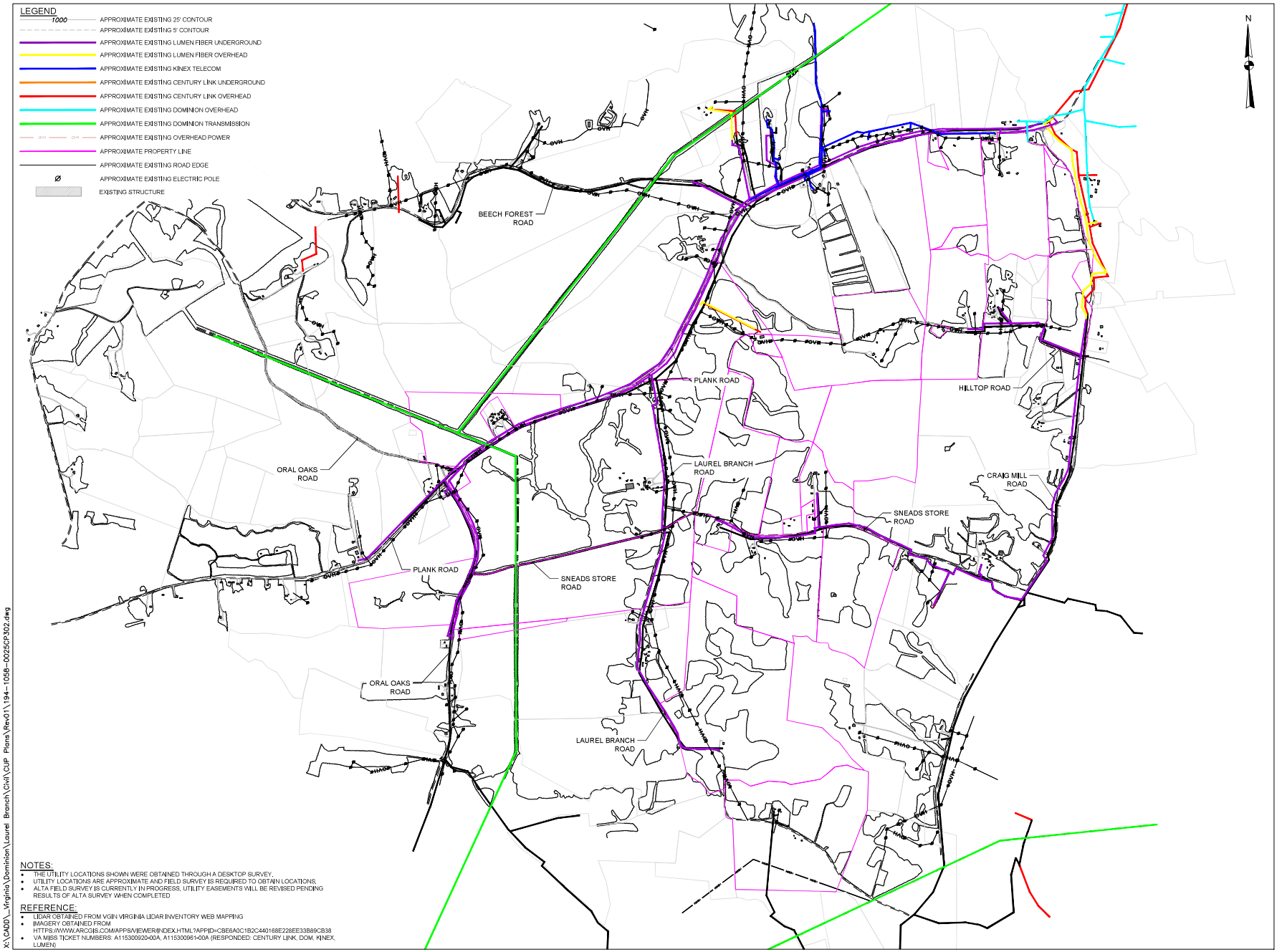
va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 1000'

SHEET NO.:
CP301



NOTES:

- THE UTILITY LOCATIONS SHOWN WERE OBTAINED THROUGH A DESKTOP SURVEY.
- UTILITY LOCATIONS ARE APPROXIMATE AND FIELD SURVEY IS REQUIRED TO OBTAIN LOCATIONS.
- ALTA FIELD SURVEY IS CURRENTLY IN PROGRESS, UTILITY EASEMENTS WILL BE REVISED PENDING RESULTS OF ALTA SURVEY WHEN COMPLETED

REFERENCE:

- LIDAR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING
- IMAGERY OBTAINED FROM HTTPS://WWW.ARCGIS.COM/APPS/VIEWER/INDEX.HTML?APPID=CBE6A0C1B2C440168E228EE33B89CB38
- VA MISS TICKET NUMBERS: A115300920-00A, A115300961-00A (RESPONDED: CENTURY LINK, DOM, KINEX, LUMEN)

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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
DESKTOP EVALUATION UTILITY MAP

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

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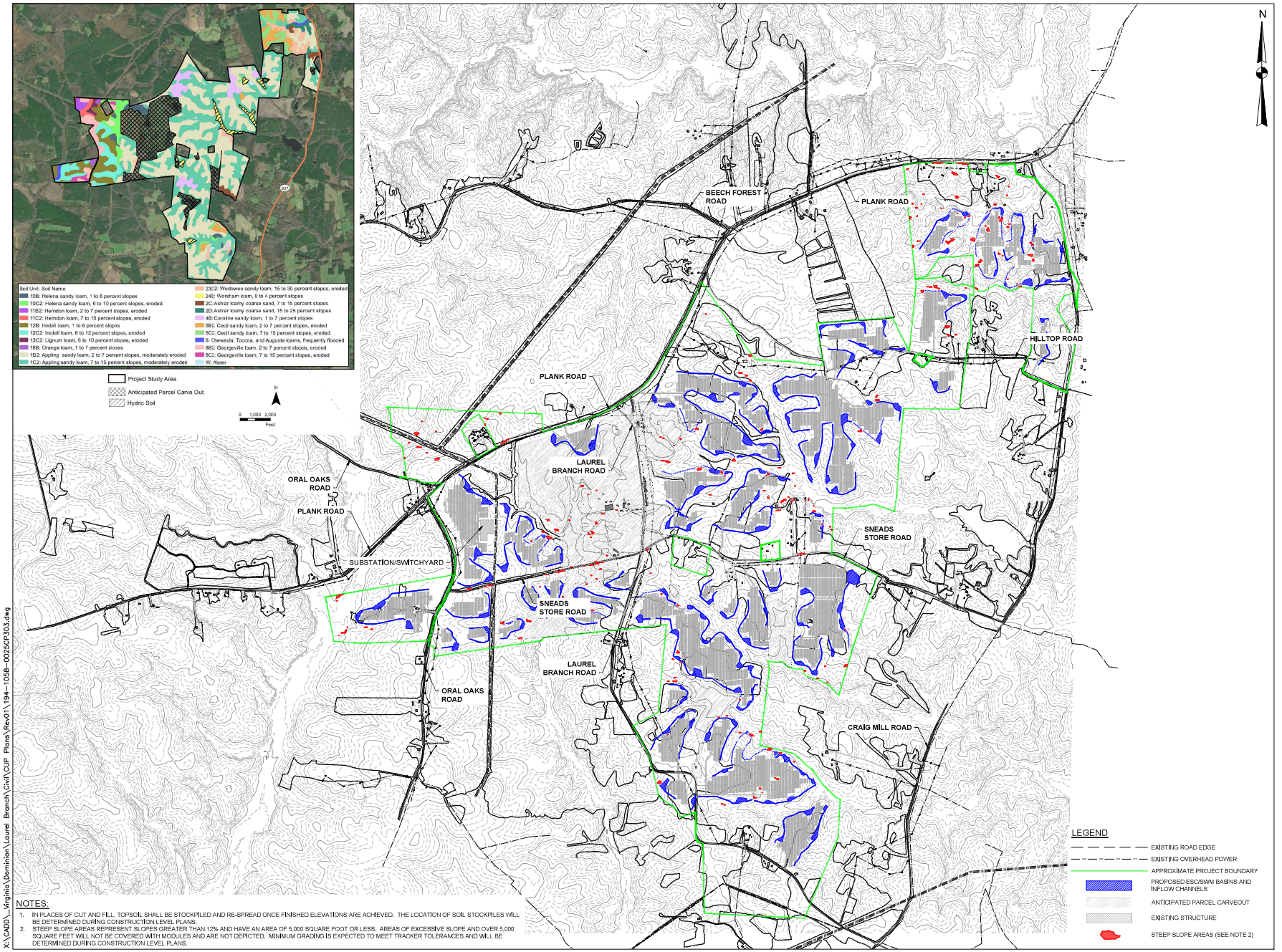
DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 1000'

SHEET NO.:
CP302



NOTES:

1. IN PLACES OF CUT AND FILL TOPSOIL SHALL BE STOCKPILED AND RE-SPREAD ONCE FINISHED ELEVATIONS ARE ACHIEVED. THE LOCATION OF SOIL STOCKPILES WILL BE DETERMINED DURING CONSTRUCTION LEVEL PLANS.
2. STEEP SLOPE AREAS REPRESENT SLOPES GREATER THAN 12% AND HAVE AN AREA OF 5,000 SQUARE FOOT OR LESS. AREAS OF EXCESSIVE SLOPE AND OVER 5,000 SQUARE FEET WILL NOT BE COVERED WITH MODULES AND ARE NOT DEPICTED. MINIMUM GRADING IS EXPECTED TO MEET TRACKER TOLERANCES AND WILL BE DETERMINED DURING CONSTRUCTION LEVEL PLANS.

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Rev01\194-1058-0025CP303.dwg

Dominion Energy

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STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
DRAFT GRADING PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

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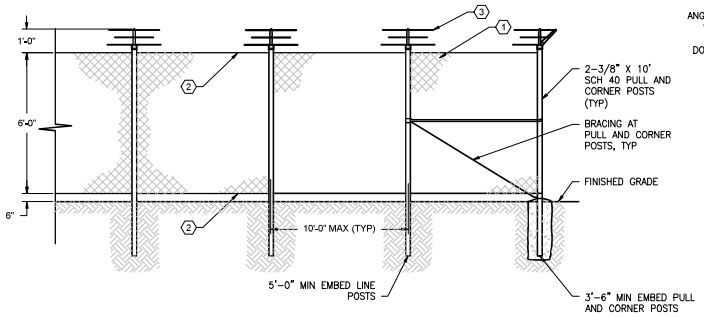
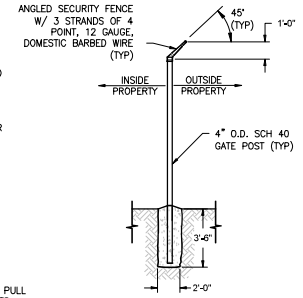
DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

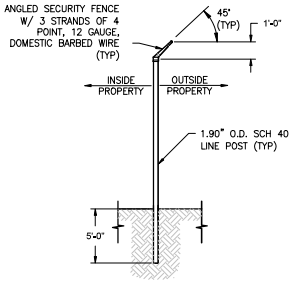
SCALE:
1" = 1000'

SHEET NO.:
CP303





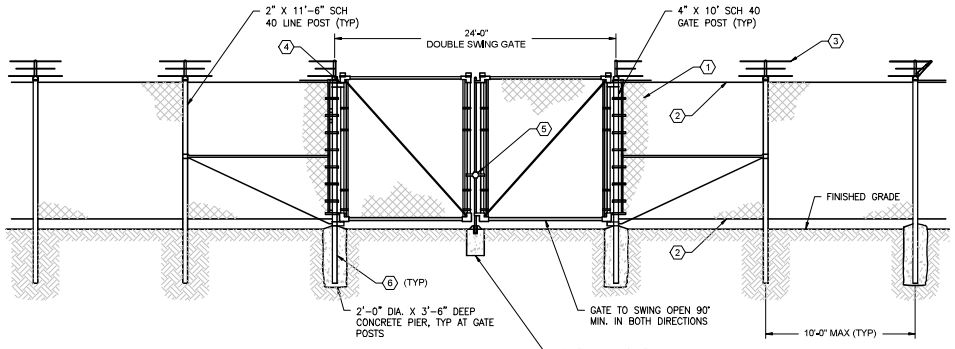
GATE POST



LINE POST

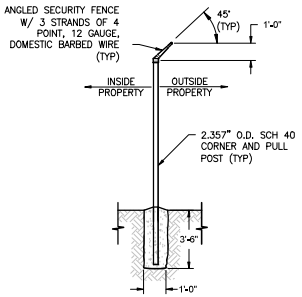
KEYED NOTE(S):

1. WIRE FABRIC – 11 GAUGE, 2" MESH GALVANIZED ASTM A392, CLASS 2;
2. NO. 7 GAUGE COIL TENSION WIRE. (BOTTOM WIRE SHALL BE INSTALLED 4" MAX FROM FINISHED GRADE.)
3. THREE STRANDS OF BARBED WIRE MOUNTED ON 45 DEGREE EXTENSION ARMS. THE UPPER STRAND SHALL BE APPROXIMATELY 12 IN. OUT FROM THE FENCE AND 12 IN. ABOVE THE TOP OF THE FABRIC.
4. CLAMPED GATE HINGES SHALL BE WELDED TO PREVENT SETTLEMENT AND SLIPPAGE.
5. THE MAIN SITE ENTRANCE WILL HAVE A MANUALLY OPERATED SWINGING GATE.
6. POSTS SHALL BE STEEL PIPE, ASTM F1083 STANDARD WEIGHT. POSTS SHALL BE DRIVEN INTO UNDISTURBED SUBGRADE SOIL FOR LINE POSTS OR SET IN 2'-0" DIA. X 3'-6" MIN DEEP CONCRETE FOR CORNER AND GATE POST.
   - LINE POSTS – 1 1/2" SCH 40 (O.D. = 1 7/8")
   - GATE POSTS – 3 1/2" SCH 40 (O.D. = 4")
   - CORNER AND PULL POSTS – 2" SCH 40 (O.D. = 2 3/8")
7. SCREENING SHALL BE USED ON WASTE RECEPTACLES TO PREVENT VIEW FROM PUBLIC RESIDENCIES AND ROADS.

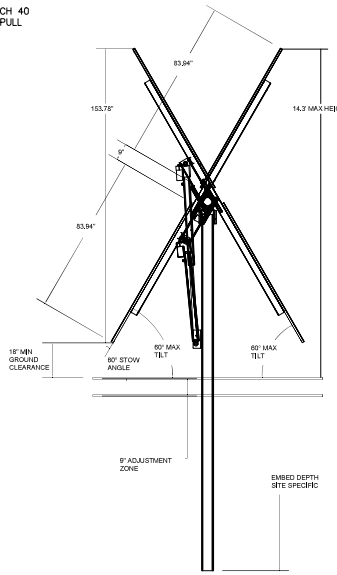


A FENCE AND GATE DETAILS

SCALE: NTS



CORNER AND PULL POST



B TRACKER ELEVATION VIEW

SCALE: NTS

NOTE: THE MAXIMUM HEIGHT OF THE LOWEST EDGE OF PHOTOVOLTAIC PANELS SHALL BE 10' AS MEASURED FROM THE FINISHED GRADE AND SHALL NOT EXCEED A HEIGHT OF 15', WHICH SHALL BE MEASURED FROM THE HIGHEST NATURAL GRADE BELOW EACH SOLAR PANEL IN ACCORDANCE WITH THE ORDINANCE.

SITE CONDITIONS:
WIND SPEED: TBD
SNOW LOAD: 0psf
CORROSION CATEGORY: TBD
MIN SITE TEMP: –8C
AZIMUTH: 180C

PV MODULE SPECIFICATIONS:
MODULE: BIFACIAL MONOCRYSTALLINE
MODULE QTY: 185,482

ELECTRICAL CHARACTERISTICS (STC)
RATED POWER: 530W
OPEN CIRCUIT VOLTAGE: 49.2V
SHORT CIRCUIT CURRENT: 13.71A
VOLTAGE AT MAX. POWER: 41.35V
CURRENT AT MAX. POWER: 12.82A
MODULE EFFICIENCY: 20.7%

DIMENSIONS:
L=2256MM, W=1133MM, T=35MM

MOUNTING SYSTEM SPECIFICATION:
RACKING CONFIG: TRACKER
TRACKER TYPE: GAMECHANGE GENIUS 1P
TYPE 1: 181 MODULES, 4 STRINGS
TYPE 2: 80 MODULES, 2 STRING

±60° TRACKER RANGE OF MOTION

PITCH: 37.5.0FT
INTER ROW SPACING: 15.3FT
GCR: 0.42

INVERTER SPECIFICATION:
840kW INVERTER @25°C
4 to 6 INVERTERS PER SKID
INVERTER QTY: 101
3.36 TO 5.04MVA EACH AC STATION @25°C

TRANSFORMER SPECIFICATION:
TRANSFORMER QTY: 23

SYSTEM SUMMARY (APPROX):
SYSTEM SIZE (AC):80MW
SYSTEM SIZE (DC):101.03MW
STRINGS: 6,866
DC VOLTAGE: 1500V
DC/AC RATIO: 1.19

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LAUREL BRANCH SOLAR PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
GENERAL NOTES AND DETAIL SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

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DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
N.T.S.

SHEET NO.:
CP304

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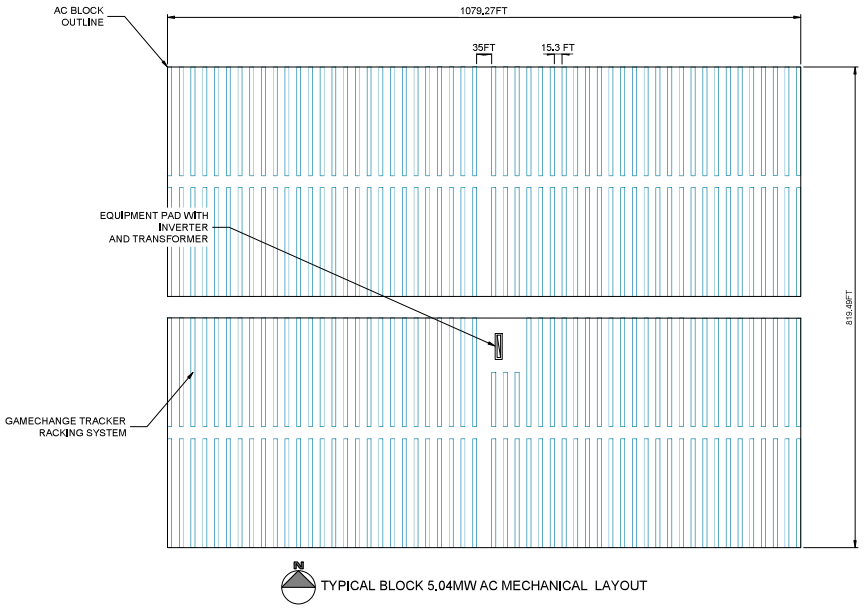
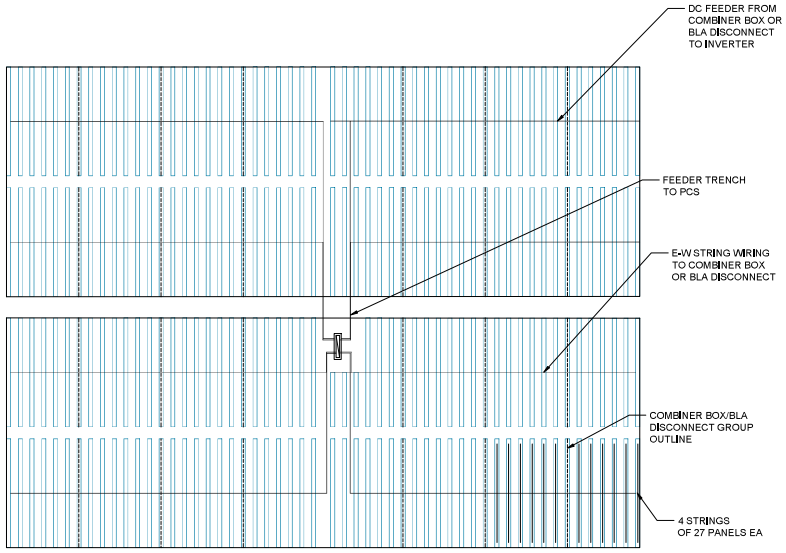
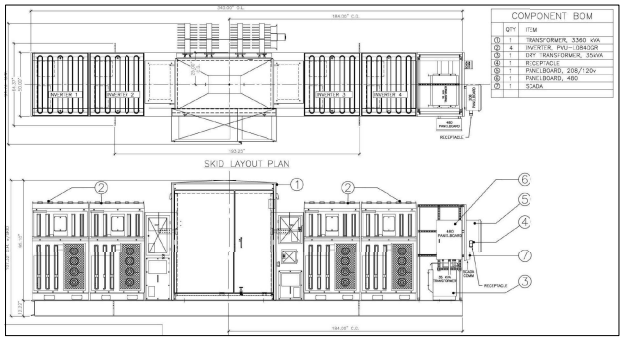


TYPICAL BLOCK 5.04MW AC MECHANICAL LAYOUT

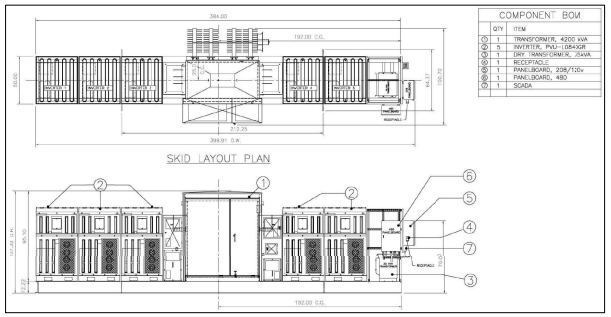


TYPICAL BLOCK 5.04MW AC ELECTRICAL LAYOUT



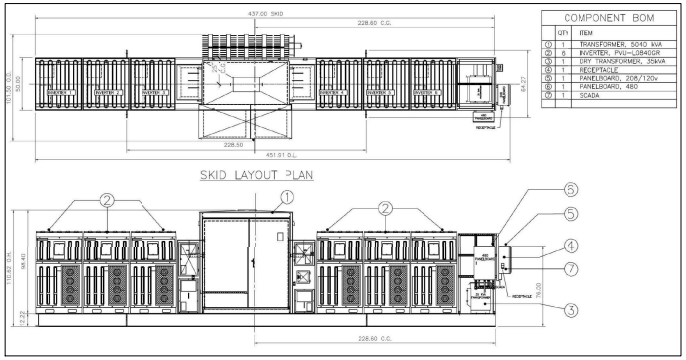
INVERTER DETAIL OPTION 1

SCALE: NTS



INVERTER DETAIL OPTION 2

SCALE: NTS



INVERTER DETAIL OPTION 3

SCALE: NTS

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LUNENBURG COUNTY
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PROJECT NUMBERS:
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SHEET TITLE:
GENERAL NOTES AND DETAIL SHEET

SHEET SIZE: ARCH "D"
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0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

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DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

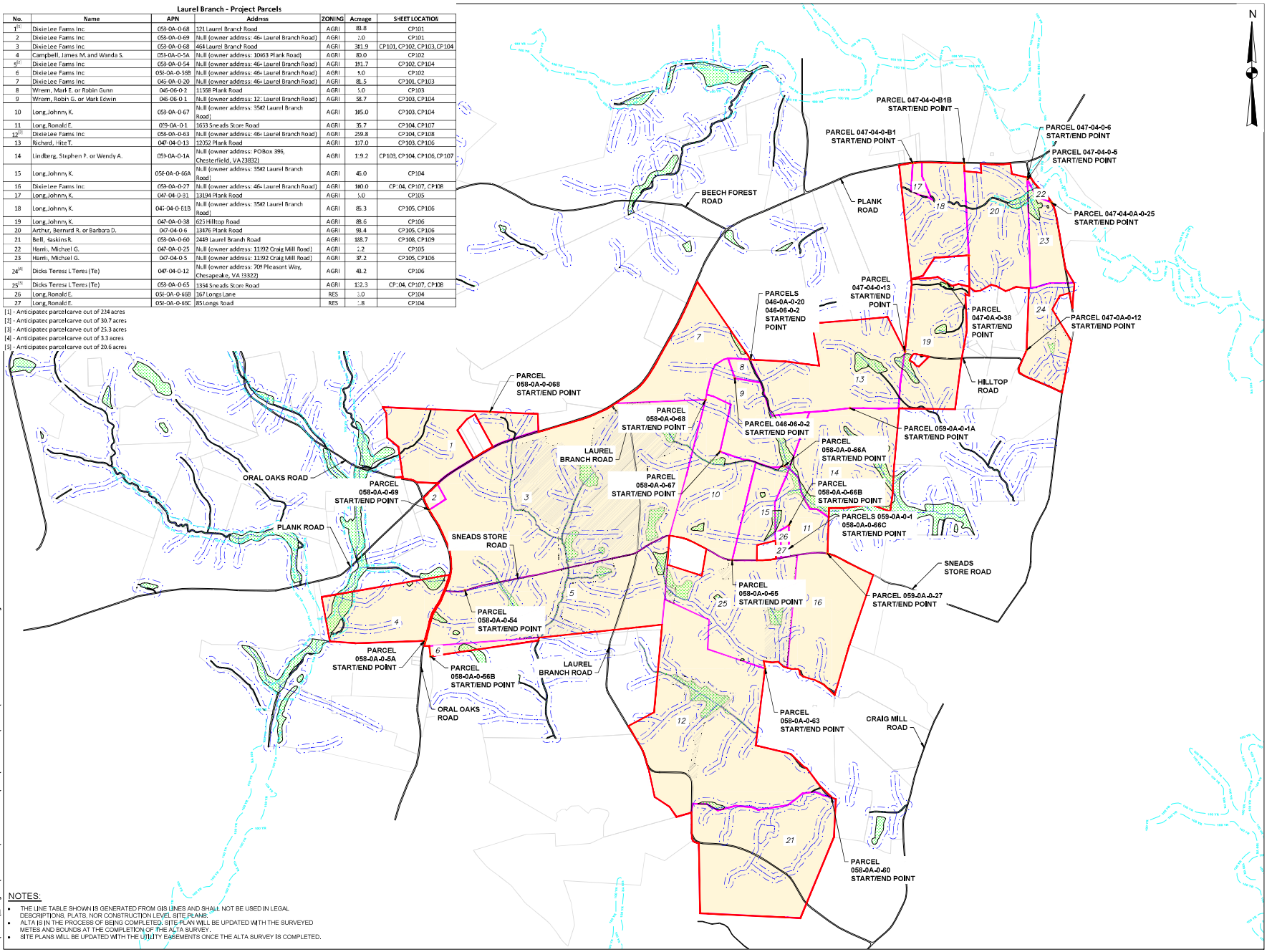
SCALE:
N.T.S.

SHEET NO.:
CP305

Laurel Branch - Project Parcels

No.	Name	APN	Address	ZONING	Acreage	SHEET LOCATION
1[1]	Dixie Lee Farms Inc	058-0A-0-68	121 Laurel Branch Road	AGRI	83.8	CP101
2	Dixie Lee Farms Inc	058-0A-0-69	Null (owner address: 464 Laurel Branch Road)	AGRI	1.0	CP101
3	Dixie Lee Farms Inc	058-0A-0-68	464 Laurel Branch Road	AGRI	341.9	CP101, CP102, CP103, CP104
4	Campbell, James M. and Wanda S.	053-0A-0-5A	Null (owner address: 10663 Plank Road)	AGRI	83.0	CP102
5[2]	Dixie Lee Farms Inc	058-0A-0-54	Null (owner address: 464 Laurel Branch Road)	AGRI	191.7	CP102, CP104
6	Dixie Lee Farms Inc	058-0A-0-56B	Null (owner address: 464 Laurel Branch Road)	AGRI	9.0	CP102
7	Dixie Lee Farms Inc	046-0A-0-20	Null (owner address: 464 Laurel Branch Road)	AGRI	81.5	CP101, CP103
8	Wrenn, Mark E. or Robin Gunn	046-06-0-2	11398 Plank Road	AGRI	1.0	CP103
9	Wrenn, Robin G. or Mark Edwin	046-06-0-1	Null (owner address: 12: Laurel Branch Road)	AGRI	58.7	CP103, CP104
10	Long, Johnny K.	059-0A-0-67	Null (owner address: 3582 Laurel Branch Road)	AGRI	195.0	CP103, CP104
11	Long, Ronald E.	059-0A-0-1	1633 Sneads Store Road	AGRI	35.7	CP104, CP107
12[3]	Dixie Lee Farms Inc	058-0A-0-63	Null (owner address: 464 Laurel Branch Road)	AGRI	259.8	CP104, CP108
13	Richard, Hite T.	047-04-0-13	12052 Plank Road	AGRI	117.0	CP103, CP106
14	Lindberg, Stephen P. or Wendy A.	059-0A-0-1A	Null (owner address: POBox 396, Chesterfield, VA 23832)	AGRI	1.9.2	CP103, CP104, CP106, CP107
15	Long, Johnny K.	058-0A-0-66A	Null (owner address: 3582 Laurel Branch Road)	AGRI	45.0	CP104
16	Dixie Lee Farms Inc	058-0A-0-27	Null (owner address: 464 Laurel Branch Road)	AGRI	180.0	CP:04, CP107, CP108
17	Long, Johnny K.	047-04-0-31	13194 Plank Road	AGRI	1.0	CP105
18	Long, Johnny K.	047-04-0-B1B	Null (owner address: 3582 Laurel Branch Road)	AGRI	85.3	CP105, CP106
19	Long, Johnny K.	047-0A-0-38	625 Hilltop Road	AGRI	88.6	CP106
20	Arthur, Bernard R. or Barbara D.	047-04-0-6	13476 Plank Road	AGRI	98.4	CP105, CP106
21	Bell, Haskins R.	059-0A-0-60	2449 Laurel Branch Road	AGRI	188.7	CP108, CP109
22	Harris, Michael G.	047-0A-0-25	Null (owner address: 11192 Craig Mill Road)	AGRI	1.2	CP105
23	Harris, Michael G.	047-04-0-5	Null (owner address: 11192 Craig Mill Road)	AGRI	37.2	CP105, CP106
24[4]	Dicks Teresa L Teres (Te)	047-04-0-12	Null (owner address: 709 Pleasant Way, Chesapeake, VA 23322)	AGRI	48.2	CP106
25[5]	Dicks Teresa L Teres (Te)	059-0A-0-65	1334 Sneads Store Road	AGRI	122.3	CP:04, CP107, CP108
26	Long, Ronald E.	058-0A-0-66B	167 Longs Lane	RES	3.0	CP104
27	Long, Ronald E.	058-0A-0-66C	85 Longs Road	RES	1.8	CP104

[1] - Anticipated parcel carve out of 224 acres
[2] - Anticipated parcel carve out of 30.7 acres
[3] - Anticipated parcel carve out of 25.3 acres
[4] - Anticipated parcel carve out of 3.3 acres
[5] - Anticipated parcel carve out of 20.6 acres



NOTES:

- THE LINE TABLE SHOWN IS GENERATED FROM GIS LINES AND SHALL NOT BE USED IN LEGAL DESCRIPTIONS, PLATS, NOR CONSTRUCTION LEVEL SITE PLANS.
- ALTA IS IN THE PROCESS OF BEING COMPLETED, SITE PLAN WILL BE UPDATED WITH THE SURVEYED METES AND BOUNDS AT THE COMPLETION OF THE ALTA SURVEY.
- SITE PLANS WILL BE UPDATED WITH THE UTILITY EASEMENTS ONCE THE ALTA SURVEY IS COMPLETED.

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LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
METES AND BOUNDS INDEX SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

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DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
1" = 1000'

SHEET NO.:
CP401

(1) APN: 058-0A-0-68

Line #	Length (FT)	Direction
L1	2551	N87° 28' 12"W
L2	177	S28° 55' 25"E
L3	574	S2° 04' 32"E
L4	191	S50° 54' 28"E
L5	154	S50° 28' 50"E
L6	536	S8° 01' 20"E
L7	185	S7° 58' 37"E
L8	169	S87° 27' 19"W
L9	72	S79° 00' 03"E
L10	105	S82° 33' 21"E
L11	109	S81° 22' 49"E
L12	96	S80° 12' 43"E
L13	53	S75° 02' 05"E
L14	79	S57° 12' 21"E
L15	486	S86° 34' 50"E
L16	112	N48° 39' 11"E
L17	66	N50° 43' 50"E
L18	64	N50° 45' 05"E
L19	70	N53° 02' 45"E
L20	66	N55° 21' 17"E
L21	138	N56° 19' 02"E
L22	158	N58° 32' 42"E
L23	81	N59° 47' 29"E
L24	143	N57° 32' 55"E
L25	166	N58° 00' 14"E
L26	768	N29° 57' 35"W
L27	102	N41° 01' 46"E
L28	248	N40° 46' 57"E
L29	218	N60° 04' 03"E
L30	879	S28° 41' 19"E
L31	35	N61° 43' 14"E
L32	80	N62° 58' 28"E
L33	153	N66° 18' 25"E
L34	166	N70° 48' 12"E
L35	717	N72° 41' 17"E
L36	397	N1° 38' 15"W
L37	1143	N87° 20' 03"W

(2) APN: 058-0A-0-69

Line #	Length (FT)	Direction
L38	466	N57° 45' 44"E
L39	408	N28° 28' 37"W
L40	239	S46° 28' 53"W
L41	222	S45° 24' 26"W
L42	85	S17° 39' 19"E
L43	116	S24° 58' 13"E
L44	116	S29° 22' 05"E

(6) APN: 058-0A-0-56B

Line #	Length (FT)	Direction
L158	2579	N81° 40' 14"E
L159	85	N29° 44' 33"E
L160	2628	S85° 39' 38"W
L161	250	S6° 04' 34"E

(17) APN: 047-04-0-B1

Line #	Length (FT)	Direction
L368	665	S3° 07' 30"W
L369	200	S62° 43' 08"E
L370	212	S76° 28' 05"E
L371	127	S61° 07' 12"E
L372	609	N22° 49' 35"W
L373	319	N0° 25' 32"W
L374	88	S87° 35' 46"W
L375	133	S86° 01' 49"W

(3) APN: 058-0A-0-68

Line #	Length (FT)	Direction
L45	2135	S87° 45' 13"W
L46	318	S59° 03' 47"W
L47	305	S66° 10' 34"W
L48	295	S69° 42' 41"W
L49	452	S73° 45' 12"W
L50	523	S73° 36' 18"W
L51	791	S72° 57' 37"W
L52	165	S70° 40' 39"W
L53	150	S66° 22' 07"W
L54	79	S62° 36' 33"W
L55	252	S60° 26' 52"W
L56	276	S58° 52' 56"W
L57	202	S58° 19' 12"W
L58	143	S57° 32' 55"W
L59	80	S60° 50' 54"W
L60	157	S58° 20' 01"W
L61	138	S56° 11' 22"W
L62	66	S55° 04' 48"W
L63	65	S53° 14' 28"W
L64	66	S51° 58' 41"W
L65	66	S49° 11' 13"W
L66	111	S48° 57' 12"W
L67	408	S28° 28' 37"E
L68	466	S57° 45' 44"W
L69	198	S30° 28' 00"E
L70	284	S31° 23' 15"E
L71	198	S24° 27' 23"E
L72	231	S23° 51' 43"E
L73	113	S21° 00' 39"E
L74	134	S14° 56' 23"E
L75	193	S6° 59' 18"E
L76	182	S1° 03' 50"E
L77	113	S6° 52' 42"W
L78	104	S12° 31' 20"W
L79	106	S17° 13' 16"W
L80	84	S19° 55' 55"W
L81	136	S21° 28' 21"W
L82	76	S84° 54' 55"E
L83	166	S86° 49' 35"E
L84	94	N87° 16' 03"E
L85	139	N78° 50' 17"E
L86	442	N74° 09' 08"E
L87	220	N79° 14' 27"E
L88	271	N79° 11' 17"E
L89	745	N78° 38' 05"E
L90	1024	N77° 40' 18"E
L91	638	N78° 15' 18"E
L92	322	N77° 35' 48"E
L93	302	N78° 39' 41"E
L94	106	N76° 58' 52"E
L95	129	N69° 03' 38"E
L96	126	N55° 37' 05"E
L97	140	N56° 41' 16"E
L98	135	N60° 09' 07"E
L99	300	N63° 22' 20"E
L100	112	N68° 01' 24"E
L101	63	N85° 59' 12"E
L102	1472	N15° 35' 26"E
L157	1872	N14° 10' 34"E

(8) APN: 046-06-0-2

Line #	Length (FT)	Direction
L181	334	N86° 15' 09"W
L182	204	N87° 04' 28"W
L183	499	S18° 14' 33"E
L184	628	S80° 00' 41"E
L185	600	N23° 24' 26"W

(4) APN: 058-0A-0-5A

Line #	Length (FT)	Direction
L105	293	N15° 23' 57"E
L106	249	N13° 56' 03"E
L107	79	N17° 32' 46"E
L108	80	N20° 12' 34"E
L109	101	N31° 08' 47"E
L110	128	N32° 09' 20"E
L111	101	N29° 55' 39"E
L112	265	N23° 49' 16"E
L113	135	N21° 41' 27"E
L114	64	N19° 49' 27"E
L115	62	N18° 48' 20"E
L116	64	N16° 05' 33"E
L117	70	N13° 37' 30"E
L118	9083	S80° 13' 20"W
L119	1075	S10° 36' 48"E
L120	605	S85° 42' 20"E
L121	1645	N88° 07' 27"E

(5) APN: 058-0A-0-54

Line #	Length (FT)	Direction
L122	139	S78° 50' 17"W
L123	94	S67° 16' 03"W
L124	166	N86° 49' 35"W
L125	76	N84° 54' 55"W
L126	260	S23° 37' 59"W
L127	104	S29° 41' 29"W
L128	135	S32° 17' 39"W
L129	91	S30° 52' 30"W
L130	84	S21° 20' 14"W
L131	76	S17° 47' 01"W
L132	249	S13° 56' 03"W
L133	294	S15° 19' 35"W
L134	116	S14° 32' 11"W
L135	118	N89° 08' 33"E
L136	2628	N85° 39' 38"E
L137	2933	N84° 01' 07"E
L138	612	N5° 58' 39"E
L139	823	N4° 23' 13"E
L140	692	N4° 22' 34"E
L142	63	S85° 59' 12"W
L143	112	S68° 01' 24"W
L144	300	S63° 22' 20"W
L145	135	S60° 09' 07"W
L146	140	S56° 41' 16"W
L147	126	S55° 37' 05"W
L148	129	S69° 03' 38"W
L149	106	S76° 58' 52"W
L150	302	S78° 39' 41"W
L151	322	S77° 35' 48"W
L152	638	S78° 15' 18"W
L153	1024	S77° 40' 18"W
L154	745	S78° 38' 05"W
L155	271	S79° 11' 17"W
L156	220	S79° 14' 27"W
L162	442	S74° 09' 08"W

(26) APN: 058-0A-0-66B

Line #	Length (FT)	Direction
L551	368	S59° 47' 18"W
L552	180	S1° 00' 54"E
L553	429	S1° 00' 54"E
L554	126	N80° 02' 40"E
L555	398	N0° 51' 00"W
L556	201	N79° 57' 07"E
L557	339	N1° 30' 10"W

(7) APN: 046-0A-0-20

Line #	Length (FT)	Direction
L163	2249	N34° 26' 48"W
L164	597	S23° 27' 36"W
L165	691	S26° 18' 54"W
L166	625	S29° 28' 41"W
L167	384	S29° 30' 12"W
L168	363	S33° 41' 14"W
L169	273	S43° 13' 02"W
L170	199	S53° 59' 37"W
L171	417	S56° 26' 02"W
L172	2135	N87° 45' 13"E
L173	124	N13° 17' 40"E
L174	101	N7° 06' 33"E
L175	491	N14° 16' 52"E
L176	161	N27° 57' 33"E
L177	239	N58° 35' 44"E
L178	102	N75° 35' 08"E
L179	204	S87° 04' 28"E
L180	334	S86° 15' 09"E

(9) APN: 046-06-0-2

Line #	Length (FT)	Direction
L187	499	N18° 14' 33"W
L188	102	S75° 35' 06"W
L189	239	S58° 35' 44"W
L190	161	S27° 57' 33"W
L191	491	S14° 16' 52"W
L192	101	S7° 06' 33"W
L193	62	S77° 12' 38"E
L194	211	S70° 09' 11"E
L195	352	S64° 26' 47"E
L196	1145	S13° 05' 39"W
L197	552	S71° 06' 59"E
L198	49	S72° 08' 05"E
L199	108	S87° 14' 43"E
L200	188	S71° 14' 23"E
L201	367	S70° 45' 35"E
L202	167	N89° 47' 54"E
L203	57	N77° 09' 46"E
L204	105	N78° 19' 11"E
L205	133	S65° 32' 44"E
L206	1423	N19° 50' 50"E
L207	554	S85° 04' 06"W
L208	341	S82° 51' 44"W
L209	833	N18° 59' 30"W
L326	628	N80° 00' 41"W

(13) APN: 047-04-0-13

Line #	Length (FT)	Direction
L290	909	N26° 31' 03"W
L291	831	S85° 05' 22"W
L292	975	S85° 03' 27"W
L293	730	S9° 37' 29"E
L294	285	S9° 11' 13"E
L295	203	N82° 47' 57"W
L296	590	N82° 47' 55"W
L297	845	N86° 52' 04"W
L298	600	S23° 24' 26"E
L299	833	S18° 59' 30"E
L300	341	N82° 51' 44"E
L301	554	N85° 04' 06"E
L302	964	N84° 24' 43"E
L303	1156	S89° 46' 38"E
L304	613	N4° 15' 44"E
L305	598	N8° 07' 06"E
L306	156	N8° 02' 21"E

(10) APN: 058-0A-0-67

Line #	Length (FT)	Direction
L212	1145	N13° 05' 39"E
L213	352	N64° 26' 47"W
L214	211	N70° 09' 11"W
L215	62	N77° 12' 38"W
L216	124	S13° 17' 40"W
L217	1872	S14° 10' 34"W
L218	1472	S15° 35' 26"W
L219	82	S82° 50' 26"E
L220	128	S78° 49' 53"E
L221	101	S78° 35' 19"E
L222	138	S72° 31' 43"E
L223	170	S64° 48' 15"E
L224	101	S62° 52' 30"E
L225	101	S62° 52' 35"E
L226	120	S62° 19' 47"E
L227	194	S60° 30' 34"E
L228	252	S60° 48' 07"E
L229	80	S71° 28' 00"E
L230	148	S81° 52' 12"E
L231	2392	N13° 41' 13"E
L232	188	N71° 14' 23"W
L233	108	N87° 14' 43"W
L234	49	N72° 08' 05"W
L344	552	N71° 06' 59"W

(11) APN: 059-0A-0-1

Line #	Length (FT)	Direction
L239	42	S2° 30' 22"E
L240	53	S7° 51' 06"E
L241	86	S15° 42' 53"E
L242	181	N79° 29' 14"E
L243	218	N81° 44' 17"E
L244	144	N83° 56' 23"E
L245	144	N87° 55' 14"E
L246	137	S87° 17' 39"E
L247	76	S81° 44' 48"E
L248	860	N1° 59' 14"E
L250	333	N54° 07' 15"W
L251	181	N85° 01' 49"W
L252	189	N29° 44' 42"W
L253	252	N25° 46' 10"W
L254	359	N11° 18' 36"W
L255	304	N45° 00' 24"W
L256	187	S19° 50' 50"W
L257	693	S23° 44' 11"W
L258	734	S1° 00' 54"E
L259	368	N59° 47' 18"E
L260	339	S1° 30' 10"E
L261	77	S2° 51' 32"W
L262	102	S4° 33' 39"W
L325	42	S2° 14' 09"W

(14) APN: 059-0A-0-1A

Line #	Length (FT)	Direction
L307	964	S84° 24' 43"W
L308	1423	S19° 50' 50"W
L309	304	S45° 00' 24"E
L310	359	S11° 18' 36"E
L311	252	S25° 46' 10"E
L312	189	S29° 44' 42"E
L313	181	S85° 01' 49"E
L314	333	S54° 07' 15"E
L315	226	N2° 00' 25"E
L316	333	S88° 43' 19"E
L317	466	N82° 16' 41"E
L318	137	N76° 45' 34"E
L319	86	S84° 48' 20"E
L320	471	S69° 57' 12"E
L321	359	N8° 26' 55"E
L322	772	N3° 10' 54"E
L323	1331	N4° 20' 12"E
L324	1156	N89° 46' 38"W

(12) APN: 058-0A-0-63

Line #	Length (FT)	Direction
L263	1445	N71° 11' 11"W
L264	695	N2° 52' 53"E
L265	1165	N65° 00' 13"W
L266	612	S5° 58' 39"W
L267	2097	S5° 16' 03"W
L268	686	S62° 27' 25"W
L269	623	S30° 08' 17"E
L270	254	S21° 57' 28"E
L271	279	S16° 26' 10"E
L272	658	S11° 55' 48"E
L273	435	S56° 02' 33"E
L274	285	S34° 20' 00"E
L275	371	N73° 03' 04"E
L276	206	N7° 53' 16"E
L277	344	S88° 48' 31"E
L278	301	S59° 38' 39"E
L279	444	N75° 40' 43"E
L280	530	S79° 28' 54"E
L281	715	N81° 05' 23"E
L282	455	N51° 32' 17"E
L283	287	N82° 50' 14"E
L284	430	S71° 56' 33"E
L285	406	N45° 59' 02"W
L286	502	N35° 44' 41"W
L287	525	N48° 22' 06"W
L288	854	N76° 27' 45"W
L289	1839	N6° 55' 24"E

(24) APN: 047-04-0-12

Line #	Length (FT)	Direction
L482	395	S23° 19' 16"W
L483	35	S33° 58' 46"W
L484	27	S10° 22' 37"W
L485	29	S10° 22' 39"W
L486	17	S16° 34' 43"W
L487	12	S8° 26' 48"W
L488	12	S0° 22' 18"E
L489	12	S9° 11' 36"E
L490	12	S17° 56' 56"E
L491	12	S26° 43' 51"E
L492	12	S35° 30' 41"E
L493	17	S45° 46' 55"E
L494	8	S54° 33' 59"E
L495	24	S59° 18' 18"E
L496	17	S59° 18' 21"E
L497	1061	S65° 27' 40"E
L498	491	N10° 17' 31"E
L499	474	N10° 50' 07"E
L500	269	N10° 16' 08"E
L501	896	N30° 41' 40"W
L502	371	N29° 24' 45"E
L503	237	N75° 05' 44"E
L504	368	S10° 18' 09"E
L505	364	N3° 57' 39"E
L506	214	N6° 24' 16"E
L507	33	N29° 35' 35"W
L508	76	S87° 46' 51"W
L509	103	S88° 36' 30"W
L510	200	S89° 50' 04"W
L511	173	S89° 50' 04"W
L512	387	S74° 32' 59"W
L513	102	S81° 59' 29"W
L514	41	S81° 59' 27"W
L515	205	S2° 16' 34"W
L516	859	S2° 16' 34"W
L517	408	S1° 42' 22"W

(15) APN: 058-0A-0-66A

Line #	Length (FT)	Direction
L328	105	S78° 19' 11"W
L329	57	S77° 09' 46"W
L330	167	S89° 47' 54"W
L331	367	N70° 45' 35"W
L332	2392	S13° 41' 13"W
L333	96	S87° 04' 29"E
L334	189	S89° 21' 30"E
L335	177	N89° 47' 58"E
L336	126	N89° 58' 03"E
L337	364	N0° 19' 34"E
L338	454	N76° 58' 48"E
L339	180	N1° 00' 53"W
L340	734	N1° 00' 54"W
L341	693	N23° 44' 11"E
L342	187	N19° 50' 50"E
L343	133	N65° 32' 44"W

(16) APN: 059-0A-0-27

Line #	Length (FT)	Direction
L345	76	N81° 44' 48"W
L346	137	N87° 17' 39"W
L347	144	S87° 55' 14"W
L348	144	S83° 56' 23"W
L349	218	S81° 44' 17"W
L350	2693	S5° 06' 27"W
L351	103	S72° 54' 40"E
L352	158	N89° 47' 50"E
L353	50	S41° 56' 48"E
L354	88	S5° 39' 51"E
L355	83	S53° 12' 32"E
L356	332	S72° 39' 16"E
L357	228	S61° 24' 47"E
L358	341	S45° 20' 54"E
L359	1249	N16° 30' 44"E
L360	1756	N18° 49' 56"E
L361	405	N64° 23' 44"W
L362	319	N63° 16' 48"W
L363	223	N61° 56' 10"W
L364	82	N65° 16' 55"W
L365	116	N71° 21' 25"W
L366	62	N75° 50' 33"W

(25) APN: 058-0A-0-65

Line #	Length (FT)	Direction
L519	148	N81° 52' 12"W
L520	80	N71° 28' 00"W
L521	252	N60° 48' 07"W
L522	194	N60° 30' 34"W
L523	649	S9° 48' 04"W
L524	861	N72° 03' 18"W
L525	823	S4° 23' 13"W
L526	1165	S65° 00' 13"E
L527	695	S2° 52' 53"W
L528	1445	S71° 11' 11"E
L529	107	N10° 05' 30"W
L530	76	N10° 19' 11"W
L531	185	S80° 15' 57"E
L532	163	N85° 23' 38"E
L533	168	S46° 59' 13"E
L534	97	S73° 35' 42"E
L535	2693	N5° 06' 27"E
L536	181	S79° 29' 14"W
L537	213	S80° 49' 07"W
L538	126	S80° 02' 40"W
L539	140	S81° 00' 37"W
L540	93	S84° 41' 07"W
L541	118	S87° 05' 44"W
L542	103	S89° 35' 36"W
L543	126	S89° 58' 03"W
L544	177	S89° 47' 58"W
L545	189	N89° 21' 30"W
L546	96	N87° 04' 29"W

(18) APN: 047-04-0-B1B

Line #	Length (FT)	Direction
L376	432	N88° 25' 26"W
L377	215	N88° 30' 04"W
L378	183	N88° 37' 03"W
L379	175	S89° 34' 13"W
L380	319	SD° 25' 32"E
L381	609	S22° 49' 35"E
L382	127	N61° 07' 12"W
L383	212	N76° 28' 05"W
L384	200	N62° 43' 08"W
L385	665	N3° 07' 30"E
L386	180	S81° 21' 31"W
L387	144	S79° 20' 11"W
L388	2721	S6° 01' 41"E
L389	283	N75° 10' 05"E
L390	519	N33° 07' 56"E
L391	814	N86° 19' 56"E
L392	2010	N2° 55' 19"W
L393	185	N2° 19' 31"W

(19) APN: 047-04-0-3B

Line #	Length (FT)	Direction
L395	251	N57° 16' 21"W
L396	172	S81° 02' 41"W
L397	55	S85° 11' 47"W
L398	411	S87° 39' 47"W
L399	143	S5° 57' 00"E
L400	1587	S6° 02' 34"W
L401	156	S8° 02' 21"W
L402	598	S8° 07' 06"W
L403	613	S4° 15' 44"W
L404	22	N89° 36' 15"E
L405	1325	S88° 58' 09"E
L406	1229	N7° 26' 53"E
L407	308	N10° 19' 44"E
L408	352	N10° 19' 44"E
L409	884	N1° 58' 12"W
L410	48	S54° 09' 45"E
L411	53	S70° 49' 16"E
L412	203	N1° 13' 30"E
L413	24	N55° 05' 50"W
L414	242	N76° 02' 19"W
L415	168	S74° 41' 24"W
L416	144	N57° 14' 58"W

(20) APN: 047-04-0-6

Line #	Length (FT)	Direction
L417	381	N76° 58' 51"W
L418	248	N7° 50' 22"W
L419	75	S84° 51' 20"W
L420	100	S84° 17' 07"W
L421	53	S85° 55' 31"W
L422	80	S88° 30' 22"W
L423	89	N88° 15' 52"W
L424	117	N86° 53' 23"W
L425	89	N86° 20' 18"W
L426	100	N87° 15' 43"W
L427	219	S1° 51' 02"E
L428	400	N83° 47' 43"W
L429	2010	S2° 55' 19"E
L430	753	S1° 03' 29"E
L431	169	S52° 48' 30"E
L432	122	N84° 07' 54"E
L433	305	N61° 04' 18"E
L434	178	S70° 32' 45"E
L435	197	S60° 54' 27"E
L436	273	N86° 50' 16"E
L437	203	S80° 39' 33"E
L438	103	S88° 01' 24"E
L439	41	N81° 59' 29"E
L440	2584	N1° 38' 49"W
L441	45	N1° 34' 15"W

(22) APN: 047-0A-0-25

Line #	Length (FT)	Direction
L444	58	N31° 04' 16"W
L445	42	N34° 02' 42"W
L446	47	N36° 57' 59"W
L447	47	N39° 15' 56"W
L448	63	N41° 57' 57"W
L449	63	N45° 02' 46"W
L450	66	N48° 13' 25"W
L451	69	N46° 55' 01"W
L452	69	N44° 06' 23"W
L453	69	N41° 17' 49"W
L454	69	N38° 29' 03"W
L455	94	N31° 46' 18"W
L456	91	N78° 26' 54"W
L457	45	S1° 34' 15"E
L458	151	S26° 52' 01"E
L459	310	S26° 52' 01"E
L460	387	S69° 18' 53"E

(23) APN: 047-04-0-5

Line #	Length (FT)	Direction
L462	2584	S1° 38' 49"E
L463	102	N81° 59' 29"E
L464	387	N74° 32' 59"E
L465	173	N89° 50' 04"E
L466	200	N89° 50' 04"E
L467	103	N88° 36' 30"E
L468	76	N87° 46' 51"E
L469	406	N29° 35' 36"W
L470	1262	N8° 50' 56"W
L471	83	N12° 26' 58"W
L472	47	N15° 13' 43"W
L473	47	N17° 36' 21"W
L474	47	N19° 58' 46"W
L475	47	N22° 21' 38"W
L476	47	N24° 43' 57"W
L477	37	N31° 04' 16"W
L478	387	N69° 16' 53"W
L479	310	N26° 52' 01"W
L480	151	N26° 52' 01"W

(27) APN: 058-0A-0-66C

Line #	Length (FT)	Direction
L325	42	S2° 14' 09"W
L262	102	S4° 33' 39"W
L261	77	S2° 51' 32"W
L556	201	N79° 57' 07"E
L555	398	N0° 51' 00"W
L537	213	S80° 49' 07"W
L241	86	S15° 42' 53"E
L240	53	S7° 51' 06"E
L239	42	S2° 30' 22"E

(21) APN: 058-0A-0-60

Line #	Length (FT)	Direction
L560	430	S71° 56' 33"E
L561	287	N82° 50' 14"E
L562	455	N51° 32' 17"E
L563	715	N81° 05' 23"E
L564	530	S79° 28' 54"E
L565	444	N75° 40' 43"E
L566	301	S59° 38' 39"E
L567	344	S88° 48' 31"E
L568	206	N7° 53' 16"E
L569	277	N1° 39' 44"W
L570	340	N0° 29' 17"W
L571	54	N20° 53' 01"W
L572	19	N41° 37' 00"W
L573	24	N52° 26' 52"W
L574	29	N65° 37' 20"W
L575	39	N73° 49' 02"W
L576	51	N81° 46' 55"W
L577	1673	N0° 56' 56"W
L578	2389	N87° 07' 59"W
L579	2083	S22° 33' 36"W
L580	913	S3° 14' 30"W
L581	109	S69° 02' 46"E

NOTES:

- THE LINE TABLE SHOWN IS GENERATED FROM GIS LINES AND SHALL NOT BE USED IN LEGAL DESCRIPTIONS, PLATS, NOR CONSTRUCTION LEVEL SITE PLANS.
- ALTA IS IN THE PROCESS OF BEING COMPLETED. SITE PLAN WILL BE UPDATED WITH THE SURVEYED METES AND BOUNDS AT THE TIME OF THE COMPLETION OF THE ALTA SURVEY

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05/17/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
METES AND BOUNDS

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR
01	CUP APPLICATION	09/2/2022	GAR

va811.com Dig With CARE

DATE:	09/2/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

SCALE:
NTS

SHEET NO.:
CP402

TAB H

Traffic Study

Transportation Assessment

Laurel Branch Solar Project

September 1, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

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Acronyms and Abbreviations

3D	three-dimensional
ADT	average daily traffic
BABS	Blackstone Area Bus System
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
MWac	megawatts (alternating current)
O&M	operations and maintenance
Project Area	The 2,378± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project
STAA	Surface Transportation Assistance Act
VDOT	Virginia Department of Transportation
vpd	vehicles per day

1.0 OVERVIEW

Tetra Tech has prepared the following transportation assessment for the proposed Laurel Branch Solar project (the "Project") to be located on Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and 637 (Craig Mill Road) and Hilltop Road in Lunenburg County, Virginia. The project site is comprised of approximately 2,378 acres (based on the current project boundary) and currently supports agricultural land with several single-family homes. Access to the site parcels is currently provided via several driveways and agricultural access ways. The proposed project calls for the redevelopment of existing agricultural land to support the construction of an 80 megawatt (MWac) solar photovoltaic power generation facility. Some of the existing single-family homes and several agricultural buildings on-site will be removed. As part of the project, 29 driveways will be constructed on the adjacent roadway system to provide temporary construction access and permanent operations and maintenance (O&M) access to the site.

As part of this assessment, Tetra Tech developed vehicle trip generation estimates associated with the proposed project's anticipated peak construction workforce levels (estimated at up to 150 construction workers). Tetra Tech also reviewed existing traffic volumes and public transportation in the vicinity of the project site. Potential truck haul routes were also identified between the site parcels and the regional highway system to reduce construction-related traffic impacts.

The project is anticipated to generate approximately 486 vehicle trips on a typical weekday day with 149 vehicle trips occurring during the weekday morning and weekday evening commuter peak hours. This equates to approximately two to three new vehicle trips per minute during peak commuting hours. These estimates conservatively assume that all construction workers would arrive within the same hour and depart within the same hour. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic. These trip generation estimates assume 50 daily delivery trips and six delivery trips during each of the peak hours during the peak two to three months of construction activity.

2.0 PROJECT DESCRIPTION

The project calls for the construction of a proposed 80 MWac solar photovoltaic power generation facility to be located on Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and 637 (Craig Mill Road) and Hilltop Road in Lunenburg County, Virginia. The project site location in the context of the surrounding area roadways is shown in Figure 1. The project site currently supports agricultural fields and several single-family homes. Access to the site parcels is currently provided via several driveways and agricultural access ways.

The proposed project calls for the redevelopment of existing agricultural land to support the construction of an 80 MWac solar photovoltaic power generation facility. Some of the existing single-

family homes and agricultural buildings on-site will be removed. As part of the project, 29 driveways will be constructed on the adjacent roadway system to provide temporary construction access and permanent O&M access to the site including three driveways on Oral Oaks Road, seven driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road.

2.1 Existing Traffic Volumes

The site parcels are accessed by Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and 637 (Craig Mill Road) and Hilltop Road. These primary roadways serving the site are under Virginia Department of Transportation (VDOT) ownership and allow for two-way travel.

The estimated Average Daily Traffic (ADT) volume estimates for the study area roadways are summarized in Table 1 based on the most recent publicly available data from VDOT. VDOT traffic volume data is provided in Appendix A.

Table 1 Estimated Average Daily Traffic (ADT) Volumes

Roadway	ADT (vehicles per day)
Route 637 (east of Route 655)	1,100
Route 655	540
Route 637 (south of Route 655)	580
Route 635 (south of Route 655)	440
Route 635 (north of Route 655)	310
Sneads Store Road (east of Route 646)	100
Route 646	70
Route 647	20
Hilltop Road	40

Source: VDOT

2.2 Vehicle Trip Generation

The project will consist of three phases: construction, O&M, and decommissioning. The highest volume of site-related trips will occur during the peak construction phase of the project. Therefore, the trip generation for the peak construction phase workforce levels were estimated for this assessment.

Vehicle trip generation estimates for the project were developed based on anticipated construction operations for the project. Construction of the proposed solar facility is expected to include grading, panel installation, inspections, and equipment deliveries. It is anticipated that, at peak operations, the site could experience construction workforce levels of up to 150 construction workers at one time. Construction hours of operation are assumed to generally be 7 AM to 5 PM with construction workers arriving prior to 7 AM and departing after 5 PM. Since the peak hours of the adjacent street traffic are expected to occur sometime during the peak commuting periods of 7 AM to 9 AM and 4 PM to 6 PM, it is expected that the majority of construction workers would be arriving and departing the site outside of the typical weekday morning and weekday evening commuter peak hours of the adjacent street.

However, to present a conservative assessment of potential traffic increases associated with the project, it is assumed that all the construction workers would arrive during the weekday morning peak hour and depart during the weekday evening peak hour. The supporting trip generation calculations and assumptions for the proposed project's peak construction workforce levels are provided in Appendix B.

The Blackstone Area Bus System (BABS) operates public transit service in nearby Lunenburg County. BABS operates the Town and Country bus service on Route 637 which travels from Kenbridge to Victoria. The site is approximately 2 miles southwest of this public transportation service with the closest stop located at the W. 7th Avenue and Broad Street intersection in Kenbridge. For the purposes of this assessment, it was assumed that no construction workers would use public transit to access the site. Public transportation information is provided in Appendix C.

It is anticipated that some construction workers would arrive and depart the site together (carpooling). For purposes of this assessment, it was assumed that 10 percent of the construction workers will carpool to travel to/from the site with two workers per vehicle. Table 1 presents a summary of the trip generation estimates for the project's peak construction workforce activities.

Table 2 Trip Generation Summary – Peak Construction Period

Time Period/ Direction	Project Trips			
	Workforce Trips[1]	Non-Heavy Vehicle Deliveries[2]	Heavy Vehicles[3]	Total
Weekday AM Peak Hour				
Enter	143	1	2	146
Exit	0	1	2	3
Total	**143**	**2**	**4**	**149**
Weekday PM Peak Hour				
Enter	0	1	2	3
Exit	143	1	2	146
Total	**143**	**2**	**4**	**149**
Weekday Daily				
Enter	218	5	20	243
Exit	218	5	20	243
Total	**436**	**10**	**40**	**486**

1 Assumed 150 construction workers per day. Conservatively assumed trips overlap with adjacent street peaks. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.
2 Assumed 5 deliveries per day with 40 percent of trips occurring during peak hours.
3 Assumed 20 deliveries per day spread evenly throughout day.

As shown in Table 1, the peak construction activity for the proposed solar facility is expected to generate 486 new vehicle trips (243 entering and 243 exiting) on a typical weekday, with approximately 149 new vehicle trips (146 entering and 3 exiting) during the weekday morning peak hour and 149 new vehicle trips (3 entering and 146 exiting) during the weekday evening peak hour. These trip generation estimates assume 50 daily delivery trips and six delivery trips during each of the peak hours. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic with the project estimated to generate

approximately two to three additional trips every minute during peak hours. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection.

Post-Construction Conditions. Routine post-construction O&M activities at the site are not anticipated to result in a measurable increase in vehicle traffic. The number of maintenance workers traveling to the site is anticipated to be low and impacts to local traffic are not expected. The proposed solar facility will be unmanned during routine O&M and would only be inspected periodically. Therefore, the site is not expected to add a noticeable increase to existing traffic under typical O&M conditions. Personnel would be on site as necessary for any maintenance and repairs. Additionally, impacts resulting from decommissioning of the project are expected to be similar to or less than those experienced during construction.

2.3 Truck Haul Routes

The construction of the proposed solar facility will require large vehicle deliveries for a variety of materials that may include concrete, solar panels, earth materials, building materials, etc. Tetra Tech identified potential truck haul routes between the site parcels and the regional roadway system for these larger vehicles. For purposes of this assessment, it was assumed that the deliveries would originate from three primary geographical areas: Richmond, VA, Lynchburg, VA, and Raleigh, NC. Factors considered in developing potential truck haul routes are summarized below. Separate inbound and outbound travel routes are provided where appropriate.

- Prioritize designated Surface Transportation Assistance Act (STAA) truck routes from the VDOT database.
- Avoid roadway segments having bridge height and weight limitations based on a review of the VDOT database.
- Minimize impacts to schools, traffic signals, and areas with pedestrian activity.
- Minimize turns at locations with geometric limitations.

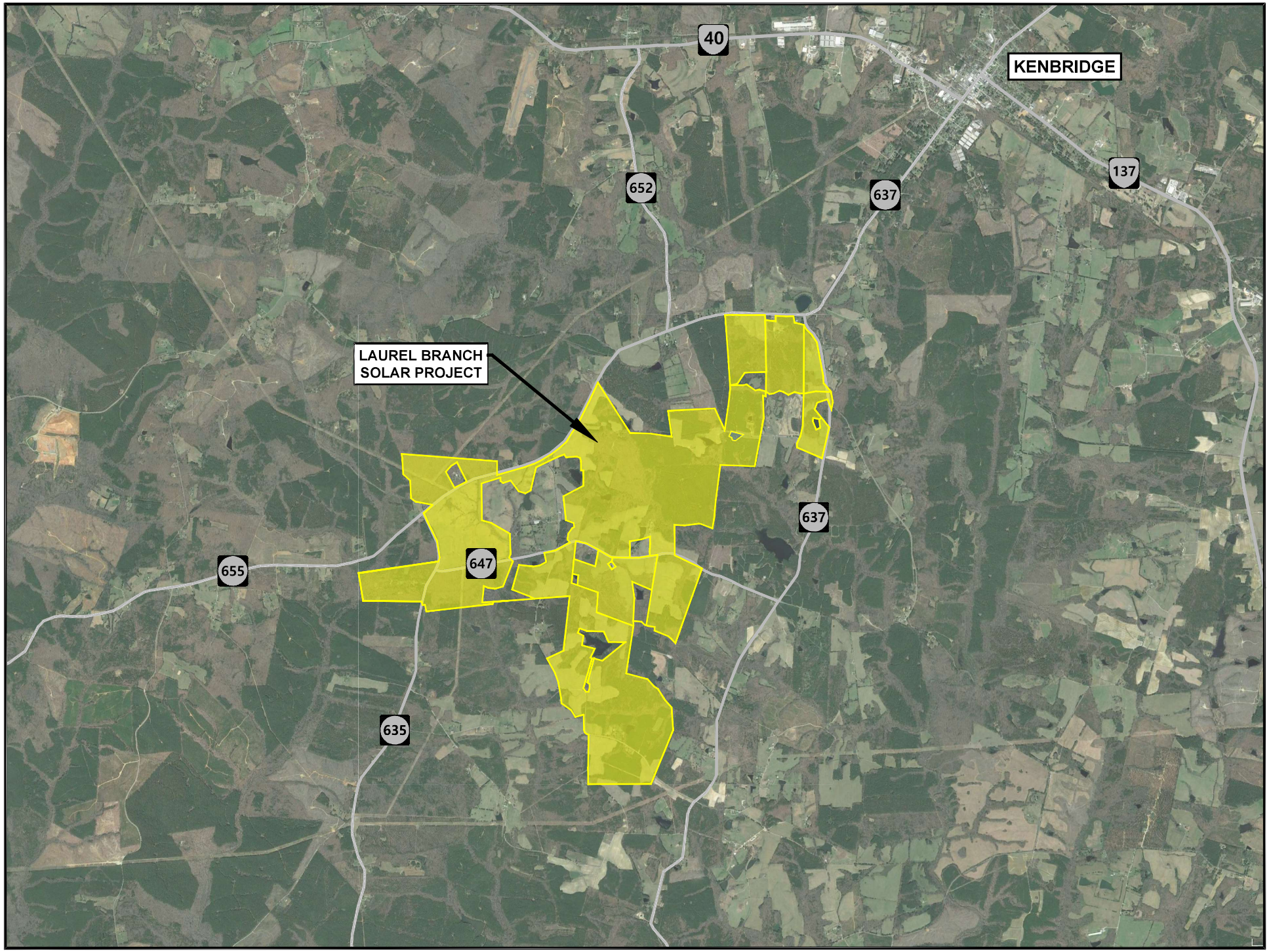
The potential regional truck haul routes are shown in Figure 2. The potential local truck haul routes to/from the proposed site driveways are shown in Figure 3. A preliminary Construction Traffic Management Plan (CTMP) has been prepared for the project and is provided in Appendix D.

3.0 CONCLUSIONS

The peak construction workforce levels for the proposed 80 MWac solar photovoltaic power generation facility is expected to generate approximately 149 trips during the weekday morning peak hour and 149 trips during the weekday evening peak hour during peak construction workforce activity. This equates to approximately two to three new vehicle trips per minute during peak hours. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips. These trip generation estimates are conservative as the majority of peak hour trips are likely to occur outside of the typical weekday commuter peak hours of the adjacent street traffic and do not take credit for possible vehicle trip reductions associated with use of available public transportation. The

project will generate even less traffic post construction with routine inspection and maintenance of the solar panels and supporting equipment. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. As part of the project, 29 driveways will be constructed to provide temporary construction access and permanent O&M access to the site from the public roadway network including three driveways on Oral Oaks Road, seven driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic with existing daily traffic volumes of 20 vehicles per day (vpd) to 1,100 vpd. Potential truck haul routes were identified between the site parcels and the regional highway system to reduce construction-related traffic impacts.

FIGURES

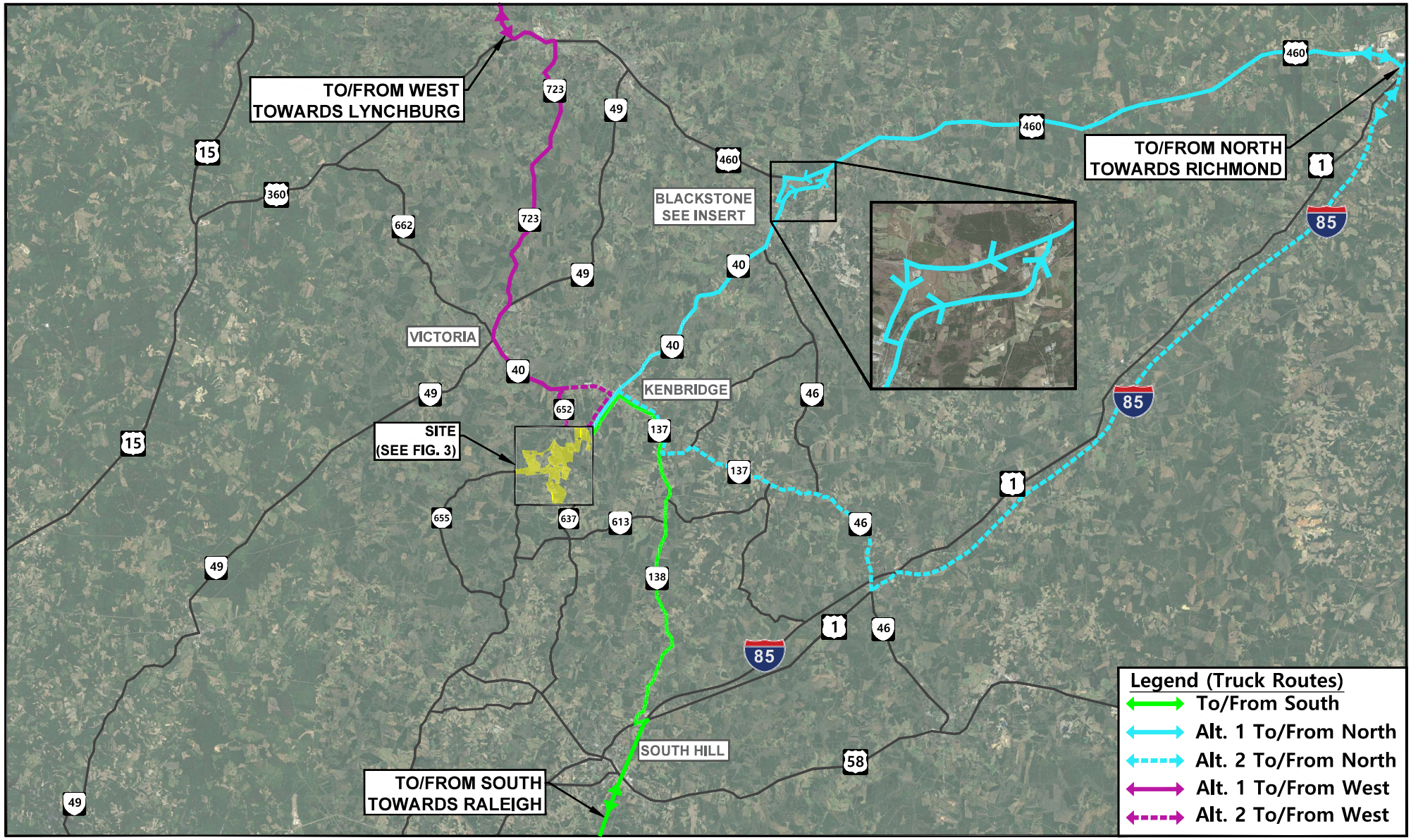


TETRA TECH

Laurel Branch Solar Project
Lunenburg County, Virginia

SITE LOCUS

FIGURE
1

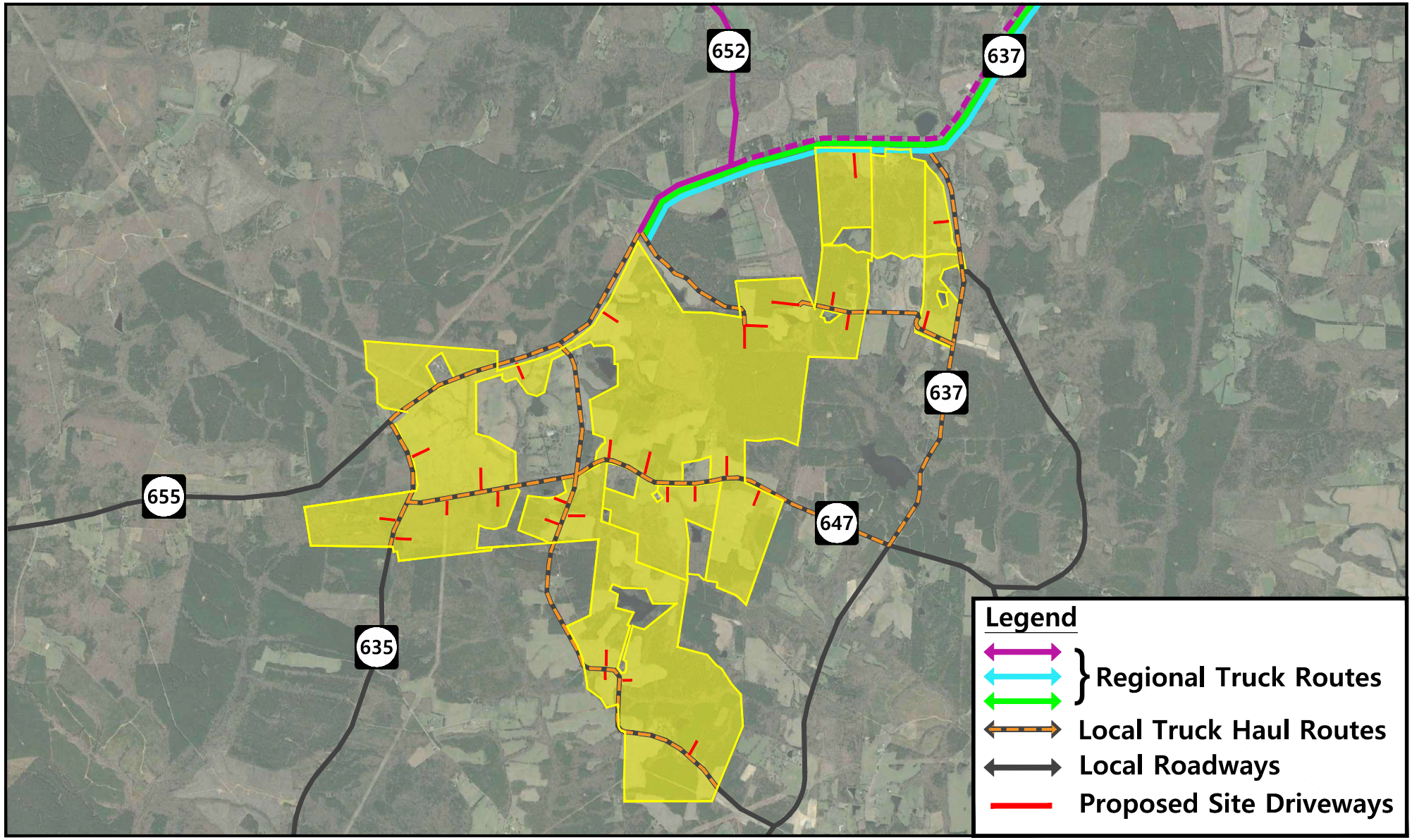


TETRA TECH

Lunenburg County, Virginia

Laurel Branch Solar
Potential Regional Truck Haul Routes

FIGURE
2

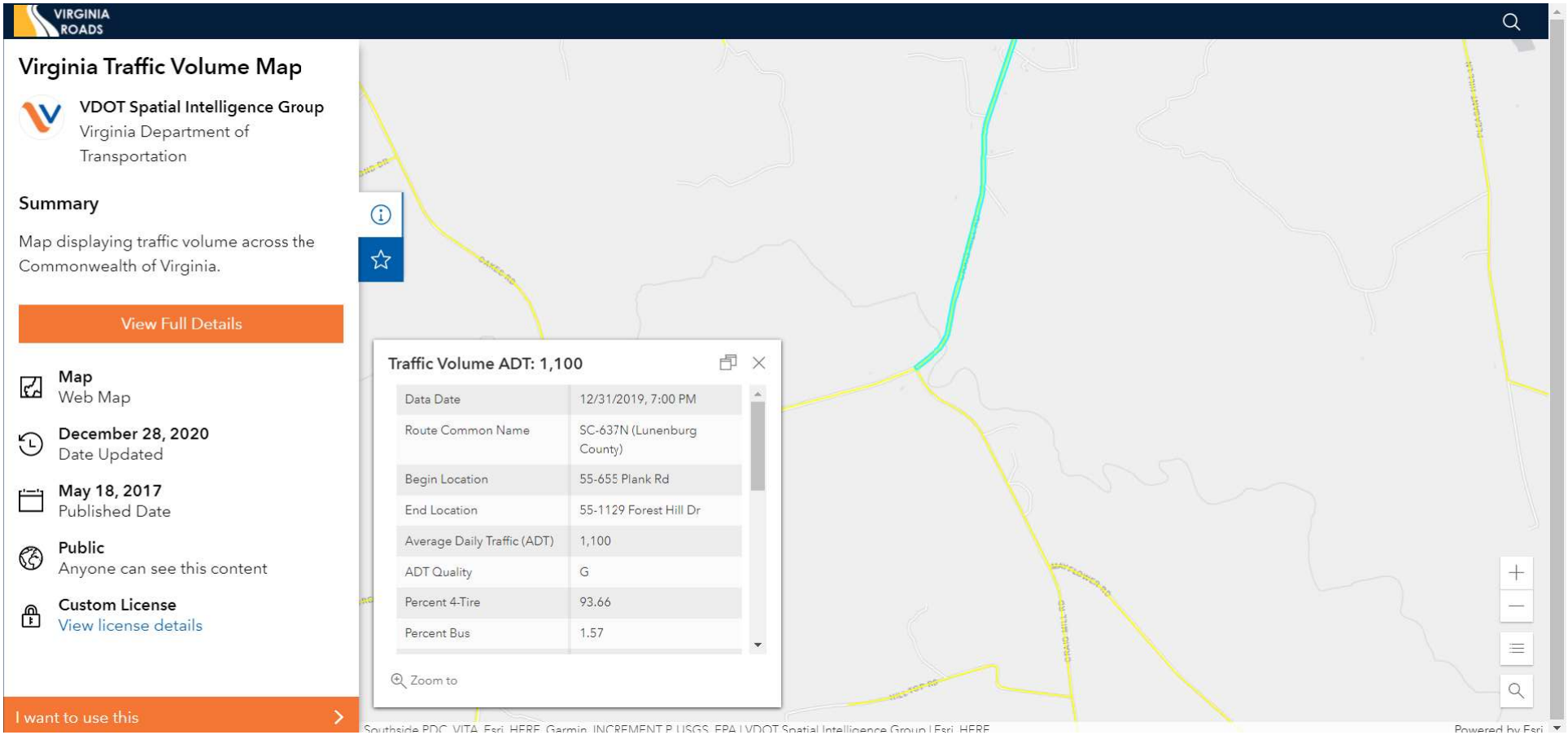


TETRA TECH

Lunenburg County, Virginia
Laurel Branch Solar
Potential Local Truck Haul Routes

FIGURE
3

APPENDIX A: VDOT TRAFFIC VOLUME DATA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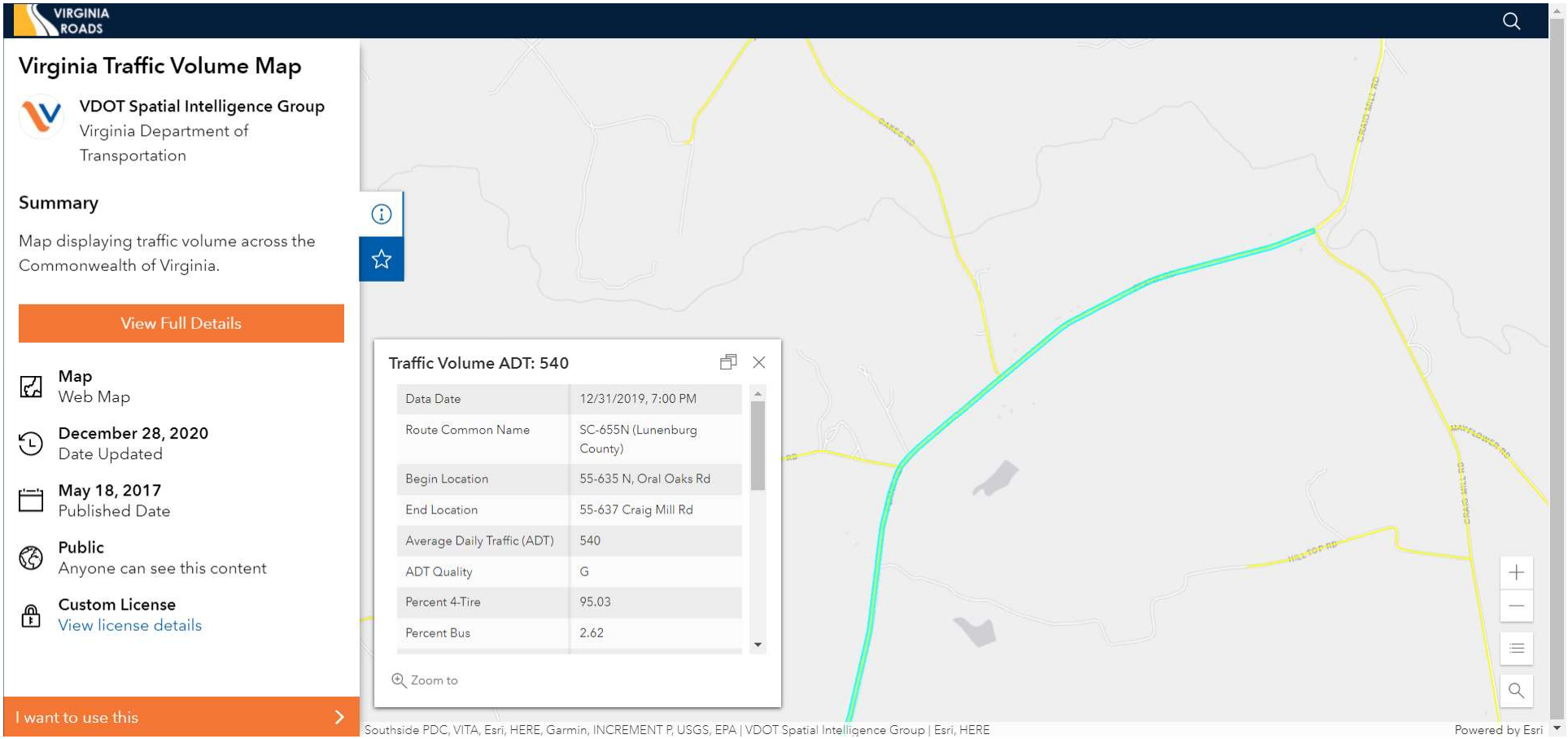
Traffic Volume ADT: 1,100
Data Date 12/31/2019, 7:00 PM
Route Common Name SC-637N (Lunenburg County)
Begin Location 55-655 Plank Rd
End Location 55-1129 Forest Hill Dr
Average Daily Traffic (ADT) 1,100
ADT Quality G
Percent 4-Tire 93.66
Percent Bus 1.57
Zoom to
Powered by Esri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Traffic Volume ADT: 540
Data Date 12/31/2019, 7:00 PM
Route Common Name SC-655N (Lunenburg County)
Begin Location 55-635 N, Oral Oaks Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 540
ADT Quality G
Percent 4-Tire 95.03
Percent Bus 2.62
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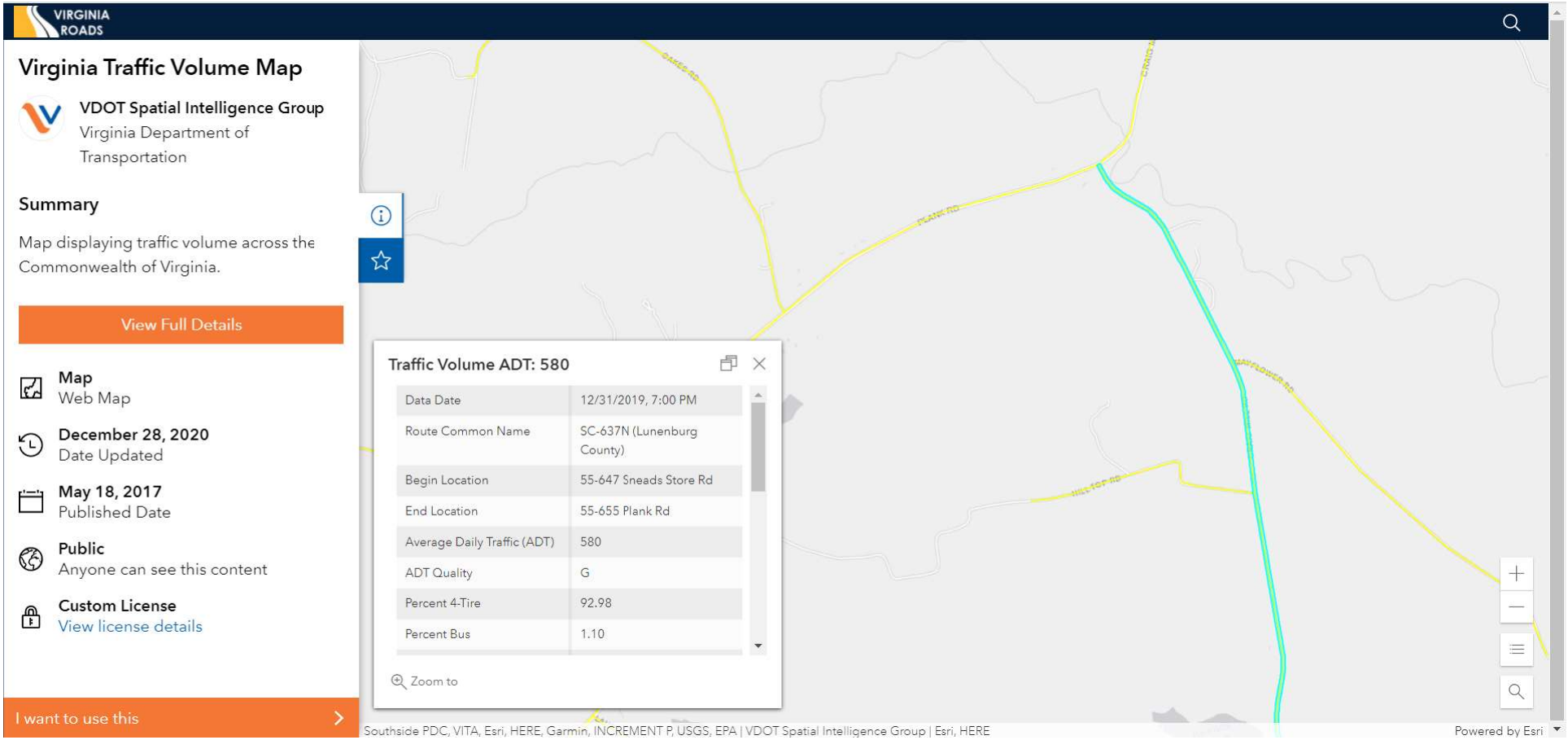
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Traffic Volume ADT: 580
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Route Common Name SC-637N (Lunenburg County)
Begin Location 55-647 Sneads Store Rd
End Location 55-655 Plank Rd
Average Daily Traffic (ADT) 580
ADT Quality G
Percent 4-Tire 92.98
Percent Bus 1.10
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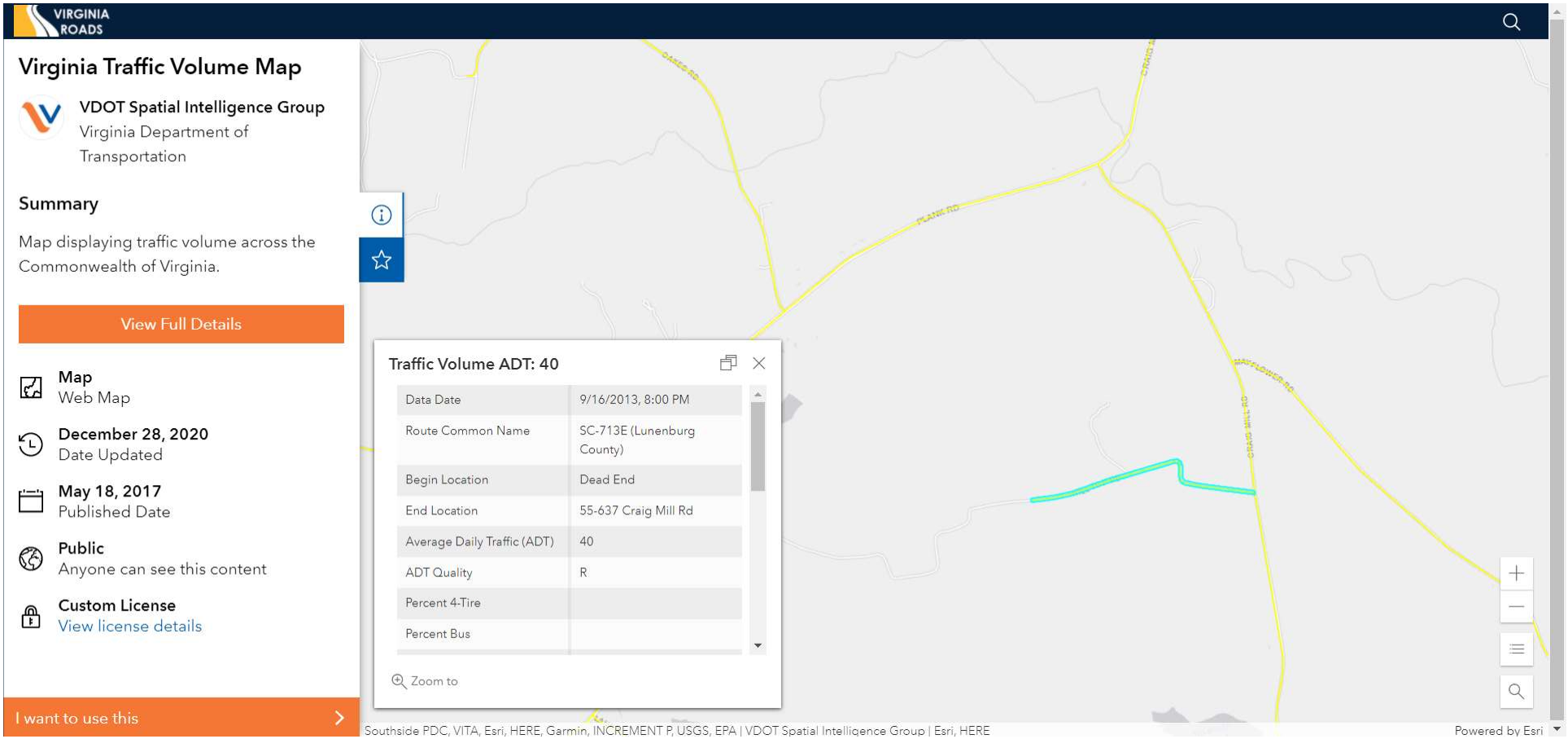
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Traffic Volume ADT: 40
Data Date 9/16/2013, 8:00 PM
Route Common Name SC-713E (Lunenburg County)
Begin Location Dead End
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 40
ADT Quality R
Percent 4-Tire
Percent Bus
Zoom to
PLANK RD
CRAIG MILL RD
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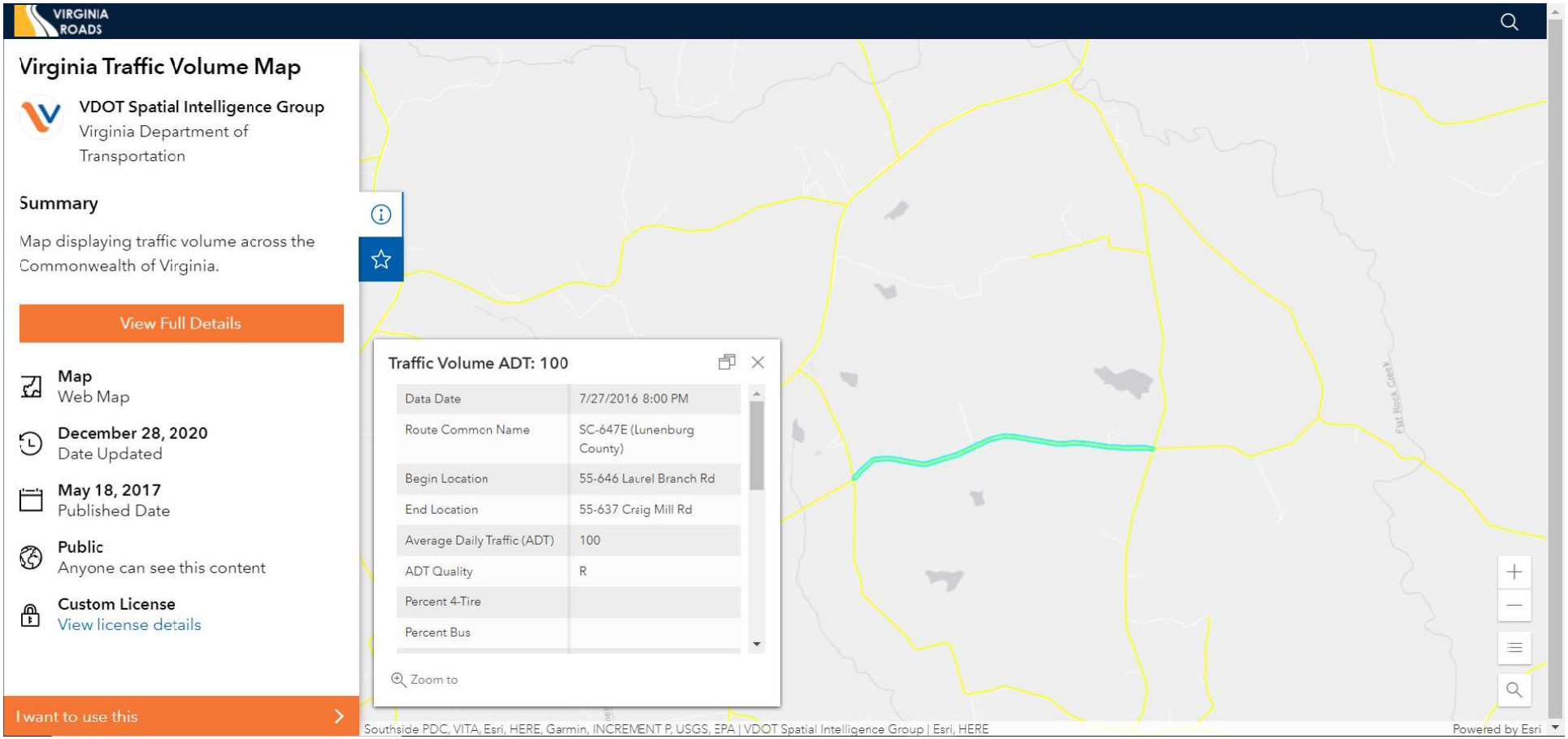
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Traffic Volume ADT: 100
Data Date 7/27/2016 8:00 PM
Route Common Name SC-647E (Lunenburg County)
Begin Location 55-646 Laurel Branch Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 100
ADT Quality R
Percent 4-Tire
Percent Bus
Zoom to
Flat Rock Creek
Southside PDC, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, EPA | VDOT Spatial Intelligence Group | Esri, HERE
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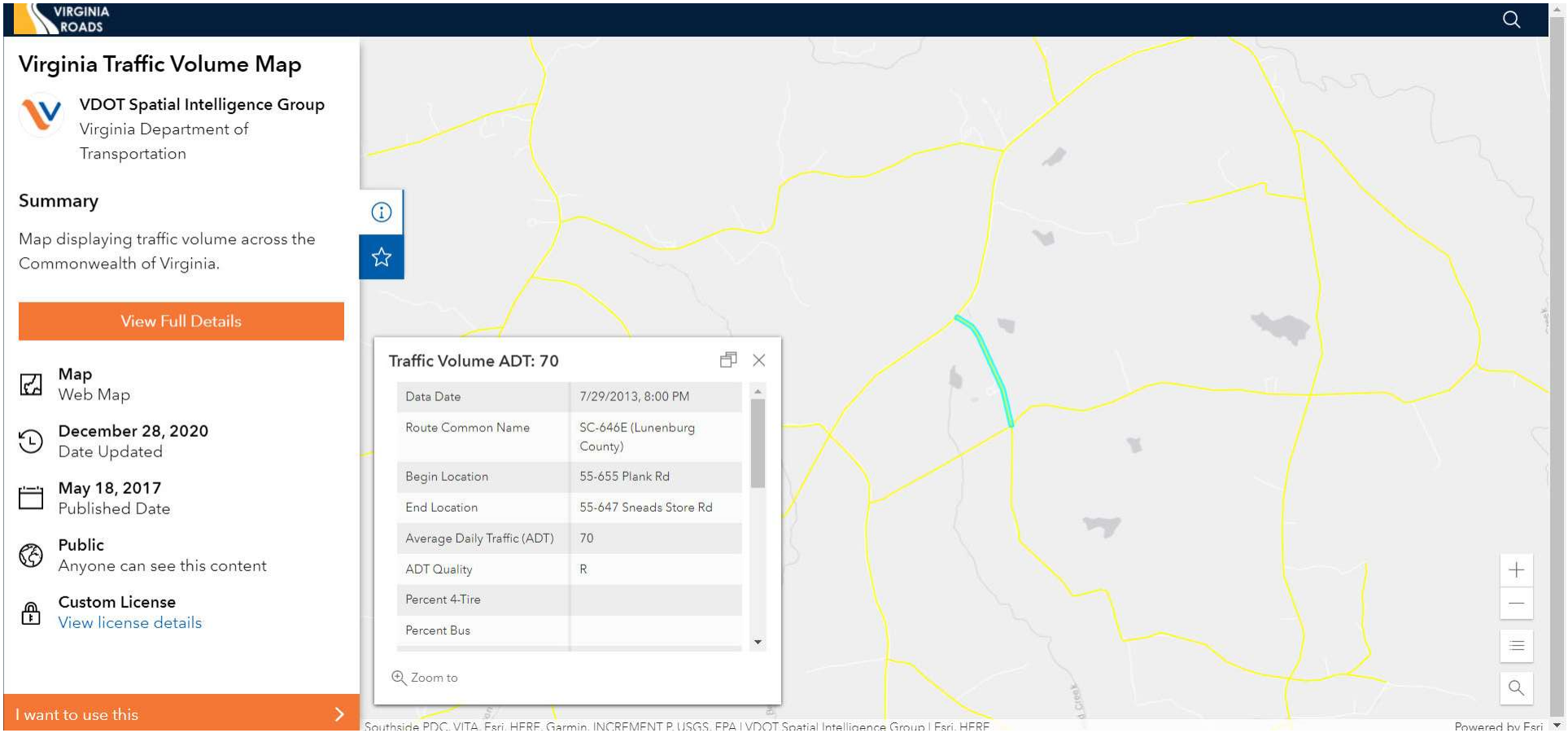
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Traffic Volume ADT: 70
Data Date 7/29/2013, 8:00 PM
Route Common Name SC-646E (Lunenburg County)
Begin Location 55-655 Plank Rd
End Location 55-647 Sneads Store Rd
Average Daily Traffic (ADT) 70
ADT Quality R
Percent 4-Tire
Percent Bus
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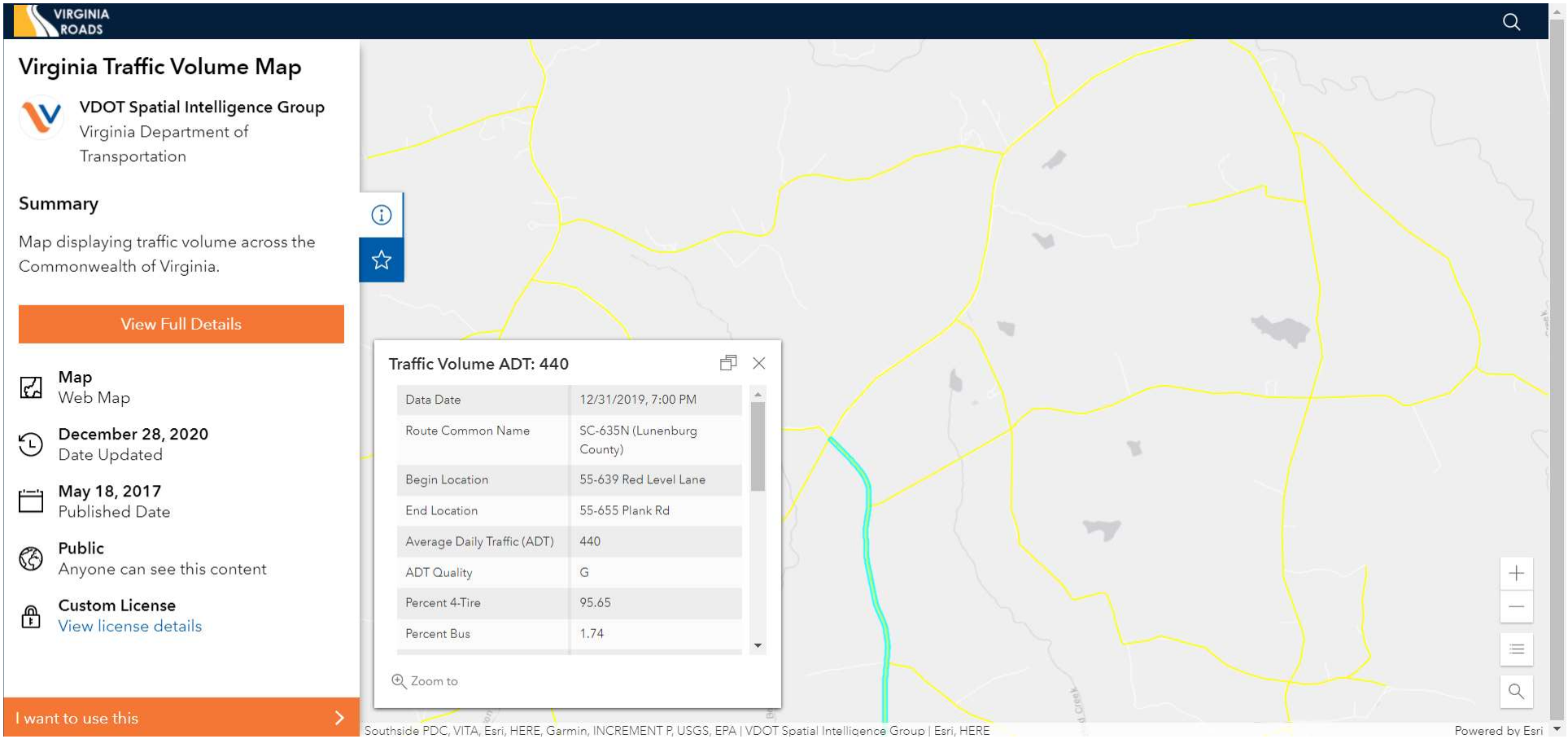
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Traffic Volume ADT: 440
Data Date 12/31/2019, 7:00 PM
Route Common Name SC-635N (Lunenburg County)
Begin Location 55-639 Red Level Lane
End Location 55-655 Plank Rd
Average Daily Traffic (ADT) 440
ADT Quality G
Percent 4-Tire 95.65
Percent Bus 1.74
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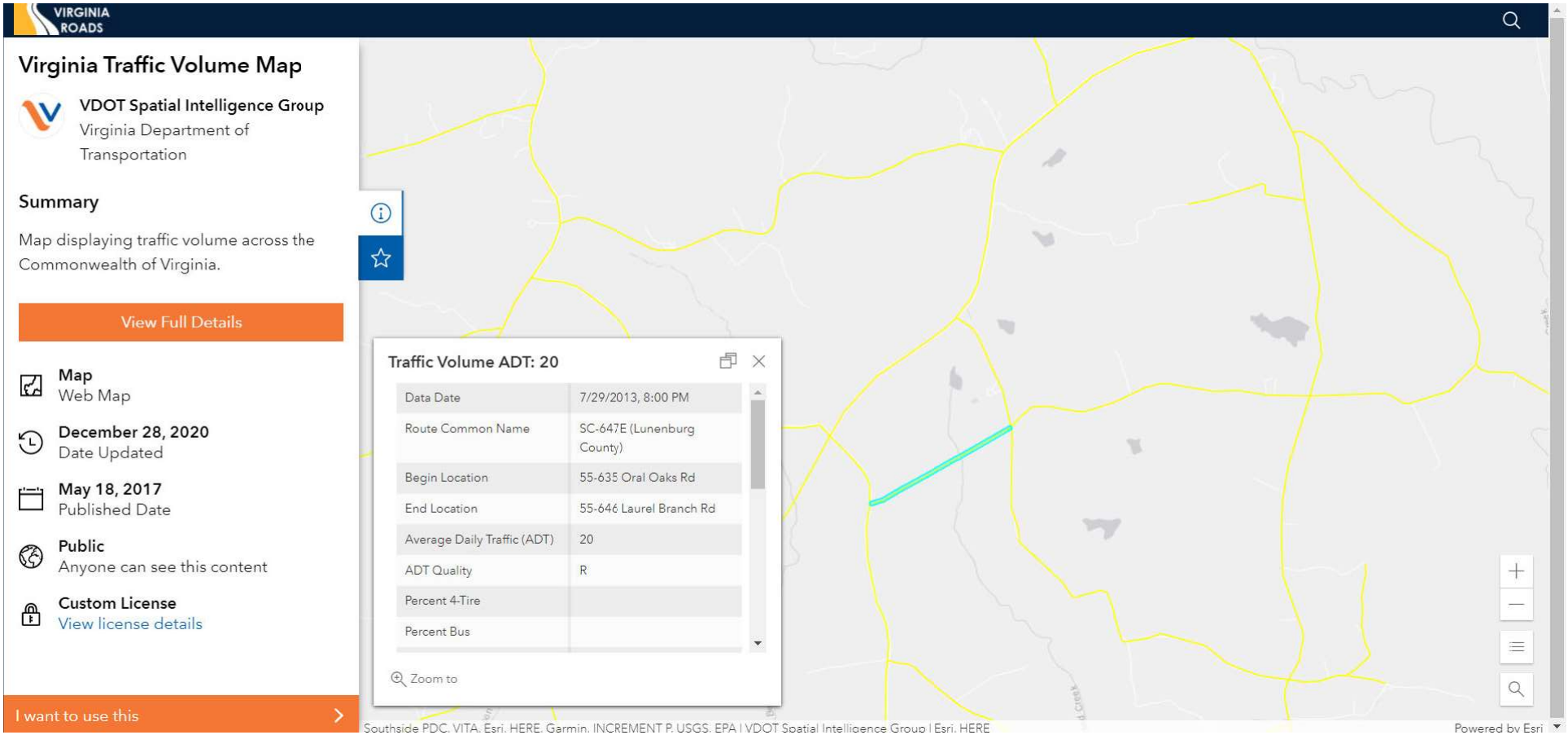
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Traffic Volume ADT: 20
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Route Common Name SC-647E (Lunenburg County)
Begin Location 55-635 Oral Oaks Rd
End Location 55-646 Laurel Branch Rd
Average Daily Traffic (ADT) 20
ADT Quality R
Percent 4-Tire
Percent Bus
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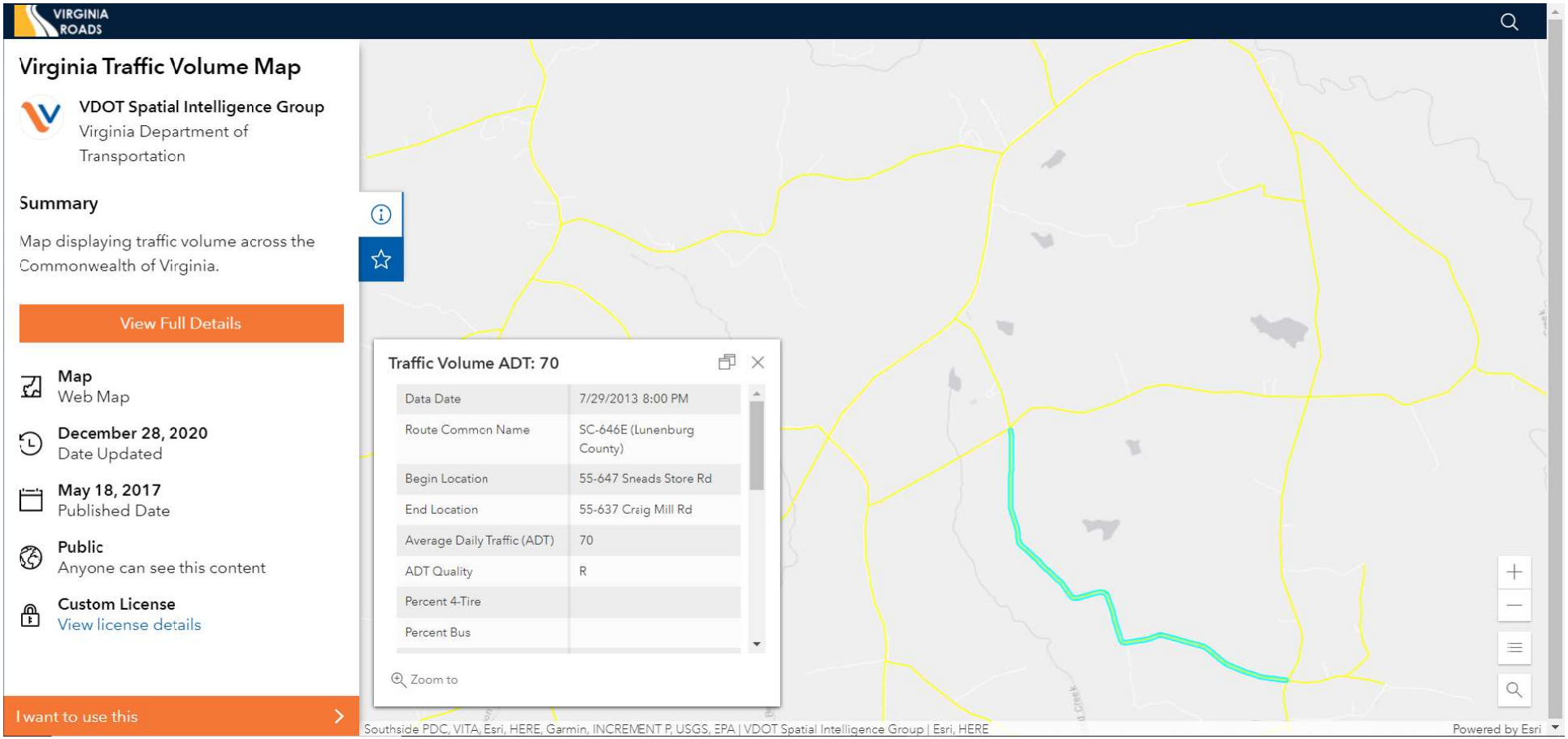
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Begin Location 55-647 Sneads Store Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 70
ADT Quality R
Percent 4-Tire
Percent Bus
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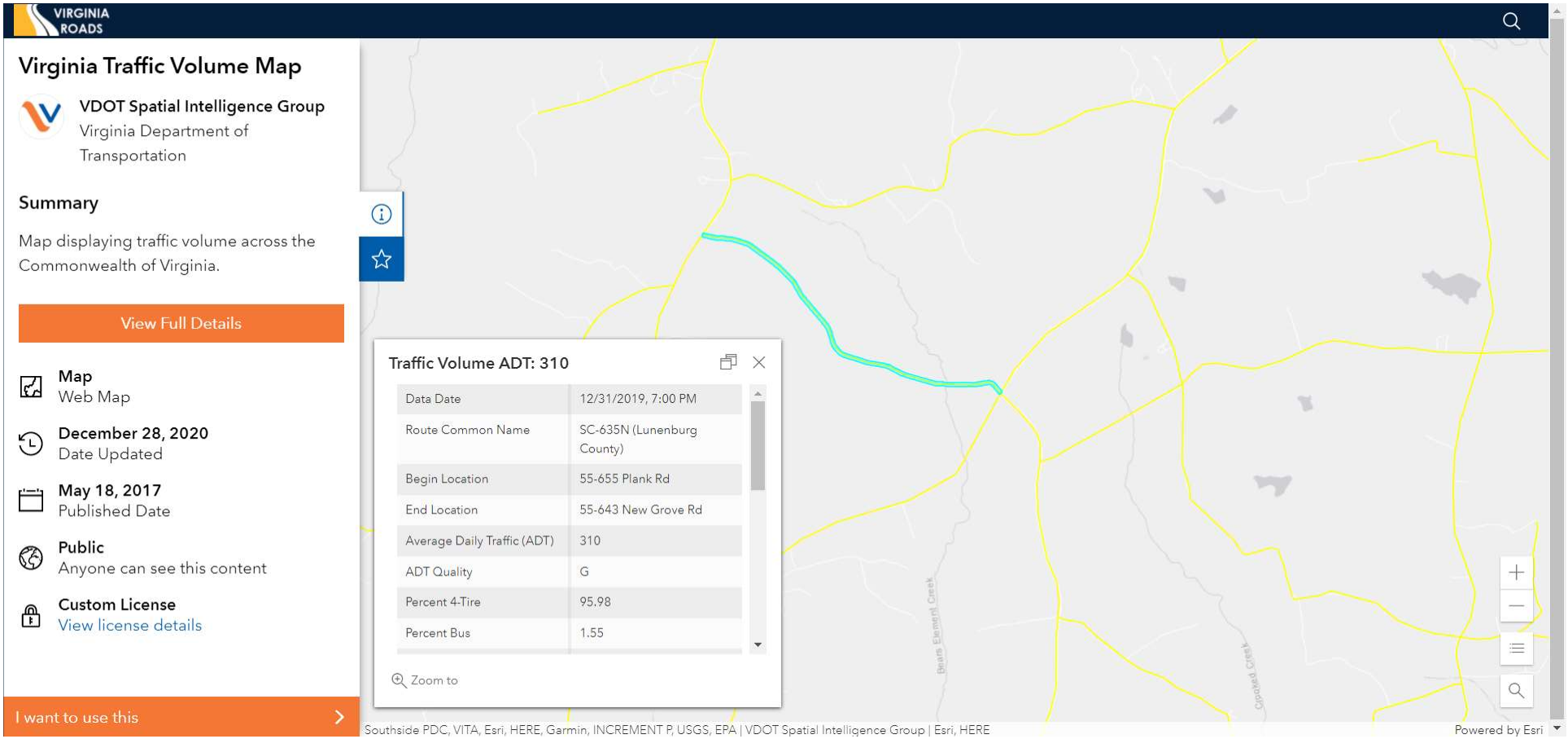
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Traffic Volume ADT: 310
Data Date 12/31/2019, 7:00 PM
Route Common Name SC-635N (Lunenburg County)
Begin Location 55-655 Plank Rd
End Location 55-643 New Grove Rd
Average Daily Traffic (ADT) 310
ADT Quality G
Percent 4-Tire 95.98
Percent Bus 1.55
Zoom to
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APPENDIX B: TRIP GENERATION CALCULATIONS

Peak Construction Workforce Trip Generation Calculations and Assumptions

Proposed Dominion Laurel Branch Solar Facility - Lunenburg County, VA

Construction Site Driveway Trips					
	Workforce Trips	Non-Heavy Vehicle Deliveries	Heavy Vehicle Deliveries	Total	CALCULATIONS
AM Peak Hour:					
Enter	143	1	2	146	(150 workers x 100% arrive x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (3 Delivery Vehicles arrive) = 146
Exit	0	1	2	3	(150 workers x 0% depart) + (3 Delivery Vehicles depart) = 3
Total	143	2	4	149	
PM Peak Hour:					
Enter	0	1	2	3	(150 workers x 0% arrive) + (3 Delivery Vehicles arrive) = 3
Exit	143	1	2	146	(150 workers x 100% depart x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (3 Delivery Vehicles depart) = 146
Total	143	2	4	149	
Weekday Daily:					
Enter	218	5	20	243	(150 workers x 100% arrive in AM x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (150 workers x 50% return from lunch/errands midday) + (25 Delivery Vehicles arrive) = 243
Exit	218	5	20	243	(150 workers x 100% depart in PM x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (35 workers x 50% leave for lunch/errands midday) + (25 Delivery Vehicles depart) = 243
Total	436	10	40	486	

Construction Assumption	AM Peak Hour	PM Peak Hour	Off-Peak	Notes
# of Peak Workers On-Site at One Time:	150	150	150	Assume 150 tradespeople per day
% Workers Arriving:	100%	0%	50%	Assumed hours of operation 7am-5pm (may be longer). Peak Hours of adjacent street traffic assumed to occur between is 7am-9am and 4pm-6pm. Therefore, the majority of construction worker traffic is likely to occur outside of the morning peak hour of adjacent street traffic and some may depart after the evening peak hour. However, as a conservative measure, assumed 100 percent of workers arrive after 7am and depart before 6pm. As a conservative measure, assumed half of workforce depart and return once during off-peak times. Assumed none of the workers get picked up/dropped off.
% Workers Departing:	0%	100%	50%	Assumed hours of operation 7am-5pm (may be longer). Peak Hours of adjacent street traffic assumed to occur between is 7am-9am and 4pm-6pm. Therefore, the majority of construction worker traffic is likely to occur outside of the morning peak hour of adjacent street traffic and some may depart after the evening peak hour. However, as a conservative measure, assumed 100 percent of workers arrive after 7am and depart before 6pm. As a conservative measure, assumed half of workforce depart and return once during off-peak times. Assumed none of the workers get picked up/dropped off.
% Carpool[1]:	10.0%	10.0%	0.0%	Assumed 10% carpooling during commuting
Carpool VOR[2]:	2.00	2.00	1.00	Assumed two workers per car during commuting
# Shuttle Trips:	0	0	0	Assumed all workers and deliveries will occur via the construction driveway; no laydown site is proposed
# Truck Deliveries:	2	2	16	Assumed worker hours of operation 7am-5pm and assumed 20 deliveries per day that would be distributed evenly throughout the day.
# Non-Truck Deliveries:	1	1	3	Occasionally, non-heavy vehicle deliveries will occur. For trip generation analysis purposes, assumed 5 deliveries per day. Conservatively assumed some occurs during peak hours of adjacent street traffic.

[1]Enter % per population - formulas above account for VOR

[2]VOR for carpoolers only

NOTE: Assumes an 80 MW AC facility with 9 months of peak construction and 2 to 3 months of ramp-up/ramp-down construction activity

Source: Tetra Tech

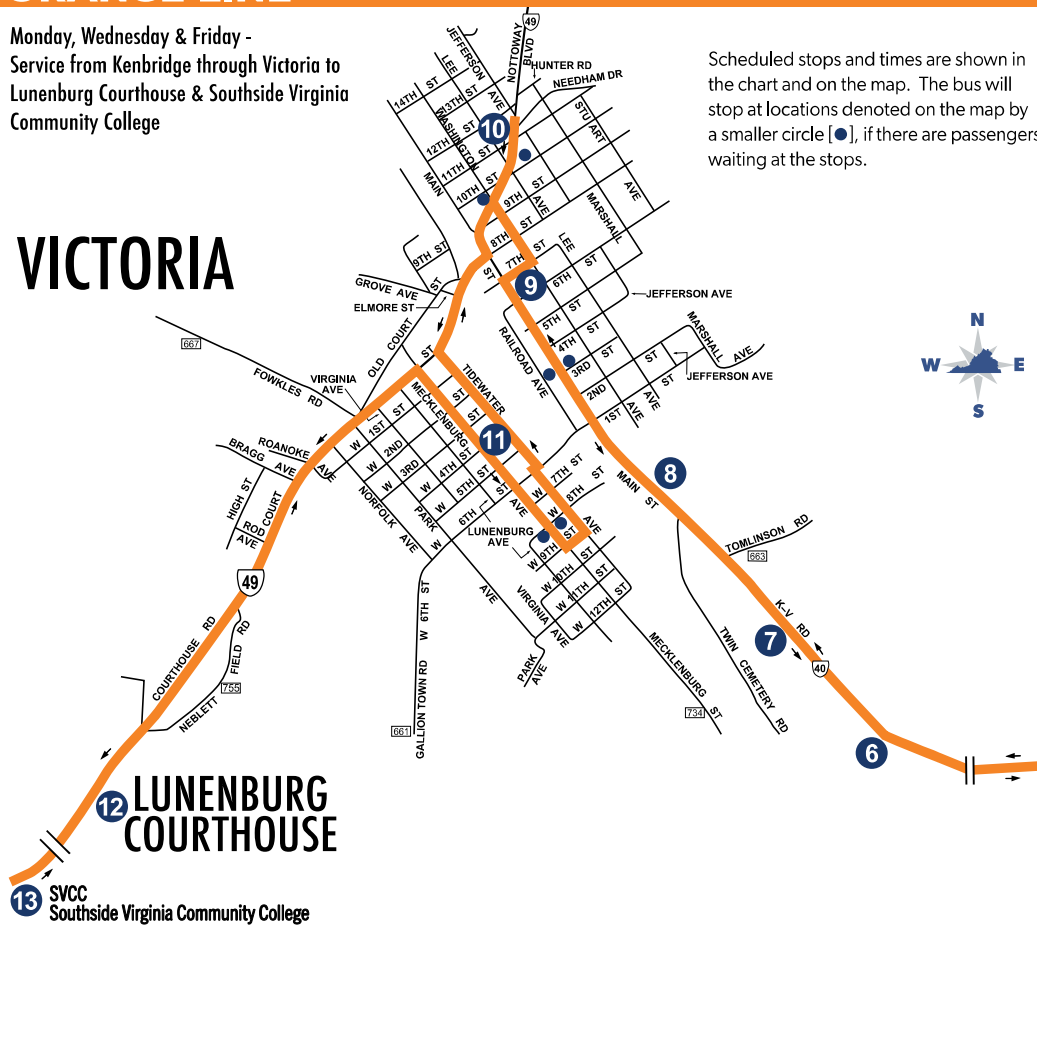
APPENDIX C: PUBLIC TRANSPORTATION INFORMATION

TOWN & COUNTY TRANSIT
ORANGE LINE

Monday, Wednesday & Friday -
Service from Kenbridge through Victoria to Lunenburg Courthouse & Southside Virginia Community College

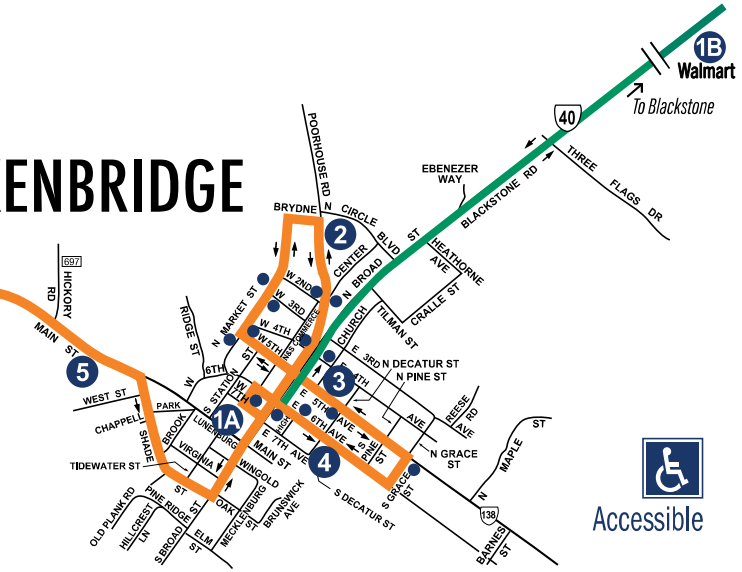
Scheduled stops and times are shown in the chart and on the map. The bus will stop at locations denoted on the map by a smaller circle [●], if there are passengers waiting at the stops.

BABS
BLACKSTONE AREA BUS SYSTEM



TOWN & COUNTY TRANSIT
GREEN LINE

Tuesday & Thursday -
Service from Lunenburg Courthouse & Southside Virginia Community College to Victoria, Kenbridge, and Blackstone. (includes Orange Line)



TOWN & COUNTY TRANSIT

Servicing the County of Lunenburg and the Towns of Kenbridge and Victoria, this route operates from 7:00 AM to 4:15 PM on Monday, Wednesday, Friday, and on Tuesday and Thursday until 4:45 PM. On Tuesday and Thursday this route travels to the Town of Blackstone.

ORANGE LINE
Mon, Wed, Fri

	AM						PM			
1A W. 7th St. & Broad St.	7:00	9:00	–	10:15	–	11:30	1:00	2:20	–	4:15
2 Kenbridge Elementary	7:02	8:53	9:02	10:13	10:17	11:27	1:02	2:13	2:22	4:13
3 Mildred's Meals	7:04	8:51	9:04	10:11	10:19	11:25	1:04	2:11	2:24	4:11
4 Kenbridge Family Practice	7:06	8:49	9:06	10:09	10:21	11:23	1:06	2:09	2:26	4:09
5 Southside Shopping Center	7:10	8:45	9:10	10:05	10:25	11:19	1:10	2:05	2:30	4:05
6 Community Health Center	7:15	8:40	9:15	10:00	10:30	11:14	1:15	2:00	2:35	4:00
7 Village Estates Apts.	7:18	8:37	9:18	9:58	10:32	11:12	1:18	1:58	2:37	3:58
8 Food Lion, Victoria	7:20	8:35	9:20	9:55	10:35	11:09	1:20	1:55	2:40	3:55
9 Victoria Public Library	7:22	8:33	9:22	9:53	10:37	11:07	1:22	1:53	2:42	3:53
10 Vaughn's Grocery	7:25	8:30	9:25	9:50	10:40	11:00	1:25	1:50	2:45	3:50
11 Victoria Place Apts.	7:28	8:27	9:28	9:47	10:43	10:59	1:28	1:47	2:48	3:47
12 Lunenburg Co. Courthouse	7:35	8:20	9:40	–	10:50	–	1:40	–	2:55	3:40
13 SVCC	8:00	–	–	–	–	–	–	–	3:25	–

GREEN LINE
Tues, Thurs

	AM						PM			
1B Walmart, Blackstone	–	–	–	10:35	–	–	–	2:35	–	–
1A W. 7th St. & Broad St.	7:00	9:00	–	10:15	10:50	12:10	1:00	2:20	2:50	4:45
2 Kenbridge Elementary	7:02	8:53	9:02	10:13	10:52	12:08	1:02	2:13	2:52	4:43
3 Mildred's Meals	7:04	8:51	9:04	10:11	10:54	12:06	1:04	2:11	2:54	4:41
4 Kenbridge Family Practice	7:06	8:49	9:06	10:09	10:56	12:04	1:06	2:09	2:56	4:39
5 Southside Shopping Center	7:10	8:45	9:10	10:05	11:00	12:00	1:10	2:05	3:00	4:35
6 Community Health Center	7:15	8:40	9:15	10:00	11:05	11:55	1:15	2:00	3:05	4:30
7 Village Estates Apts.	7:18	8:37	9:18	9:58	11:07	11:52	1:18	1:58	3:07	4:28
8 Food Lion, Victoria	7:20	8:35	9:20	9:55	11:10	11:49	1:20	1:55	3:10	4:25
9 Victoria Public Library	7:22	8:33	9:22	9:53	11:12	11:47	1:22	1:53	3:12	4:23
10 Vaughn's Grocery	7:25	8:30	9:25	9:50	11:15	11:40	1:25	1:50	3:15	4:20
11 Victoria Place Apts.	7:28	8:27	9:28	9:47	11:18	11:37	1:28	1:47	3:18	4:17
12 Lunenburg Co. Courthouse	7:35	8:20	9:40	–	11:30	–	1:40	–	3:25	4:10
13 SVCC	8:00	–	–	–	–	–	–	–	3:50	–

APPENDIX D: CONSTRUCTION MANAGEMENT PLAN

1.1 Introduction

Virginia Electric and Power Company (d/b/a Dominion Energy Virginia)("Dominion") is proposing an 80 MWac utility-scale solar facility known as "Laurel Branch Solar" (the "Project") in Lunenburg County, Virginia (the "County"). The project will be located to the southwest of the Town of Kenbridge on 2,378 acres of land along Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and 637 (Craig Mill Road) and Hilltop Road in Lunenburg County, Virginia. Project construction is projected to begin the second quarter of 2024 and last approximately 12 months with nine months of typical construction and two to three months of ramp up/ramp down activity. Peak construction activity is anticipated to occur over a two to three-month period.

1.2 Construction Traffic Haul Routes

The construction of the proposed solar facility will require large vehicle deliveries for a variety of materials that may include concrete, solar panels, earth materials, building materials, etc. Tetra Tech identified potential truck haul routes between the site parcels and the regional roadway system for these larger vehicles. For purposes of this assessment, it was assumed that the deliveries would originate from three primary geographical areas: Richmond, VA, Lynchburg, VA, and Raleigh, NC. Factors considered in developing potential truck haul routes are summarized below. Separate inbound and outbound travel routes are provided where appropriate.

- Prioritize designated Surface Transportation Assistance Act (STAA) truck routes from the VDOT database.
- Avoid roadway segments having bridge height and weight limitations based on a review of the VDOT database.
- Minimize impacts to schools, traffic signals, and areas with pedestrian activity.
- Minimize turns at locations with geometric limitations.

The potential regional truck haul routes are shown in Figure 1. The potential local truck haul routes to/from the proposed site driveways are shown in Figure 2.

When accessing the site via Route 406 to the north, all construction traffic (employees, subcontractors, delivery companies, etc.) associated with the project will be instructed to use N West Avenue (Route 606) when entering the site and Cox Road when exiting the site. This will minimize disruptions to downtown Blackstone and avoid potential safety issues with the limited queue storage for Route 406 westbound left-turn movements onto Cox Road.

The final approved truck route map will be distributed to all construction employees and subcontractors to ensure the appropriate routes will be used to access the site. Signage is proposed to guide project-related traffic and make existing roadway users aware of the increased traffic levels and trucking activity during the construction phase. A preliminary signage plan is presented in the Attachments. The signage plan will be subject to review and approval by the Virginia Department of Transportation (VDOT).

1.3 Construction Office, Staging and Employee Parking

The project is currently at the conceptual level. It is anticipated that parking for the construction-related activity (employees and deliveries) will occur entirely on-site. laydown yards are currently proposed all of which will be located within the project boundaries. The laydown yards are typically dimensioned 350 feet by 55 feet. The layout and configuration of the laydown yards' appurtenances such as construction trailers, parking layout, porta johns, dumpsters, material storage and drop-off, etc. will be determined during the construction level plan preparation. The proposed signage plan will also be updated, if needed, during the development of the construction-level plans.

A central parking field is not proposed since the project will consist of numerous solar panel pods. Employees are expected to park at the pod in which they are assigned to on each day of construction. The pods will be accessed via 29 proposed driveways including three driveways on Oral Oaks Road, seven driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road. Delivery vehicles will also use the proposed driveways to deliver materials. The proposed signage plan provided in the Attachments includes warning signs to alert motorists of slower moving heavy vehicles in the area.

The project will consist of three phases: construction, O&M, and decommissioning. The highest volume of site-related trips will occur during the peak construction phase of the project. A Transportation Assessment was prepared as part of the Lunenburg County conditional use permit (CUP) review process which included a detailed vehicle trip generation analysis for the peak construction activity anticipated for the project. A summary of the vehicle trip generation estimates provided in the May 2022 Transportation Assessment is provided in Table 1 for reference. These estimates conservatively assume that all construction workers would arrive within the same hour and depart within the same hour. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.

Table 1 Trip Generation Summary – Peak Construction Period

Time Period/ Direction	Project Trips			
	Workforce Trips[1]	Non-Heavy Vehicle Deliveries[2]	Heavy Vehicles[3]	Total
Weekday AM Peak Hour				
Enter	143	1	2	146
Exit	0	1	2	3
Total	**143**	**2**	**4**	**149**
Weekday PM Peak Hour				
Enter	0	1	2	3
Exit	143	1	2	146
Total	**143**	**2**	**4**	**149**
Weekday Daily				
Enter	218	5	20	243
Exit	218	5	20	243
Total	**436**	**10**	**40**	**486**

1 Assumed 150 construction workers per day. Conservatively assumed trips overlap with adjacent street peaks. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.
2 Assumed 5 deliveries per day with 40 percent of trips occurring during peak hours.
3 Assumed 20 deliveries per day spread evenly throughout day.

Over the course of the approximate 12-month construction schedule, the volume of daily truck counts will vary, but is anticipated to be up to 20 trucks per day during peak construction days.

1.4 Public Road Evaluation: Pre- and Post-Construction

The project commits to conducting a photographic and video evaluation of the condition of the existing secondary roadways immediately leading to the site as shown in Figure 3. The project is anticipated to begin construction during second quarter 2024. The pre-construction road evaluation on the roadways shown in Figure 3 will be conducted closer to the beginning of the project's construction activity. The specific date of the evaluation will be determined in consultation with VDOT staff during the construction plan preparation phase.

TAB I

Decommissioning and Reclamation Plan

Laurel Branch Solar Project

Decommissioning and Reclamation Plan

September 5, 2022

Prepared for

Dominion Energy®

Prepared by

TETRA TECH
4101 Cox Road, Suite 120
Glen Allen, VA 23060

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Acronyms and Abbreviations

MW	megawatt
PV	photovoltaic
Project	Laurel Branch Solar Project
DC	direct current
AC	alternating current
SCADA	Supervisory Control and Data Acquisition
BMP	best management practice
bgs	below ground surface
SF	square feet
LF	linear feet
ea	each
NA	not applicable

1.0 INTRODUCTION

Dominion Energy Virginia ("Dominion") will construct, own, and operate the approximately 80-megawatt (MW) capacity photovoltaic ("PV") Laurel Branch Solar Project ("Project"). The Project will encompass approximately 815 acres in Lunenburg County, on a portion of twenty-six (26) parcels in Lunenburg County, Virginia (the "County") totaling approximately 2,378 acres. Dominion provides this draft Decommissioning and Reclamation Plan is provided to comply with the County's Ordinance for Solar Energy Facilities (the "Solar Ordinance").[1] The required Decommissioning Estimate (See Section 5) is provided as Appendix A.

Prior to operation, a final Decommissioning and Reclamation Plan (the "Final Plan") will be provided to the Zoning Administrator for review and approval. Once approved, the Final Plan and the Decommissioning Estimate will be reviewed once every five (5) years by an independent third party.

2.0 PROJECT BACKGROUND

The Project is located to the southwest of the Town of Kenbridge, between Plank Road and Sneads Store Road and along Oral Oaks Road. The solar facility will consist of approximately 185,482 solar modules, associated solar module racking system and foundations, 101 solar inverters, 23 medium voltage step-up transformers, and associated electrical equipment and materials necessary to collect the energy produced. The facility will be secure, surrounded by a 7-foot tall chain link and barbed wire fence (i.e. 6-foot tall plus 1 foot of barbed wire). The anticipated life of the Project is 35 years, based on typical life spans of solar facilities.

3.0 EXISTING SITE CONDITIONS

The Project lease will encompass approximately 2,378 acres. Land use prior to development was primarily timber and agriculture. The Project study area consists of moderate topography as it lies on multiple ridges and stream valleys. Neighboring land uses include timbering and agriculture.

4.0 DESCRIPTION OF WORK TO CONSTRUCT LARGE SCALE SOLAR FACILITY

4.1 Major Activities

4.1.1 Cable Trenching

Trenching requirements for the electrical cables and telecommunication lines would consist of a trench up to approximately three feet deep and one to four feet wide. The trenches would be filled with base material above and below the conductors and communications lines to ensure adequate thermal conductivity and electrical insulating characteristics. The topsoil from trench excavation would be set aside before the trench is backfilled and would ultimately comprise the uppermost layer

[1] See Solar Ordinance Section 4.3.e (Draft Decommissioning and Reclamation Plan).

of the trench. Any excess material from the foundation and trench excavations will be incorporated onsite and will not be exported.

4.1.2 Foundations

The solar modules will be installed on steel racking structures. The posts for the racking structures will be driven approximately 9 feet into the ground using a post-driving machine. The solar inverters and medium voltage step-up transformers will be set on concrete pads, which are typically 12 to 18 inches deep.

4.1.3 Modules Racking System

Galvanized beams and other structural members will be bolted to the foundation posts of the racking system. The solar modules will then be mounted on these structural members using different pieces of hardware.

4.1.4 Solar Inverters and Medium Voltage Step-Up Transformers

The solar inverters and medium voltage step-up transformers will be offloaded from delivery trucks and placed on concrete foundations. These pieces of equipment will be bolted to the concrete foundations. The underground electrical and communication cables will be routed and connected to these pieces of equipment.

4.2 System Overview and Components

Photovoltaic is a solar energy technology. Solar energy technology refers to the generation of electrical current from sun light. PV solar modules absorb sunlight and use silicone cells to generate electrical current. The PV modules are mounted on a single axis tracking racking system, which allows the modules to track the sun throughout the day. System components are described below.

4.2.1 Combiner Boxes

Combiner boxes allow for the paralleling of multiple conductors/feeder inputs and allow for fewer outputs.

4.2.2 Inverters

Inverters are high-speed switching and power conversion devices which transform direct current (DC) to alternating current (AC). In the case of the Project, there are 101 solar inverters.

4.2.3 Transformers, Recloser, Disconnect Switch

Transformers are an apparatus for reducing or increasing the voltage of an alternating current. There are 23 medium voltage step-up transformers on this Project for distribution to the electrical grid. The Recloser and Disconnect Switches are protection devices that allow for isolation of the solar farm from the wider distribution system.

4.2.4 Underground Cables and Conduits

Underground power (AC and DC) cables, communication and grounding cables on the Project will be either direct buried or placed in conduit. The cables will be rated in accordance with their application.

The cables will be located in a conduit as per code when transitioning from below grade to above grade.

4.2.5 Access and Internal Roads

The Project will have internal roads to provide access to facility equipment. Internal access roads will be constructed using an aggregate base over compacted native soils.

4.2.6 Buildings and Enclosures

The Project will not contain any permanent occupied building structures after construction is complete and the plant is operating. The site may have storage containers used for storing spare parts and materials, but these will not be affixed to a foundation. Except for periodic maintenance, the site is unmanned.

4.2.7 Security Fencing

To ensure security of the facility, the property will be fenced with six-foot-high chain link fencing topped by one foot of three-stranded barbed wire. Access to the site will be controlled via locked access gates.

4.2.8 Project Life

The facility has an estimated useful life of at least 35 years with an opportunity for extension depending on equipment replacements or refurbishments.

4.2.9 SCADA and Communications Equipment Enclosure

Supervisory Control and Data Acquisition (SCADA) refers to the entire communication and control components. The SCADA equipment for the solar farm will be mounted inside of an enclosure that measures approximately 24 feet long by 10.5 feet wide. The enclosure is affixed to a foundation or mounted on piles, depending on soil conditions. The SCADA system includes an internet router, server(s), a firewall, battery backup, and other hardware to monitor the solar farm.

5.0 DECOMMISSIONING PROCESS

Decommissioning consists of the removal of above- and below-ground facility components, management of excess wastes and materials, and the restoration of ground surface irregularities and herbaceous vegetation. As per the lease agreement with the landowner, the Project area is to be restored in a manner consistent with its condition prior to facility construction. Decommissioning activities are expected to take between 10 to 12 months. The estimated deconstruction schedule is as follows: Site Preparation - 2 weeks; Equipment Removal - 8 to 10 months; Site Restoration and Waste Management - 1 to 2 months.

Removal of all physical improvements will be done in accordance with applicable regulations of the time. Prior to initiating decommissioning, notice will be provided to the Zoning Administrator by certified mail of the proposed date of discontinued operations and plans for removal. An estimated construction schedule and a traffic study modelling the decommissioning processes will be provided

for review by County staff (in cooperation with the Virginia Department of Transportation if deemed necessary).

5.1 Site Preparation

Site preparation activities include installing erosion and sediment control best management practices (BMPs) and vegetation clearance. Prior to decommissioning, the site will be visually inspected to determine if vegetation clearance is needed to access equipment. Appropriate temporary erosion and sedimentation control (construction-related) BMPs will be used during the decommissioning phase of the Project. The BMPs will be inspected on a regular basis to ensure proper erosion and sediment control during the decommissioning effort.

5.2 Equipment Removal

After the facility has been disconnected and isolated from the utility power grid and all electrical components have been disconnected within the facility, equipment will be dismantled and removed. As described in this section, removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities shall be removed. Decommissioning will be undertaken by licensed subcontractors using similar techniques and equipment to those used in the construction of the Project.

Primary equipment and materials to be removed as part of decommissioning are included in the following Table 1.

Table 1. Primary Equipment to be Removed

Component	Quantity
Solar Modules (71.2 lb ea)	185,482 ea
Steel Trackers (101 LF)	1,181 ea
Steel Trackers (202 LF)	1,845 ea
Steel Piles	13,000 ea
MV cable length	10,000 LF
Inverters and foundations	101 ea
Transformers and foundations	23 ea
Substation footprint	55,000 SF
Access Road	31,939 LF
Perimeter Fence	183,048 LF

Equipment removal of primary components is described further in the following subsections:

5.2.1 Disassembly and Removal of Solar Modules

Removal of approximately 185,482 solar modules will be completed by manual labor. The module components will be mechanically disconnected from the solar array and transferred to a staging location for transporting to an offsite facility. Panels suitable for reuse will be sold for market value and panels not suitable for reuse will be processed at an offsite facility for recycling. The Project will use silicon-based solar PV modules. The modules will be electrically and mechanically disconnected from the solar array and packaged for shipment per manufacturer's requirements.

5.2.2 Disassembly and Removal of Tracking System

The racking structure consists of approximately 3,026 steel trackers mounted on approximately 13,000 steel piles. The trackers total 329,361 feet in length. All of these materials can be recycled and/or reused. Disassembly and removal of the racking structure will be performed manually.

5.2.3 Removal of Steel Piles/Posts

Approximately 13,000 steel piles associated with the tracking system are estimated for removal. Steel piles will be completely removed by hoisting with a piece of heavy equipment. Steel piles are assumed to be 15 feet, imbedded to a depth of 9 feet below ground surface (bgs). Steel components will be segregated and transferred to a staging location for offsite recycling.

5.2.4 Removal of Inverters and Transformers

Twenty-three transformers and 101 inverters and associated concrete foundations will be removed and transferred to a staging location for offsite disposal or recycling at an approved facility.

5.2.5 Removal of Substation

The substation will be mechanically disassembled with the use of support equipment for hoisting components. Steel will be segregated for offsite recycling or sold for scrap. The substation site restoration will include the removal of the gravel and concrete foundation, soil preparation, grading, and seeding.

5.2.6 Below-ground Electrical Cables

Electrical cabling is typically installed underground, installed in aboveground cable trays, or attached to the module racking structure. It is assumed that all cabling and conduit will be installed at a minimum depth of 4 feet bgs. Below ground conduit and cable will be removed.

5.2.7 Above-ground Transmission Lines and Poles

The Project does not include an above ground transmission line. As such, removal of overhead transmission lines and poles are not included in this Plan.

5.2.8 Access Road Excavation and Removal

Within the Project limits, access roads will be removed and restored as part of decommissioning. The Project includes an estimated 31,939 linear feet of access roads. Gravel associated with the access roads will be stockpiled for recycling or reuse. Underlying geotextile fabric will be collected for offsite disposal.

5.2.9 Perimeter Fence Removal

Approximately 183,048 linear feet of steel fencing will be removed from the site. Gates will be removed as whole units and welded wire fabric will be cut to manageable sized pieces and staged. Fencing will be assessed prior to dismantling to determine if the fencing can be stored and reused on other construction sites. If reuse is not deemed practical, the fencing will be dismantled and recycled or sold for scrap.

The following describes the methods for dismantling and removal of various Project Components:

PV arrays and associated equipment

- Disconnect all wiring, cables and electrical interconnections.
- Remove PV arrays from racks.
- Dismantle and remove all racks and extract all pile-drive support structures (see Equipment foundations).

Inverter units

- Remove inverter units from bases.
- Remove concrete foundations (see Equipment foundations).

Generation Tie-Line cables

- All above ground cables will be removed and transported off-site to an approved recycling facility or landfill.
- Underground cable runs will be removed in their entirety. Removed cable will be recycled or taken to a landfill as appropriate.

Equipment foundations

- The inverter units and pile-drive support structures for the solar arrays will have foundations that require removal. Other underground infrastructure requiring removal may include concrete protective electrical structures. Any foundation structures and below ground concrete will be fully removed from the ground and the affected area will be backfilled as necessary with native soil.

Access roads

- Landowners shall be consulted to determine if any access roads are desired to remain in place for future use.
- Should roads be removed, all aggregate and other underlying materials (e.g. geotextile fabric) will be excavated.
- As necessary, all compacted areas will be disced or tilled to restore soil densities consistent with the surrounding area. Topsoil will be distributed to provide substantially similar growing media as was present within the areas prior to site disturbance.

Other components

- Fences, gates, and guards will be removed.

5.3 Site Restoration

The current Project area is primarily used for agricultural purposes. The area will be restored to a similar state such that this use could be resumed. Any land used for agricultural purposes prior to construction of the Project will be returned to a tillable condition so that it is suitable for agricultural or forestal uses. The site shall be graded and re-seeded or replanted within twelve (12) months of removal of solar facilities to restore it to as natural a pre-development condition as possible. Re-grading and re-seeding or replanting shall be initiated within a six-month period of removal of equipment. Any exception to site restoration, such as leaving access roads in place or re-seeded or

replanted must be requested by the landowner in writing, and this request must be approved by the Board of Supervisors.

5.4 Managing Excess Materials and Waste

A variety of excess materials and wastes will be generated during decommissioning. To the extent practicable, Dominion will coordinate with manufacturers, contractors, waste firms, and other entities to maximize the reuse and/or recycling of materials. Those materials deemed reusable/recyclable will be transported offsite and managed at approved receiving facilities following all applicable federal, state, and county waste management regulations of the time.

All residual waste will be removed by a licensed contractor and transported to an approved landfill. No waste materials will remain on the Project site.

The following main waste streams will be generated from decommissioning the solar facility:

5.4.1 PV Panels

The Project will coordinate the collection and reuse and/or recycling of the PV modules and for minimizing the potential for modules to be discarded. If there is no possibility for reuse, PV panels will either be returned to the manufacturer for appropriate recycling/disposal or will be transported to a recycling facility where the glass, metal and semiconductor will be recycled. Best management practices at the time of decommissioning shall be utilized.

5.4.2 Racking and Supports

All steel racks and pile-driven supports will be transported offsite and recycled at an approved recycling facility.

5.4.3 Inverters

All metal components of the inverters will be recycled at an approved recycling facility to the extent practical. Transformers will be transported off-site for reuse. If no reuse option is available, transformers will be recycled or disposed at an approved facility.

5.4.4 Gravel and Aggregates

Should access roads be removed, any used gravel or aggregates will be tested for contamination prior to removal. All uncontaminated materials will be transported offsite for salvage processing and then reused for construction fill. In the unlikely event that the used gravel or aggregates are found to be contaminated, these will be disposed at an approved facility.

5.4.5 Concrete

All concrete, including all foundations, will be broken down and transported to an approved landfill or recycling facility.

5.4.6 Cables and Wiring

All copper and/or aluminum wiring and associated electronic equipment (e.g., isolation switches, fuses, metering) will be recycled to the extent practical. Any materials not deemed recyclable will be disposed of at an approved landfill.

5.4.7 Fencing

All fencing materials will be recycled at a metal recycling facility to the extent practical.

5.4.8 Debris and Residual Waste

Any remaining debris or residual waste will be collected and all recyclable materials will be sorted. All sorted materials will be removed and sent to either an approved recycling or disposal facility. Any hazardous material from the property shall be disposed of in accordance with federal and state law.

Approximately 6,646 tons of steel are estimated to be generated, primarily from steel piles, fence, and racking structure. Additional steel sources include conduit, substation components, and storage containers. It is assumed storage containers will be reused on other projects. Steel will be accumulated in the staging area and salvaged for market value or recycled.

Approximately 8,772 tons of concrete will be generated from building and equipment foundations. Concrete will be broken into manageably sized pieces and staged for offsite recycling or disposal.

Used equipment, including inverters and transformers will be sold for market value or recycled. Prior to offsite recycling of transformers, oil will be removed from units, collected in appropriate containers, and transported to an approved recycling facility.

Approximately 9,463 cubic yards of gravel are estimated to be recovered from the access road. The gravel will be stockpiled and loaded for recycling or reuse elsewhere. It is assumed gravel will be used on another project and transportation will be managed by others.

General construction and demolition debris are anticipated to be generated as part of decommissioning. Construction and demolition debris will be disposed at an approved offsite disposal facility.

5.5 Decommissioning Estimate and Financial Assurance

5.5.1 The estimated cost of decommissioning and reclamation in current dollars (excluding salvage value) is attached as Appendix A (the “Decommissioning Estimate”). The Decommissioning Estimate includes a mechanism for calculating increased removal costs due to inflation.

5.5.2 The Decommissioning Estimate shall be reviewed and recalculated, as may be necessary, every five (5) years.

5.5.3 Dominion shall ensure that funds will be available for decommissioning and reclamation as set forth herein and in Exhibit A by providing evidence to the Zoning Administrator that it has an investment grade credit rating with Moody’s and/or Standard and Poor’s. If the Project is subsequently sold to a non-investment grade entity, the decommissioning surety requirements set forth in subsection 5.5.4 will be required.

5.5.4 If a decommissioning surety is required pursuant to Section 5.5.3 above, a performance bond issued by a surety registered with the Virginia Commissioner of Insurance (and on the authorized insurance provider list published by the Commissioner) shall be provided to the County. The performance bond will be in an amount equal to 100% of the Decommissioning

Estimate (as calculated at the time) and will be for a term of one (1) year and will be continuously renewed, extended, or replaced. The performance bond will remain in effect until site restoration is completed and the site is restored in accordance with this plan, unless all or a portion of the bond is earlier released by the County as set forth in Section 5.5.5 below.

5.5.5 The bond surety shall be updated when the Decommissioning Estimate is updated. If the recalculated estimated cost exceeds the original estimated cost by ten percent (10%), then the bond shall be increased accordingly to satisfy the new cost estimate. If the recalculated estimated cost is less than ninety percent (90%) of the original estimated cost, then the County may approve reducing the amount of the bond to the recalculated estimate of cost. The County shall release the bond upon on the owner's or occupant's compliance with the Final Plan. The County may approve the partial release of the bond.

APPENDIX A: DECOMMISSIONING ESTIMATE

Decommissioning Cost Estimate Summary

This decommissioning cost estimate was developed based on 2021 Quarter 4 cost data. Actual costs and revenues will be dependent on salvage values and labor, equipment, and material cost at the time of decommissioning. Limited project design details were available during the preparation of this cost estimate; therefore, various assumptions on components and quantities were made and are included based on similarly sized solar projects. These primary assumptions are included in Table B-1.

Table B-1. Solar Project Components and Quantity Assumptions

Component	Quantity
Facility Capacity	80 MWac
Basis of Rates	2021 Q4 rates for Roanoke, VA
Solar Modules (71.2 lb ea)	185,482 ea
Module Type	Bifacial Monocrystalline
Modules assumed for reuse	95%
Modules assumed for recycling	5%
Steel Trackers (101 LF)	1,181 ea
Steel Trackers (202 LF)	1,845 ea
Steel Piles	13,000 ea
MV cable length	10,000 LF
Transmission line and poles	NA
Inverters	101 ea
Transformers	23 ea
Substation footprint	55,000 SF
Switchyard footprint (1)	75,000 SF
Access Road	31,939 LF
Perimeter Fence	183,048 LF

(1) The switchyard will not be decommissioned. Removal is not included in the estimate.

The cost and salvage estimates and associated assumptions are summarized in the following sections.

Decommissioning Costs

Decommissioning costs include labor, equipment, and materials associated with decommissioning, as well as transportation and disposal costs for system components that are not sold for salvage. The major decommissioning activities include site preparation, equipment removal, site restoration, waste management, and overhead and management. These major activities are outlined in Table B-2.

Costs for damages to public roads are not included in the decommissioning estimate. Transportation services requiring use of public roads would be performed by subcontractors. If the subcontractor causes damage to public roads as a result of their work on this project, they would be responsible for repair of any damages.

Overhead and management costs include supervision and coordination, operating expenses for necessary equipment and facilities, and costs associated with obtaining preconstruction permits.

Table B-2. Estimated Decommissioning Costs

Item	Extended Cost
Site Preparation	
Materials	$19,205
Labor	$36,005
Equipment	$10,851
Equipment Removal	
Materials	$331,460
Labor	$1,495,568
Equipment	$1,880,137
Site Restoration	
Materials	$438,106
Labor	$30,927
Equipment	$329,679
Waste Management	
Materials	$204,308
Labor	-
Equipment	-
Total Decommissioning Cost (with overhead and management)	**$4,776,246**

Decommissioning Salvage

Upon decommissioning, many of the materials and components of the solar facility may be able to be sold for salvage/reuse. The total salvage value is estimated to be $18,554,736 as outlined in Table B-3.

Table B-3. Estimated Decommissioning Salvage Costs

Item	Extended Salvage
Equipment Salvage	
Steel Salvage	$797,524
Copper Salvage	$13,066
Solar Modules	$17,744,146
Total Salvage Value	**$18,554,736 (-)**

Decommissioning Cost Summary and Financial Assurance

The total decommissioning estimate including labor, materials, equipment, and disposal costs, without any reduction for salvage value is $4,776,246. A detailed cost breakdown is provided in this attachment.

Upon the fifth anniversary of the Project's commissioning, and every fifth year thereafter until the Project's decommissioning, the applicant will engage a professional engineer licensed in the Commonwealth of Virginia to recertify the decommissioning cost estimate.

The applicant proposes to fund the final security amount through a Performance Bond issued by a surety registered with the Virginia Commissioner of Insurance and is, at the time of delivery of the bond, on the authorized insurance provider list published by the Commissioner. The Performance Bond will be in an amount equal to 100% of the estimated decommissioning and reclamation cost. The Performance Bond will be for a term of one year and will be continuously renewed, extended, or replaced so that it remains in effect for the remaining term of the agreement or until the secured decommissioning obligations are satisfied, whichever occurs later. The value of the security shall be based on the most recent estimated cost of decommissioning the solar farm. The security shall remain in effect until site restoration is completed and the site is restored to pre-construction conditions.

Inflation Adjusted Amount

The total present value decommissioning cost without any reduction for salvage value is $4,776,246. The adjusted decommissioning costs after 35 years at a 2% inflation rate (compounded annually) is $9,551,964.

The following formula is used as a mechanism to calculate increased removal costs due to inflation:

$$FV = PV\ (1 + r)^n$$

Where:

FV = Future Value

PV = Present Value

r = interest rate per period (assumed average of 2% per year)

n = number of compounding periods (years)

Detailed Cost Summary

Laurel Branch Solar
Data Release: **Unit Cost Estimate by WBS**

Quantity	Description	Unit	Material	Labor	Equipment	Unit Rate Total	Ext. Mat.	Ext. Labor	Ext. Equip.	Ext. Total	Data Release	CCI Location	Notes
Laurel Branch Solar > Site Preparation													
31939	Synthetic erosion control, silt fence, install and remove, 3' high	L.F.	$ 0.57	$ 1.09	$ 0.29	$ 1.95	$ 18,205.23	$ 34,813.51	$ 9,262.31	$ 62,281.05	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	assumed for use along length of access road
1	Staging Area Setup	Ea.	$ 1,000.00	$ -	$ -	$ 1,000.00	$ 1,000.00	$ -	$ -	$ 1,000.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	
8	Selective tree and shrub removal, selective clearing brush mowing, light density, tractor with rotary mower, excludes removal offsite	Acre	$ -	$ 146.20	$ 194.93	$ 341.13	$ -	$ 1,191.53	$ 1,588.68	$ 2,780.21	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	
Laurel Branch Solar > Site Preparation Subtotal							***$ 19,205.23***	***$ 36,005.04***	***$ 10,850.99***	***$ 66,061.26***			
Laurel Branch Solar > Equipment Removal													
294	Rent backhoe-loader 45 to 60 HP 3/4 CY capacity, Incl. Hourly Oper. Cost.	Week	$ -	$ -	$ 1,132.91	$ 1,132.91	$ -	$ -	$ 333,075.54	$ 333,075.54	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Assume use for handling of materials (steel, PV modules, and concrete). Assume 1-ft thick concrete pads. Assume concrete unit weight is 130pcf. Assume this machine will transport 0.25 ton/load at 6 loads per hour, based on 50-hour work weeks.
734	Rent loader, skid steer, wheeled, 10 CF, 30 HP, Incl. Hourly Oper. Cost.	Week	$ -	$ -	$ 940.53	$ 940.53	$ -	$ -	$ 690,349.02	$ 690,349.02	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	To move equipment and materials across site to interim staging areas - assume 0.1 tons per load and 6 loads per hour, based on 50-hr work weeks.
631	Field personnel, general purpose laborer, average	Week	$ -	$ 872.50	$ -	$ 872.50	$ -	$ 550,547.50	$ -	$ 550,547.50	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Disassemble modules and racking system (6 modules per hour), unbolting of transformers and inverters (5 hours each), fence cutting (NA - accounted for in separate line item), based on 50-hr work week.
217	Crane crew, daily use for small jobs, 12-ton truck-mounted hydraulic crane, portal to portal	Day	$ -	$ 244.30	$ 770.28	$ 1,014.58	$ -	$ 53,013.10	$ 167,150.76	$ 220,163.86	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	For removal of steel piles, assume 60 per day (10 HR Days)
294	Rent front end loader, 4WD, art. frame, diesel, 1 - 1.25 CY 70 HP, Incl. Hourly Oper. Cost.	Week	$ -	$ -	$ 1,601.00	$ 1,601.00	$ -	$ -	$ 470,694.00	$ 470,694.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Loader for movement to staging area and for offsite loading, assume 0.25 ton per load, 6 loads per hour, and 50-hr work weeks
134960	Deconstruction of concrete, floors, concrete slab on grade, rod reinforcement, 4" thick, up to 2 stories, excludes handling, packaging or disposal costs	S.F.	$ -	$ 2.23	$ 0.93	$ 3.16	$ -	$ 300,960.80	$ 125,512.80	$ 426,473.60	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Removal of foundations
183048	Fencing demolition, remove chain link posts & fabric, 8' to 10' high	L.F.	$ -	$ 1.59	$ 0.51	$ 2.10	$ -	$ 291,046.32	$ 93,354.48	$ 384,400.80	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	
660316	PV EOL processing for recycling	Lb.	$ 0.17	$ -	$ -	$ 0.17	$ 112,253.72	$ -	$ -	$ 112,253.72	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	5% of panels will be recycled. EOL processing fee is based on WeRecycleSolar salvage and reuse value analysis provided for another project in 2020.
16862	Transportation of PV modules to recycling facility	C.Y.	$ 13.00	$ -	$ -	$ 13.00	$ 219,206.00	$ -	$ -	$ 219,206.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	11 panels per CY. Assume facility is 1 hr away
1	Overhead and Management	Ea.	$ -	$ 300,000.00	$ -	$ 300,000.00	$ -	$ 300,000.00	$ -	$ 300,000.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	
Laurel Branch Solar > Equipment Removal Subtotal							***$ 331,459.72***	***$ 1,495,567.72***	***$ 1,880,136.60***	***$ 3,707,164.04***			
Laurel Branch Solar > Site Restoration													
43	Rent water truck, off highway, 6000 gallon capacity, Incl. Hourly Oper. Cost.	Week	$ -	$ -	$ 5,695.32	$ 5,695.32	$ -	$ -	$ 244,898.76	$ 244,898.76	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	assume 10 mo duration
71776	Topsoil placement and grading, loam or topsoil screened, 6" deep, furnish and place, truck dumped	S.Y.	$ 5.95	$ 0.33	$ 0.57	$ 6.85	$ 427,067.20	$ 23,686.08	$ 40,912.32	$ 491,665.60	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Assume coverage of access road and removed foundations
15	Seeding, mechanical seeding, 215 lb./acre	Acre	$ 735.93	$ 173.60	$ 186.54	$ 1,096.07	$ 11,038.95	$ 2,604.00	$ 2,798.10	$ 16,441.05	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Assume coverage of access road and removed foundations
9463	Excavation, bulk, scrapers, bank measure, sand and gravel, 5,000' haul, 21 C.Y. bucket, self propelled scrapers, 1/4 push dozer	B.C.Y.	$ -	$ 0.49	$ 4.34	$ 4.83	$ -	$ 4,636.87	$ 41,069.42	$ 45,706.29	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Removal of gravel from access road
Laurel Branch Solar > Site Restoration Subtotal							***$ 438,106.15***	***$ 30,926.95***	***$ 329,678.60***	***$ 798,711.70***			
Laurel Branch Solar > Waste Management													

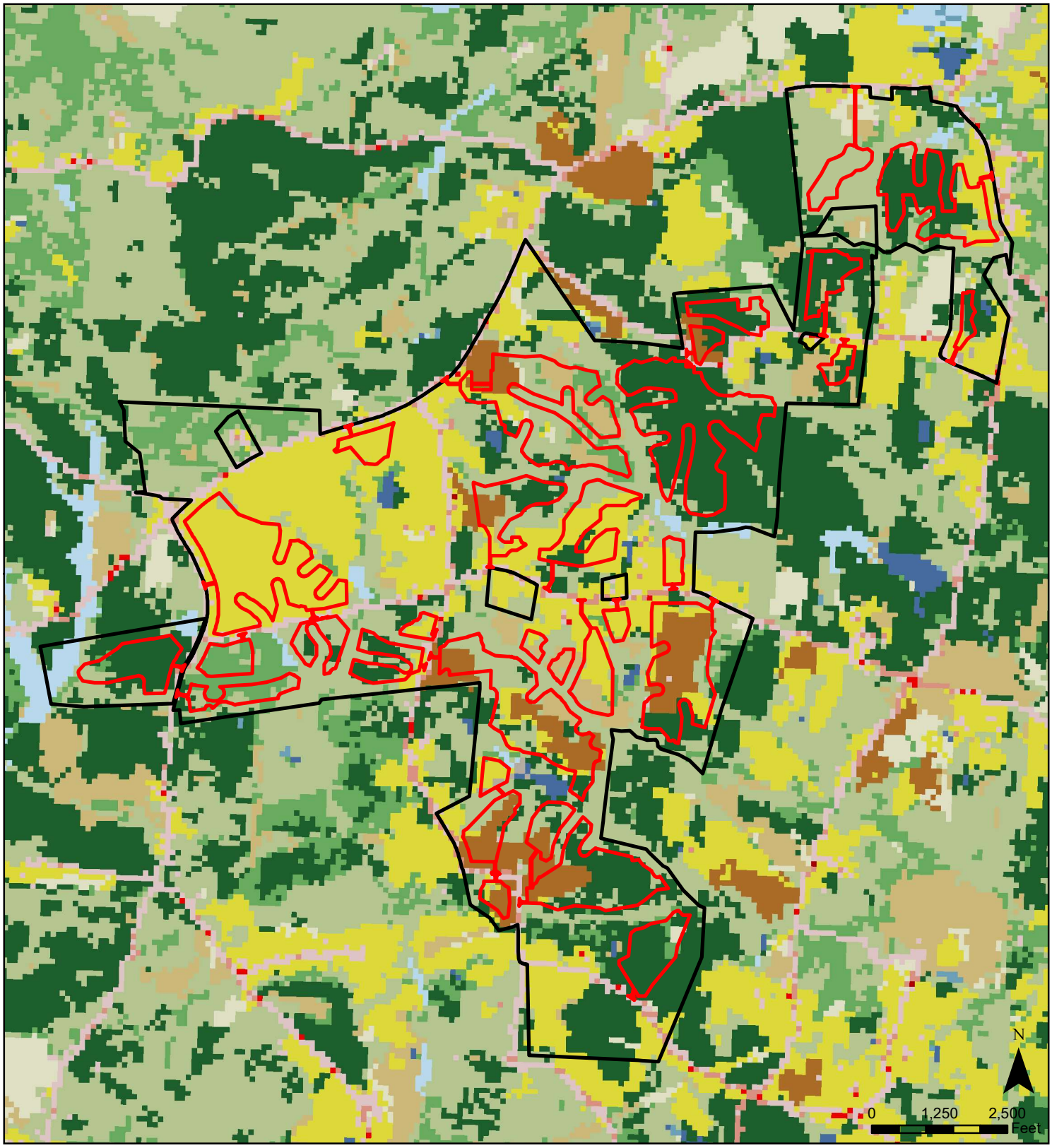
130	Selective demolition, rubbish handling, dumpster, 40 C.Y., 10 ton capacity, weekly rental, includes one dump per week, cost to be added to demolition cost	Week	$ 775.00	$ -	$ -	$ 775.00	$ 100,750.00	$ -	$ -	$ 100,750.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	assume 5 dumpster full time for 6 mo, geotextile, C&D debris, etc
7936	Transportation 1 hour away	C.Y.	$ 13.00	$ -	$ -	$ 13.00	$ 103,168.00	$ -	$ -	$ 103,168.00	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	Transportation for steel, concrete, and used equipment for recycling, assume approximately 1 CY per 2 ton
50	Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, transportation in 6900 gallon bulk truck	Mile	$ 7.81	$ -	$ -	$ 7.81	$ 390.50	$ -	$ -	$ 390.50	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	assume 50 miles to disposal facility
Laurel Branch Solar > Waste Management Subtotal							***$ 204,308.50***	***$ -***	***$ -***	***$ 204,308.50***			
Grand Total						***$ 314,521.91***	***$ 993,079.60***	***$ 1,562,499.71***	***$ 2,220,666.19***	***$ 4,776,245.50***			

Laurel Branch Solar
Data Release: **Unit Cost Estimate by WBS**

Quantity	Description	Unit	Material	Labor	Equipment	Unit Rate Total	Ext. Mat.	Ext. Labor	Ext. Equip.	Ext. Total	Data Release	CCI Location	Notes
Laurel Branch Solar > Material and Equipment Salvage													
6405	Copper wire salvage value, unit cost credit, excludes handling, packaging, or disposal costs	Lb.	$ 2.04	$ -	$ -	$ 2.04	$ 13,066.20	$ -	$ -	$ 13,066.20	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	copper wire from above ground wiring 640.5 lb per 1000LF bare 4/0 copper $1.75/lb
13292073	Steel salvage value, unit cost credit, excludes handling, packaging, or disposal costs	Lb.	$ 0.06	$ -	$ -	$ 0.06	$ 797,524.38	$ -	$ -	$ 797,524.38	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	steel from piles (15 ft ea) @ 25 lb/ft = 375 lb/pile steel from trackers: assume 2lb/LF steel fencing: assume 1lb/LF
176208	End-of-life salvage value for solar modules (suitable for reuse)	Ea.	$ 100.70	$ -	$ -	$ 100.70	$ 17,744,145.60	$ -	$ -	$ 17,744,145.60	Year 2021 Quarter 4	VIRGINIA / ROANOKE (240-241)	assumes 95% of modules will be suitable for reuse and 5% will be recycled (recycle cost tracked under equipment removal task). Value of module: $0.19/W. Value of PV module is based on WeRecycleSolar salvage and reuse value analysis provided for another project in 2020.
Laurel Branch Solar > Material and Equipment Salvage Subtotal							***$ 18,554,736.18***	***$ -***	***$ -***	***$ 18,554,736.18***			

TAB J

Land Cover Map



Limit of Disturbance
Project Area

NLCD Land Cover

- Woody Wetlands (0.06 acres)
- Unclassified
- Shrub/Scrub (38.02 acres)
- Open Water (0.07 acres)
- Mixed Forest (154.06 acres)
- Herbaceous (4.31 acres)
- Hay/Pasture (177.26 acres)
- Evergreen Forest (261.62 acres)
- Emergent Herbaceous Wetlands
- Developed, Open Space (3.97 acres)
- Developed, Medium Intensity (0.11 acres)
- Developed, Low Intensity (0.10 acres)
- Developed, High Intensity
- Deciduous Forest (37.69 acres)
- Cultivated Crops (101.79 acres)
- Barren Land (0.92 acres)

Acreages in parentheses represent total acreage within the project limit of disturbance.

Source: NLCD (2016)

TETRA TECH

Figure 2
Land Cover

Laurel Branch Solar Project

Lunenburg County, Virginia

PGH P:\GIS\DOMINION\MAPDOCS\LAURELBRANCH_NLCD.MXD 08/31/22 SP

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
RICHMOND DISTRICT
2430 Pine Forest Drive
COLONIAL HEIGHTS, VA 23834
www.VDOT.Virginia.gov

Stephen C. Brich, P.E.
COMMISSIONER

March 22, 2022

Ms. Taylor N. Newton
Director of Planning and Economic Development
County of Lunenburg
11413 Courthouse Road
Lunenburg, VA 23952

(Sent Via E-mail)

SUBJECT: **Laurel Branch Solar Project**
Rte. 646 Laurel Branch Rd. & Various Secondary Routes
Lunenburg County, VA
Conditional Use Site Plan-Preliminary Plans VDOT Comments
Plan Revision Date 2/14/22

Dear Ms. Newton:

The Virginia Department of Transportation, South Hill Residency Southern Region Land Development Office has reviewed the Conditional Use Application Preliminary Plans received by on March 10, 2022. At this time we have no objection to the conditional use but do offer the following comments to the county.

- As you know our biggest concern is the repetitious heavy construction traffic on our secondary surfaced and non-surfaced roads. Maintaining these roads due to the construction traffic damage will be costly to the local VDOT Area Headquarters budget. Extra monies used to maintain these roads due to construction traffic will more than likely take away from other maintenance projects on secondary roads in the county.
- Based off the above comment we have asked you to have the county to consider implementing the Construction Traffic Management Plan (CTMP) some of our other counties have for secondary routes. It requires the applicant to maintain the roads during construction and make any needed permanent repairs. As we discussed VDOT cannot require the applicant to make any repairs due to it being a public road. However the county can if it chooses under their application process and/or ordinances. You have the guidance on the CTMP.
- Something else the county may want to consider and discuss with the applicant is the possible partial abandonment of Rte. 647 Sneads Store Road from Rte. 646 Laurel Branch Rd. to where the applicants property line crosses Rte. 647, Sneads Store Rd.

Same thing for Rte.713 Hilltop Rd. From Rte. 637 Craig Mill Rd. to where the applicants property line crosses the road. There are no residential houses in this section of roadway and according to the plans the applicant will eventually own the land on both sides of the road between in this section. Therefore not meeting a public need. This also allows for better security to the area and reduced amount of fencing. Of course this is still a through road and will have to go through the abandonment process with a public hearing etc.

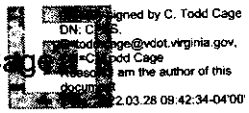
- Of course later on in this process if the project is approved by the county, the plans will have to go through a complete site plan review and eventual VDOT permitting for all work within the VDOT right of way.

We would like to thank the county for getting VDOT involved early on and be part of your county review team for this project. It benefits everyone.

If you have any questions in the meantime please feel free to contact me at 434-774-2310 or by email, todd.cage@vdot.virginia.gov .

Sincerely,

C. Todd Cage



C. Todd Cage
Land Development Engineer
Southern Region Land Development
Richmond District

CC: Paul Hinson, P.E., LEED AP, VDOT Southern Region Area Land Use Engineer
John Legg, VDOT Southern Region Permits/Subdivision Specialist Sr.
Tommy Johnson, VDOT South Hill Residency Administrator
Kevin Smith, VDOT South Hill Residency Assistant Administrator

Kenbridge

January 19, 2023

Ms. Taylor Newton
Director of Planning and Economic Development
11413 Courthouse Rd
Lunenburg, Va 23952

Dear Ms. Newton,

This letter is in regards to the Laurel Branch Solar Project application consisting of 26 individual parcels. The planning Commission of the Town of Kenbridge met and approved the project on Tuesday, December 5, 2022 and discussed the project location and the impact on Kenbridge. It was approved to allow the project issue to go to the Town Council. The Town Council met on December 20, 2022 and a motion was made and second to allow Laurel Branch Solar project to continue with the project as there does not appear to be any conflict with critical infrastructure or future needs of the Town of Kenbridge. Thank you for your time and help with this project.

Sincerely,

Tony Matthews
Kenbridge Town Manager

Town of Kenbridge
KENBRIDGE COMMUNITY CENTER
511 East Fifth Avenue, Second Floor | P. 0. Box 478 Kenbridge, Virginia 23944
(434) 676-2452 | Fax (434) 676-8068
www.kenbridgeva.net

Taylor Newton

From: robin.l.lucey@dominionenergy.com
Sent: Monday, January 30, 2023 10:34 AM
To: Taylor Newton
Subject: RE: Verification Requested for Application

Thanks Taylor!

From: Taylor Newton <taylor@lunenburgva.gov>
Sent: Monday, January 30, 2023 10:31 AM
To: Robin L Lucey (DEV Generation - 3M) <robin.l.lucey@dominionenergy.com>
Subject: [EXTERNAL] RE: Verification Requested for Application

Robin,

That is fine with providing them via email, rather than redoing the full application.

Respectfully,

****Please note a change in my email address. It is now taylor@lunenburgva.gov. Please update your records.****

Ms. Taylor N. Newton, CZO
Director of Planning and Economic Development
Local Zoning Administrator
County of Lunenburg
11413 Courthouse Road
Lunenburg, VA 23952
434.696.2142 (phone)
434.696.1798 (fax)
taylor@lunenburgva.gov (email)
www.lunenburgva.net (County Website)

information is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us by mail or if electronic, reroute back to the sender. Thank you.

From: robin.l.lucey@dominionenergy.com <robin.l.lucey@dominionenergy.com>
Sent: Monday, January 30, 2023 10:30 AM
To: Taylor Newton <taylor@lunenburgva.gov>
Subject: RE: Verification Requested for Application

Hi Taylor,

Thank you for confirming. We will get that information over to you. I regards to the application, the figures of total prime farmland and prime timberland were not mentioned, so would you be ok with us providing this information to you via email? Thank you for your time and your help!

Sincerely,
Robin

Robin L. Lucey
Business Development Manager
Dominion Energy – Power Generation
600 East Canal Street, 19th Floor, Richmond, VA 23219
Mobile: 804-212-5426
Email: robin.l.lucey@dominionenergy.com

From: Taylor Newton <taylor@lunenburgva.gov>
Sent: Monday, January 30, 2023 9:58 AM
To: Robin L Lucey (DEV Generation - 3M) <robin.l.lucey@dominionenergy.com>
Subject: [EXTERNAL] RE: Verification Requested for Application

Robin,

Yes, I would like the exact numbers versus estimate.

Respectfully,

****Please note a change in my email address. It is now taylor@lunenburgva.gov. Please update your records.****

Ms. Taylor N. Newton, CZA
Director of Planning and Economic Development
Local Zoning Administrator
County of Lunenburg
11413 Courthouse Road
Lunenburg, VA 23952

434.696.2142 (phone)
434.696.1798 (fax)
taylor@lunenburgva.gov (email)
www.lunenburgva.net (County Website)

From: robin.l.lucey@dominionenergy.com <robin.l.lucey@dominionenergy.com>
Sent: Thursday, January 26, 2023 5:19 PM
To: Taylor Newton <taylor@lunenburgva.gov>
Subject: RE: Verification Requested for Application

Hi Taylor,

Would you like us to provide exact numbers of the acreage falling under prime farmland and prime forestland (rather than estimates)? Thank you!

Robin

Robin L. Lucey
Business Development Manager
Dominion Energy – Power Generation
600 East Canal Street, 19th Floor, Richmond, VA 23219
Mobile: 804-212-5426
Email: robin.l.lucey@dominionenergy.com

From: Taylor Newton <taylor@lunenburgva.gov>
Sent: Wednesday, January 25, 2023 10:23 AM
To: Robin L Lucey (DEV Generation - 3M) <robin.l.lucey@dominionenergy.com>
Subject: [EXTERNAL] Verification Requested for Application

Robin,

Upon further review, it has been determined that the acreage amounts for prime farmland and prime forestland may be incorrect, so the County is requesting confirmation. The information can be obtained via the NRCS or utilizing their local

field contact. Additionally, it appears that several of the parcels included in the project have been clear-cut since the application submission. Please revise all parts of the application where the total acreage of prime farmland and prime timberland are mentioned and resubmit with ten (10) hard-copies and one (1) electronic copy.

Respectfully,

****Please note a change in my email address. It is now** taylor@lunenburgva.gov. **Please update your records.****

Ms. Taylor N. Newton
Director of Planning and Economic Development
County of Lunenburg
11413 Courthouse Road
Lunenburg, VA 23952
434.696.2142 (phone)
434.696.1798 (fax)
taylor@lunenburgva.gov (email)
www.lunenburgva.net (County Website)

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CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you

Staff Report

Report on Conditional Use Permit CUP-2-22 Laurel Branch Solar (Virginia Electric and Power Company) with Respect to Article 15.2-2232 of the Code of Virginia

Purpose of Review and Scope of Hearing

Purpose: To determine whether the request of Laurel Branch Solar for a Conditional Use Permit for a proposed solar energy facility ("the Application"), as a "public utility facility" under Virginia Code Section 15.2-2232(A), is substantially in accord with the *Lunenburg/Kenbridge/ Victoria Joint Comprehensive Plan 2019-2024* ("the Comprehensive Plan") relative to the general or approximate location, character, and extent of the proposed facility.

Scope of Hearing: Staff has recommended that the Planning Commission review the request for determination under Virginia Code Section 15.2-2232 prior to any review of a Conditional Use Permit (CUP) application. Therefore, the subject hearing is limited in scope to the determination of whether the request made in the Application, file number CUP-2-22, is 'substantially in accord' with the Comprehensive Plan. During this hearing phase, only those facts that pertain to the broader issues of the Comprehensive Plan will be discussed. Should the request be found to be in accord with the Comprehensive Plan, detailed examination of the Application as a Conditional Use Permit will be addressed in additional hearings before the Planning Commission, with a subsequent hearing before the Board of Supervisors. Should the request be found not to be in accord with the Comprehensive Plan, the Application will be dismissed, and no further hearing nor consideration of the Conditional Use Permit will be conducted; the facility proposed in the Application will not receive approval or permissions to build. The Applicant may appeal this action to the Board of Supervisors.

Project Description and Existing Conditions

Description: The facility proposed under CUP-2-22, having a rated capacity of 80 megawatts (80 MW), is classified as a Large-Scale Solar facility (solar facility that generates electricity from sunlight on an area adequate to support a rated capacity of five megawatts (5 MW) alternating current or greater). The facility is proposed to be developed on twenty-seven (27) parcels totaling approximately 2,189 acres,[1] currently zoned A-1, Agriculture District, and located in an area of the County having a current and future land use designation as *Agricultural*, characterized as areas "foreseen as slow growth, low density areas…expected to remain primarily agricultural, forest, and rural residential land uses."

The Property is located to the southwest of the Town of Kenbridge. The Property is currently used for timber and agricultural. The majority of the Property is located between Plank Road and Sneads Store Road as well as along Oral Oaks Road and Laurel Branch Road. Where parcels are

[1] The Project Narrative indicates that the "Project will be located on twenty-five (25) parcels…," however, the Preliminary Site Plan lists 27 parcels, including one "Easement Only." The total acreage is consistent between the Project Narrative and Preliminary Site Plan.

not immediately adjacent, overhead electric lines will provide connections between the parcels. The project area of the site (the area within the site used for the construction and operation of the solar energy facility, including security fencing but excluding setbacks and buffer areas) totals approximately 750 acres.[2] The Application indicates the installation of an estimated maximum 176,094 photo-voltaic (PV) single-axis tracker solar panels.

Preexisting Site Use/Economic Considerations: Preexisting or recent use of the site is not addressed within the Application; however, it appears that timber was harvested. Adjacent uses and uses within the area are comprised of residential and agricultural uses.

Existing Topography: The Application contains a *Slopes* plan indicating topography of the site. Generally, the site slopes downward from south to north and east to west and it is expected that stormwater would generally flow in these directions. Slopes generally range between 0% to 15%.

Soils: According to the Application, on-site soils are moderately fine-grained sands, humus, and clay, including USGS soil category of Ultisols (red clay soils with high acidity). Soil types found on the property include the following classifications: 10B: Helena sandy loam, 10C2: Helena sandy loam, 11B2: Herndon loam, 11C2: Herndon loam, 12B: Iredell loam, 12C2: Iredell loam, 13C2: Lignum loam, 18B: Orange loam, 1B2: Appling sandy loam, 1C2: Appling sandy loam.

Transportation: The Project will be constructed over an approximate 18-month period with a peak of 150 employees on the site during module installation. It is anticipated that construction will commence in 2024 and the Project will be operational by the end of 2025. Once operational, maintenance crews of 2 to 3 people will visit the Project site as necessary to mow and perform other maintenance activities. The Project will have a limited impact on existing transportation infrastructure once constructed.

Existing Air Quality: Given the sparseness of development and traffic, existing air quality should be acceptable. While no sampling has been done, one can expect low levels of degradation in the area due to its limited accessibility and use.

Existing Demand for Emergency Services: The site and existing use poses no unique demands on emergency services at present.

Adjacent and Surrounding Uses: The areas surrounding the proposed project area share the same land use and zoning characteristics – rural, agricultural, forestry uses – as well as the same land use classifications.

[2] The Project Narrative notes that approximately 791 acres will be disturbed and approximately 165 acres will be used for solar panels, with a footnote indicating that "disturbed acreage and solar panel acreage may be increased based on agreements with the landowners allowing reduced setbacks." Of course, this may be contingent on conditions that may be imposed upon any issued Conditional Use Permit.

Comprehensive Plan Citations

The Comprehensive Plan includes a *Special Policy Areas* discussion and recommendations on solar facilities (Chapter V, *Special Policy Areas*), as follows:

> ***Policy Area: Solar Facilities***
> *Solar Facilities are acres of raw farmland covered with solar panels which enable the owner of the solar facilities to capture sunlight, convert that sunlight into electrical energy and then sell that electricity to the utility company.*
>
> *Solar facilities are located in areas with availability of large tracts of land at low costs as well as available infrastructure (transmission lines) to support additional capacity. The existing land use of Lunenburg County could make the county's open areas an option for Solar Facilities. The County and the Towns should consider the development of alternative energy production while protecting agriculture, forestry lands and watersheds that the county enjoys.*
>
> *Alternative energy production may be considered by the County and Towns as an attraction to expand employment opportunities and for companies interested in supporting solar development in communities where they are located.*
>
> ***Recommendations:***
> *The County and Town Planning Commissions should consider safe development of solar energy that minimizes impacts to land uses, properties, and the environment, particularly for economic development purposes. They should develop reasonable conditions for the development of Solar Facilities which will protect the character of surrounding properties and will not limit future property development. Any County or Town planning measures which address Solar Facilities siting should also have an effective decommissioning plan developed and funded by the Solar developer before installation.*

Additionally, the following Comprehensive Plan citations should be considered:

- Chapter V, *Special Policy Areas*, *Policy Area: Loss of Agricultural Land and Open Space*, references that "Future residential, commercial, and industrial development should be encouraged to locate in areas where adequate public services are available or planned. Any development that does occur in the rural areas should be designed to incorporate significant open spaces and designed to minimize environmental impacts on the land and water resources," and that "Environmental impacts of any newly planned development area should be considered. It is essential to maintain a balance between development and preservation objectives throughout the area." This section recommends that "Commercial and/or industrial developments that are approved in the rural portions of the County should be consistent with the best interest of the community."

- Chapter V, *Special Policy Areas*, *Policy Area: Protection of Water Resources*, references that surface water resources within the County "provide recreational opportunities and are a critical component of the County's infrastructure and quality of life. As such,

protection and enhancement of these water resources should be a primary object of the County and the Towns."

- Chapter VI, *Goals, Objectives, and Strategies*, B., *Economy and Employment*:
    - Goal: Promote the expansion of a diversified economy.
        - Objective 1: Encourage quality industries to locate within the County and Towns.
            - Strategy 4: County Government, and other parties, to promote the area to environmentally friendly industries.
        - Objective 2: Provide adequate land and resources for commercial and industrial uses.
            - Strategy 5: Guide community and industrial uses into areas with adequate public utilities and transportation access.
- Chapter VI, *Goals, Objectives, and Strategies*, C., *Land Use*:
    - Goal: Promote a balance of land uses that meet economic and demographic needs of Lunenburg County, the Town of Kenbridge, and the Town of Victoria.
        - Objective 4: Encourage quality industries to locate within the County and Towns.
            - Strategy 1: Encourage industries to locate in the County and Towns' industrial parks or in areas where they are compatible to adjacent uses.
            - Strategy 2: Guide community and industrial uses into areas with adequate public utilities and transportation access.
            - Strategy 3: Work with interest groups to attract new industries to the locality. Encourage industries to locate in the industrial parks or in areas where they are compatible to adjacent uses.
            - Strategy 4: Liaise with the Chamber of Commerce, and other parties, to promote the area to environmentally friendly industries.
- Chapter VI, *Goals, Objectives, and Strategies*, F., *Natural Resources*:
    - Goal: Protect and preserve the natural resources of the community.
        - Objective 1: Prevent development in areas of critical environmental importance.
            - Strategy 1: Restrict development in flood plains, swamps, and drainage ways.

- Strategy 2: Restrict development on soils that will not adequately support structures.
- Strategy 4: Identify and protect all open spaces which have recreational potential, or which would enhance the environment in Lunenburg County, the Town of Kenbridge and the Town of Victoria.
- Strategy 5: Promote the preservation and planting of trees, shrubs, and other natural foliage.

Staff Analysis and Comments

Staff has reviewed and analyzed the Application and the above referenced Comprehensive Plan citations to determine whether the project is substantially in accord with the Comprehensive Plan.

With respect to the *Solar Facilities* policy area, Staff is of the opinion that the proposed facility can be characterized as safe development that generally minimizes, or will minimize through reasonable conditions, impacts to land uses, properties, and the environments.

With respect to the *Loss of Agricultural Land and Open Space* policy area, significant areas of the project will remain undeveloped, and the project is designed to minimize environmental impacts, and/or such impacts will be minimized through reasonable conditions.

With respect to the *Protection of Water Resources* policy area, Staff is of the opinion that the project will be subject to Virginia Department of Environmental Quality regulations and permitting, which will work to ensure protection of the County's water resources.

With respect to applicable *Economy and Employment* goals, objectives, and strategies. Staff is of the opinion that the proposed development works to expand a diversified economy within the County, and would constitute an environmentally friendly industrial use, primarily due to the proposed scale of operation, generally sited in an area with adequate and necessary utility access.

With respect to applicable *Land Use* goals, objectives, and strategies, while the area has adequate and necessary utility access and constitutes a more environmentally friendly industrial use, it is not inherently compatible with adjacent uses, which are almost entirely residential and agricultural. Significant setbacks and buffers/screening work to mitigate for this incompatibility and additional reasonable conditions should be considered as part of the review of the Conditional Use Permit.

With respect to applicable *Natural Resources* goals, objectives, and strategies, Staff is of the opinion that the proposed development does not negatively impact natural resources of the County, especially areas of critical environmental importance. Staff acknowledges that the project works to promote the preservation of existing trees by retaining existing vegetated areas along the periphery of the site and would suggest that additional reasonable conditions to support

the long-term maintenance of these areas be considered as part of the review of the Conditional Use Permit.

Staff Conclusions and Recommendations

Staff has analyzed the applicable elements of the Comprehensive Plan referenced above. The project's proposed location, character, and extent appear to be consistent with the overall policies, goals, objectives, and strategies of the Comprehensive Plan (or reasonably expected with the imposition of conditions as part of the review of the Conditional Use Permit). **Based upon this and the Town of Kenbridge's recommendation that the project will not interfere with the future expansion or critical infrastructure needs of the Town pertaining to the project's location being within 1-mile from the Town of Kenbridge, through the siting agreement process, Staff is of the opinion and recommends that the proposed utility-scale solar facility is substantially in accord with the Comprehensive Plan, or parts thereof.**

As noted at the beginning of this Report, the question before the Planning Commission with this 2232 review is whether the general location or approximate location, character, and extent of the proposed solar energy facility is substantially in accord with the Comprehensive Plan or part thereof. Staff suggests that the Planning Commission consider all relevant portions of the Comprehensive Plan in its analysis, and carefully and thoroughly document the reasons and basis for the action which the Commission takes. Options for Commission action are as follows:

1. By motion, determine that the application is substantially in accord with the Comprehensive Plan, with written reasons for the decision;

2. By motion, determine that the application is not substantially in accord with the Comprehensive Plan, with written reasons for the decision; or

3. By motion, defer action on the review at this time and continue for further discussion and consideration (within the 60-day window).

Planning Commission Actions

Option 1 - Applicant's proposal is substantially in accord with the Comprehensive Plan

I move that Laurel Branch Solar's proposed 80-megawatt photovoltaic solar energy facility, as described in the conditional use permit application CUP-2-22, is substantially in accord with the Lunenburg County Comprehensive Plan, or parts thereof, for the following reasons:

1. The proposed solar facility can be characterized as safe development that minimizes, or will be expected to minimize through conditions, impacts to land uses, properties, and the environments. While portions of the project are located within 1 mile of the limits of the Town of Kenbridge, this requirement has been waived by the County's Board of Supervisors based upon input and agreement received from the Town of Kenbridge.

2. The project will be subject to Virginia Department of Environmental Quality regulations and permitting, which will work to ensure protection of the County's water resources.

3. The proposed development works to expand a diversified economy within the County, and would constitute an environmentally friendly industrial use, primarily due to the proposed scale of operation, generally sited in an area with adequate and necessary utility access.

4. The area of the proposed project has adequate and necessary utility access, and the project constitutes a more environmentally friendly industrial use; while not inherently compatible with adjacent uses, which are almost entirely residential and agricultural, significant setbacks and buffers/screening will work to mitigate for this incompatibility and additional conditions can considered as part of the review of the Conditional Use Permit.

5. The proposed development does not negatively impact the natural resources of the County, especially areas of critical environmental importance. Further, the project works to promote the preservation of existing trees by retaining existing vegetated areas along the periphery of the site.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

Option 2 - Applicant's proposal is not substantially in accord with the Comprehensive Plan

I move that Laurel Branch Solar's proposed 80-megawatt photovoltaic solar energy facility, as described in the conditional use permit application CUP-2-22, is not substantially in accord with the Lunenburg County Comprehensive Plan, or parts thereof, for the following reasons:

1. The proposed solar facility cannot be characterized as safe development and does not minimize impacts to land uses, properties, and the environment. Portions of the proposed facility are located within 1 mile of the limits of the Town of Kenbridge, resulting in negative impacts to land use and properties, and future property development.

2. The location of the proposed solar facility is a rural area, the amount of undeveloped area within the project is insufficient and the project is not designed to minimize environmental impacts.

3. Despite being subject to Virginia Department of Environmental Quality regulations and permitting, the project will have negative effects on the County's water resources.

4. The proposed development does not work to expand a diversified economy within the County, and given the scale of the proposal, would not constitute an environmentally

friendly industrial use; furthermore, utility and transportation access to support the development are inadequate.

5. The proposed project is not compatible with adjacent residential and agricultural uses; setbacks and buffers/screening are insufficient and cannot be improved in a manner that would improve the compatibility of the project with adjacent uses.

6. The proposed development negatively impacts the natural resources of the County, especially areas of critical environmental importance such as existing stands of trees and the isolated wetland to the east of the project site.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

Option 3 – Deferral of the application

I move that the Planning Commission defer a decision on Laurel Branch Solar's request under Va. Code § 15.2-2232 regarding its proposed 80-megawatt photovoltaic solar energy facility, as described in the conditional use permit application CUP-2-22, until the Planning Commission meeting scheduled to begin at _____ p.m. on _____, in the _____ meeting room.

Public Comment Received

March 22, 2022

Taylor N. Newton
Clerk of the Planning Commission
11413 Courthouse Road
Lunenburg, VA 23952

Re: Laurel Branch Solar Project – Dominion Energy

Ms. Newton,

I am writing with my concerns for the above-referenced proposed project which I adamantly oppose. My opposition stems from several concerns.

First, this project would be in an area of agricultural & residential use when it is in fact industrial in nature. At a minimum 45 single family homes would be affected in some manner should this project move forth. In addition to myself, most residents I have contacted within the area of impact oppose having this type of project near their homes for a variety of reasons, but most pointedly, because it is not conducive to the rural nature of the surrounding areas currently enjoyed by its' residents. Aesthetically it is unpleasing. Had I wished to build my home in a commercial/industrial area, I would not have chosen the location upon which it now sits. If this project is to be built in Lunenburg County, it needs to be in a commercial or industrial area. If there are insufficient acreages in those areas, then the developer needs to look outside of Lunenburg County.

Secondly, the developer admits that this Lunenburg project along with many other similar projects in adjoining or nearby counties is being forced upon them economically by the Federal government. In other words, Dominion Energy is being forced to implement green energy projects to avoid paying penalties to our government. That does not make it Lunenburg County's problem. At a recent public meeting, I inquired why Dominion Energy chose our county. Their representative advised me they simply look for areas whereby one willing landowner holds and will sell the bulk of the acreage they need, and they pursue the rest of the land needed from that point. That is exactly what happened here. Dominion Energy could care less about our residents wishes, our desire to hold on to our rural lifestyle nor the negative effects this solar project will have. I realize our county would benefit from an increase in tax revenue and it may even aid in reducing electrical costs to some residents, but I ask you to consider the negative effects outweigh the benefits.

Next, solar farms can be beneficial, but my research indicates it is "too soon to tell" if they are a wise choice. Solar farms, like this one, that cover a large amount of land are likely to have an impact on the local fauna and flora, particularly on birds. Solar farms can also inhibit local vegetation growth and damage agriculture. Unlike wind energy, solar panels can't share the land they occupy for other uses. This 1000-acre project will mean habitat loss & erosion,

land cleared of everything including vegetation along with destruction of wildlife, one of Lunenburg County's most valuable resources. Additionally, this project will surround and affect many branches and creeks that feed directly into the water filtration plant for the Town of Kenbridge. I could go on but those few are enough reasons to not allow a project of this type to be located where proposed or maybe not in our county at all.

I have copied each member of the county Planning Commission with this letter. I am requesting when this matter comes before the commission for consideration that all its' members vote a resounding and unyielding 'No' to it.

Respectfully,

Janice D. Puleo
12443 Plank Road
Kenbridge, VA 23944
434-480-0258

Cc: James Tharpe, Cecil Shell, Luther Drummond, Brenda Jennings, Edward Pennington
Tony Trent, Walter Thompson

March 23, 2022

Lunenburg County Board of Supervisors
Lunenburg County Planning Commission
Lunenburg County Administrator

Subject: Laurel Branch Solar

Dear Supervisors, Planning Commission members, and County Administrator,

As a lifelong resident of Lunenburg County, a father of two children, and a contributing member of our local community, I am unsettled by the Laurel Branch Solar project proposed by Dominion Power. While I certainly encourage renewable energy sources, I cannot justify supporting the current project, for a variety of reasons. I also do not believe that the Lunenburg County Planning Commission, nor the Lunenburg Country Board of Supervisors, should approve the project without complete transparency from Dominion Power.

A solar facility of this magnitude defiles the landscape of Lunenburg County for current and future generations. Thousands of acres of vital woodlands and farmland will be decimated—replaced with glittering steel and photovoltaic (PV) panels collecting power for distribution to cities and counties with higher usage rates than Lunenburg. Lunenburg prides itself on rural living and supporting local farmers. Rezoning an agricultural area of this size, while commercial/industrial acreage is available elsewhere, to destroy the rural aesthetic is contrary to Lunenburg's farming history. Humanity survived for thousands of years without electricity, but farming has been a way of life since Adam.

The proposed thousands of acres of destroyed agricultural land creates significant primary, secondary, and tertiary impacts to surrounding properties and ecosystems. Neighboring land owners will see a tremendous devaluation of their property. For those completely surrounded by the proposed project, their property value will be non-existent. They will also experience a tremendous loss in their quality of life, as farm living approaches some aberration, where the natural landscape is stripped away, that does not even have a name yet. Furthermore, the entire project area effectively becomes impermeable surface area. The projected storm water runoff could decimate surrounding waterways and farm land. Dominion Power has a history of storm water issues (Louisa County) related to solar projects. Also, the overall effects on flora and fauna cannot be accurately quantified, as multiple species are displaced or eradicated.

In my professional capacity, I am intimately familiar with multiple solar facilities generating more than 1MW of electricity. Those facilities routinely fail (for example, our solar portfolio has not had all fields 100% operational, at any given time, during the last ten years), due to faulty inverters, broken PV panels, electrical leakage, etc. Repairs, operations, and maintenance are costly endeavors to say the least, but the underlying, unspoken costs are enormous. PV panels are constructed of hazardous materials including cadmium telluride, copper indium selenide, cadmium gallium (di)selenide, copper indium gallium (di)selenide, hexafluoroethane, lead, and polyvinyl fluoride. No one wants any of these substances introduced into the environment, which is why they require specific handling methods, yet we continue to create solar "farms" on any available greenspace. As these newly constructed projects fail, the hazardous detritus will inundate the current waste management industry in Lunenburg.

While some of these issues may be vetted, as Dominion proceeds through the process, they have been less than forthright thus far. To demonstrate, Dominion should address each of these issues:

- I live across the road from the proposed project. There is a mailbox, next to my driveway, with my address printed on it. Lunenburg County records show that I am the resident of that address. I received no notification of the proposed project; I found out through other sources. Why is that? Did they meet their requirement for notification?
- Dominion recently sent notices to users in Lunenburg County that their rates would increase to fund new infrastructure requirements, which would include the Laurel Branch solar project. In reality, this is a reallocation of wealth within the county, not an influx of money from outside sources. If Dominion intends to send this power out of Lunenburg, then why are Lunenburg County residents bearing this financial burden?
- Solar projects do not create construction jobs. Those workers are already employed and routinely travel to similar projects. The proposed project only creates potential income to the County, during construction, from out-of-town workers. Since Lunenburg County does not manufacture or distribute any of the required goods, the economic influx is minimal. What yearly financial incentive is Dominion proposing to Lunenburg?
- Why do corporations, such as Dominion, continue to target rural locations, such as Lunenburg? While their canned response is always land availability, the financial incentive to them plays a much larger, albeit uncommunicated, role. Promises of a little money go much farther in rural, less wealthy counties than in northern Virginia.
- Will Dominion provide compensation for surrounding landowners for devaluation of their property? Will it increase over the period of performance? Who determines the devaluation?
- What is the end state of the facility when Dominion determines that it is no longer viable? Does the infrastructure remain in place, rendering the land useless?
- How many pending lawsuits is Dominion facing regarding solar projects?
- What kind of visual buffer will hide thousands of acres comprised of 500,000+ solar panels?

Dominion is, or should be, well aware of the level of effective community outreach required to garner support for a project of this magnitude. Given the available information, it is unreasonable for any Lunenburg County administrator, supervisor, or resident to support the planned Laurel Branch Solar project. To date, they have simply gone through the motions and attempted to check every box, rather than thoroughly engage the community. This is an affront to the planning process, as a whole, where they believe that the financial impacts of their proposal far outweigh the potential consequences of local opposition. I implore you to demonstrate to Dominion that Lunenburg County greatly values its residents and that their opinions are given due consideration.

Best Regards,

Derrick Hall
11075 Plank Rd, Kenbridge, VA
Dukhntr35@gmail.com
434-321-7092

COPY

August 30, 2022

Mrs. Tracy M. Gee
Lunenburg County Administrator
Lunenburg County Administrator Office
11413 Courthouse Road
Lunenburg, Virginia 23952

Re: **Laurel Branch Solar Project**

Dear Mrs. Gee:

This letter is to express our concerns with the Laurel Branch Solar Project and its potential impact upon us, our property, and our neighbors within close proximity of the Laurel Branch Solar Project.

So that you have a complete understanding, I have enclosed a copy of my June 7, 2022 letter to Robin L. Lucey, Dominion Energy, a letter that I wrote after the June 6, 2022 Town Hall Meeting, as well as a copy of her June 23, 2022 response to that letter.

In spite of Robin's response, we still have concerns about the wells, bored and drilled, the water source for homes in nearby properties, wells that are not a part of the Laurel Branch Solar Project, but are within yards of the boundary of this project. (We are assuming that the onsite area for this project is the area within the project boundary.)

There are three bored wells and three drilled wells at three different residences on Laurel Branch Road, all a part of the Laurel Branches farm. One of the homes is supplied water from a bored well, a well only about 30 feet deep and located close to the boundary of Laurel Branch Solar Project. "Dominion Energy recommends that all wells onsite be properly abandoned prior to the start of construction activities. If this doesn't occur, we will ensure that they will be property closed and secured at all times."

The fact that "Dominion Energy recommends that all wells be properly abandoned....."is rather alarming. Obviously, there is a concern that such wells will be contaminated and should be abandoned, closed. What are Dominion Energy's expectations for those wells, not just on Laurel Branch Road, but all of those homes with wells around the perimeter of this project? How is the potential contamination going to be monitored and is Dominion Energy going to bear any of the responsibility for replacement of wells of those private homes within close proximity, but not a part of the solar project itself? There is definitely a concern about the water quality of all of our wells, both bored and drilled!

There is also a concern about the run-off from the solar sites. Laurel Branches farm has creeks and ponds that are fed by creeks that runs through an adjoining farm, Oral Oaks, Dixie Lee Farms, Inc., a farm that is a within the Laurel Branch Solar Project. The creek and pond are a source of water for the cows located on Laurel Branches property.

Likewise, there is a concern about the temperature increase around properties that border the Laurel Branch Solar Project, heat generated by the solar panels.

On Laurel Branch Road, there are three Lunenburg ante-bellum homes: Colonial Oaks, the first section of the house constructed in 1825; Laurel Branches, built in 1790; and Oral Oaks, built in 1840. There are also cemeteries on these three sites, cemeteries that need to be preserved, particularly if enclosed within the Laurel Branch Solar Project area, cemeteries that may be burial grounds for slaves that once worked/lived on these farms.

Colonial Oaks, also known as "Eddie Bell Place," and located 1.7 miles south of Sneads Store Road, has two cemeteries, the first is a cemetery of the family on the east side of the home and can be seen from Laurel Branch Road, Highway 646, and a second, located behind the house. Per the Ante-Bellum Homes of Lunenburg book by Evelyn Ferguson Arvin, "There was a cemetery for slaves on the place with slave quarters once located back of the house. Even after the slaves were freed, Mr. Bell never refused the ex-slaves or their relatives their requests for burial there." Colonial Oaks has a portion of its farm tentatively scheduled to be a part of the Laurel Branch Solar Project, thus to have solar panels.

Laurel Branches has a rock-wall cemetery right beside Highway 646, where the Smith, Slaughter, and Stupasky families are buried both within and on the outside of the wall. There are a lot of field stones marking unknown graves around the rock cemetery wall, field stones that may be marking graves of slaves, as per the History of Virginia, Volume V, page 271, Benjamin E. Smith, at Laurel Branches, "before the war, owned and employed forty slaves in its cultivation". However, Laurel Branches farm is not a part of the Laurel Branch Solar Project, but the farm will be surrounded by the project on three sides.

Oral Oaks, also known as the Colonel Allen Place, is located just off Highway 646 on Dixie Lee Farms, Inc. Per The Heritage of Lunenburg County, Virginia, 1743 – 2009, "Descendants of Col. Allen are of the distinguished Richmond Law Firm, Allen, Allen, Allen and Allen." Allen family papers (Robert Henderson Allen) and/or diaries 1858-1895, "record births, deaths and illnesses of slaves at Oral Oaks and the number of slaves and days involved in building a slave house with a chimney in November 1858..." The Anti-Bellum Homes of Lunenburg book states that Colonel Allen..."became the owner of many slaves." There is an Allen family cemetery located on Oral Oaks and at least one family member of the current owner may be buried at Oral Oaks. Whether there are any slaves buried on Oral Oaks is unknown.

The old Loftis farm has a cemetery. This farm, which borders the Maude Gee property on the east and comes out to Route 646, is a part of "Oral Oaks," Dixie Lee Farms, Inc.

There is an African American cemetery behind a home at 1976 Sneads Store Road on Dorothy Jane Snead Martin's property, approximately 75-100 yards from Dixie Lee Farm's boundary, a cemetery with both head stones and field stones and has had recent burials within the past five to six years.

There is a cemetery just off of Sneads Store Road, on the east side of the Harris farm. It may be a part of "Oral Oaks," Dixie Lee Farms, Inc. It has six grave stones, one with a date that appears to be in the 1800s. The timber in that area was cut a couple of years ago; hopefully these graves were undisturbed.

Per the List of Cemeteries in Lunenburg by Gerald Reinders, there is a private cemetery located off west side of Route 635, Oral Oaks, approximately ¼ mile starting at point approximately ½ mile south of intersection with Route 647, Sneads Store Road. Anderson Gee and his young son Kenna Gee are buried

there. There are fieldstones only. Information was provided to Mr. Reinders by Mary Agnes Garland, granddaughter of Anderson Gee.

We would like to ensure that all the cemeteries within or closely bordering Laurel Branch Solar Project be preserved and remain undisturbed.

In summary, we are concerned about our wells, about any run off into the streams and ponds that provide water for the cows, about the temperature increase, about the impact on the value of our homes, real estate, about the potential for fires, and about the protection of all the cemeteries within the project. Furthermore, we anticipate more traffic, particularly during the construction period; more noise in our quiet countryside, as it appears the contractors will be working five/six days a week, 12 hours a day; and a scenery of China-made metal panels filled with who knows what, replacing the beautiful landscape of pasture, crops, trees and wildlife.

Thanking you in advance for all you are going to do to ensure that the properties bordering or surrounded by the Laurel Branch Solar Project are impacted little to none.

Please share this letter with the members of the Lunenburg Board of Supervisors. The contents of this letter have already been shared with James "Buck" Tharpe, a member of the Lunenburg Planning Commission. Thanking you in advance.

Sincerely,

Sue Love Stupasky

Sue Love Stupasky

Louis Stephen Stupasky
1283 Laurel Branch Road
Kenbridge, Virginia 23944

Enclosures (2)

June 7, 2022

Robin L. Lucey
Dominion Energy
120 Tredegar Street
Richmond, Virginia 23219

RE: Laurel Branch Solar Town Hall Meeting, June 6, 2022

Dear Ms. Lucey:

This letter is a follow-up to Dominion Energy's Laurel Branch Solar Project meeting held in Kenbridge, Virginia, on Monday, June 6, 2022.

As you recall, the information provided was not sufficient. Not only was the slide presentation too far away from its audience, but the presenters could not be heard until the microphone was utilized during the question-and-answer session. Detailed handouts of the proposed changes to the affected real estate and/or maps would have provided a clear reference point for those in attendance, enhancing their ability to understand how the Laurel Branch Solar Project could affect their property, their livelihood, and the surrounding area.

We offer the following comments/questions:

- Well water: Within the Laurel Branch Solar Project area, there are not only drilled wells but several bored wells. Because they can be only about 30 feet deep, there is the potential that run-off from the solar panels could contaminate those wells. Who pays and monitors the wells?
- Our farm, Laurel Branches, established in 1790, is almost completely surrounded by the proposed solar project. Limited hunting has been allowed on our farm for years. How will this project affect hunting? Are there any hunting restrictions?
- Although one of your team members stated that solar projects do not affect the value of the surrounding real estate, we find that statement hard to believe. Who would want to buy land for a personal residence or to raise livestock near a solar project when the long-range impact is unknown? We have livestock on our farm and how the run-off may affect the streams that feed our ponds is very much a concern. Furthermore, such could affect the wildlife within the area.
- Should there be a fire caused by the solar panels/sites, a fire that destroys a personal residence, outbuildings, livestock, or timber, who is going to be held liable? Who has to carry liability insurance? Dominion Energy? Landowner that is leasing his real estate for the panels? Who would be responsible?
- In the opening comments, someone stated that the surrounding areas would see little visual impact, that there would be buffers, trees, etc. Look over the proposed solar panel project area today! The trees are or have already been cut/removed. No impact???

We do not intend to shoot the messengers, but there appears to be a lot of secrecy surrounding this project. There is a lack of handouts and maps being provided to the families being directly affected, as well as those in close proximity. These maps should provide details as to the location of the panels, the construction staging areas, and the proposed buffers. At the initial meeting, when someone tried to take a picture of the map of their acreage, the map was jerked away. We all realize that what neighbors do with their real estate is solely their business, but when their decisions affect us, we are owed detailed impact explanations!

Thanking you in advance for your feedback.

Sincerely,

L. Stephen Stupasky
Sue Love Stupasky
1283 Laurel Branch Road
Kenbridge, Virginia 23944-3917

Gmail

Sue Stupasky <lsstu828@gmail.com>

Laurel Branch Solar - Responses to Letter

1 message

robin.l.lucey@dominionenergy.com <robin.l.lucey@dominionenergy.com> Thu, Jun 23, 2022 at 3:48 PM
To: "lsstu828@gmail.com" <lsstu828@gmail.com>

Good afternoon Mrs. Stupasky,

Thank you so much for your time earlier today. It was great speaking with you! As discussed, I wanted to thank you for your letter with your comments and questions. I will be sending you a second email with the slide deck from the June 6th meeting as well as some additional information on the project, including the preliminary site plan and our permitting application narrative.

Please find the following responses to the questions outlined in your letter.

1. **Well Water: Within the Laurel Branch Solar Project area there are not only drilled wells but several bored wells. Because they can be only about 30 feet deep, there is potential that run-off from the solar panels could contaminate those wells. Who pays and monitors the wells?** Dominion Energy recommends that all wells onsite be properly abandoned prior to the start of construction activities. If this doesn't occur, we will ensure that they will be properly closed and secured at all times.

2. **Limited hunting has been allowed on their farm for years. How will this project affect hunting? Are there any hunting restrictions?** For safety reasons, Dominion Energy does not allow hunting activity at our solar facilities. These restrictions will not apply to parcels that are not included as part of the project.

3. **Comments about property values.** Most studies show that solar projects do not have a significant impact on the value or sale of nearby properties. I have attached an independent study on the effect of solar farms on neighboring property values that was conducted by licensed appraiser, Christian P. Kaila, MAI, SRA. Per the study, there is no evidence that there is any negative impact on neighboring property values, despite unsupported claims to the contrary". *Solar Farms Impact on Neighboring Properties, Research and Conclusions of Spotsylvania County, Virginia Project. By: Christian P. Kaila, MAI, SRA. December 28, 2018.*

   A couple excerpts from the attached document include:

Patricia McGarr, MAI Studies: I have read two different studies by Patricia McGarr, MAI dated May and August 2018. Both concluded no consistent negative impact has occurred to adjacent property that could be attributed to proximity to the adjacent solar farm. I found the McGarr reports to be credible and specific. The following are some excerpts from her reports:

> *In total, we analyzed 15 adjoining property sales in Test Areas and 63 comparable sales in Control Areas, collectively, for the Grand Ridge Solar Farm, Portage Solar Farm, Dominion Indy III Solar Farm, IMPA Frankton Solar Farm, and the Valparaiso Solar Farms over the past six years. We note that proximity to the solar farms has not deterred sales of nearby agricultural land and residential single family homes, nor has it impacted the development of new homes.*

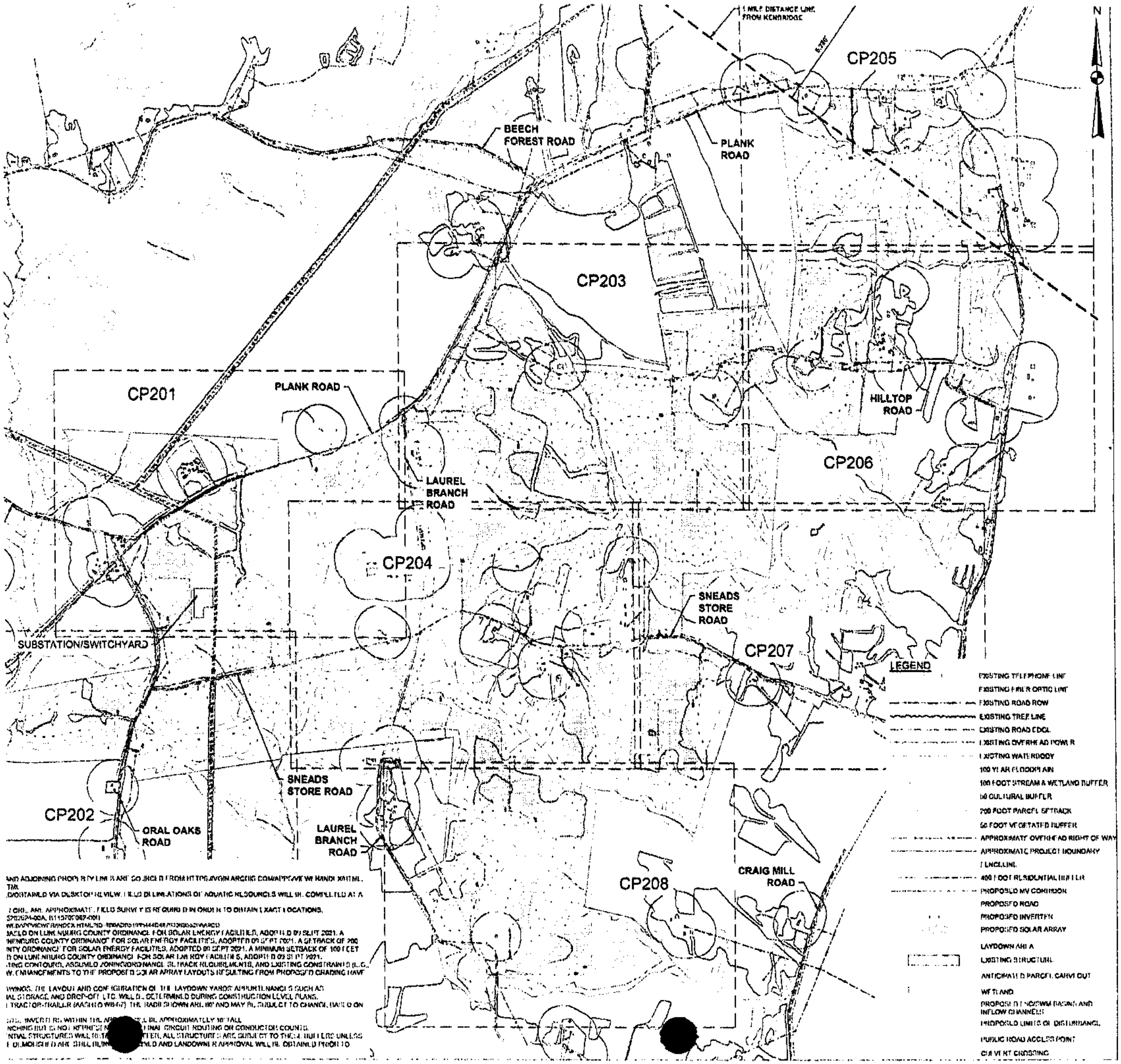
Richard Kirkland, MAI Study: This Impact Analysis by Richard Kirkland, MAI was done in early 2018 for the Greenwood Solar Project in Culpeper County, Virginia. The Kirkland Study also concluded there are no impact to home values due to the adjacent solar projects as well as no impacts to adjacent residential or agricultural land. I found both the McGarr and Kirkland research to be very credible due to the number of matched pairs of control sales and target sales adjacent to existing solar farms. The match sales methodology is the primary method to determine potential impact on adjoining property values. Paired Data Analysis is outlined in the "The Appraisal of Real Estate" published by the Appraisal Institute. This method is more greatly defined into sub-methods in "Real Estate Damages" by Randall Bell, PhD, MAI, also published by the Appraisal Institute.

4. **Concerns about how the run-off may affect the streams that feed the ponds.** Before construction begins, environmental protections such as sediment basins, silt fences, and other controls are installed throughout the property to manage stormwater runoff and prevent soil erosion. To manage stormwater runoff, we build sediment basins to safely collect rainwater and prevent sediment from entering waterways. Establishing native vegetation is an important part of stormwater management. Throughout the construction process, we plant grass mixes and install specialty erosion products to fully re-vegetate the site and stabilize the soil.

5. **Should there be a fire caused by the solar panels/sites, a fire that destroys a personal residence, outbuildings, livestock, or timber, who is going to be held liable? Who has to carry liability insurance? Dominion Energy? Landowner that is leasing his real estate for the panels? Who would be responsible?** Dominion Energy would be required to indemnify the landowner for any losses that occurred where we were found liable.

6. **Comments were provided that the trees have already been cut or removed.** Our team is currently working on a visual impact analysis that shows proposed buffers for this project. Once this has been completed, I can provide to you for your review as well.

Please let me know if you have any additional questions. Thank you again for your time!



1 MILE DISTANCE LINE FROM KENBRIDGE
CP205
BEECH FOREST ROAD
PLANK ROAD
CP203
CP201
PLANK ROAD
HILLTOP ROAD
CP206
LAUREL BRANCH ROAD
CP204
SNEADS STORE ROAD
SUBSTATION/SWITCHYARD
CP207
SNEADS STORE ROAD
CP202
ORAL OAKS ROAD
LAUREL BRANCH ROAD
CP208
CRAIG MILL ROAD
LEGEND
EXISTING TELEPHONE LINE
EXISTING FIBER OPTIC LINE
EXISTING ROAD ROW
EXISTING TREE LINE
EXISTING ROAD EDGE
EXISTING OVERHEAD POWER
EXISTING WATERBODY
100 YEAR FLOODPLAIN
100 FOOT STREAM & WETLAND BUFFER
50 CULTURAL BUFFER
200 FOOT PARCEL SETBACK
50 FOOT VEGETATED BUFFER
APPROXIMATE OVERHEAD RIGHT OF WAY
APPROXIMATE PROJECT BOUNDARY
FENCELINE
400 FOOT RESIDENTIAL BUFFER
PROPOSED MV CORRIDOR
PROPOSED ROAD
PROPOSED INVERTER
PROPOSED SOLAR ARRAY
LAYDOWN AREA
EXISTING STRUCTURE
ANTICIPATED PARCEL CARVE OUT
WETLAND
PROPOSED STORMWATER BASINS AND INFLOW CHANNELS
PROPOSED LIMITS OF DISTURBANCE
PUBLIC ROAD ACCESS POINT
CULVERT CROSSING

Dominion Energy

TETRA TECH

TETRA TECH, INC.
4101 COX ROAD,
SUITE 120
GLEN ALLEN, VA 23060
TEL: (804) 290-4721
FAX: (804) 270-2730

STAMP:

MICHAEL K. SHORT
Lic. No. 043XXX
05/17/2022

LAUREL BRANCH SOLAR PROJECT

DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS INDEX SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)

NO.	REVISION	DATE	INIT.
00	CUP APPLICATION	05/17/2022	GAR

va811.com Dig With CARE

DATE: 05/17/2022
DRAWN BY: CR
ENGINEER: MG
APPROVED BY: LO

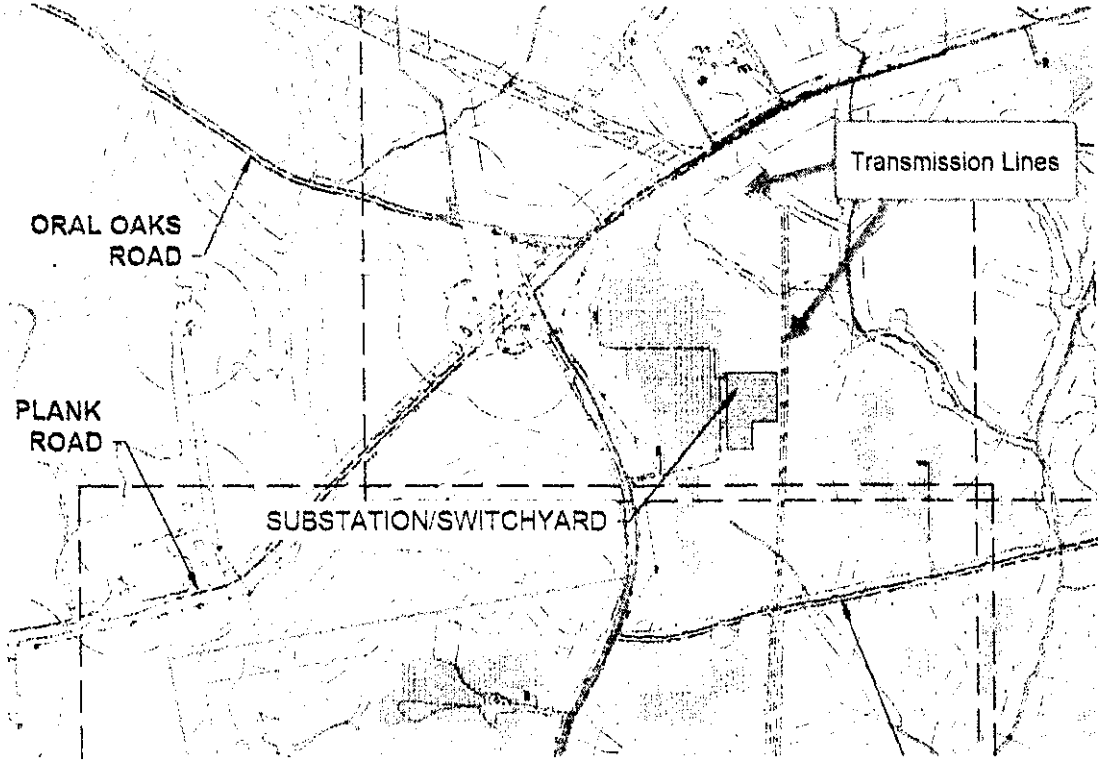
PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLANS

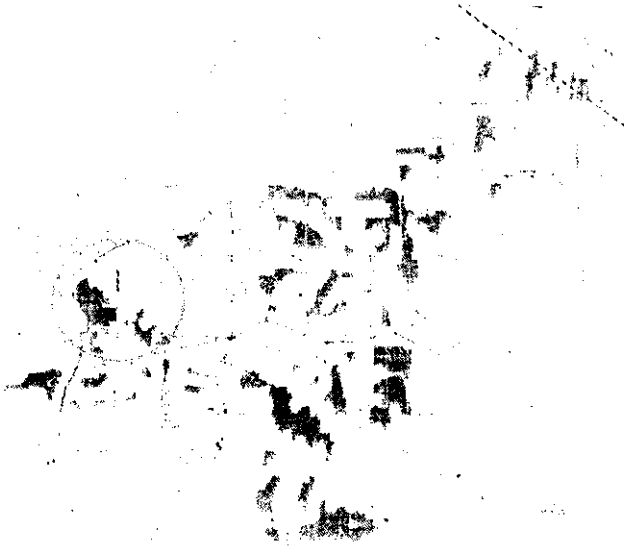
SCALE: 1" = 800'

SHEET NO.:
CP2[illegible]

Proposed Substation and Switchyard Location

Dominion Energy





Area: South of Plank Road and East of Oral Oaks Road

CUP 6-22: Laurel Branch Switchyard

DOMINION ENERGY VIRGINIA

CONDITIONAL USE PERMIT APPLICATION

LAUREL BRANCH SWITCHYARD

AUGUST 2022

Table of Contents
Laurel Branch
Public Utility, Major – Switchyard Facility

TAB A

Cover Letter

600 East Canal Street, 19th Floor
Richmond, VA 23219

August 24, 2022

HAND DELIVERY

Taylor Newton
Director of Planning and Economic Development County of Lunenburg
11413 Courthouse Road
Lunenburg, Virginia 23952

RE: Virginia Electric and Power Company (d/b/a Dominion Energy Virginia) ("Dominion") Conditional Use Permit Application for a Public Utility, Major

Dear Ms. Newton:

Enclosed please find a conditional use permit application packet (the "Application") requesting approval of a Public Utility, Major (the "Switchyard") in Lunenburg County, Virginia (the "County"). Pursuant to Article 8 of the County's Zoning Ordinance, Dominion is providing ten (10) copies of the Application (see enclosed binders), which includes documents and plans related to the conditional use permit request for the Switchyard. In addition, four (4) over-sized copies of the Switchyard preliminary site plan are included separately. The Application fee of $2,500.00 is enclosed with the binders. An electronic copy of the application documents has also been separately submitted.

Should you have any questions or need additional information, please do not hesitate to contact me at 804-212-5426 or at robin.l.lucey@dominionenergy.com.

Sincerely,

Robin L. Lucey

Robin L. Lucey
Dominion Energy Virginia Business Development Manager

cc: Frank Rennie, Esquire, County Attorney

TAB B

Conditional Use Permit
Application Form

Lunenburg Planning Office
Application for Conditional Use Permit for **Solar Facilities**
Case Number: _____ (Office Use Only)

Section 1

Applicant Name: Virginia Electric and Power Company (d/b/a Dominion Energy Virginia)

Owner Name: Dixie Lee Farms, Inc. (See TAB C in the Application Materials)

Owner Signature: See "Power of Attorney - Property Owner" (TAB D)

Contact Name for Application: Robin L. Lucey

Physical and Mailing Address: 600 E. Canal Street, 19th Floor, Richmond, VA 23219

Phone Number: 804-212-5426

Email Address: robin.l.lucey@dominionenergy.com

Fax Number (if applicable): N/A

Power of Attorney Name: Robin L. Lucey

Power of Attorney Signature: Robin L Lucey (See attached POA - TAB D)

As owner or authorized agent of this property, I certify that this application is complete and accurate to the best of my knowledge, and I authorize the Lunenburg County representative(s) entry on the property for purposes of reviewing this application.

Section 2
Property Information

Parcel Number(s): 058-0A-0-68

Area (ac./sq. ft.): 465.62

Magisterial District: Columbian Grove

Address: 464 Laurel Branch Road, Kenbridge, VA 23944

Existing Zoning: A-1 (Agricultural)

Requested Use: Public Utility, Major (Switchyard)

Does this property have a historical designation? If yes, describe: No

Parcel number(s), acreage, magisterial district and existing zoning can be located at: https://lunenburggis.timmons.com/#/mwl. The address can be typed into the "*By Parcel Address*" search bar followed by selecting search. This will pull up the information pertaining to the parcel.

The application deadline is the **1st of the month proceeding the month** in which the public hearing by the Planning Commission is to be held. The Planning Commission meeting is held on the 1st Thursday of the month at 7:00 p.m. Applications must be submitted in completed form prior to scheduling for public hearing by the Planning Commission. Notice of incomplete applications will be sent to the applicant at the listed address in Section 1.

The site plan must be submitted as described in the site plan requirements at the time of the application.

Application fee is $2,500.00, which must be paid at the time of application submission.

Incomplete applications will be returned to the applicant and not docketed for a public hearing

Section 3
Certification of Adjoining Property Owners, Board of Supervisors, and Planning Commissioners

Applicants Certification:

I certify that I have notified all adjacent property owners, to the property which is the subject of this application request, that this application is being filed. Notifications were sent via first class mail.

Adjacent property includes all property touching the project parcel, across roadways, watercourses, railroads, and/or municipal boundaries.

I further certify that the names and addresses below are those of the adjacent property owners as listed in the tax records of the Commissioner of Revenue of Lunenburg County.

Applicant's Signature: Robin L. Lucey

State of: Virginia.

County of: Henrico.

Before me, Andrew J. Hedrick, on this 3rd day of
Name of Notary Public

August, 2022, Robin L. Lucey, personally appeared, and
Applicant(s) Name

provided verification to be the person(s) whose name(s) is/are subscribed to the foregoing instrument and acknowledged to me that he/she/they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 3rd day of August, 2022.

Andrew J. Hedrick
Notary Public's Signature

Henrico Co.
Location of Commission

Registration #: 7733786

Commission Expiration: 10-31-2025

(Seal)

ANDREW J. HEDRICK NOTARY PUBLIC MY COMMISSION NUMBER 7733786 COMMONWEALTH OF VIRGINIA

Verification of Identity

[X] Driver's License or Govt./State Identification Card:
State: VA Number: T63258260 (AJH)
[ ] U. S. Passport: Number: A67143454 (ALL)
[ ] U. S. Military ID Card
[ ] Social Security Card
[ ] Birth Certificate
[ ] Other: _____

Adjacent Parcel (Property) Owners		
Parcel Number	**Name(s)**	**Address**
058-0A-0-70	Bessie R. Callahan	4525 Oral Oaks Road Kenbridge, VA 23944
046-0A-0-39, 40 & 5A	James M. or Wanda S. Campbell	10663 Plank Road Kenbridge, VA 23944
046-0A-0-38	Vicky J. Hall	P.O. Box 242 Kenbridge, VA 23944
046-0A-0-26	Derrick Scott Hall or Lucy Lafoon	1286 Fletcher Chapel Road Kenbridge, VA 23944
046-0A-025, 20, 54 & 69	Dixie Lee Farms Inc.	464 Laurel Branch Road Kenbridge, VA 23944
058-0A-0-65A	Theodore Bauer	1202 Sneads Store Road Kenbridge, VA 23944
046-0A-0-37	Good Hope Church	8510 Oral Oaks Road Kenbridge, VA 23944
046-0A-0-28	Lucious H. Clemons, Jr. & Faye C. Johnson	1600 Lakeside Avenue Henrico, VA 23228
046-0A-0-33, 35 & 36	Illinois Municipal Retirement Fund	P.O. Box 1288 Mobile, AL 36633
058-0A-0-67	Johnny K. Long	3502 Laurel Branch Road Kenbridge, VA 23944
046-0A-0-24	Bernice Leonard Bishop	716 East 6th Avenue Kenbridge, VA 23944
058-0A-0-5	David S. Hoerauf or Teresa M. Cummings	15200 Mt. Nebo Road Poolesville, MD 20837
058-0A-0-6	Robert C. or Cassie E. Daniel	10326 Plank Road Kenbridge, VA 23944
058-0A-0-71A	Doretha J. Smith	10291 Plank Road Kenbridge, VA 23944
058-0A-0-71	Sheila Macwelch	4022 Plank Road Kenbridge, VA 23944

*If there are additional adjacent property owners, please include them on a separate sheet. Also, the letter that follows can be completed and mailed to adjacent property owners.

Section 4
Applicant's Report
Section 8.3(b) of Lunenburg Zoning Ordinance

Every application for a Conditional Use Permit shall be accompanied by a report from the applicant describing the proposed Conditional Use and explaining the manner which it complies with the requirements and standards of this article.

The following questions address the basic issues. The Planning Commission and/or Board of Supervisors may request additional information.

1.) What type of use is being requested?
Public Utility, Major (Switchyard)

2.) Describe how you plan to develop the property for the proposed use and any associated uses.
Please see attached Applicant's materials including the "Project Narrative" included in TAB E for details.

3.) Describe why the proposed use is desirable and appropriate for the area. What measures will be taken to assure that the proposed use will not have a negative impact on the surrounding vicinity?
Please see attached Applicant's materials including the "Project Narrative" included in TAB E for details.

Also, address the following:

a. Details of Operations: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

b. Hours of Operation: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

c. Traffic: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

d. Noise: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

e. Dust/Smoke: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

f. Runoff: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

g. Intensity of Use: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

h. Hazardous Materials: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

i. Outside Storage: Please see the "Applicant's Report" section in the "Project Narrative" (TAB E).

4.) Is the use location on a floodplain, wetland area, or dam break inundation zone? No

5.) Are there any deed restrictions concerning the type of use proposed? If so, provide the date the said restrictions expire. We are not aware of any restrictions.

6.) Has a survey of the parcel(s) been conducted to include project parcel, property boundaries, existing roadways and structures, and adjoining parcels, as well as, the parcel owner? If so, is it included in the application packet? The parcel boundaries and owner information are based on publicly available data and the existing roadways and structure information has been compiled based on aerial photographs. This data is included with the project "Location Map with Property Owner Information" in TAB C.

7.) Has a site plan been included to note the information required on the survey, but also any new construction, parking, clearing, planting, etc.? Yes, please see "TAB G - Preliminary Site Plan".

8.) Has a business plan been established? If so, please provide it with application submittal. Please refer to "TAB E".

9.) Describe how the proposed project complies or refutes the goals and objectives noted in the Kenbridge-Victoria-Lunenburg Comprehensive Plan. This can be located the Lunenburg County, Virginia website. As noted in the Lunenburg/Kenbridge/Victoria Joint Comprehensive Plan 2019-2024, some private or quasi-public facilities, as well as certain utility systems are "important resources for the local community and must be taken into account when analyzing the full range of public resources." The proposed Switchyard is necessary to provide valuable support to future Laurel Branch Solar Project and the future energy needs of the County. Further, its location is ideal in that in will be developed as part of the future Laurel Branch Solar Project and is close to two, existing transmission lines. This will serve to co-locate utility infrastructure and not negatively impact other areas of the County. Please see "TAB E - Project Narrative" for additional details.

Requirements for telecom site plans can be found in Section 22 Article III, items 22-81 thru 22-112 of the Lunenburg County Code.

Section 5
Construction Traffic Management Plan (CTMP)

VDOT and the County have identified that the construction phase of solar energy projects have an increased impact on VDOT's secondary road network. These impacts occur as VDOT's secondary road system was not designed to accommodate large numbers of truck traffic that results from the transport of the needed materials for the solar project to the construction sites. The increase in number of employees, also, impacts the roadways. To assist VDOT and the County in mitigating the increased maintenance costs associated with the increased traffic, the County requires the submission and approval of a CTMP. The outline below includes the needed elements for the required CTMP.

Construction Traffic Haul Routes

- Identify the routes to be used to transport supplies to the construction site. The plan shall begin at a VDOT maintained primary route and include all secondary routes to be used to access the site.
- The plan shall, also, include any truck routes that may be used to dispose of excess materials, clearing and grubbing debris, timber harvesting, or other activities that generate truck traffic leaving the site.

Roadway Condition Survey

- The applicant shall document by either photos, videos, or other method acceptable to VDOT and the County, the condition of the secondary roadways identified as haul routes. This condition survey will be utilized to identify areas damaged by the construction traffic that will be required to be repaired to the pre-existing conditions or better.

On-Site Storage, Unloading, and Turn-Around Areas

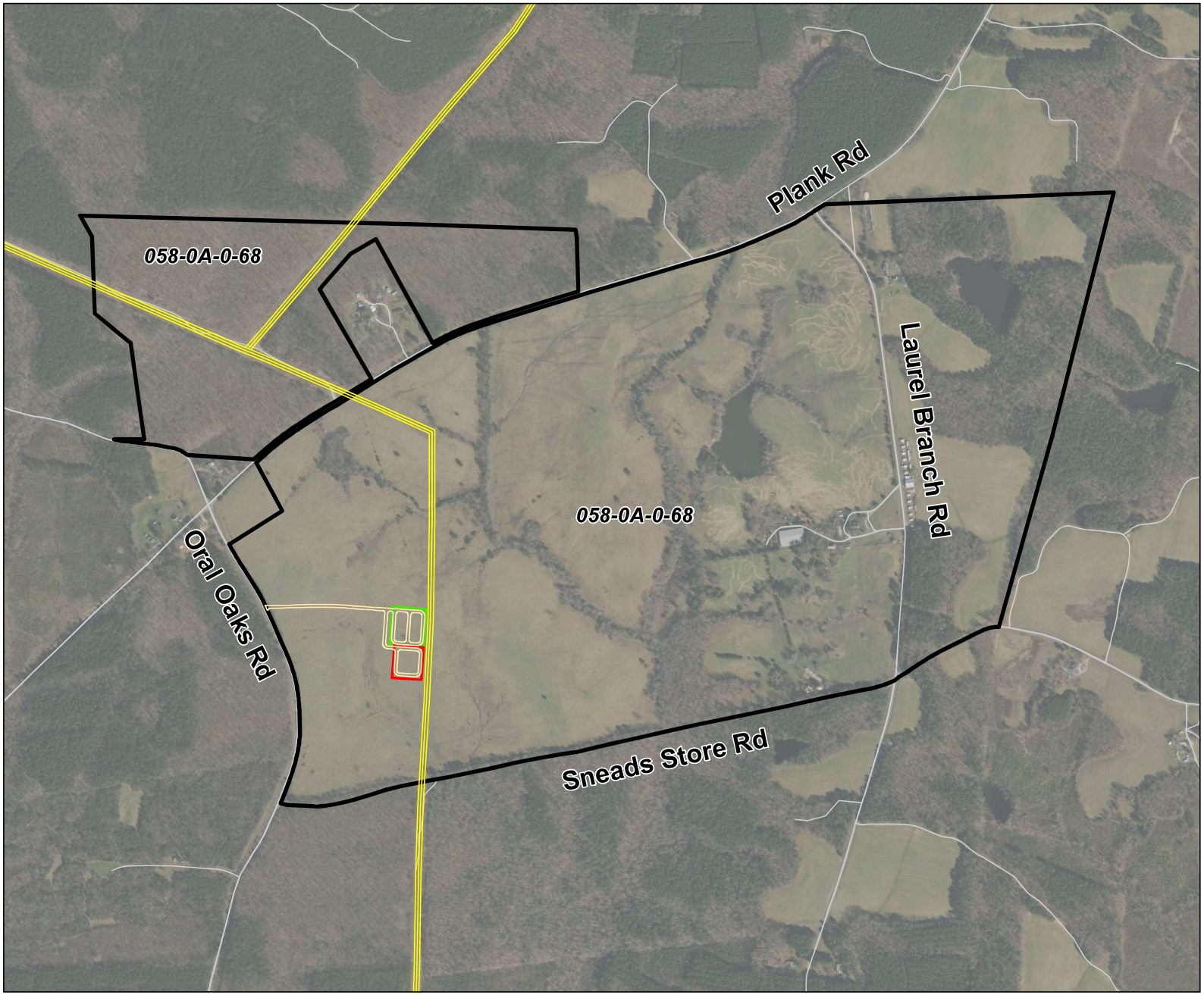
- The applicant shall demonstrate that they have adequate areas available on-site to unload trucks, store the materials on-site, and provide an area where trucks can turn around on-site prior to entering the VDOT roadway.

On-Site Parking Areas for Construction Employees

- The applicant shall provide an estimated number of employees to be on-site during construction and demonstrate that adequate on-site parking areas are available for the anticipated employees. Employees will not be allowed to park along roadways or within VDOT Right-of-Way (ROW) adjacent to the construction areas.

TAB C

Location Map with Property Owner Information



NOT FOR CONSTRUCTION

Laurel Branch Solar Project

Dominion Energy

Laurel Branch Switchyard/Substation

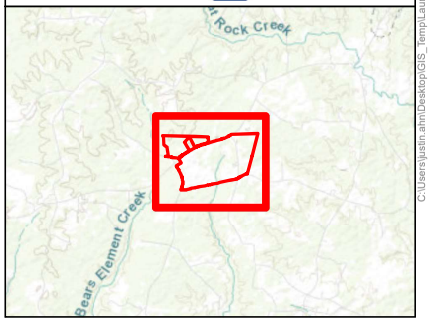
Lunenburg County, Virginia

- Interconnection Transmission Lines
- Proposed Substation
- Proposed Switchyard
- Proposed Substation/Switchyard
- Access Roads
- Road
- Project Parcel

N
W E
S

0 500 1,000 2,000 Feet

Prepared By: TETRA TECH



C:\Users\justin.ahn\Desktop\GIS_Temp\Laurel_Branch\substation\Substation_Parcel_Overview_Map.mxd

464 LAUREL BRANCH ROAD

Parcel Information

Parcel ID: 058-0A-0-68
Tax Map: 058
Block:
Parcel Address 1: 464 LAUREL BRANCH ROAD
Legal Description 1: CROOKED CREEK 465.63 AC
Legal Description 2: N/A
District: COLUMBIAN GROVE
Topology: ROLLING
Class: AGRICULTURAL/UNDEVELOPED (99+ ACRE)

PRN/Link: 8520
Double Circle: 0A
Lot: 68
Parcel Address 2: N/A
Deed: NONE
Will: NONE
Plat: NONE
Utilities: ELECTRICITY, SEPTIC SYSTEM, WELL

Owner Information

Owner: DIXIE LEE FARMS INC,
Owner Address: 464 LAUREL BRANCH ROAD
Owner City, ST Zip: KENBRIDGE VA 23944

Current Valuation

Assessment Year:
Exempt:
Current Land: $732,600
Current Building: $230,600
Current Improvements: $45,300
Current Total: $1,008,500

Sales History

Sale Date	Grantor	Sale Price	Instrument

Land Segments

Segment	Description	Size	Value	Zoning
1	BUILDING SITE (500 -13000)	2.0000	$16,000	R1: RESIDENTIAL - LOW DENSITY
2	PAVED SECONDARY	297.0000	$490,039	R1: RESIDENTIAL - LOW DENSITY
3	PAVED SECONDARY	165.6300	$173,906	R1: RESIDENTIAL - LOW DENSITY
4	TIMBER/MIXED	165.6300	$49,689	R1: RESIDENTIAL - LOW DENSITY
5	LAKES & PONDS (100 - 2600)	1.0000	$3,000	R1: RESIDENTIAL - LOW DENSITY

Main Structures:2

Year Built	Construction Style	Rooms	Bedrooms	Cost Per Sq Ft	Heated Sq Ft	Depreciation Schedule
1950	CONVENTIONAL	10	2	38.91		RES AVG DEPR

Building Sections

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
1	1950	1965	SINGLE FAMILY	2.00	1	C+10	$76,165

Building Attributes

Attribute Type	Type	Number Of
CHIMNEYS	2 STORY MASONRY	1.00
EXTERIOR FINISH	WOOD LAP SIDING	1840.00
FLOOR	SOFTWOOD	1840.00
FOUNDATION	BRICK	920.00
FUEL	ELECTRIC	1840.00
HVAC	CENTRAL AIR	1840.00
HVAC	CENTRAL HEAT	1840.00
OPENINGS	FIREPLACE OPENINGS	2.00
PLUMBING	3 FIXTURE BATH	2.00
ROOF MATERIAL	COMPOSITION SHINGLE	920.00
ROOF TYPE	GABLE	920.00
WALL	DRY WALL	1840.00

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
2	1950	1965	SINGLE FAMILY	1.00	1	C+10	$25,997

Building Attributes

Attribute Type	Type	Number Of
EXTERIOR FINISH	WOOD LAP SIDING	648.00
HVAC	CENTRAL AIR	648.00
HVAC	CENTRAL HEAT	648.00

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
3	1950	1965	OPEN MASONRY PORCH	1.00	106	C+10	$1,207
4	1950	1965	ENCLOSED PORCH	1.00	107	C+10	$1,310

Building Attributes

Attribute Type	Type	Number Of
EXTERIOR FINISH	WOOD LAP SIDING	90.00

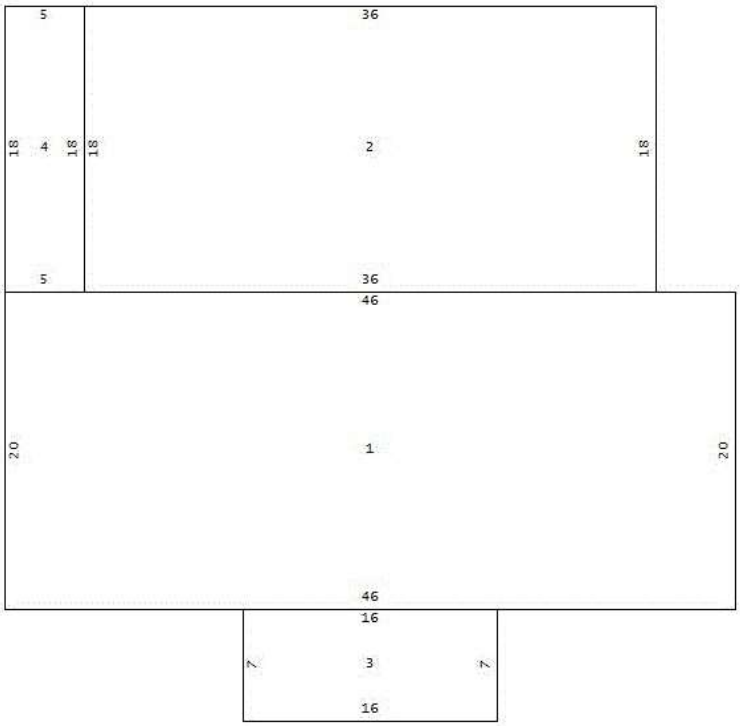
Year Built	Construction Style	Rooms	Bedrooms	Cost Per Sq Ft	Heated Sq Ft	Depreciation Schedule
1945	CONVENTIONAL	8	3	34.79		RES AVG DEPR

Building Sections

Section	Year Built	Effective Year	Description	Story Height	Class	Grade	Value
1	1945	1965	SINGLE FAMILY	1.50	1	C+5	$95,395
2	1945	1965	SINGLE FAMILY	1.00	1	C+5	$25,186
3	1945	1965	OPEN MASONRY PORCH	1.00	106	C	$2,193
4	1945	1965	CARPORT	1.00	104	C	$3,116

Other Structures

Year Built	Description	Story Height	Class	Grid	Base Rate	Depreciation	Value
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$500
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$2,500
N/A	BARN	1	68	SOUND VALUE	N/A	SOUND VALUE	$2,000
N/A	GRAIN BIN	1	54	SOUND VALUE	N/A	SOUND VALUE	$1,000
N/A	SILO	1	58	SOUND VALUE	N/A	SOUND VALUE	$10,000
N/A	POLE SHELTER	1	48	SOUND VALUE	N/A	SOUND VALUE	$19,663
2005	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$3,154
N/A	POLE SHELTER	1	48	SOUND VALUE	N/A	SOUND VALUE	$800
N/A	OLD DWELLING	1	66	SOUND VALUE	N/A	SOUND VALUE	$5,000
N/A	GREENHOUSE - RESIDENTIAL	1	115	SOUND VALUE	N/A	SOUND VALUE	N/A
N/A	FENCE (WOOD)	1	16	SOUND VALUE	N/A	SOUND VALUE	$200
N/A	STORAGE SHED -FRAME	1	9	SOUND VALUE	N/A	SOUND VALUE	$500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TAB D

Power of Attorney - Property Owner

SPECIAL LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that I, Robin Gunn Wrenn, am the President of Dixie Lee Farms, Inc., a Virginia corporation (the "Owner"). Owner owns in fee that certain real property located in the County of Lunenburg, Virginia (the "County") identified as Tax Map Nos. 046-0A-0-20, 058-0A-0-54, 058-0A-0-63, 058-0A-0-68, 058-0A-0-69, 059-0A-0-27 and 059-0A-0-56B (the "Property"). On or about February 26, 2021, Owner executed an Option to lease agreement (the "Option Agreement"), with Virginia Electric and Power Company, a Virginia public service corporation ("VEPCO"), whereby Owner granted VEPCO the option to lease the Property upon terms and conditions set forth in the Option Agreement. VEPCO proposes to develop and operate a utility-scale solar facility (the "Solar Facility") on a portion of the Property. VEPCO is required to obtain a conditional use permit ("CUP") from the County Board of Supervisors in order to develop, construct and operate the Solar Facility, and/or related facilities on the Property.

Owner of the Property, having full right and authority to do so, do hereby makes, constitutes, and appoints Robin L. Lucey, Business Development Manager, VEPCO, and M. Ann Neil Cosby, Esq., McGuireWoods, LLP, (collectively, the "Appointees"), either of whom may act, as the true and lawful attorneys in fact for the Owner in connection with the filing and approval of the CUP. The Appointees shall have full power and authority to do and perform as may be necessary to prepare and file zoning application documents (the "Application") and such other supporting information (including but not limited to conditions of development) on behalf of the Owner, to seek and obtain approval of the CUP and to agree to any and all terms and conditions as necessary for the use of the Property as requested in the Application.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of February, 2022

By: Robin Gunn Wrenn, Pres

Name:
Title:

STATE OF Virginia

COUNTY OF Lunenburg, to-wit:

The foregoing instrument was acknowledged before me this 28th day of February, 2022, by Robin Gunn Wrenn as President of Dixie Lee Farms Inc.

Melinda B Bagley
Notary Public

My Commission Expires: 09/30/2023

Notary Registration Number: 154836

MELINDA B. BAGLEY
NOTARY PUBLIC
Commonwealth of Virginia
Reg. #154836

TAB E

Project Narrative

Dominion Virginia Power – Laurel Branch Switchyard

CONDITIONAL USE PERMIT – PROJECT NARRATIVE

August 2022

I. INTRODUCTION

Pursuant to Section 4-11(b)(14) of the *Lunenburg County Code* (the "Code"), the Virginia Electric and Power Company (d/b/a Dominion Energy Virginia) (the "Applicant" or "Dominion"), requests conditional use permit (the "CUP") approval and a §15.2-2232 substantially in accord review for a public facility. The proposed public facility will be a public utility switchyard (the "Switchyard") located on an approximately five (5) acre portion of the property located at 464 Laurel Branch Road.[1] The property is further described as Parcel Identification No. 058-0A-0-68 (the "Property").[2]

The proposed Switchyard and its adjacent substation (the "Substation") will be located within and as part of the proposed Laurel Branch Solar Facility, which has filed a concurrent conditional use application to permit an 80 MWac utility-scale solar facility (the "Solar Project").[3] The Switchyard will remain in perpetuity even after the Solar Project is decommissioned.[4] See details about the Switchyard in the *Background and Need* section below.

II. BACKGROUND AND NEED

Dominion Energy Virginia is a public service corporation organized under the laws of the Commonwealth of Virginia and is responsible for furnishing electric service to the public within its Virginia and North Carolina service territory. Dominion's electric system, consisting of facilities for generation, transmission, and distribution of electric energy, as well as associated facilities, is interconnected with the electric systems of neighboring utilities, and is part of the interconnected network of electric systems serving the continental United States.

The proposed Switchyard will be an integral component of the proposed Laurel Branch Solar Project and will also serve as important infrastructure within Dominion's network. The Solar Project's Substation will serve to step up lower-voltage from the Solar Project to a higher-voltage transmission level and transfer that generated power to the Switchyard. The Switchyard taps into the transmission line via a "switch" allowing Dominion to transfer the energy from the Solar Project's Substation to the area's existing transmission system.

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[1] Prior to operation, the Switchyard will be subdivided into a standalone parcel per the County ordinances.
[2] The Property is approximately 465.63 acres and zoned A-1, Agricultural.
[3] The Solar Project will be located on the subject Property as well as twenty-four (24) additional parcels in the immediate area.
[4] The Solar Project (including the Substation) will be subject to its decommissioning plan per the solar conditional use permit application.

Electrical switchyards are important parts of the electrical grid allowing a public utility to transfer electricity from one voltage to another. In addition, a switchyard controls the flow of power along a section of the transmission line and can adjust where power is going due to outages or breaks in a line. As such, the Switchyard will remain a part of the overall transmission system, owned and operated by Dominion, in perpetuity, even after decommissioning of the Solar Project.

III. DESCRIPTION OF PROPOSAL (Section 4, Questions 1, 2, 3, and 8)

There are two existing transmission lines that run through the proposed Solar Project, joining on the north side of Plank Road near Oral Oaks Road. The proposed Switchyard has been strategically located within the Solar Project area to interconnect with the electrical infrastructure already in place. The Switchyard will be an important component of the Solar Project; however, following decommissioning, the Switchyard will continue to provide a valuable service for the County by providing a facility that will interconnect the existing transmission infrastructure. Being able to network multiple transmission lines together creates a robust transmission system and allows power to continue to flow if one of the transmission lines is out of service for contingency events (such as storms), maintenance, or repair. A Switchyard also helps the system operator control the power system voltage during heavy or light-load conditions. Overall, the Switchyard will help provide consistent and reliable power to the County.

The Switchyard will be approximately 284 feet x 251 feet in dimension, fenced, and include structures not exceeding 75 feet in height, breakers, and ancillary equipment. See Preliminary Site Plan (TAB G) and Switchyard and Substation Design (TAB H) for a representative depiction of the Switchyard location. The Switchyard will be set back approximately 774 feet from Oral Oaks Road and approximately 1,550 feet from Plank Road. In addition to the landscaping proposed along the Switchyard and Substation fence, they will have minimal visibility from adjacent rights-of-way after installation of the 50-foot landscape buffer and/or retention of existing vegetation along Oral Oaks and Plank Roads, which is included as part of the Solar Project. The Switchyard will be constructed, operated, and owned by Dominion.

Once constructed, the Solar Project will be monitored 24/7 via surveillance cameras and electrical system monitoring equipment. The Solar Project will be constructed over an approximate 18-month period. The Switchyard and the Substation will be constructed as part of the overall construction of the Solar Project. It is anticipated that construction will commence in 2024 and the Solar Project will be operational by the end of 2025.

IV. LOCATION, APPEARANCE AND OPERATIONAL REQUIREMENTS[5]

All signage on the Property will comply with the County Sign Ordinance and all noise will comply with the County Noise Ordinance. Unless approved in writing by the County, no signage shall be permitted on the Property. Signage containing notices, warnings, or other information, if required by law or deemed by the County to be in the interest of the safety and welfare of the community, shall be permitted.

During construction, temporary signage to direct deliveries, identifying the site name, address, and contact information for the contractors on a board at the various construction entrance location(s) will be needed. Safety and security signage in these locations will be posted as well. Post construction, warning and notice signs will be provided on the fence, including environmental signage for environmentally sensitive areas.

During construction of the Switchyard, any temporary construction lighting shall be directed and positioned downward, inward, and shielded to eliminate glare from all adjacent properties. Emergency and/or safety lighting shall be exempt from this construction lighting condition. Any permanent lighting shall be limited to the minimum amount necessary for security purposes. Post construction lighting shall be limited to security and/or safety lighting only. All lighting will be limited to the minimum necessary for security purposes and fixtures will be dark-sky compliant shielded away from adjacent properties and positioned downward to minimize light spillage onto adjacent properties. Emergency and/or safety lighting shall be exempt from this post construction lighting condition.

Groundcover on the site will consist of pollinator plants where practicable, and grasses, forbs, and wildflowers native to the County. No invasive plants listed by DCR will be used. All groundcover will be maintained as set forth in the Landscaping Plan, which is included in the Preliminary Site Plan (TAB G). A performance bond will be posted to ensure maintenance. If pesticides and fertilizers are applied to the Property, the operator will notify the County prior to application. Both the Substation and Switchyard will be adequately fenced for security and safety with a twelve (12) foot chain-link security fence topped with about three (3) feet of barbed wire. Fencing will be installed on the interior of the vegetative buffer and provided in sections to provide access corridors for wildlife.

Landscaping will be existing or installed vegetation as deemed necessary during CUP approval, and will be comprised of native (non-invasive, pollinator-friendly and wildlife friendly) plant materials at least three (3) feet tall at the time of planting and expected to grow to a minimum height of eight (8) feet within three years (or as otherwise approved by the Board). Vegetative buffers shall be maintained for the life of the facility. The Project will include minimum setbacks of 200 feet from adjacent

[5] This section addresses the requirements in Section 5 of the Solar Ordinance for the Switchyard.

property lines and the centerline of all adjoining rights-of-way. A minimum setback of 400 feet will be maintained from adjacent residential structures.[6] Areas of the Project will be fenced separately allowing the open area between the fences to serve as wildlife corridors that will allow for the movement of migratory animals and other wildlife. These areas are also shown on the Preliminary Site Plan at TAB G (Landscape Buffer Sheet).

The County's emergency services providers will be provided materials, education, and/or training on how to safely respond to any on-site emergencies and a key or code to access the property in case of an on-site emergency. Dominion intends to grant the easements needed for inspections and other requirements to the County, as required by Section 5(A)(7) of the County's Solar Ordinance.

V. APPLICANT'S REPORT (Section 4, Question 3, a through i)

a. Details of Operations: Please see information in the "Introduction" and "Background and Need" sections in the "Project Narrative."

b. Hours of Operation: Once operational, the switchyard will run continuously.

c. Traffic: Once operational, the switchyard will be unmanned and there will be no impacts to the surrounding roadways. There will be occasional visits for maintenance. Please see the "Traffic Study" included under TAB I for additional information for traffic during construction.

d. Noise: The operation and maintenance of the switchyard will not increase noise within the area. There will be a temporary increase of noise within the area during the construction of the switchyard. Due to the temporary nature of the construction noise, no adverse or long-term effects are expected.

e. Dust/Smoke: The operation and maintenance of the switchyard will not increase dust/smoke within the area. There may be a temporary increase of dust within the immediate area during construction activities. Dust control measures will be implemented during construction to minimize dust and erosion. Due to the temporary nature of the construction, no adverse or long-term effects are expected.

f. Runoff: A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with the Virginia Stormwater Management Program (VSMP), to obtain the required General VPDES Permit for discharges of stormwater from construction activities. The SWPPP outlines the steps and techniques to reduce pollutants in stormwater runoff from the

[6] Setbacks will not apply to internal property lines that are part of the Project site, including the Switchyard site. Access roads, stormwater management facilities and interconnection facilities are permitted in the setback(s) provided they are generally perpendicular to the property line, where applicable.

construction, including water quality and quantity requirements that are consistent with the VSMP permit regulations. This will be prepared prior to construction commencement.

g. Intensity of Use: The proposed switchyard will be unmanned; therefore, there will be minimal impacts to the surrounding area.

h. Hazardous Materials:

During Construction: The proposed facility will not endanger the public's health or safety. The project will require the use of fuel and lubricants for equipment and tools during construction. Contractors use absorbent materials and containment pools to catch and contain any drips or spills and provide for proper disposal.

During Operations: The project will also require the use of fuel and lubricants for equipment and tools during operations.

i. Outside Storage:

During Construction: The project will store equipment, materials, and vehicles outdoors during construction. All components will be secured from public access by security fencing.

During Operations: The project will store most spare materials and equipment inside a container during operations, though some larger equipment and materials may be stored outdoors. All components will be secured from public access by security fencing.

VI. CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)

Please find the "Construction Traffic Management Plan" included in TAB I in the documentation for the CUP application.

VII. CONDITIONAL USE PERMIT REQUIREMENTS AND REQUEST

Section 8-5 of the Lunenburg County Zoning Ordinance (the "Ordinance") sets out the general requirements for approval of conditional use permits. Responses to those requirements are set forth below.

a. Will not be contrary to the purposes stated in Section 2-3 of the Ordinance.

Response: The proposed Switchyard will serve to meet the general purposes outlined in the Ordinance by promoting the health, safety, and general welfare of the public. It will provide the necessary public utility infrastructure that will not only serve the future Solar Project, but also the County, beyond the life of the Solar Project. The proposed Switchyard will

support the provision of clean and sustainable energy, as well as provide long-lasting infrastructure that will deliver reliable power to the County.

In addition, the Switchyard will not impact light, air, convenience of access and will provide safety from fire, flood, crime, and other dangers. It will not create congestion in public streets and will facilitate a convenient community by adding to the electrical infrastructure. The Switchyard will not impact schools, police, recreations facilities, airports, historic areas, or other facilities noted in Sec. 203. The facility will not create overcrowding or impact affordable housing but will enlarge the tax base of the county. The development of the both the Solar Facility and the Switchyard will protect surface waters and ground waters as well as wetlands.

b. Will not be in conflict with the objectives of the County's Comprehensive Plan.

Response: As noted in the *Lunenburg/Kenbridge/Victoria Joint Comprehensive Plan 2019-2024*, some private or quasi-public facilities, as well as certain utility systems are "important resources for the local community and must be taken into account when analyzing the full range of public resources." The proposed Switchyard is necessary to provide valuable support to the future Solar Project and the future energy needs of the County. Further, its location is ideal in that it will be developed as part of the future Solar Project and is close to two, existing transmission lines. This will serve to co-locate utility infrastructure and not negatively impact other areas of the County.

c. Conform with all applicable provisions of the County Zoning Ordinance, all other applicable requirements of the district in which such use is located, and any specific conditions applicable to the proposed conditional use specified elsewhere in this ordinance.

Response: The proposed Switchyard will meet all applicable Zoning Ordinance provisions, as well as any specific development conditions required as part of the CUP approval.

d. Include satisfactory provision for or arrangement of the following, where applicable:

(1) Sewer, water, and other public utilities.

Response: The proposed Switchyard is a public utility and will be unmanned. As such, it will not need the sewer or water.

(2) Ingress and egress, including access for fire and other emergency vehicles.

Response: Adequate vehicular access will be provided off Oral Oaks Road with a recorded easement of sufficient width and character to provide access for service and emergency vehicles.

(3) Off-street parking, loading and vehicle circulation, including adequate consideration of the safety of motorists and pedestrians.

Response: Since the Switchyard will be unmanned, it will place no burden on the existing transportation infrastructure.

(4) Yards, open spaces, relationship among buildings and other elements of the site.

Response: During operation of the Solar Project, the Switchyard will be internal to the Solar Project and set back approximately 774 feet from Oral Oaks Road and approximately 1,550 feet from Plank Road. The Switchyard will be subdivided as a separate lot in accordance with the County requirements. Because the Substation and the Switchyard are interconnected, no setbacks will be provided between those facilities

(5) Retention of natural vegetation and topographic features.

Response: The Switchyard will be positioned interior to the Property. As part of the Solar Project, the preservation of existing vegetation, where available, and additional landscaping will be provided.

(6) Landscaping, buffers, screening, fences, and other features or means of separation to protect adjacent properties from potential adverse effects of the conditional use.

Response: To minimize visibility from other properties, the Switchyard will include substantial setbacks from Oral Oaks Road and Plank Road and will be extensively screened by proposed landscape buffers to be installed as part of the Solar Project. In addition, both the Substation and Switchyard will be adequately fenced for security and safety with a twelve (12) foot chain-link fence topped with about three (3) feet of barbed wire. Upon future subdivision of the Switchyard parcel, the project will meet Ordinance requirement related to screening and buffering around the perimeter of the Switchyard parcel and any conditions related to such.

For the reasons stated above, the Applicant respectfully requests approval of this CUP request.

TAB F

Environmental Inventory and Impact Statement

Environmental Inventory and Impact Statement

Laurel Branch Solar Project Switchyard and Substation

August 17, 2022

Prepared for

Dominion Energy®

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

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Acronyms and Abbreviations

3D	three-dimensional
BMP	best management practices
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The approximately 2,189 acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project
VADEQ	Virginia Department of Environmental Quality

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189 acres. The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

1.1 Project Description

The scope of the Project will consist of all work to construct, commission, energize, and train operation staff of the Switchyard and Substation and associated infrastructure, including but not limited to the following:

- A pad containing the Switchyard and Substation
- Internal infrastructure including permanent gravel access roads and security fencing.

A desktop environmental inventory was conducted to identify environmental, wildlife, and cultural resources within and within applicable buffers off of the Project survey area. These resources include wetlands, surface water, floodplains, air quality, federal and state listed threatened and endangered species, and architectural and archaeological resources. Additionally, a preliminary assessment was conducted to evaluate the impact of the Project on environmental, wildlife, and cultural resources within a 2.5-mile radius of the Project survey area. This impact assessment was based on preliminary site plans and anticipated avoidance and minimization measures that may be implemented.

2.0 ENVIRONMENTAL IMPACTS NARRATIVE

2.1 Existing Conditions

A desktop wetland determination memo was prepared in February 2022 to summarize the findings of publicly available desktop resources within the Project study area. The desktop wetland determination identified 29 potential streams totaling approximately 6,075 linear feet and 5 potential wetlands totaling approximately 2.9 acres. Based on desktop research, the floodplain data for the Project were obtained from Federal Emergency Management Agency Flood Insurance Rate Map Number 51111C0175B, effective July 20, 2009 (FEMA 2021). According to these data, the majority of the site is located within Zone X, area of minimal flood hazard. Bears Element Creek, located just west of the Project area parcel is mapped as Zone A, with a one percent annual chance flood hazard.

The Project is located within Lunenburg County, which is not one of Virginia's 29 coastal counties deemed "Tidewater Virginia". Therefore, the Project is not subject to the Chesapeake Bay Preservation Act Resource Protection Area or Resource Management Area regulatory buffers, as outline in 9 Virginia Administrative Code 25-830-80. Additional information, including references, on wetlands, surface waters, and groundwater can be found in Attachment A: Wetland Determination Memo. Wetlands, waterbodies, and floodplains have not been inventoried outside of the Project

survey area; however, off-site impacts to these potential features will be addressed under the direct and indirect impacts section.

Primary air quality standards protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary air quality standards protect public welfare by promoting ecosystems health and preventing decreased visibility and damage to crops and buildings. The EPA has set national ambient air quality standards (NAAQS) for the following six criteria pollutants: ozone (O3), particulate matter (PM2.5, PM10), nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and lead (Pb). The AirNow Interactive Map of Air Quality (AirNow 2022) was used to identify nearby monitoring locations and determine the current estimated air quality index (AQI). According to the AirNow map, the nearest Ozone monitoring location to the Project survey area is the Prince Edward County EPA Office of Atmospheric Programs. This air quality monitoring station identified that the ozone daily AQI level was considered in good standing (29) at the issuance of this report. There were no results for the five other criteria pollutants.

2.2 Direct and Indirect Impacts

The desktop wetland determination identified 29 potential streams, and 5 potential wetlands within the Project study area (Figure 3). The Project is currently designed to avoid and minimize impacts to wetlands and streams as they are currently desktop mapped within the Project Area to the extent practicable. These features have not yet been confirmed by the USACE or VADEQ and are subject to change. Pending any changes to mapped features, impacts to jurisdictional features will be permitted through the proper regulatory agency. Wetlands, waterbodies, and floodplains have not been inventoried outside of the Project survey area; however, there are no anticipated direct impacts to any features outside of the Project survey area. Through the use of stormwater and erosion and sediment control best management practices (BMPs) during construction, as well as routine stormwater inspections, no indirect impacts to adjacent water resources are anticipated from the Project. These BMPs, in tandem with temporary and permanent soil stabilization, will minimize erosion and sedimentation to protect water quality of these aquatic resources. The Project will abide by all erosion and sediment control regulations as outlined by the Virginia Erosion and Sediment Control Program.

The Project may result in a minor centralized increase of air emissions during construction; however, construction air emissions would be temporary. To reduce temporary impacts to air quality, the construction contractors may water down construction areas to control dust when necessary. Emissions from fuel-burning internal combustion engines (e.g. heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO_2, O_3, PM_{10}, and non-criteria pollutants such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times should be kept to a minimum and engines should be properly maintained. Additional best management practices for construction include using low or ultra-low sulfur fuel (including biodiesel) and using electric-powered tools (instead of gas-powered tools) wherever feasible. The operations and maintenance of the Project are not anticipated to have any long-term effects on air quality or increased air emissions.

3.0 WILDLIFE IMPACTS NARRATIVE

3.1 Existing Conditions

A desktop threatened and endangered species determination memo was prepared in May 2022 to summarize the findings of publicly available desktop resources within the Project study area.

According to the threatened and endangered species determination memo, the United States Fish and Wildlife Service (USFWS) Information Planning and Consultation (IPaC) System indicated that the northern long-eared bat (*Myotis septentrionalis*), which is listed as both federally threatened and state threatened, is expected to occur within the Project study area.

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. According to the Center for Conservation Biology (CCB) Bald Eagle Nest Locator, the closest known bald eagle nest is approximately 15 miles to the southeast of the proposed Project study area. A field assessment is recommended to confirm the presence and/or absence of bald eagle nests on the Project study area. If bald eagle nests are identified during the recommended field assessments and work is anticipated to be conducted during the breeding season (October 1 through May 15), a 660-foot buffer is recommended around active nests. The buffer may be reduced to 330 feet for special circumstances.

The USFWS Bald Eagle Conservation Area (BECA) Map did not indicate a bald eagle concentration area within the Project study area. The closest bald eagle concentration is approximately 58 miles southwest of the Project study area.

No federally listed critical habitat was documented on the USFWS Critical Habitat for Threatened and Endangered Species Mapper as occurring within or in the vicinity of the proposed Project study area. The Project study area is approximately 8 miles south of the closest critical habitat for Yellow lance (*Elliptio lanceolata*).

The Virginia Department of Wildlife Resources (VDWR) northern long-eared bat (NLEB) mapping application shows that there are no known NLEB winter hibernacula or roost trees in the vicinity of the Project. The nearest winter hibernacula and roosting habitat is located approximately 99 miles northwest of the Project study area.

The VDWR mapping system of the little brown bat (*Myotis lucifugus*) and tri-colored bat (*Perimyotis subflavus*) shows that the nearest winter hibernacula and roosting habitat are located approximately 80 miles northwest of the Project study area.

The VDWR Virginia Fish and Wildlife Information Service (VaFWIS) indicates no state threatened or endangered species with confirmed occurrences within the Project study area and a 2-mile radius from the Project study area boundary. Please note that the Virginia Department of Game and Inland Fisheries has recently changed its name to the VDWR, but the VaFWIS database search results still show the outdated department name.

The Virginia Department of Conservation and Resources Natural Heritage Data Explorer identified two state threatened species, loggerhead shrike (*Lanius ludovicianus*) and Atlantic pigtoe (*Fusconaia*

masoni), as possibly occurring within the Project study area watersheds, Meherrin River-Mason Creek (12-digit Hydrologic Unit Code [HUC] 030102040301), Meherrin River – Crooked Creek (HUC 030102040302), and Flat Rock Creek (HUC 030102040303).

Additional information, including references, on biological resources is included in Attachment B: Threatened and Endangered Species Determination Memo.

3.2 Direct and Indirect Impacts

The Desktop Threatened and Endangered Species Determination identified several federal and state listed species that have the potential to occur within the vicinity of the Project study area. Upon a review of the information gathered from publicly available resources, the following actions or avoidance measures are recommended for the Project to ensure potential impacts to listed wildlife species that have potential to occur are avoided:

- Based on the results of the environmental field assessment, potential impacts to threatened and endangered species and their habitats can be reduced by avoiding and minimizing Project impacts to wetlands, forested areas, streams, and riparian corridors; and
- Informal consultation with state and federal agencies is recommended after the completion of the environmental field assessments to better determine the need for species-specific onsite surveys and the need for avoidance or mitigation measures.

4.0 CULTURAL IMPACTS NARRATIVE

4.1 Existing Conditions

A cultural resources desktop review memo was prepared in August 2022 to summarize the findings of publicly available desktop resources within the Project study area. This assessment reviewed the Project survey area and a 0.5-mile radius around the Project survey area.

According to the cultural resources memo, a review of Virginia Department of Historic Resources (VDHR) Virginia Cultural Resources Information System (VCRIS) records identified 6 previously recorded architectural resources within a 0.5-mile radius of the Project study area. Among the resources are 4 dwellings, a wagon shed, and a church/chapel. The resources range in date from the early-nineteenth century to the mid-twentieth century. VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be eligible for inclusion in the NRHP.

Two resources are located partially within the Project study area. These resources include: VDHR #055-5132 (Good Hope Christadelphian Chapel) and VDHR #055-5138 (Samuel A. Wallace, Jr. House). As mentioned above, VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be eligible for inclusion in the NRHP and VDHR #055-5138 has been determined to not be eligible for inclusion in the NRHP.

The Project study area excludes the majority of VDHR #055-5132 and VDHR #055-5138. Likewise, VDHR #055-0117 is located within a parcel which is excluded from the Project study area.

Additional information on cultural resources can be found in Attachment C: Cultural Resources Desktop Review Memo.

In accordance with the Lunenburg County solar ordinance, a supplemental desktop review was conducted for resources in a 2-mile radius from the previously assessed area in the May 2022 cultural resources desktop review memo to assess a total 2.5-mile radius around the Project survey area. The supplemental desktop review of the VDHR VCRIS for resources identified an additional 23 architectural resources and one historic district, Broad Branch Creek Rural Historic District (VCRIS, 2022). Archaeological resources were not assessed during the supplemental desktop review.

4.2 Direct and Indirect Impacts

Preparation of a Phase IA cultural resources assessment (Phase IA), including a research design to guide a subsequent Phase I identification survey, is recommended for the Project study area. The Phase IA should include further consideration of site soils, historic maps, and existing field conditions and result in the development of a stratified testing strategy for identifying archaeological resources within the project area. The completed Phase IA should be submitted to the Virginia Department of Environmental Quality and VDHR for review and comment prior to initiation of Phase I identification survey of the site in accordance with the recommended testing strategy. There are no anticipated direct impacts to cultural resources outside of the 0.5-mile radius of the Project survey area, including the architectural resources and mapped historic district. Archaeological resources outside of the 0.5-mile radius of the Project survey area were not evaluated as there are no anticipated ground disturbing activities that would directly or indirectly impact these resources.

5.0 PROJECT DEVELOPMENT

5.1 Erosion and Stormwater

The Project will be developed predominately on agricultural and forested lands and will require the detention and release of stormwater. The Project will meet construction and post construction stormwater quantity requirements in accordance with Chapter 840 (9VAC25-840-40.19) and 870 (9VAC25-870.66) of the Virginia Administrative Code. Where applicable all post construction stormwater technical criteria will be implemented across the Project. The following conditions will be reviewed and analyzed when applicable, Channel protection for concentrated flows shall be met via the application of the Energy Balance Method. Flood protection for concentrated flows shall be met by reducing the 10-year 24-hour runoff totals. Sheet flow requirements will be met via no additional increases in sheet flow volumes and may at times require the installation of energy dissipaters. Additionally, permissible stormwater runoff velocities will be analyzed at the point of discharge and when applicable within the immediate receiving channel.

The Solar Ordinance Section 5.D.4.e states: “Access, erosion & stormwater structures, and interconnection to the electrical grid may be made through setback areas provided that such are generally perpendicular to the property line.” Virginia regulations emphasizes the placement of temporary and permanent erosion & stormwater facilities adjacent to a natural stormwater conveyance system to further decrease a potential impact to the environment and downstream

properties. When performing work within the setback area, this Project intends to meet Virginia water quantity regulations by returning runoff to a sheet flow condition (9VAC25-870-66.D). The need to place stormwater facilities within the setback area is to effectively convey the stormwater runoff to an adequate natural stormwater conveyance system and its placement will be based on natural topography. Natural topography can be parallel or perpendicular to setbacks and property lines. These facilities will be designed to further assure that sheet flow conditions and non-erosive velocities are maintained when stormwater runoff leaves the Project area. Meaning that the stormwater runoff can be discharged into a main channel of a natural stream/waterbody or within the flood-prone area (e.g. wetland edge) adjacent to the main channel.

When discharging stormwater runoff directly into a natural stormwater conveyance system an outfall will be constructed to allow for the runoff to be released perpendicular to the contours and will flow through an energy dissipater (e.g. level spreader, flow diffuser). It should be noted that an energy dissipator is a device that is used to convert concentrated stormwater runoff into sheet flow so that it is released in such a manor to decrease the likelihood of downstream impacts to the environment and neighboring properties. The design of an energy dissipator is to maintain sheet flow prior to entering an existing natural stormwater conveyance channel. This existing channel may be within the setback and be perpendicular or parallel to the setback based on natural topographic contours.

Additionally, minimal clearing and grading will be performed within the setback areas to allow for the adequate construction and installation of erosion & stormwater facilities. Any area disturbed outside of the footprint of an erosion & stormwater facility will be restored to a natural vegetative state.

During the site planning process, a comprehensive and detailed engineered erosion & stormwater plan will be submitted for review and consideration by the County and VADEQ.

5.2 Visual Impacts

This Project will utilize materials that will have the least negative impact on the surrounding environment. Proposed vegetative plantings will reduce any potential visibility of the Switchyard and Substation from Oral Oaks Road, and Sneads Store Road.

Additionally, a visual impact assessment has been conducted to determine visual impacts from potentially sensitive visual resources within the surrounding community. It was determined that visual impacts would vary depending on several factors, such as the distance of the viewer from the Project, whether the viewer is stationary or in motion, and whether views toward the Project are unobstructed or screened by vegetation, topography, or existing structures. Project views can be very different from one location to another, including in proximity, because of the rolling terrain and dense vegetation. In all cases, the Switchyard would be located 700 feet or more from public roadways, limiting viewing opportunities.

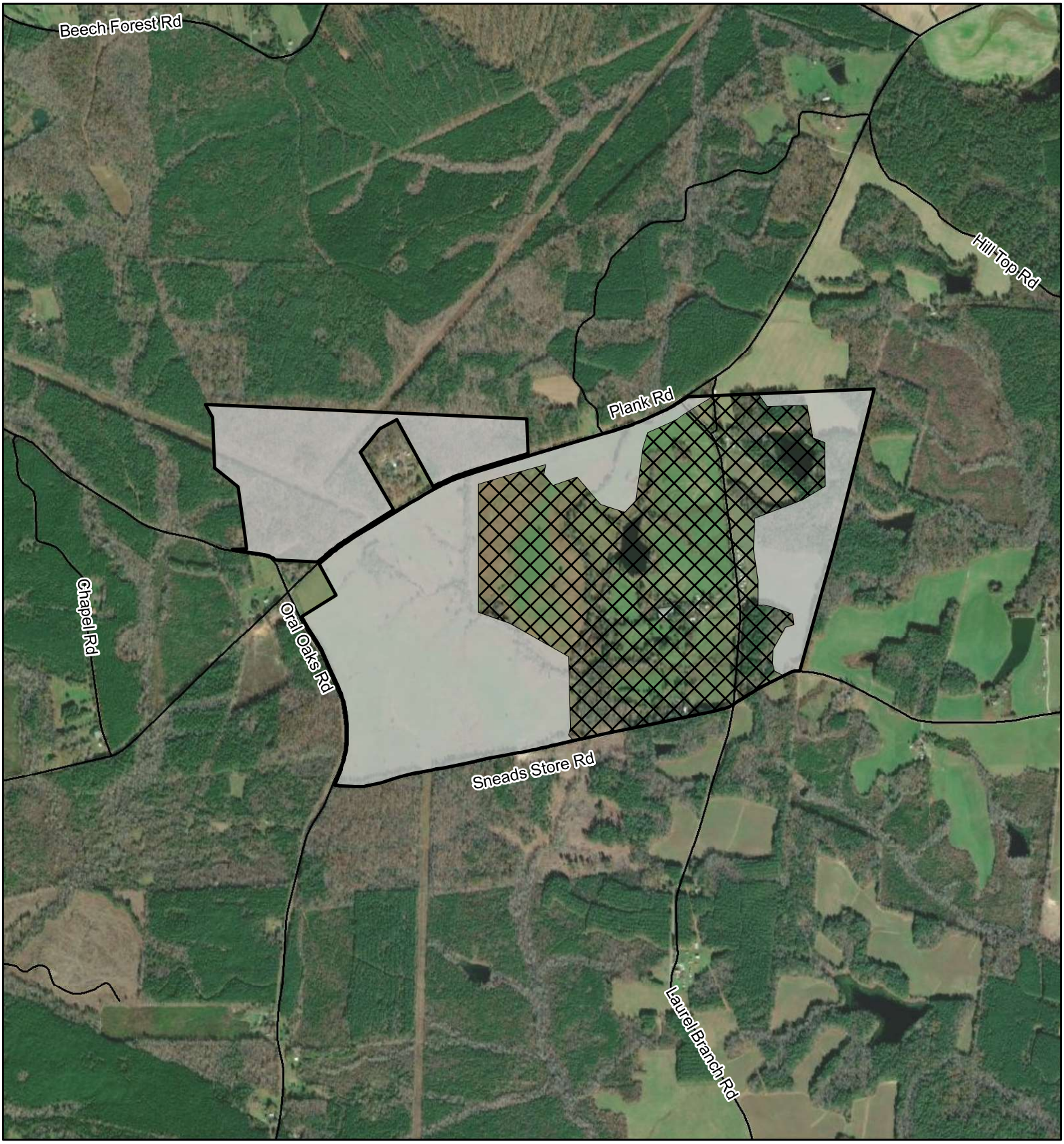
Additional information on visual impacts can be found in Tab H – Switchyard and Substation Design.

6.0 REFERENCES

AirNow. 2022. AirNow Interactive Map of Air Quality. Available online at: https://gispub.epa.gov/airnow/?xmin=-8772280.263742598&ymin=4344250.063163923&xmax=-8623564.381510958&ymax=4438305.776892184&clayer=ozonepm&mlayer=none

VCRIS (Virginia Cultural Resources Information System) 2022. VCRIS Mapping Tool. Available online at: https://www.dhr.virginia.gov/v/cris/

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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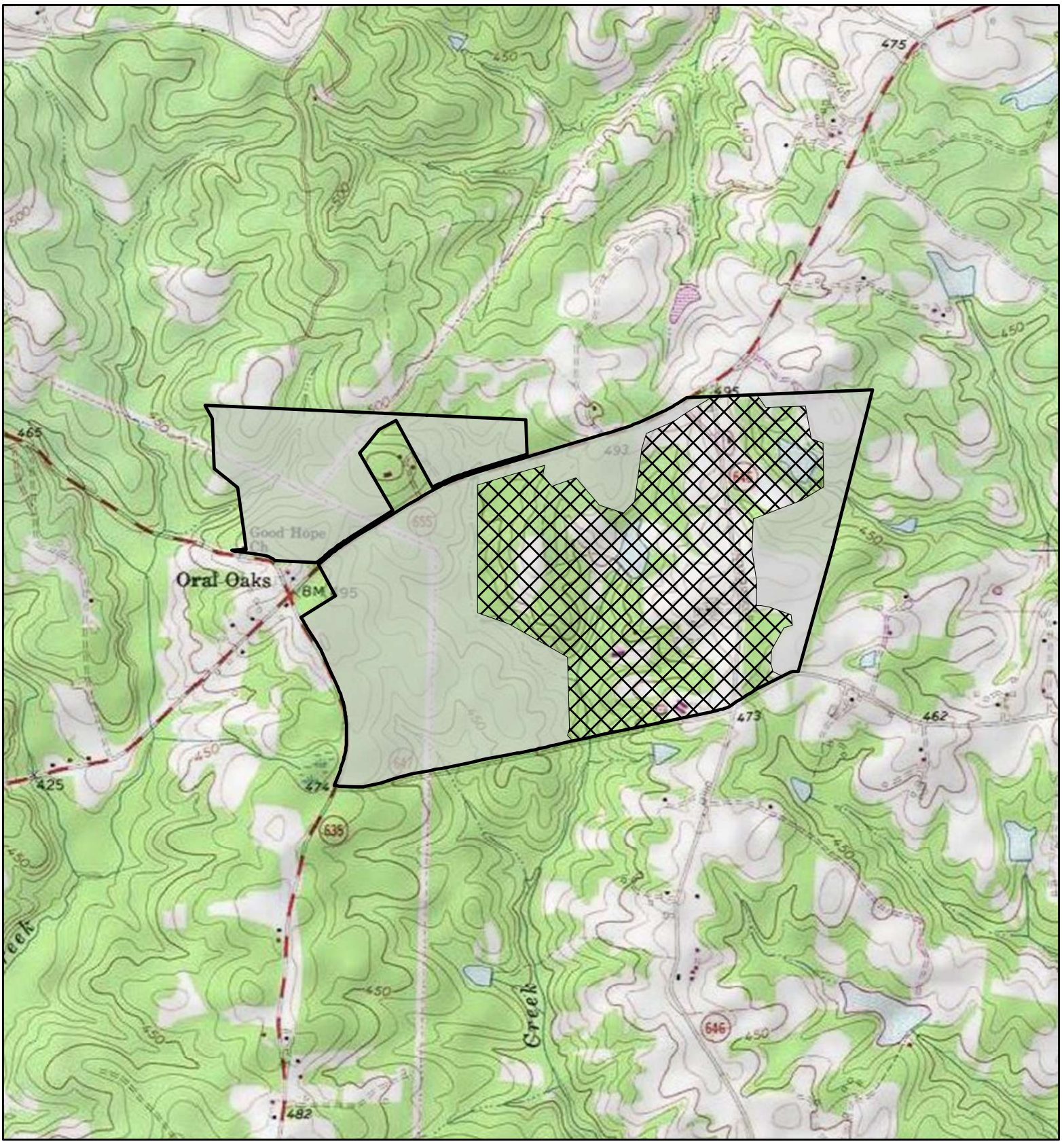

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation

Lunenburg County, Virginia

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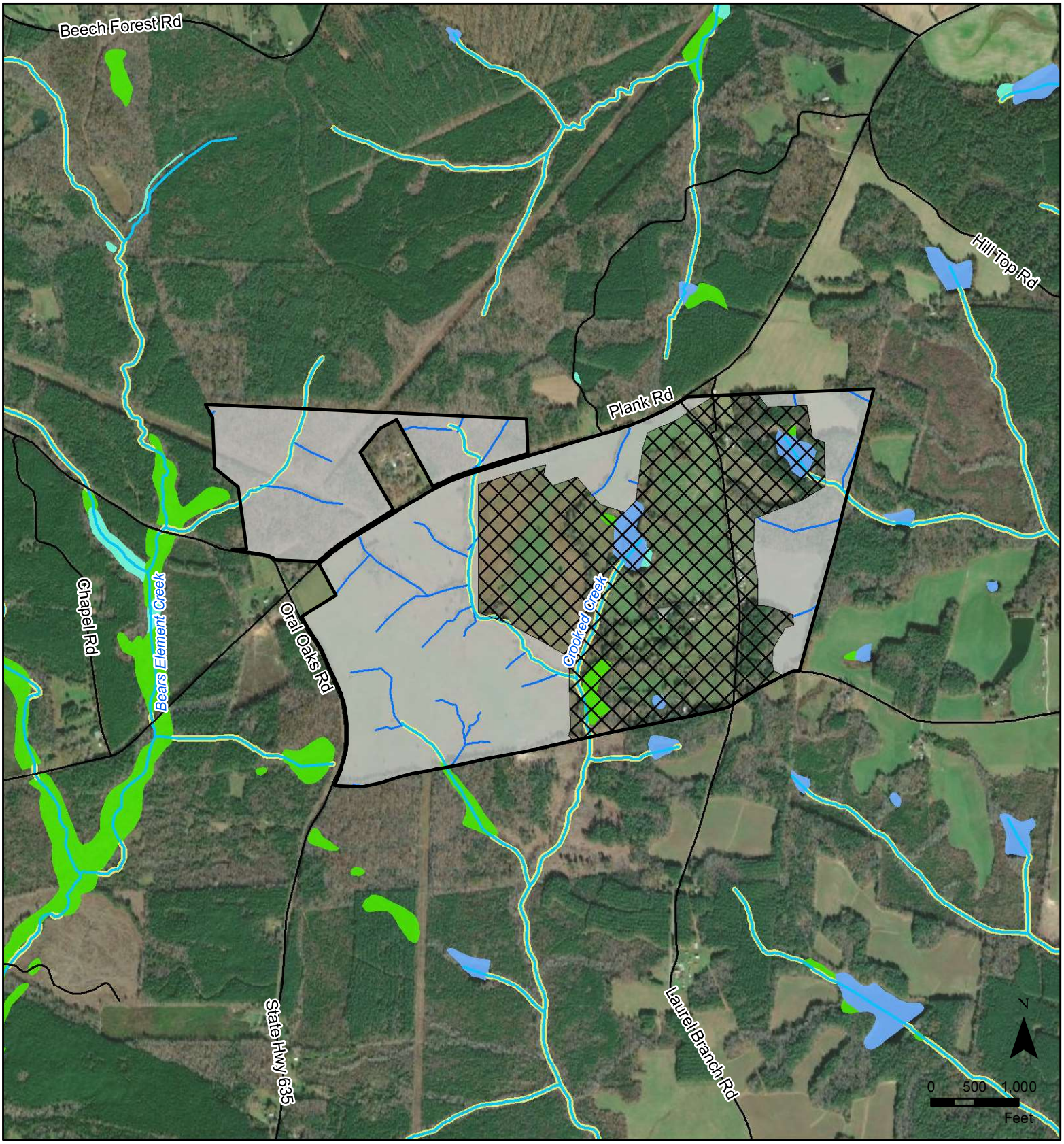

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT A: WETLAND DETERMINATION MEMO

Desktop Wetland Determination Report

Laurel Branch Solar Project Switchyard and Substation

August 15, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

Table of Contents

List of Tables

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Acronyms and Abbreviations

3D	three-dimensional
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The 2,189± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189± acres. . The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

Tetra Tech, on behalf of Dominion, prepared this Desktop Wetland Determination Memo summarizing the findings of publicly available desktop resources for the Project study area (Figures 3 through 5) for the presence of potential wetland and surface water feature constraints. Tetra Tech made preliminary wetland determinations utilizing methods detailed in the United States Army Corps of Engineers' (USACE) *Wetland Delineation Manual* (*1987 Manual*; Environmental Laboratory 1987).

2.0 METHODOLOGY

The primary objective of the desktop wetland determination and delineation is to identify the potential wetlands and surface waters on or adjacent to the Project study area. Information from Google Earth Pro®, United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2019), United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI; USFWS 2021), United States Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2021), and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs; FEMA 2021) was consulted to create Figure 3 (Wetlands and Other Waters Map), Figure 4 (Flood Hazard Map), and Figure 5 (NRCS Soils Map). These maps were reviewed by a Tetra Tech Natural Resource Specialist who identified and classified wetlands and other surface waters within the Project study area. The Tetra Tech–identified wetlands and surface waters are summarized in Table 1 and depicted on Figure 3.

3.0 FINDINGS AND RECOMMENDATIONS

The desktop wetland determination identified several riverine wetlands, which appear to be associated with the Bears Element Creek, and Crooked Creek, and Flat Rock Creek. The NWI and NHD mapping applications identified 4 potential streams within the Project study area totaling approximately 6,075 linear feet. The NWI and NHD mapping applications identified 5 potential palustrine forested (PFO) or riverine wetlands totaling approximately 2.9 acres within the Project study area (USFWS 2021). In addition to the NWI and NHD mapped features, Tetra Tech identified an additional 25 potential streams totaling approximately 15,340 linear feet using the USGS topographic map, Google Earth Pro orthoimagery, and NRCS Soils database. These desktops identified features can all be found on Figure 3.

3.1 Findings

The Desktop Aquatic Resources Table (Table 1) summarizes the stream and wetland information for all features identified during the desktop wetland determination. The desktop wetland determination identified 29 potential streams totaling approximately 6,075 linear feet and 5 potential wetlands totaling approximately 2.9 acres (Figure 3).

Based on desktop research, the floodplain data for the Project were obtained from FEMA FIRM Numbers 51111C0175B, effective July 20, 2009 (FEMA 2021). According to these data, the majority of the site is located within Zone X, area of minimal flood hazard. Bears Element Creek, located just west of the Project area parcel is mapped as Zone A, with a one percent annual chance flood hazard (Figure 4).

The Project is located within Lunenburg County, which is not one of Virginia's 29 coastal counties deemed "Tidewater Virginia." Therefore, the Project is not subject to the Chesapeake Bay Preservation Act (CBPA) Resource Protection Area or Resource Management Area regulatory buffers, as outlined in 9 Virginia Administrative Code 25-830-80.

3.2 Recommendations

The desktop wetland determination identified 29 potential streams, and 5 potential wetlands within the Project study area. Figure 3 illustrates the wetland and stream locations in relation to the Project study area and the Project boundary. Upon a review of the information gathered from the cursory desktop surveys of the proposed Project study area, Tetra Tech recommends the following actions to expedite permit timelines:

- Conduct a formal wetland and stream delineation for the proposed Project utilizing methods detailed in the USACE's *1987 Manual* (Environmental Laboratory 1987); and
- Submit an request for a jurisdictional determination with the USACE based on the results of the formal delineation.

This Desktop Wetland Determination Memo represents our best professional judgment and is based on publicly available desktop resources for the Project study area. All designations, classifications, and boundaries should be considered preliminary and should not be considered to be final. Using boundaries of features provided in this memo (and associated shapefiles) should only be utilized for preliminary Project design and may be changed upon the completion of formal delineations.

4.0 REFERENCES

FEMA (Federal Emergency Management Agency). 2021. National Flood Hazard Layer. U.S. Department of Homeland Security, FEMA, Generated January 3, 2022. Available at: https://www.fema.gov/flood-maps/national-flood-hazard-layer

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Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual,* Wetlands Research Program Technical Report Y-87-1. Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station.

USFWS (United States Fish and Wildlife Service). 2021. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Updated May 1, 2021. Available at: https://www.fws.gov/wetlands/data/Mapper.html

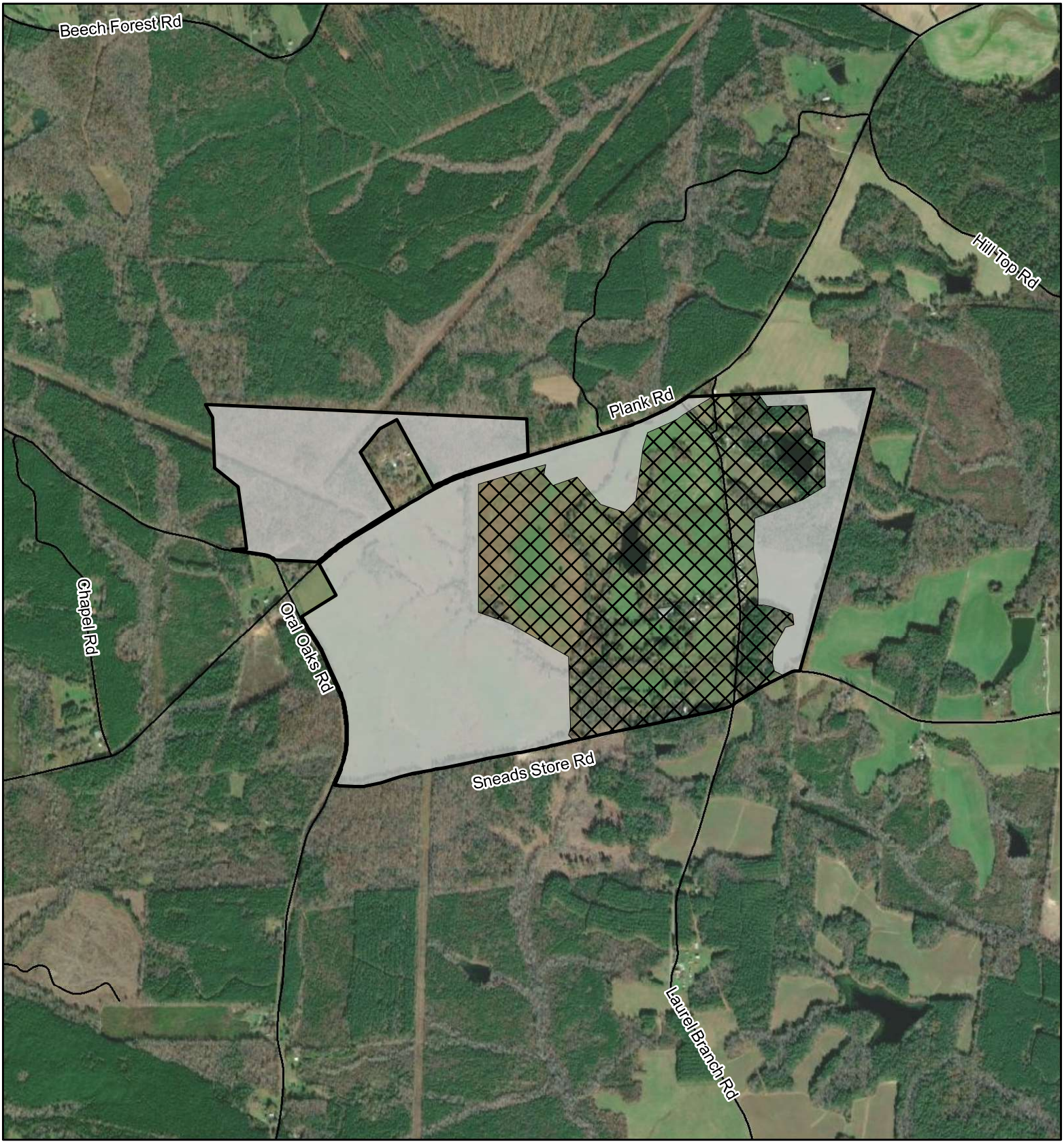
USGS (U.S. Geological Survey). 2020. *National Hydrography Dataset Best Resolution for Virginia*. Available online at: https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View.

TABLES

Table 1: Desktop Aquatic Resources Table

Location ID	Area Description
Stream 1	Unnamed tributary to Bears Element Creek, appears to be intermittent stream (R4SBC)
Stream 2	Crooked Creek, perennial stream (R5UBH)
Stream 3	Unnamed tributary to Flat Rock Creek, appears to be intermittent stream (R4SBC)
Stream 4	Unnamed tributary to Crooked Creek, appears to be intermittent stream (R4SBC)
Stream 5	Tetra Tech mapped stream.
Stream 6	Tetra Tech mapped stream.
Stream 7	Tetra Tech mapped stream.
Stream 8	Tetra Tech mapped stream.
Stream 9	Tetra Tech mapped stream.
Stream 10	Tetra Tech mapped stream.
Stream 11	Tetra Tech mapped stream.
Stream 12	Tetra Tech mapped stream.
Stream 13	Tetra Tech mapped stream.
Stream 14	Tetra Tech mapped stream.
Stream 15	Tetra Tech mapped stream.
Stream 16	Tetra Tech mapped stream.
Stream 17	Tetra Tech mapped stream.
Stream 18	Tetra Tech mapped stream.
Stream 19	Tetra Tech mapped stream.
Stream 20	Tetra Tech mapped stream.
Stream 21	Tetra Tech mapped stream.
Stream 22	Tetra Tech mapped stream.
Stream 23	Tetra Tech mapped stream.
Stream 24	Tetra Tech mapped stream.
Stream 25	Tetra Tech mapped stream.
Stream 26	Tetra Tech mapped stream.
Stream 27	Tetra Tech mapped stream.
Stream 28	Tetra Tech mapped stream.
Stream 29	Tetra Tech mapped stream.
Wetland 1	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Bears Element Creek
Wetland 2	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 3	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 4	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Crooked Creek
Wetland 5	NWI mapped freshwater forested/shrub wetland (PFO1A) with hydrological connection to Flat Rock Creek

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation

Lunenburg County, Virginia

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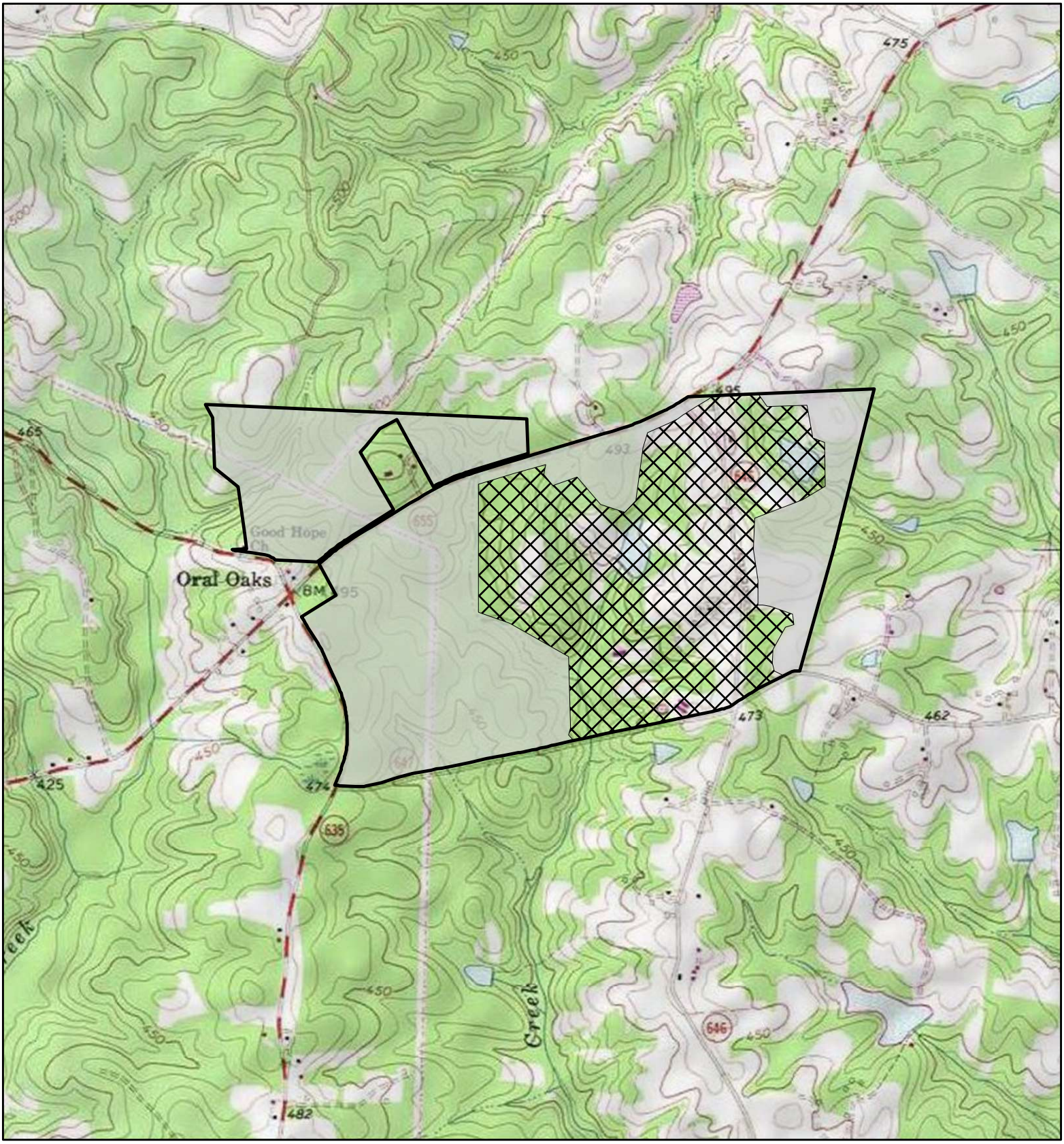

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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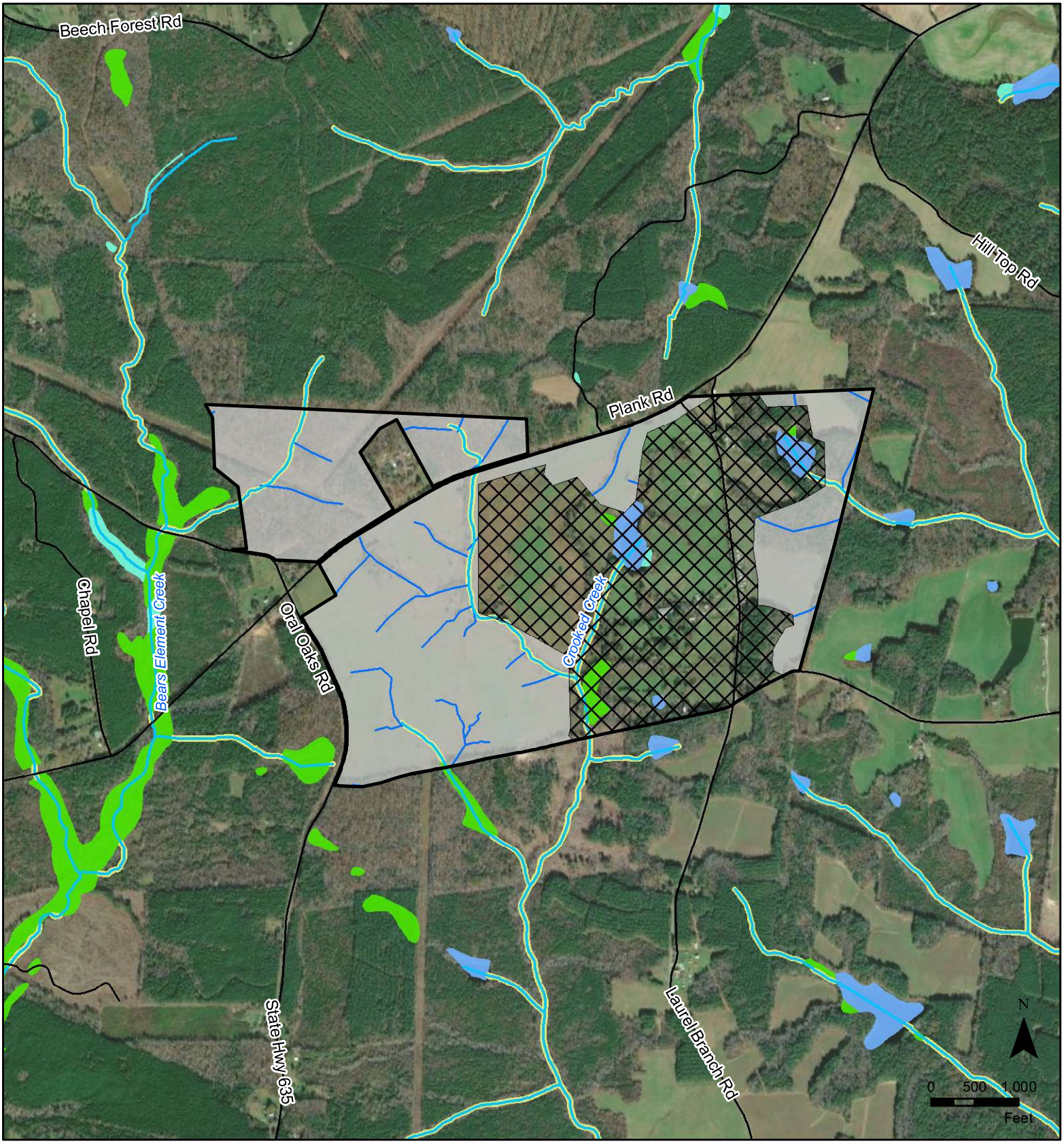

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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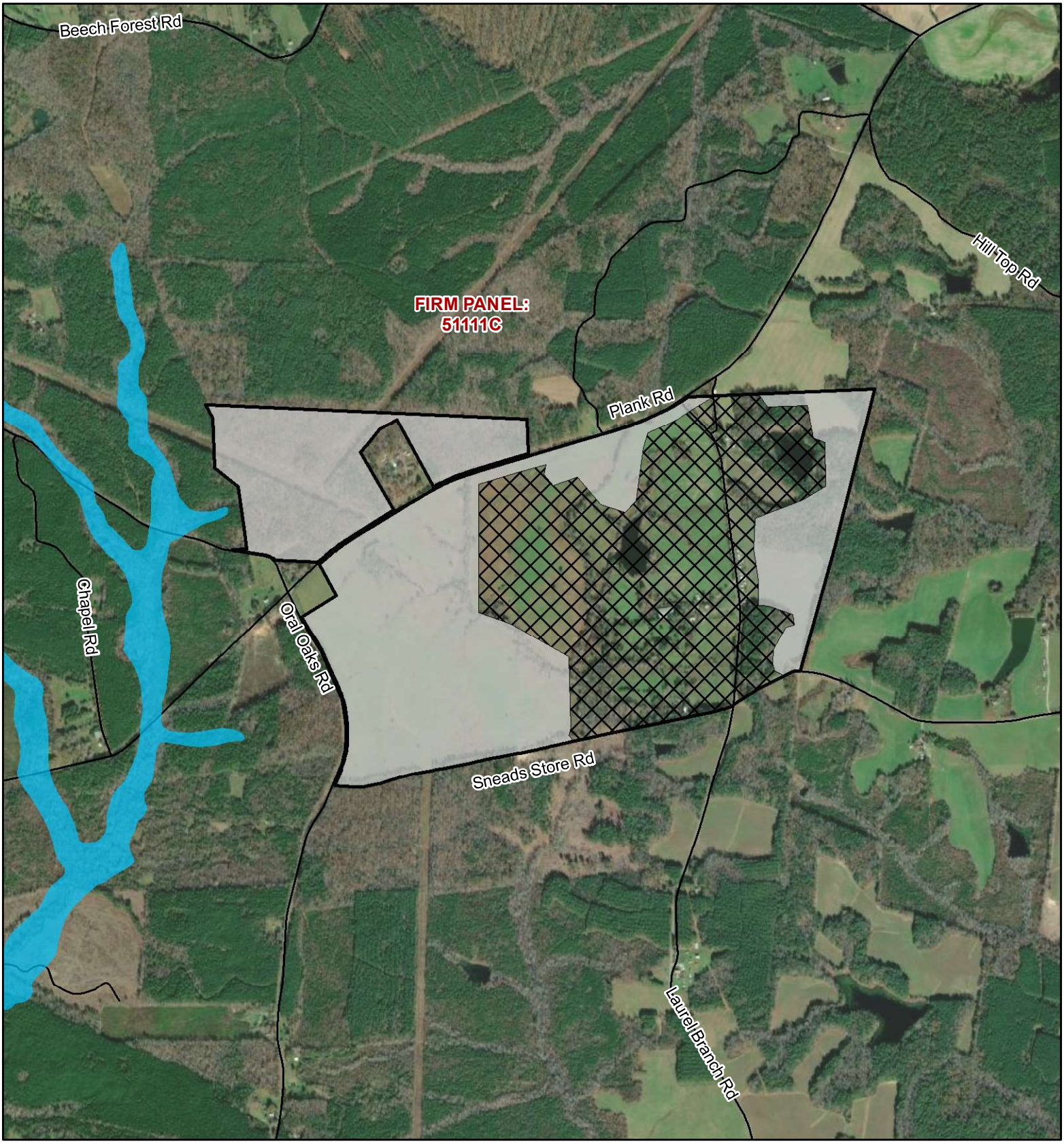

Project Study Area

Anticipated Parcel Carve Out

1% Annual Chance Flood Hazard

FIRM Panel

N

0 500 1,000

Feet

Source: FEMA (2009)

TETRA TECH

Figure 4
Flood Hazard Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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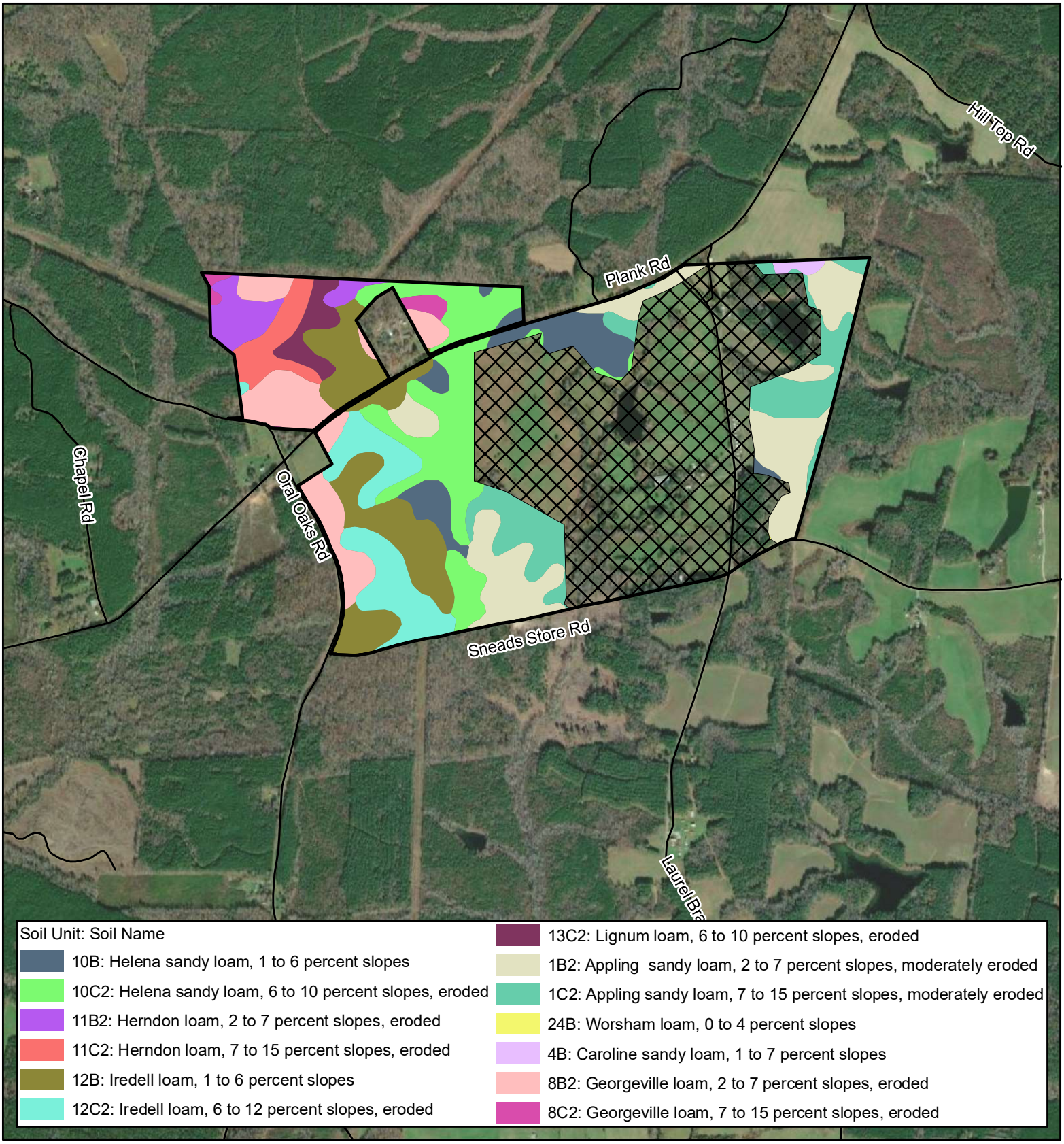

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: NRCS (2021)

TETRA TECH

Figure 5
NRCS Soils Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT B: THREATENED AND ENDANGERED SPECIES DETERMINATION MEMO

Desktop Threatened and Endangered Species Determination Report

Laurel Branch Solar Project Switchyard and Substation

August 15, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

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Acronyms and Abbreviations

3D	three-dimensional
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MW	megawatts
Project Area	The 2,189± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Dominion Energy Virginia (Dominion) is proposing to develop a Switchyard and Substation as part of a commercial solar energy project, Laurel Branch Solar Project (Project), on private land encompassing approximately 2,189 acres. The Project Switchyard and Substation is located on one parcel (058-0A-0-68) and will be accessible via a gated entrance off of Oral Oaks Road. The Project is in Lunenburg County, Virginia, and is largely undeveloped, and zoned agricultural, as shown on the Orthoimagery and Topographic Project Location Maps (Figure 1 and Figure 2).

Tetra Tech, on behalf of Dominion, prepared this Desktop Threatened and Endangered Species Determination Memo summarizing the findings of publicly available desktop resources for the Project study area. Additional resources were evaluated to make preliminary determinations for habitat suitability, including the National Hydrography Dataset (NHD) and the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (Figure 3). Additionally, Tetra Tech utilized publicly available desktop resources to identify additional areas of potential wetlands and surface waters that may also provide suitable habitat for listed species. These potential features are also included on Figure 3.

2.0 METHODOLOGY

The primary objective of the Desktop Threatened and Endangered Species Determination is to identify the potential for the Project to impact federal and state protected species and designated critical habitat. The following state and federal natural resource databases were reviewed:

- USFWS Information for Planning and Consultation (IPaC; USFWS 2021a);
- USFWS Critical Habitat for Threated and Endangered Species Map (USFWS 2021b);
- USFWS Bald Eagle Concentration Area (BECA) Map (USFWS 2021c);
- Center for Conservation Biology (CCB) Bald Eagle Nest Locator for Virginia (CCB 2021);
- Virginia Department of Wildlife Resources (VDWR) Northern-Long Eared Bat (NLEB; *Myotis septentrionalis*) Winter Habitat and Roost Trees Map (VDWR 2021a);
- VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts (VDWR 2021b);
- VDWR Virginia Fish and Wildlife Information Services (VaFWIS) (VDWR 2021c); and
- Virginia Department of Conservation and Recreation (VDCR) Natural Heritage Data Explorer (NHDE) (VDCR 2021).

3.0 FINDINGS AND RECOMMENDATIONS

Tetra Tech prepared this Desktop Threatened and Endangered Species Determination Memo for Dominion based on evaluations made by qualified biologists that are experienced within the region. The Threatened and Endangered Species List for the Project study area (Table 1) summarizes federal and state listed species within and adjacent to the Project study area. Federal resources reviewed, including the IPaC System, USFWS Critical Habitat for Threated and Endangered Species Map, CCB Bald Eagle Nest Locator, and the BECA map are found in Attachment A. State resources evaluated,

which include the NLEB Winter Habitat & Roost Tree Application Map, VDWR VaFWIS, VDCR NHDE, and the Little Brown and Tri-Colored Bat Winter Habitat & Roost Tree Application Map, are found in Attachment B.

3.1 Findings

The IPaC System (USFWS 2021a) indicated that the Northern long-eared bat *(Myotis septentrionalis*), which is listed as both federally threatened and state threatened, is expected to occur within the Project study area.

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. According to the CCB Bald Eagle Nest Locator, the closest known bald eagle nest is approximately 15.42 miles to the southeast of the proposed Project study area. A field assessment is recommended to confirm the presence and/or absence of bald eagle nests on the Project study area. If bald eagle nests are identified during the recommended field assessments and work is anticipated to be conducted during the breeding season (October 1 through May 15), a 660-foot buffer is recommended around active nests. The buffer may be reduced to 330 feet for special circumstances.

The USFWS BECA Map did not indicate a bald eagle concentration area within the Project study area. The closest Bald Eagle concentration is approximately 58 miles southwest of the Project area.

No federally listed critical habitat was documented on the USFWS Critical Habitat for Threatened and Endangered Species Mapper as occurring within or in the vicinity of the proposed Project study area. The Project study area is approximately 8 miles south of the closest critical habitat for Yellow lance (*Elliptio lanceolata)*.

The VDWR NLEB mapping application shows that there are no known NLEB winter hibernacula or roost trees in the vicinity of the Project. The nearest winter hibernacula and roosting habitat is located approximately 99 miles northwest of the Project study area.

The VDWR mapping system of the little brown bat (*Myotis lucifugus*) and tri-colored bat (*Perimyotis subflavus*) shows that the nearest winter hibernacula and roosting habitat are located approximately 80 miles northwest of the Project study area.

The VDWR VaFWIS indicates no state threatened or endangered species with confirmed occurrences within the Project study area and a ±2-mile radius from the Project study area boundary. Please note that the Virginia Department of Game and Inland Fisheries has recently changed its name to the VDWR, but the VaFWIS database search results still show the outdated department name.

The VDCR NHDE identified two state threatened species, loggerhead shrike (*Lanius ludovicianus*) and Atlantic pigtoe (*Fusconaia masoni*), as possibly occurring within the Project study area watersheds, Meherrin River - Mason Creek (12-digit Hydrologic Unit Code [HUC] 030102040301), Meherrin River – Crooked Creek (HUC 030102040302), and Flat Rock Creek (HUC 030102040303).

Table 1. Threatened and Endangered Species List for the Project Study Area

Common Name	Scientific Name	Status[1]	Potential to Occur at Project study area	Habitat Description	Database[2]
Birds					
Loggerhead Shrike	*Lanius ludovicianus*	ST	Medium	Agricultural fields, open pastures, riparian areas, and prairies characterized by barbed wire fences and/or vegetation typically with spines or thorns.	NHDE
Bivalves					
Atlantic pigtoe	*Fusconaia masoni*	FP, ST	Medium	Small creeks to large rivers with excellent water quality and coarse sand to gravel substrate.	NHDE
Mammals					
Northern long-eared bat	*Myotis septentrionalis*	FT, ST	Medium	Underneath bark, in cavities or in crevices of both live trees and snags (dead trees)	IPaC

Notes:
1. FT: Federally Threatened; ST: State Threatened
2. IPaC: Information for Planning and Consultation; VaFWIS: VDWR Virginia Fish and Wildlife Information Services; NHDE: VDCR Natural Heritage Data Explorer

3.2 Recommendations

The Desktop Threatened and Endangered Species Determination identified several federal and state listed species that have the potential to occur within and in the vicinity of the Project study area. Upon a review of the information gathered from publicly available resources, Tetra Tech recommends the following actions or avoidance measures;

- Conduct an environmental field assessment to determine habitat suitability for listed species potentially present within Project study area;
- Conduct a pedestrian bald eagle nest survey, concurrent with the habitat suitability field assessment, by visually inspecting canopy trees within the study area were for the presence of large stick nests;
- Based on the results of the environmental field assessment, potential impacts to threatened and endangered species and their habitats can be reduced by avoiding and minimizing Project impacts to wetlands, forested areas, streams, and riparian corridors; and
- Informal consultation with state and federal agencies is recommended after the completion of the environmental field assessment to better determine the need for species-specific onsite surveys and the need for avoidance or mitigation measures. Tetra Tech will coordinate with VDCR once the final project boundary is determined to obtain an accurate species list for the Project-specific area.

This Desktop Threatened and Endangered Species Determination Memo represents our best professional judgment and is based on publicly available desktop resources for the Project study area.

4.0 REFERENCES

CCB (The Center for Conservation Biology) 2021. CCB Mapping Portal. Accessed December 1, 2021. Available online at: https://www.ccbbirds.org/maps/

USFWS. 2021a. USFWS Information Planning and Conservation System. Accessed December 26, 2021. Available online at: https://ecos.fws.gov/ipac/

USFWS. 2021b. Critical Habitat for Threated and Endangered Species Map. Accessed December 1, 2021. Available online at: https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77

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VDCR (Virginia Department of Conservation and Resources). 2021. Natural Heritage Data Explorer (NHDE). Accessed December 5, 2021 Available online at: https://vanhde.org/species-search

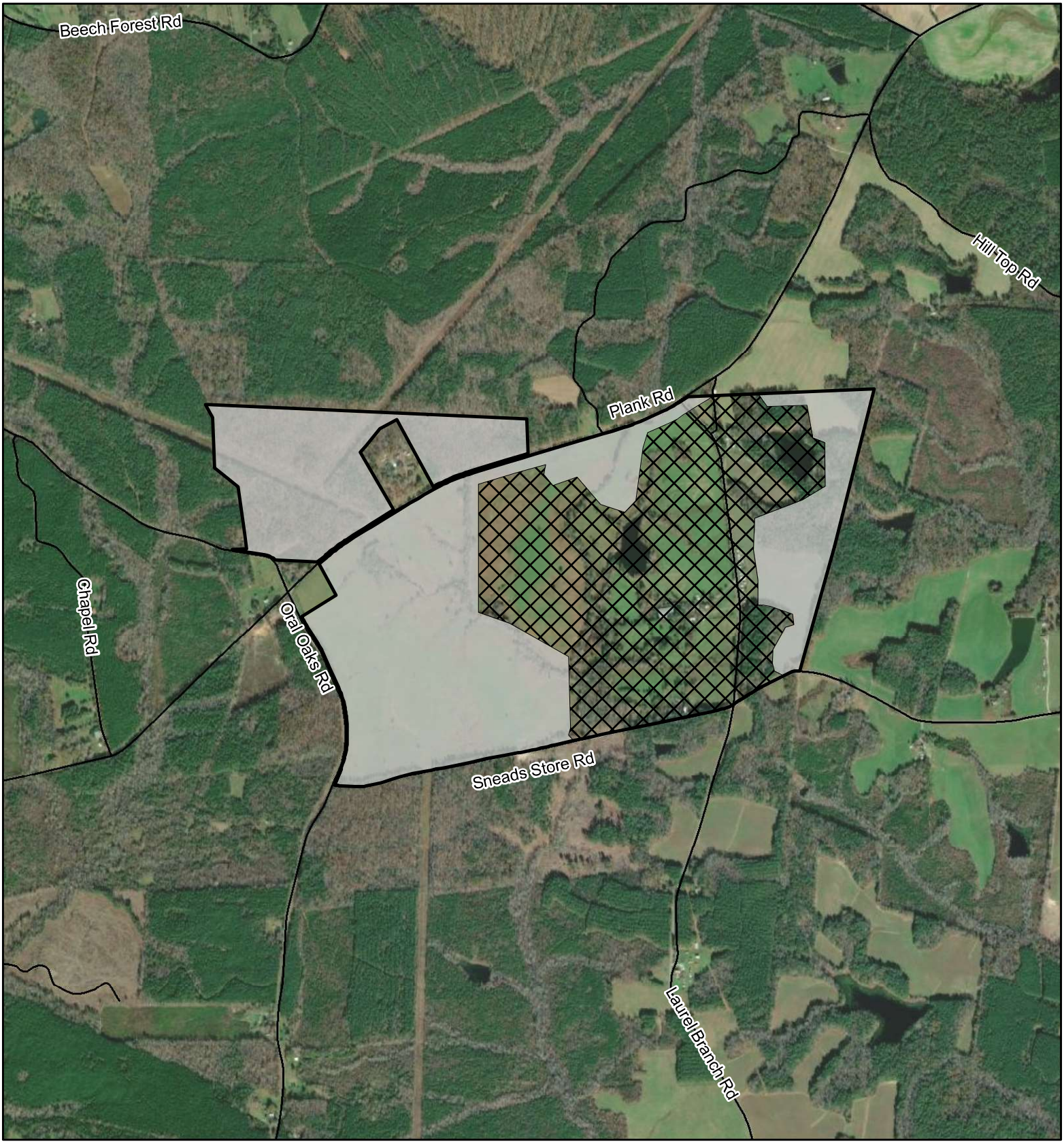
VDWR (Virginia Department of Wildlife Resources). 2021a. NLEB Winter Habitat & Roost Tree Application. Accessed December 1, 2021. Available online at: https://dgif-

virginia.maps.arcgis.com/apps/webappviewer/index.html?id=32ea4ee4935942c092e41ddcd19e5ec5

VDWR. 2021b. Little Brown Bat and Tri-Colored Bat Winter Habitat and Roosts Application. Accessed December 1, 2021. Available online at: https://dwr.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitat-roosts-application/

VDWR. 2021c. Virginia Fish and Wildlife Information Service (VaFWIS). Accessed January 3, 2022. Available online at: https://vafwis.dgif.virginia.gov/fwis/

FIGURES



Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: ESRI/Vivid Imagery (2020)

TETRA TECH

Figure 1
Orthoimagery
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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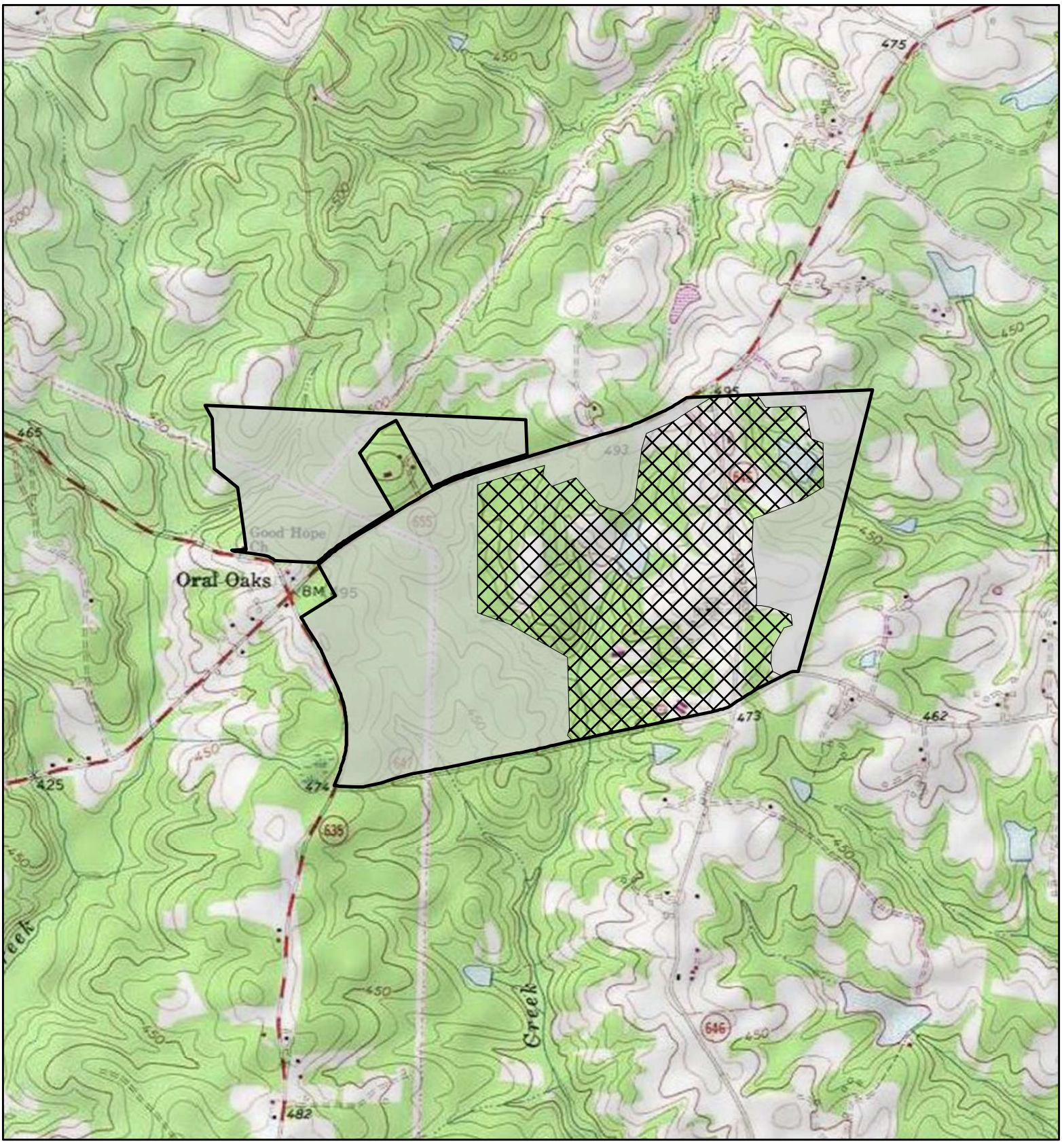

Project Study Area

Anticipated Parcel Carve Out

N

0 500 1,000

Feet

Source: USGS (2022)

TETRA TECH

Figure 2
Topographic
Project Location Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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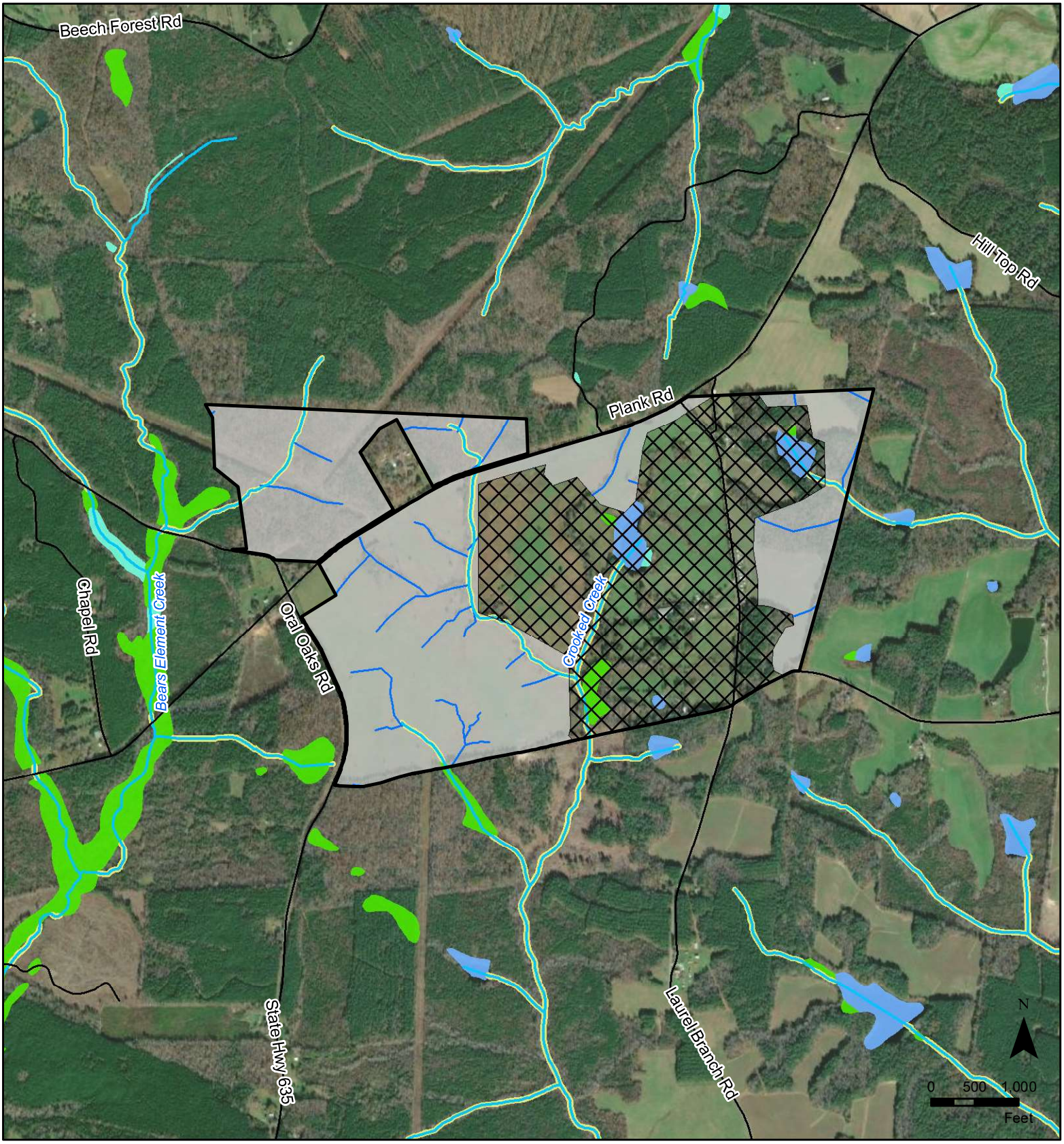

Project Study Area

Anticipated Parcel Carve Out

TT Mapped Streams (15,340 feet)

NHD Stream (6,075 feet)

NWI Wetland (2.9 acres)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Source: NHD (2020), NWI (2020)

TETRA TECH

Figure 3
Wetlands and Other Waters Map

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

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ATTACHMENT A: USFWS IPAC AND FEDERALLY LISTED SPECIES INFORMAL REVIEW

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To:
Project Code: 2022-0043762
Project Name: Laurel Branch

May 17, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

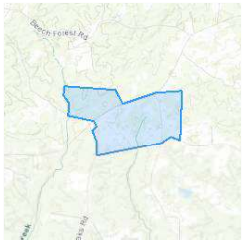
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Lunenburg County, Virginia



Local office

Virginia Ecological Services Field Office

(804) 693-6694
(804) 693-9032

6669 Short Lane
Gloucester, VA 23061-4410

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20

Prairie Warbler Dendroica discolor
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Red-headed Woodpecker Melanerpes erythrocephalus
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Wood Thrush Hylocichla mustelina
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▮)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- Palustrine

RIVERINE
- Riverine

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

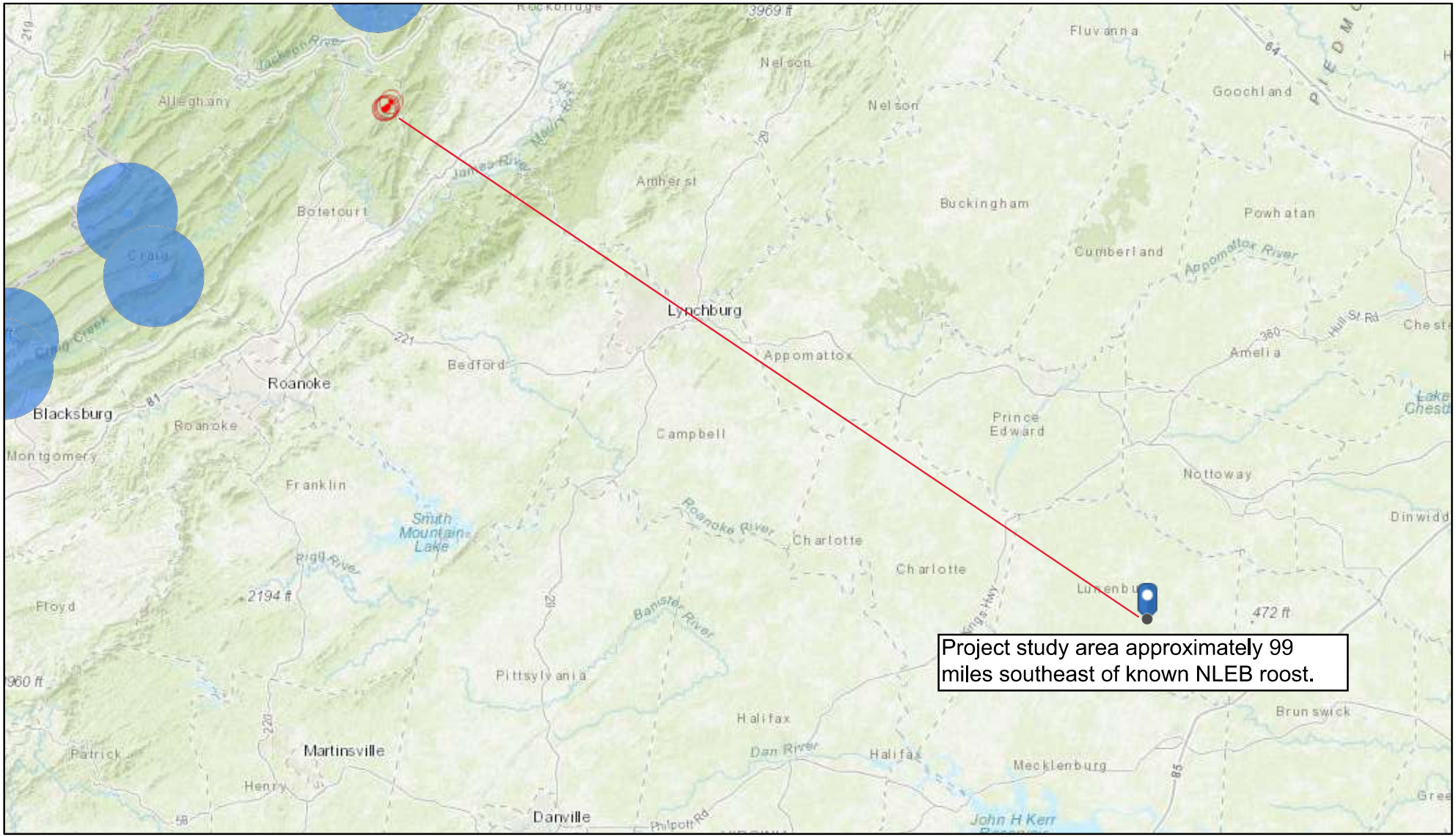
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT B: STATE LISTED SPECIES INFORMAL REVIEW

NLEB Locations and Roost Trees



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NLEB Known Occupied Maternity Roost (Summer Habitat)

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

1:1,155,581

0 5 10 20 mi

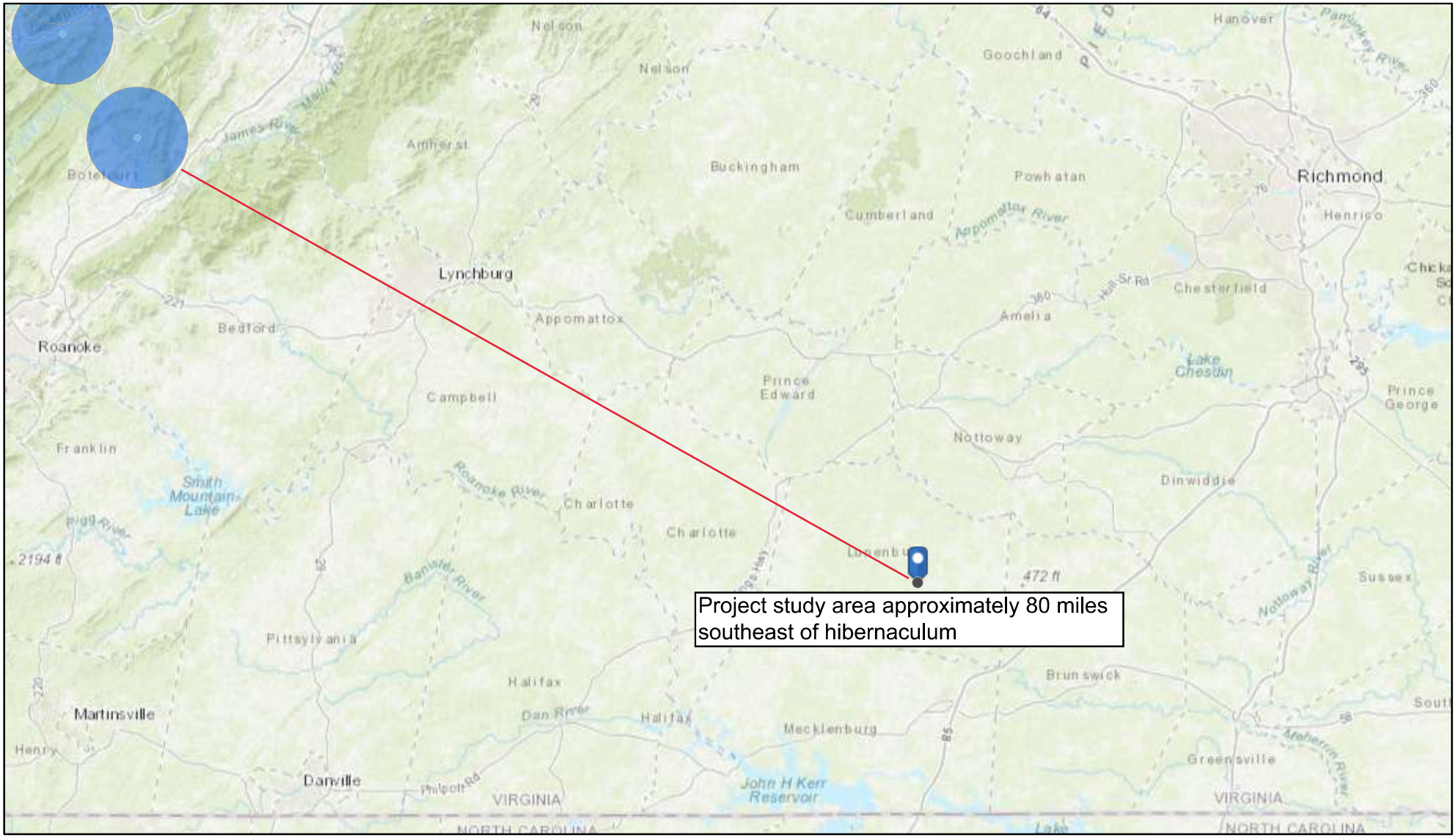
0 12.5 25 50 km

Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS

VA Dept. Game & Inland Fisheries

Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS |

Tri-colored and Little Brown Bat



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Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:1,155,581

0 5 10 20 mi

0 12.5 25 50 km

Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS

Dept. Game and Inland Fisheries

Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS |

VaFWIS Initial Project Assessment Report Compiled on 1/5/2022, 11:27:33 PM

Help

Known or likely to occur within a **2 mile buffer around polygon; center 36,54,56.0 -78,10,26.0** in **111 Lunenburg County, VA**

View Map of Site Location

395 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 21) (21 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
010214	FESE	IIa	Logperch, Roanoke	Percina rex		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA,Habitat
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040385	ST	Ia	Sparrow, Bachman's	Peucaea aestivalis		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA
010070	ST	IIc	Shiner, whitemouth	Notropis alborus		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
010174		Ia	Bass, Roanoke	Ambloplites cavifrons		BOVA,Habitat
020002		IIa	Treefrog, barking	Hyla gratiosa		BOVA
040052		IIa	Duck, American black	Anas rubripes		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA

To view **All 395 species** View 395

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (3 Reaches) View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Crooked Creek (03010204)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Flat Rock Creek (03010204)	FTST	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	
tributary (03010204)		010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
tributary (03010204)		010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Public Holdings:

N/A

Compiled on 1/5/2022, 11:27:33 PM | I156083.0 | reports=PA | searchType= P | dist= 3218 poi= 36.54,-56.0 -78,10.36,0 siteDD= 36.9363611 -78.1465832;36.9367222 -78.1574721;36.9251389 -78.1568332;36.9270833 -78.1581943;36.9266111 -78.1644165;36.9238888 -78.1638887;36.9243333 -78.1693887;36.9294722 -78.1737221;36.9198611 -78.1865832;36.9209444 -78.1866387;36.9210277 -78.1991387;36.9103888 -78.1940832;36.9087777 -78.2043332;36.9058888 -78.2038332;36.9068888 -78.1768054;36.8958055 -78.1775554;36.8943333 -78.1755554;36.8958055 -78.1628610;36.8987222 -78.1662499;36.8992500 -78.1690554;36.9045277 -78.1680832;36.9101666 -78.1595832;36.9115833 -78.1632499;36.9210555 -78.1594443;36.9210833 -78.1526387;36.9287777 -78.1515276;36.9290000 -78.1465554;36.9363611 -78.1465832;

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Site Location

36,54,56.0 -78,10,26.0
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles buffer

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

T & E Waters
Federal
State

Predicted Habitat WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

123 Impediment

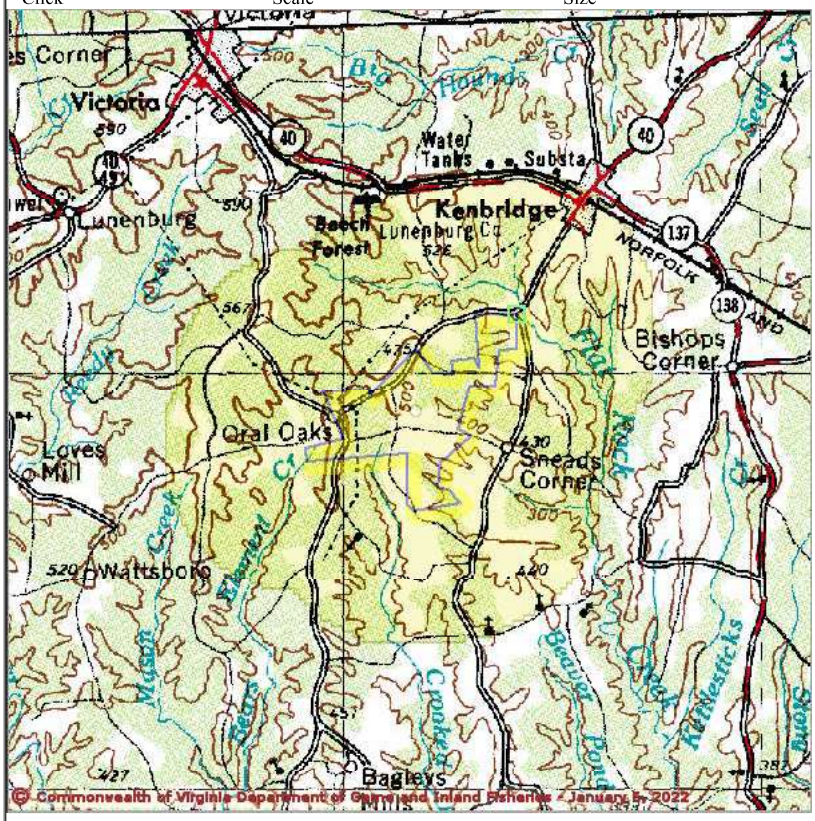
Position Rings 1 mile and 1/4 mile at the Search Point

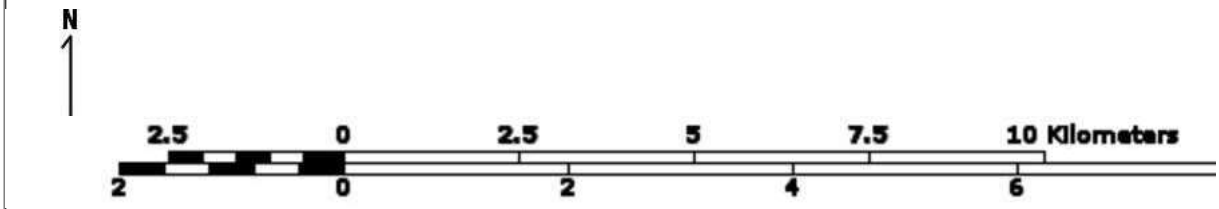
2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 36,54,56.0 -78,10,26.0
Map Location 36,54,56.6 -78,10,32.0

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 17 NAD 1983 with left 742013 and top 4098852. Pixel size is 19. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2022-01-05 23:27:40 (qa/qc March 21, 2016 12:20 - tn=1156083.0 dist=3218 I)
$poi=36.9155556 -78.1738889

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: Select All

State Legal Status: Select All

County: Lunenburg

Watershed (8 digit HUC): 03010204 - Meherrin River

Subwatershed (12 digit HUC): CM08 - Meherrin River-Mason Creek,CM09 - Meherrin River-Crooked Creek,CM10 - Flat Rock Creek

Search Run: 12/5/2021 9:00:46 AM

Result Summary

Total Species returned: 2

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lunenburg								
Meherrin								
Flat Rock Creek								
BIRDS								
Loggerhead Shrike	Lanius ludovicianus	Lanius ludovicianus	G4	S1B,S2N	None	LT	40	N
Meherrin River-Mason Creek								
BIVALVIA (MUSSELS)								
Atlantic Pigtoe	Fusconaia masoni	Fusconaia masoni	G1	S2	PT	LT	29	N

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

ATTACHMENT C: CULTURAL RESOURCES DESKTOP REVIEW MEMO

Cultural Resources Desktop Review

Laurel Branch Solar Project Switchyard and Substation

August 16, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

Table of Contents

List of Tables

List of Figures

1.0 INTRODUCTION

This report provides a summary of the cultural resource management events registered at the Virginia Department of Historic Resources (VDHR) through May 2022 that have taken place to date within the proposed Laurel Branch Solar Project Switchyard and Substation area. Additionally, all previously identified architectural resources and archaeological sites located within the project area, as well as within 0.5 mile of the project area, are provided. Information on previously conducted surveys and previously identified resources and sites were accessed through VDHR's Virginia Cultural Resources Information System (VCRIS) on May 17, 2022. The memo was drafted based off the current Laurel Branch Solar Project Switchyard and Substation boundary.

2.0 PREVIOUS SURVEYS RELEVANT TO THE PROJECT AREA

Research undertaken through VDHR's VCRIS demonstrated that no Phase I archaeological surveys have been conducted within 0.5 mile of the project area (Figure 1).

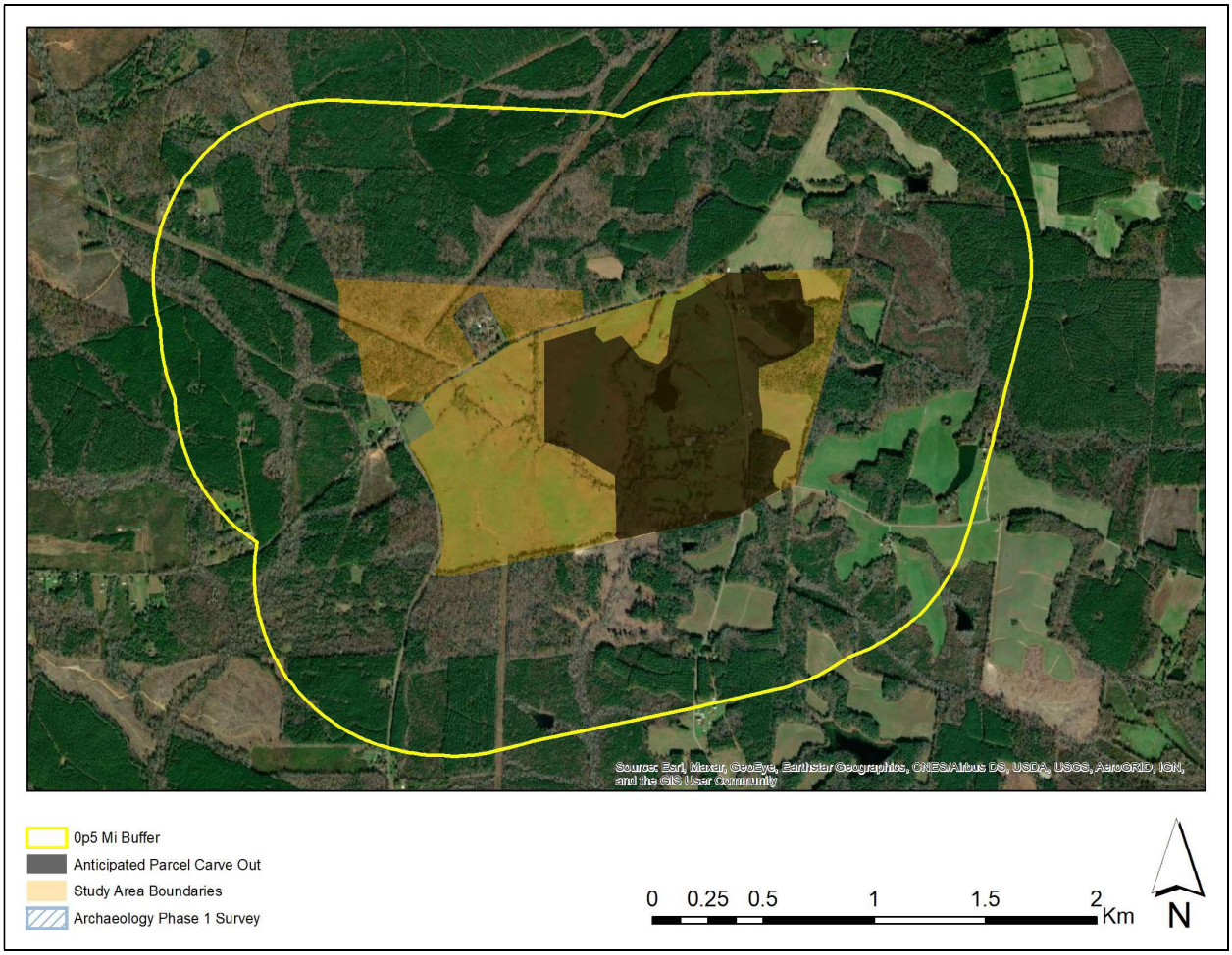


Figure 1. Previous surveys (gray) conducted in relation to the 0.5-mile buffer (yellow) around the project area (orange). Source: VCRIS 2022

3.0 PREVIOUSLY IDENTIFIED ARCHAEOLOGICAL SITES WITHIN 0.5 MILE OF THE PROJECT AREA

There are no previously recorded archaeological sites located within 0.5 mile of the project area (Figure 2). No archaeological sites are located within the project area.

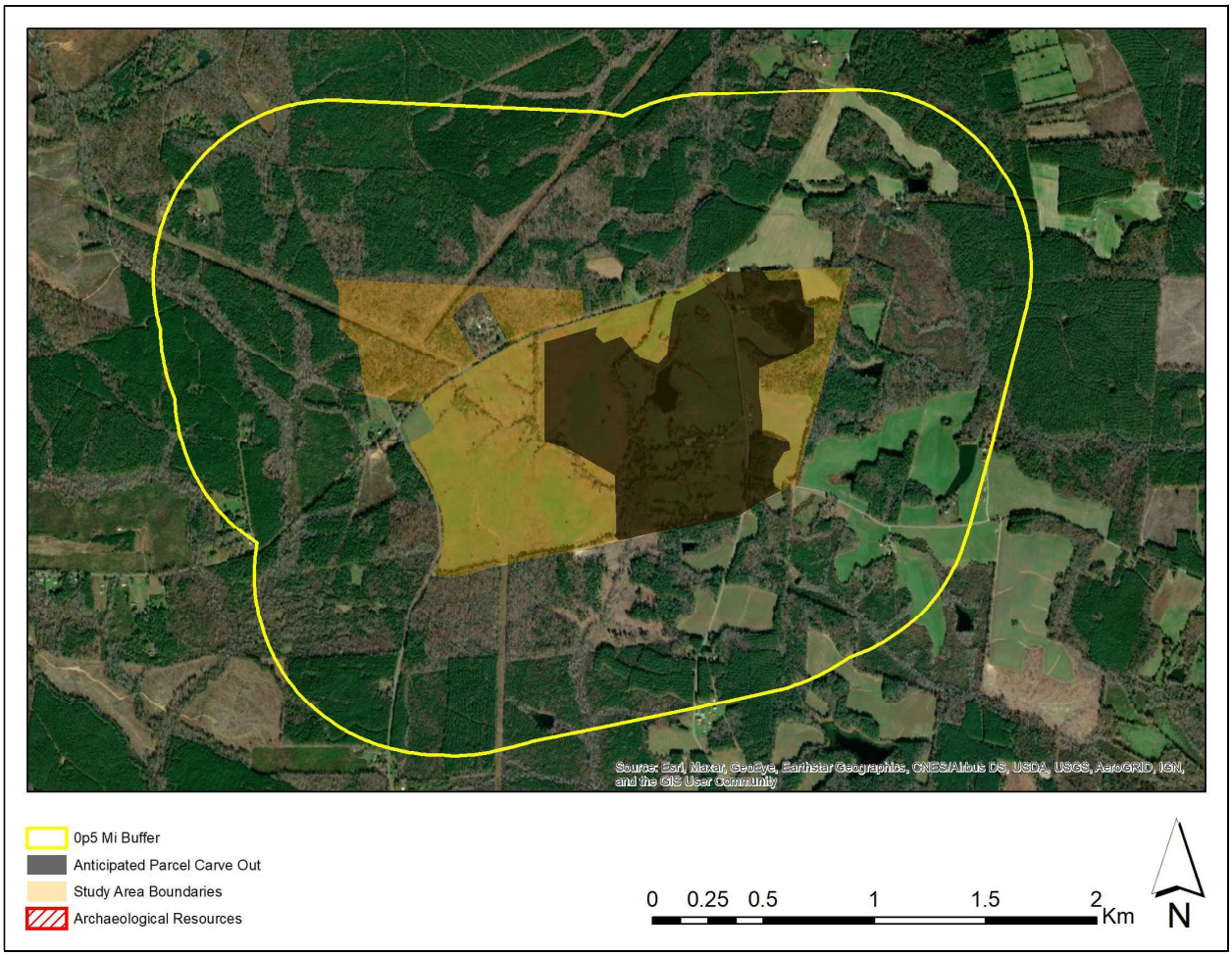


Figure 2. Archaeological resources (red) in relation to the 0.5-mile buffer (yellow) around the project area (orange). Source: VCRIS 2022.

4.0 PREVIOUSLY IDENTIFIED ARCHITECTURAL RESOURCES WITHIN 0.5 MILE OF THE PROJECT AREA

Review of VDHR VCRIS records identified six previously recorded architectural resources within 0.5 mile of the project area (Figure 3, Table 1). Among the resources are four dwellings, a wagon shed, and a church/chapel. The resources range in date from the early nineteenth century to the mid-twentieth century. VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be eligible for inclusion in the NRHP.

Two resources are located partially within the project area. These resources include: VDHR #055-5132 (Good Hope Christadelphian Chapel) and VDHR #055-5138 (Samuel A. Wallace, Jr. House). As mentioned above, VDHR #055-5132 (Good Hope Christadelphian Chapel) has been determined to be

eligible for inclusion in the NRHP and VDHR #055-5138 has been determined to not be eligible for inclusion in the NRHP.

As demonstrated in Figure 4, the project area excludes the majority of VDHR #055-5132 and VDHR #055-5138 (Figure 4). Likewise, VDHR #055-0117 is located within a parcel which is excluded from the project area, as shown in Figure 5.

Table 1. Previously identified architectural resources located within 0.5 mile of the project area.[1]

VDHR ID#	Property Name	NRHP Eligibility Status	Type	Year
055-0117	Oral Oaks (Historic/Current)	<Null>	Single Dwelling	1840
055-5132	**Good Hope Christadelphian Chapel (Historic)**	**DHR Staff: Eligible**	**Church/Chapel**	**1825Ca**
055-5133	House on Route 655 (Function/Location), Wathall House (Historic)	DHR Staff: Not Eligible	Single Dwelling	1860Ca
055-5138	**Samuel A. Wallace, Jr., House (Current)**	**DHR Staff: Not Eligible**	**Single Dwelling**	**1953**
055-5139	Charles E. Wallace House (Current)	DHR Staff: Not Eligible	Single Dwelling	1955a
055-5140	Wagon shed (Descriptive)	DHR Staff: Not Eligible	Wagon Shed	1925Ca

1 Resources highlighted in orange are eligible for listing in the NRHP or have a NRHP and VLR listing. Bolded resources are partially within the project area boundary.

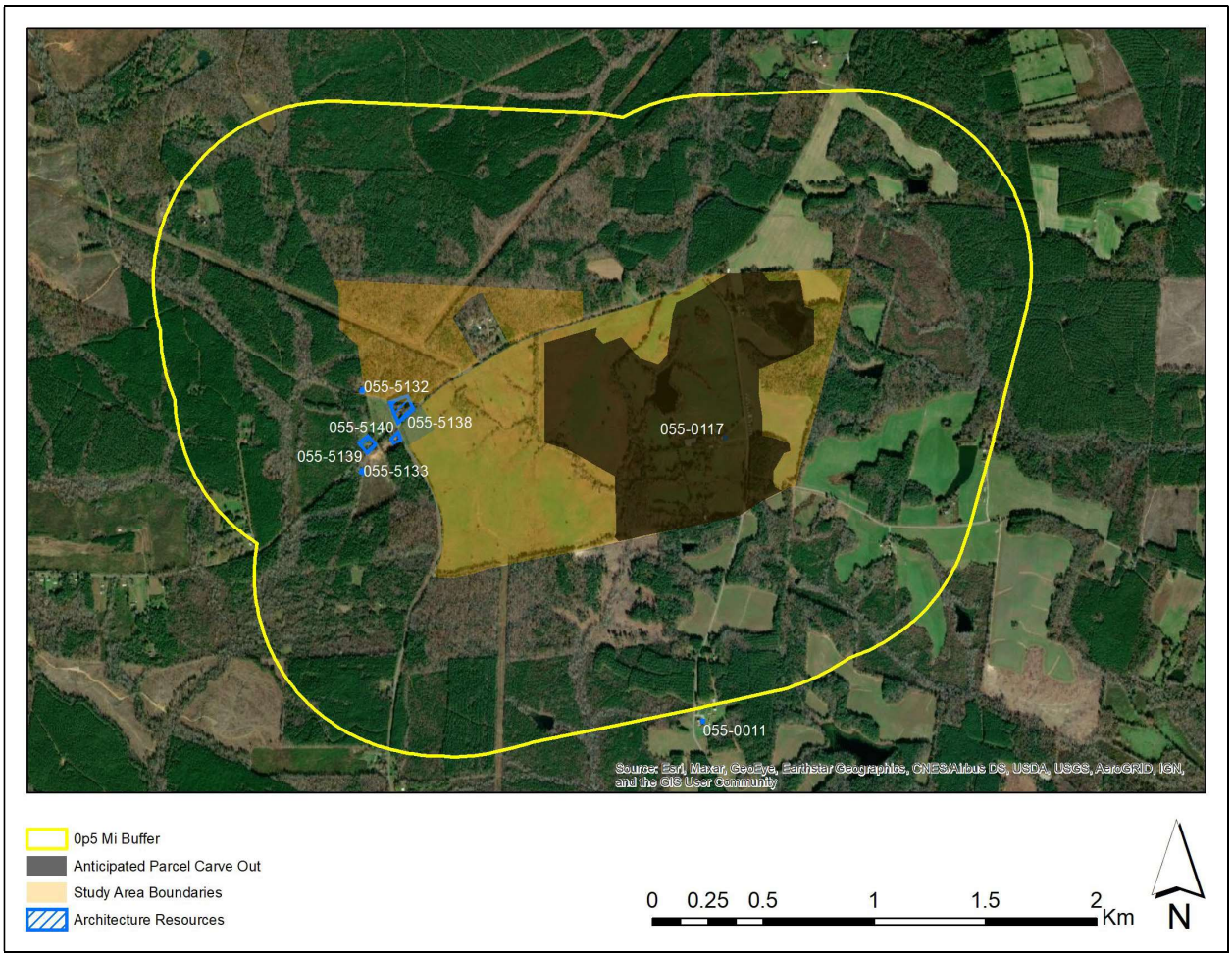


Figure 3. Map detailing all architectural resources (blue hatched) within 0.5 mile (yellow) of the project area (orange). Source: VCRIS 2022

Figure 4. Detail of architectural resources (blue hatched) which are partially within the project area (orange). Source: VCRIS 2022

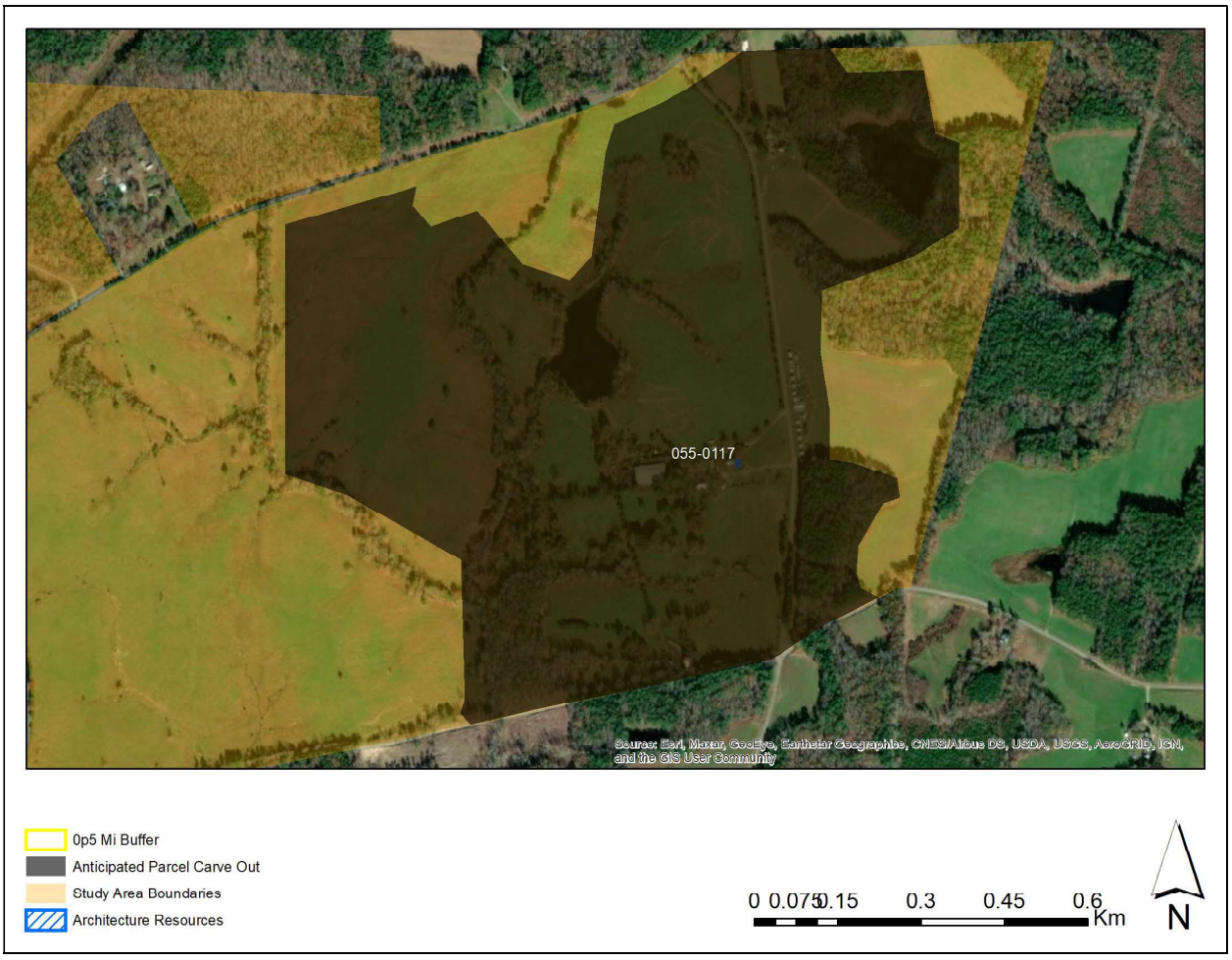


Figure 5. Detail of the proposed carved out area in which VDHR #055-0117 is located. The anticipated parcel carveout area is not included within the project area. Source: VCRIS 2022

5.0 RECOMMENDED NEXT STEPS

Preparation of a Phase IA cultural resources assessment (Phase IA), including a research design to guide a subsequent Phase I identification survey, is recommended for the Laurel Branch Solar Project Switchyard and Substation area. The Phase IA should include further consideration of site soils, historic maps, and existing field conditions and result in the development of a stratified testing strategy for identifying archaeological resources within the project area. The completed Phase IA should be submitted to the VDHR for review and comment prior to initiation of Phase I identification survey of the site in accordance with the recommended testing strategy.

TAB G

Preliminary Site Plan

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT CONDITIONAL USE PERMIT SITE PLAN PRELIMINARY - NOT FOR CONSTRUCTION

LUNENBURG COUNTY, VIRGINIA

AUGUST 2022

SHEET No.	DRAWING TITLE
CP000	COVER SHEET
CP100	EXISTING CONDITIONS INDEX SHEET
CP200	POST-DEVELOPMENT CONDITIONS INDEX SHEET
CP300	ADJACENT PARCEL INFORMATION SHEET
CP301	LANDSCAPE BUFFER SHEET
CP302	DESKTOP EVALUATION UTILITY MAP
CP303	DRAFT GRADING PLAN SHEET
CP401	METES AND BOUNDS INDEX SHEET
CP402	METES AND BOUNDS

PREPARED BY:

TETRA TECH

complex world | CLEAR SOLUTIONS™

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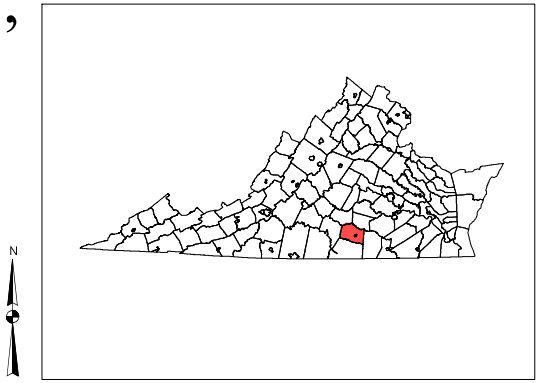
TEL: (804) 290-4321 | FAX: (804) 270-2739

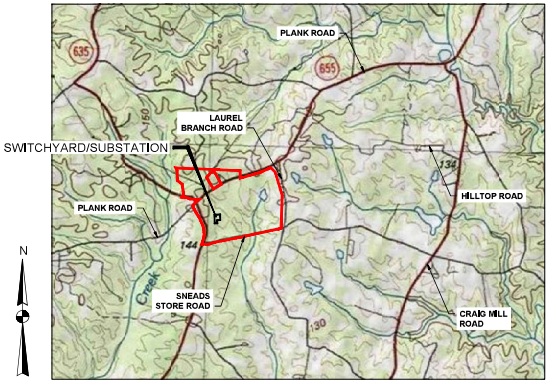
PREPARED FOR:

Dominion Energy®

600 E CANAL STREET, RICHMOND, VA 23219



STATE VICINITY MAP
LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
LUNENBURG COUNTY , VIRGINIA



COUNTY VICINITY MAP
DISTRICT: COLUMBIAN GROVE
CASE NUMBER: CUP 2-22

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GLEN ALLEN, VA 23060
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FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
COVER SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

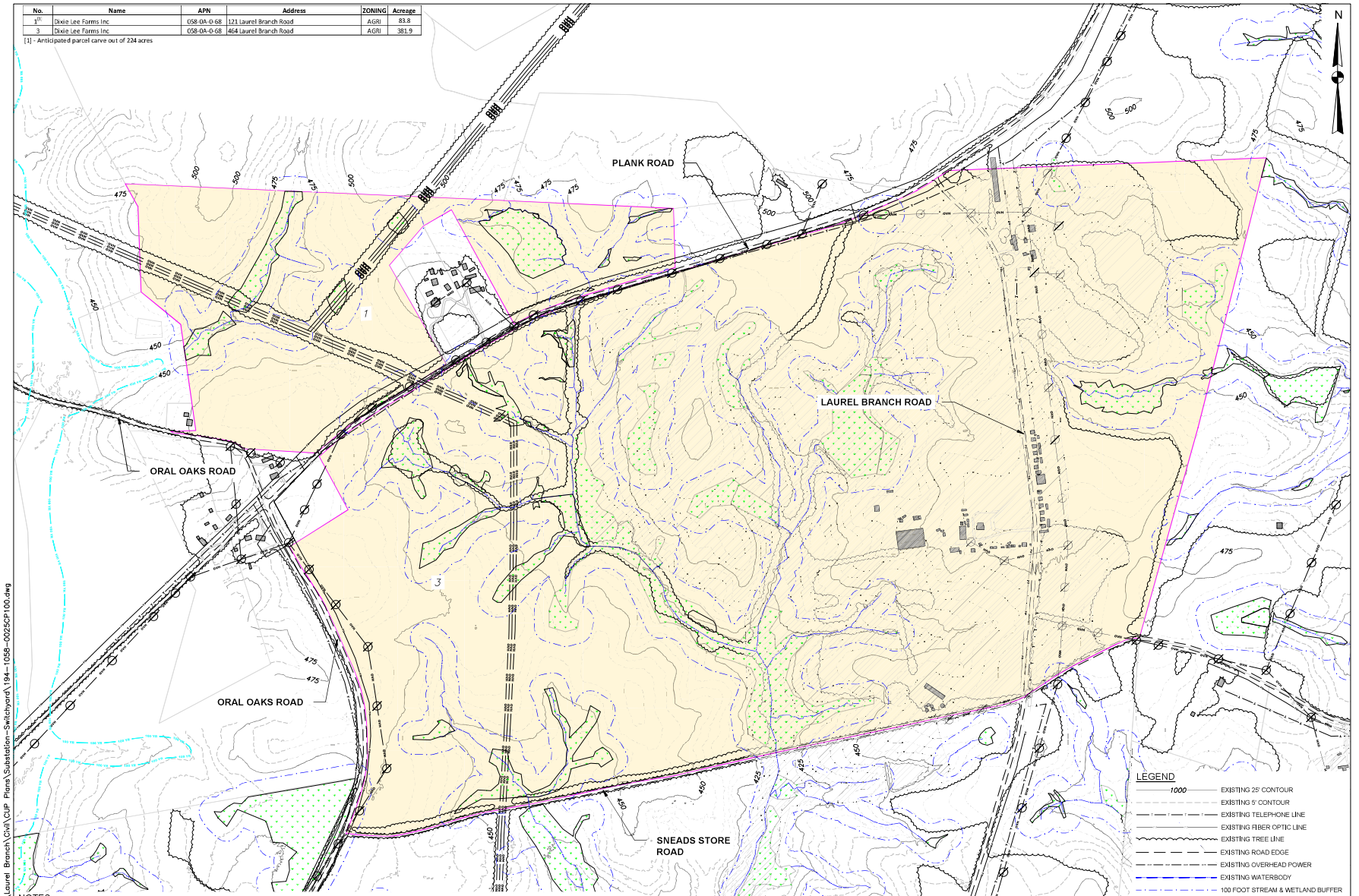
SCALE:
N/A

SHEET NO.:
CP000

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP000.dwg

No.	Name	APN	Address	ZONING	Acreage
1[1]	Dixie Lee Farms Inc	058-0A-0-68	121 Laurel Branch Road	AGRI	83.8
3	Dixie Lee Farms Inc	058-0A-0-68	464 Laurel Branch Road	AGRI	381.9

[1] - Anticipated parcel carve out of 224 acres



NOTES:

1. LIDAR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING. SUBJECT AND ADJOINING PROPERTY LINES ARE SOURCED FROM HTTPS://VGIN.ARCGIS.COM/APPS/MEWER/INDEX/HTML.
2. IMAGERY OBTAINED FROM HTTPS://VGIN.MAPS.ARCGIS.COM/APPS/MEWER/INDEX.HTML
3. AQUATIC RESOURCES (I.E., STREAMS AND WETLANDS) AS SHOWN WERE ESTIMATED/OBTAINED VIA DESKTOP REVIEW. FIELD DELINEATIONS OF AQUATIC RESOURCES WILL BE COMPLETED AT A LATER DATE PRIOR TO FINAL DESIGN.
4. UTILITY LOCATIONS AS SHOWN WERE OBTAINED VIA DESKTOP REVIEW AND, THEREFORE, ARE APPROXIMATE. FIELD SURVEY IS REQUIRED IN ORDER TO OBTAIN EXACT LOCATIONS.
5. VA MISS TICKET NUMBER REQUESTS FOR EXISTING UTILITIES: A115300567-00A, A115203624-00A, B115202802-00B
6. FLOODPLAIN DATA OBTAINED FROM HTTPS://HAZARDS-FEMA.MAPS.ARCGIS.COM/APPS/WEBAPPVIEWER/INDEX.HTML?ID=88D0ADB51996444D4879338B529AA9CD. THE FLOODPLAINS SHOWN ARE FEMA ZONE A BASED ON PANEL NUMBER 5111C0175B, EFFECTIVE DATE 07/20/2009.
7. FOR ADJACENT PARCEL INFORMATION, SEE SHEET CP300.
8. ALL EXISTING RESIDENTIAL STRUCTURES WILL RETAIN A 400' BUFFER, NON-RESIDENTIAL STRUCTURES WILL RETAIN A 30' BUFFER. ALL STRUCTURES ARE SUBJECT TO THESE BUFFERS UNLESS OTHERWISE AGREED UPON WITH RESPECTIVE LANDOWNERS. STRUCTURE(S) TO BE DEMOLISHED ARE STILL BEING DETERMINED AND LANDOWNER APPROVAL WILL BE OBTAINED PRIOR TO DEMOLITION.
9. ANTICIPATED PARCEL CARVE OUT AREAS ARE NOT ASSOCIATED WITH THE OVERALL PROJECT BOUNDARY AND MAY BE SUBJECT TO CHANGE UPON AGREEMENT WITH LANDOWNER.

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SHEET TITLE:
EXISTING CONDITIONS INDEX SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

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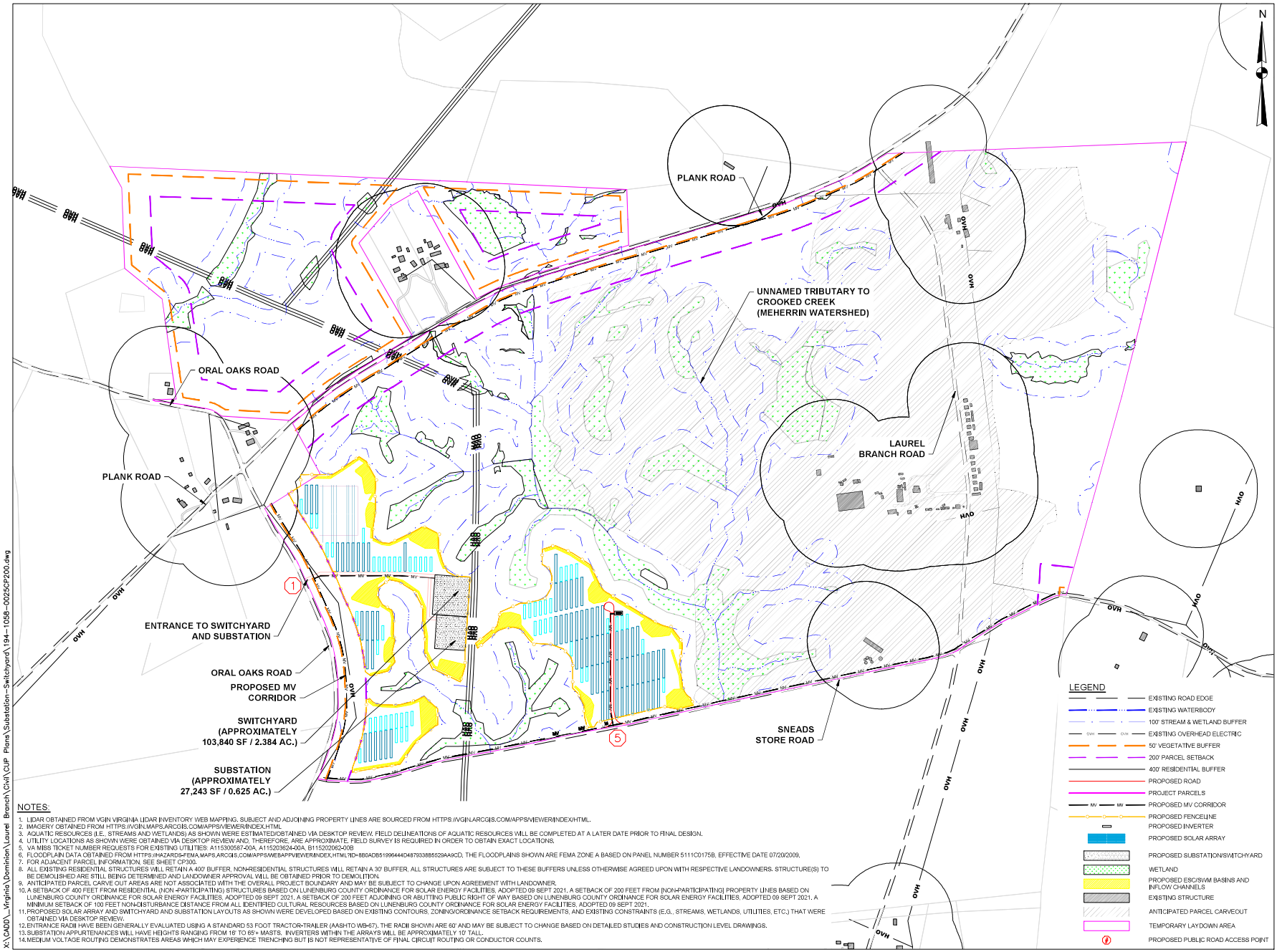
DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP100



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3. AQUATIC RESOURCES (I.E., STREAMS AND WETLANDS) AS SHOWN WERE ESTIMATED/OBTAINED VIA DESKTOP REVIEW. FIELD DELINEATIONS OF AQUATIC RESOURCES WILL BE COMPLETED AT A LATER DATE PRIOR TO FINAL DESIGN.
4. UTILITY LOCATIONS AS SHOWN WERE OBTAINED VIA DESKTOP REVIEW AND, THEREFORE, ARE APPROXIMATE. FIELD SURVEY IS REQUIRED IN ORDER TO OBTAIN EXACT LOCATIONS.
5. VA MISS TICKET NUMBER REQUESTS FOR EXISTING UTILITIES: A115300587-00A, A115203624-00A, B115202062-00B
6. FLOODPLAIN DATA OBTAINED FROM HTTPS://HAZARDS-FEMA.MAPS.ARCGIS.COM/APPS/WEBAPPVIEWER/INDEX.HTML?ID=88DADB51996444D487933B85529AA9CD. THE FLOODPLAINS SHOWN ARE FEMA ZONE A BASED ON PANEL NUMBER 5111C0175B, EFFECTIVE DATE 07/20/2009.
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9. ANTICIPATED PARCEL CARVE OUT AREAS ARE NOT ASSOCIATED WITH THE OVERALL PROJECT BOUNDARY AND MAY BE SUBJECT TO CHANGE UPON AGREEMENT WITH LANDOWNER.
10. A SETBACK OF 400 FEET FROM RESIDENTIAL (NON -PARTICIPATING) STRUCTURES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021. A SETBACK OF 200 FEET FROM [NON-PARTICIPATING] PROPERTY LINES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021. A SETBACK OF 200 FEET ADJOINING OR ABUTTING PUBLIC RIGHT OF WAY BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021. A MINIMUM SETBACK OF 100 FEET NON-DISTURBANCE DISTANCE FROM ALL IDENTIFIED CULTURAL RESOURCES BASED ON LUNENBURG COUNTY ORDINANCE FOR SOLAR ENERGY FACILITIES, ADOPTED 09 SEPT 2021.
11. PROPOSED SOLAR ARRAY AND SWITCHYARD AND SUBSTATION LAYOUTS AS SHOWN WERE DEVELOPED BASED ON EXISTING CONTOURS, ZONING/ORDINANCE SETBACK REQUIREMENTS, AND EXISTING CONSTRAINTS (E.G., STREAMS, WETLANDS, UTILITIES, ETC.) THAT WERE OBTAINED VIA DESKTOP REVIEW.
12. ENTRANCE RADII HAVE BEEN GENERALLY EVALUATED USING A STANDARD 53 FOOT TRACTOR-TRAILER (AASHTO WB-67). THE RADII SHOWN ARE 60' AND MAY BE SUBJECT TO CHANGE BASED ON DETAILED STUDIES AND CONSTRUCTION LEVEL DRAWINGS.
13. SUBSTATION APPURTENANCES WILL HAVE HEIGHTS RANGING FROM 16' TO 65'+ MASTS. INVERTERS WITHIN THE ARRAYS WILL BE APPROXIMATELY 10' TALL.
14. MEDIUM VOLTAGE ROUTING DEMONSTRATES AREAS WHICH MAY EXPERIENCE TRENCHING BUT IS NOT REPRESENTATIVE OF FINAL CIRCUIT ROUTING OR CONDUCTOR COUNTS.

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DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP200

No.	Name	APN	Address	Zoning
2	DIXIE LEE FARMS INC	058-0A-0-69	NULL (OWNER ADDRESS: 464 LAUREL BRANCH ROAD)	AGRI
4	CAMPBELL, JAMES M. AND WANDA S.	058-0A-0-5A	NULL (OWNER ADDRESS: 10663 PLANK ROAD)	AGRI
5[2]	DIXIE LEE FARMS INC	058-0A-0-54	NULL (OWNER ADDRESS: 464 LAUREL BRANCH ROAD)	AGRI
7	DIXIE LEE FARMS INC	046-0A-0-20	NULL (OWNER ADDRESS: 464 LAUREL BRANCH ROAD)	AGRI
10	LONG, JOHNNY L.	058-0A-0-67	NULL (OWNER ADDRESS: 3502 LAUREL BRANCH ROAD)	AGRI
100	CLEMONS LUCIOUS HENRY JR &, FAYE C.JOHNSON	046-0A-0-28	NULL (OWNER ADDRESS: 1600 LAKESIDE AVENUE, HENRICO, VA 23228)	AGRI
101	CAMPBELL, JAMES M. AND WANDA S.	046-0A-0-40	NULL (OWNER ADDRESS: 10663 PLANK ROAD)	RES
102	CAMPBELL, JAMES M. AND WANDA S.	046-0A-0-39	10663 PLANK ROAD	RES
103	HALL, VICKY J.	046-0A-0-38	10695 PLANK ROAD	RES
104	HALL, DERRICK S OR LUCY LAFOON	046-0A-0-26	11075 PLANK ROAD	AGRI
105	DIXIE LEE FARMS INC	046-0A-0-25	112: PLANK ROAD	RES
106	BISHOP, BERNICE LEONARD	046-0A-0-24	NULL (OWNER ADDRESS: 716 EAST 6TH AVENUE)	AGRI
151	HOERAUF, DAVID S. OR TERESA M. CUMMINGS	058-0A-0-5	NULL (OWNER ADDRESS: 15200 MT. NEBO ROAD, POOLESVILLE, MD 20837)	AGRI
152	DANIEL, ROBERT C. OR CASS E E.	058-0A-0-6	10326 PLANK ROAD	RES
153	CALLAHAN, BESSIE M.	058-0A-0-70	10359 PLANK ROAD	RES
154	SMITH, DORETHA J.	058-0A-0-71A	10291 PLANK ROAD	RES
155	MACWELCH SHELA	058-0A-0-71	10241 PLANK ROAD	RES
156	GOOD HOPE CHURCH	046-0A-0-37	8510 ORAL OAKS ROAD	NG
157	ILLINOIS MUNICIPAL RETIREMENT FUND	046-0A-0-36	NULL (OWNER ADDRESS: PO BOX 1288, MOBILE, AL 36633	RES
158	ILLINOIS MUNICIPAL RETIREMENT FUND	046-0A-0-33	NULL (OWNER ADDRESS: PO BOX 1288, MOBILE, AL 36633	AGRI
159	BAUER, THEODORE	058-0A-0-65A	1202 SNEADS STORE ROAD	RES

[2] Anticipated parcel carve out of 30.7 acres

LEGEND

- EXISTING ROAD EDGE
- EXISTING OVERHEAD POWER
- ADJACENT PROJECT PARCELS
- PROJECT PARCELS
- ANTICIPATED PARCEL CARVEOUT
- EXISTING STRUCTURE
- ADJACENT PARCELS
- PROJECT INCLUDED PARCELS

N

PLANK ROAD

ORAL OAKS ROAD

LAUREL BRANCH ROAD

SNEADS STORE ROAD

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP300.dwg

Dominion Energy

TETRA TECH

TETRA TECH, INC.
4101 COX ROAD,
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FAX: (804) 270-2739

STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic. No. 047828
08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
ADJACENT PARCEL INFORMATION SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

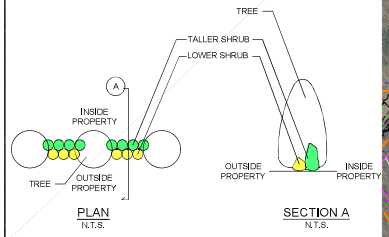
SHEET NO.:
CP300

PLANT LIST

Evergreen Tree	Eastern White Pine	Pinus strobus L.	80 Ft	Pyramidal form
	Eastern Hemlock (Spruce)	Tsuga canadensis (L.) Carr.	60-100 Ft	Broadbase, Pyramid form
	Eastern Redcedar	Juniperus virginiana L.	40-60 Ft	Dense form
	American Holly	Ilex opaca	30-50 Ft	Pyramidal form
	White Spruce	Picea glauca	30-50 Ft	Conical form
Evergreen Shrub	American Holly	Ilex opaca	30-50 Ft	Pyramidal form
	Mountain Laurel	Kalmia latifolia	5-15 Ft	Lower Shrub
	Southern Bayberry, Southern Wax Myrtle	Myrica Cerifera	15-20 Ft	Taller Shrub
	Swamp Bayberry	Myrica heterophylla	7-10 Ft	Lower Shrub
Semi-evergreen/ Deciduos sohrub	Winter Berry	Ilex verticillata	3-16 Ft	Lower Shrub Red berry in winter
	Great Rhododendron	Rhododendron Maximum	15 Ft	Taller Shrub
	Rose Azalea	Rhododendron prinophyllum	3-5 Ft	Lower Shrub

Sources:

Native Plants for Conservation, Restoration and Landscaping (virginia.gov)
Kalmia latifolia - Plant Finder (missouribotanicalgarden.org)
Evergreens | Virginia, USA | Plant NOVA Natives
Hedges and screens | Virginia, USA | Plant NOVA Natives
Native Plants for Southern Piedmont — Plant Virginia Natives
Wikipedia, the free encyclopedia



NOTES:

1. LIDAR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING.
2. IMAGERY OBTAINED FROM HTTPS://VGIN.MAPS.ARCGIS.COM/APPS/VIEWER/INDEX.HTML?APPID=CBE6A0C1B2C440168E228EE33B89CB38.
3. AQUATIC RESOURCES (I.E., STREAMS AND WETLANDS) AS SHOWN WERE ESTIMATED/OBTAINED VIA DESKTOP REVIEW. FIELD DELINEATIONS OF AQUATIC RESOURCES WILL BE COMPLETED AT A LATER DATE PRIOR TO FINAL DESIGN.
4. UTILITY LOCATIONS AS SHOWN WERE OBTAINED VIA DESKTOP REVIEW AND, THEREFORE, ARE APPROXIMATE. FIELD SURVEY IS REQUIRED IN ORDER TO OBTAIN EXACT LOCATIONS.
5. FLOODPLAIN DATA OBTAINED FROM HTTPS://HAZARDS-FEMA.MAPS.ARCGIS.COM/APPS/WEBAPPVIEWER/INDEX.HTML?ID=88DADB51996444D4879338B5529AA9CD
6. PROPOSED LAYOUTS AS SHOWN WERE DEVELOPED BASED ON EXISTING CONTOURS, ASSUMED ZONING/ORDINANCE SETBACK REQUIREMENTS, AND EXISTING CONSTRAINTS (E.G., PROPERTY LINES, UTILITIES, ETC.) THAT WERE OBTAINED VIA DESKTOP REVIEW. ENHANCEMENTS TO THE PROPOSED SOLAR ARRAY LAYOUTS RESULTING FROM PROPOSED GRADING HAVE ALSO BEEN CONSIDERED.
7. NO CULTURAL RESOURCES WITHIN THE PROJECT AREA AS DEPICTED ON THE VCRIS MAP.
8. THE PROPERTY BUFFER SHOWN IS 200'. THE LANDSCAPE BUFFER IS 50'.
9. ALL VEGETATIVE BUFFERS DEPICTED WILL BE MAINTAINED FOR THE LIFE OF THE FACILITY.

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP301.dwg

Dominion Energy

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STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic No. 047828
08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
LANDSCAPE BUFFER SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

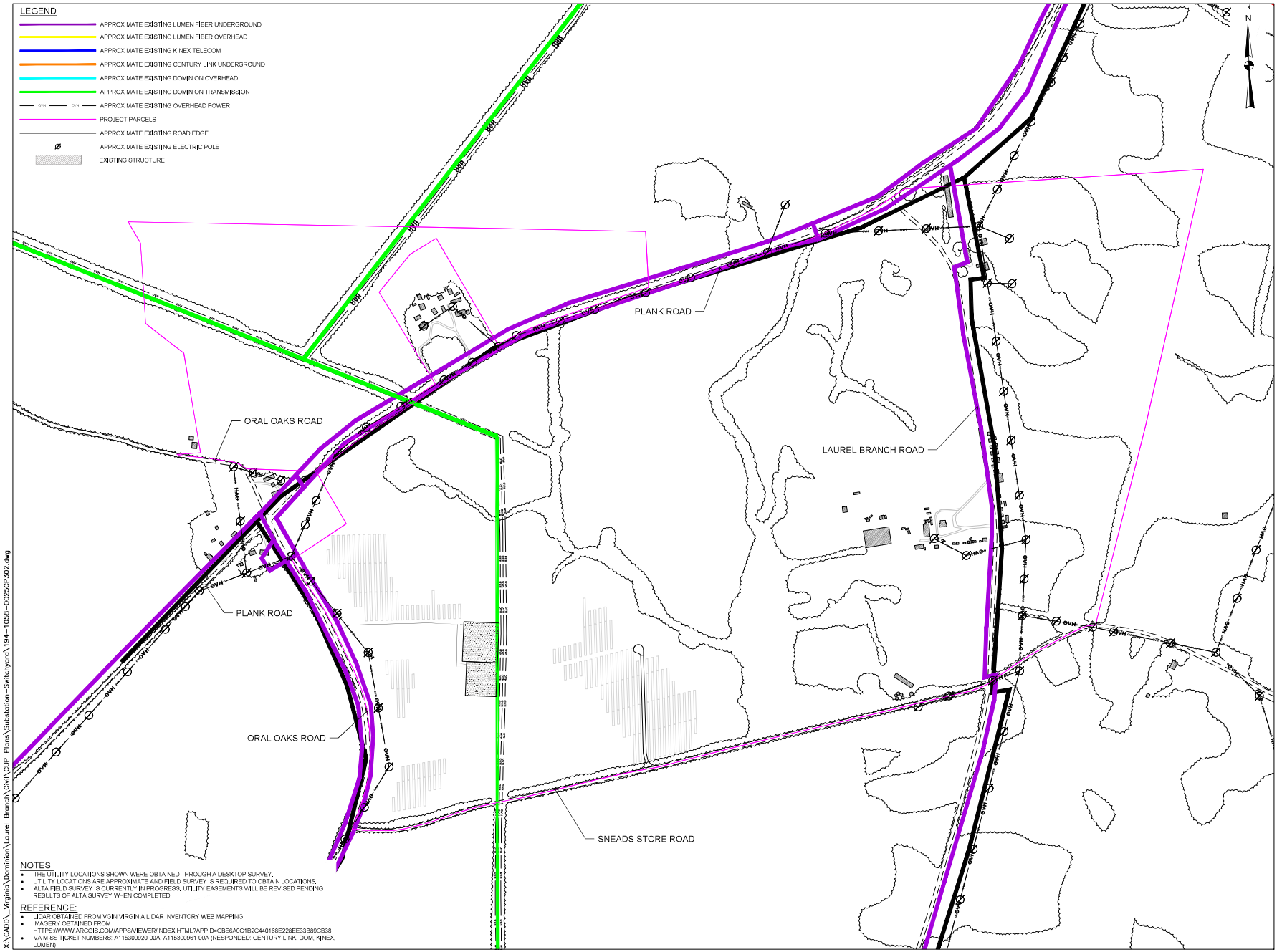
va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP301



NOTES:
- THE UTILITY LOCATIONS SHOWN WERE OBTAINED THROUGH A DESKTOP SURVEY.
- UTILITY LOCATIONS ARE APPROXIMATE AND FIELD SURVEY IS REQUIRED TO OBTAIN LOCATIONS.
- ALTA FIELD SURVEY IS CURRENTLY IN PROGRESS, UTILITY EASEMENTS WILL BE REVISED PENDING RESULTS OF ALTA SURVEY WHEN COMPLETED

REFERENCE:
- LIDAR OBTAINED FROM VGIN VIRGINIA LIDAR INVENTORY WEB MAPPING
- IMAGERY OBTAINED FROM HTTPS://WWW.ARCGIS.COM/APPS/VIEWER/INDEX.HTML?APPID=CBE6A0C1B2C440168E228EE33B89CB38
- VA MISS TICKET NUMBERS: A115300920-00A, A115300961-00A (RESPONDED: CENTURY LINK, DOM, KINEX, LUMEN)

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP302.dwg

Dominion Energy

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LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
DESKTOP EVALUATION UTILITY MAP

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

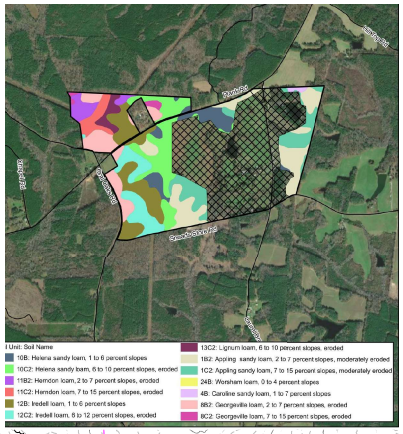
va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP302



NOTES:

1. IN PLACES OF CUT AND FILL, TOPSOIL SHALL BE STOCKPILED AND RE-SPREAD ONCE FINISHED ELEVATIONS ARE ACHIEVED. THE LOCATION OF SOIL STOCKPILES WILL BE DETERMINED DURING CONSTRUCTION LEVEL PLANS.
2. STEEP SLOPE AREAS REPRESENT SLOPES GREATER THAN 12% AND HAVE AN AREA OF 5,000 SQUARE FOOT OR LESS. GRADING WILL BE DETERMINED DURING CONSTRUCTION LEVEL PLANS.

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP303.dwg

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08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
DRAFT GRADING PLAN SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

va811.com Dig With CARE

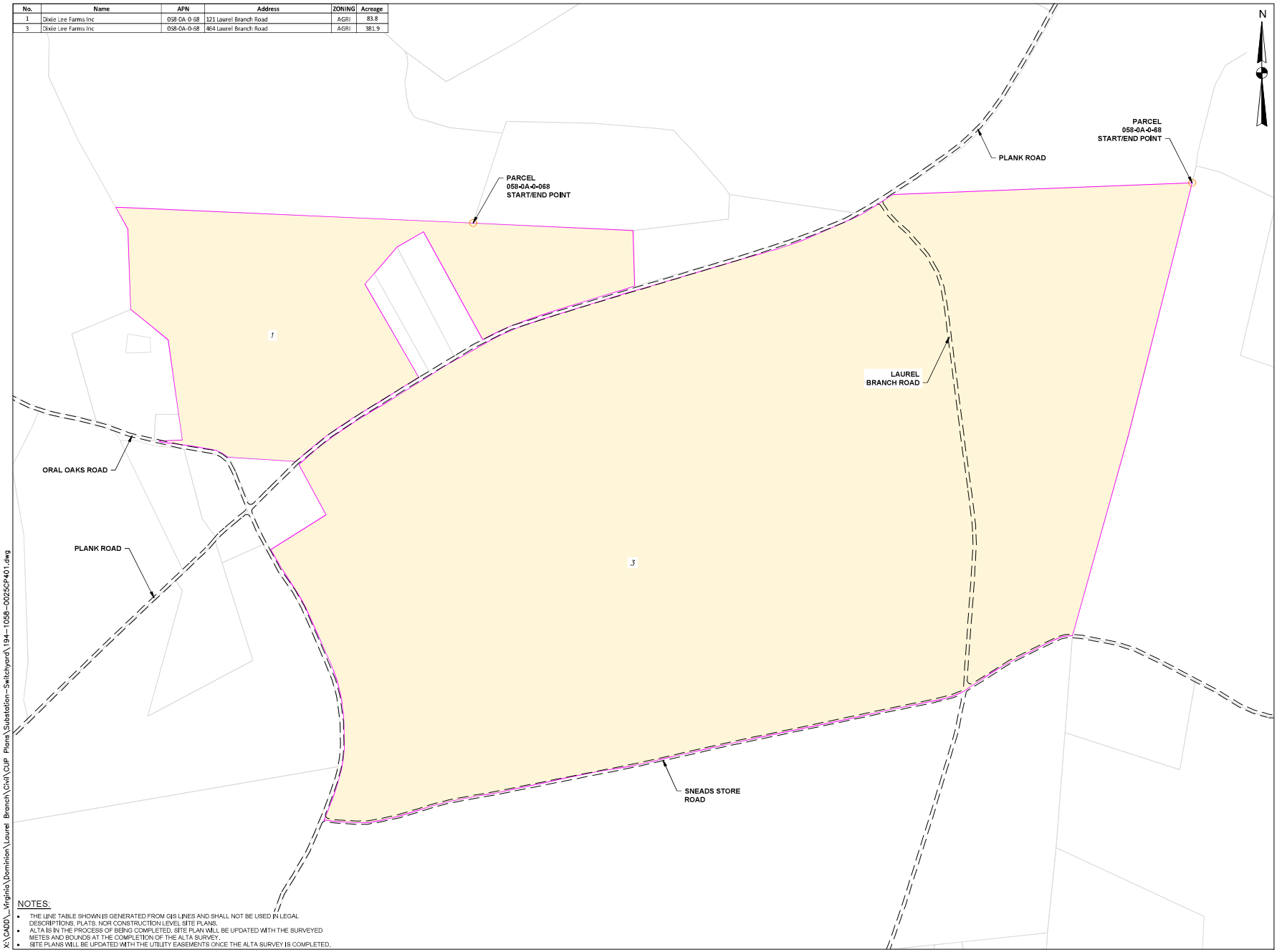
DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP303

No.	Name	APN	Address	ZONING	Acreage
1	Dixie Lee Farms Inc	058-0A-0-68	121 Laurel Branch Road	AGRI	83.8
3	Dixie Lee Farms Inc	058-0A-0-68	464 Laurel Branch Road	AGRI	381.9



NOTES:

- THE LINE TABLE SHOWN IS GENERATED FROM GIS LINES AND SHALL NOT BE USED IN LEGAL DESCRIPTIONS, PLATS, NOR CONSTRUCTION LEVEL SITE PLANS.
- ALTA IS IN THE PROCESS OF BEING COMPLETED. SITE PLAN WILL BE UPDATED WITH THE SURVEYED METES AND BOUNDS AT THE COMPLETION OF THE ALTA SURVEY.
- SITE PLANS WILL BE UPDATED WITH THE UTILITY EASEMENTS ONCE THE ALTA SURVEY IS COMPLETED.

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP401.dwg

Dominion Energy

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STAMP:

COMMONWEALTH OF VIRGINIA
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Lic. No. 047828
08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH
SWITCHYARD AND
SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
METES AND BOUNDS
INDEX SHEET

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
1" = 300'

SHEET NO.:
CP401

(1) APN: 058-0A-0-68		
Line #	Length (FT)	Direction
L1	2551	N87° 28' 12"W
L2	177	S28° 55' 25"E
L3	574	S2° 04' 32"E
L4	191	S50° 54' 28"E
L5	154	S50° 28' 50"E
L6	536	S8° 01' 20"E
L7	185	S7° 58' 37"E
L8	169	S87° 27' 19"W
L9	72	S79° 00' 03"E
L10	105	S82° 33' 21"E
L11	109	S81° 22' 49"E
L12	96	S80° 12' 43"E
L13	53	S75° 02' 05"E
L14	79	S57° 12' 21"E
L15	486	S86° 34' 50"E
L16	112	N48° 39' 11"E
L17	66	N50° 43' 50"E
L18	64	N50° 45' 05"E
L19	70	N53° 02' 45"E
L20	66	N55° 21' 17"E
L21	138	N56° 19' 02"E
L22	158	N58° 32' 42"E
L23	81	N59° 47' 29"E
L24	143	N57° 32' 55"E
L25	166	N58° 00' 14"E
L26	768	N29° 57' 35"W
L27	102	N41° 01' 46"E
L28	248	N40° 46' 57"E
L29	218	N60° 04' 03"E
L30	879	S28° 41' 19"E
L31	35	N61° 43' 14"E
L32	80	N62° 58' 28"E
L33	153	N66° 18' 25"E
L34	166	N70° 48' 12"E
L35	717	N72° 41' 17"E
L36	397	N1° 38' 15"W
L37	1143	N87° 20' 03"W

(3) APN: 058-0A-0-68		
Line #	Length (FT)	Direction
L45	2135	S87° 45' 13"W
L46	318	S59° 03' 47"W
L47	305	S66° 10' 34"W
L48	295	S69° 42' 41"W
L49	452	S73° 45' 12"W
L50	523	S73° 36' 18"W
L51	791	S72° 57' 37"W
L52	165	S70° 40' 39"W
L53	150	S66° 22' 07"W
L54	79	S62° 36' 33"W
L55	252	S60° 26' 52"W
L56	276	S58° 52' 56"W
L57	202	S58° 19' 12"W
L58	143	S57° 32' 55"W
L59	80	S60° 50' 54"W
L60	157	S58° 20' 01"W
L61	138	S56° 11' 22"W
L62	66	S55° 04' 48"W
L63	65	S53° 14' 28"W
L64	66	S51° 58' 41"W
L65	66	S49° 11' 13"W
L66	111	S48° 57' 12"W
L67	408	S28° 28' 37"E
L68	466	S57° 45' 44"W
L69	198	S30° 28' 00"E
L70	284	S31° 23' 15"E
L71	198	S24° 27' 23"E
L72	231	S23° 51' 43"E
L73	113	S21° 00' 39"E
L74	134	S14° 56' 23"E
L75	193	S6° 59' 18"E
L76	182	S1° 03' 50"E
L77	113	S6° 52' 42"W
L78	104	S12° 31' 20"W
L79	106	S17° 13' 16"W
L80	84	S19° 55' 55"W
L81	136	S21° 28' 21"W
L82	76	S84° 54' 55"E
L83	166	S86° 49' 35"E
L84	94	N87° 16' 03"E
L85	139	N78° 50' 17"E
L86	442	N74° 09' 08"E
L87	220	N79° 14' 27"E
L88	271	N79° 11' 17"E
L89	745	N78° 38' 05"E
L90	1024	N77° 40' 18"E
L91	638	N78° 15' 18"E
L92	322	N77° 35' 48"E
L93	302	N78° 39' 41"E
L94	106	N76° 58' 52"E
L95	129	N69° 03' 38"E
L96	126	N55° 37' 05"E
L97	140	N56° 41' 16"E
L98	135	N60° 09' 07"E
L99	300	N63° 22' 20"E
L100	112	N68° 01' 24"E
L101	63	N85° 59' 12"E
L102	1472	N15° 35' 26"E
L157	1872	N14° 10' 34"E

NOTES:

- THE LINE TABLE SHOWN IS GENERATED FROM GIS LINES AND SHALL NOT BE USED IN LEGAL DESCRIPTIONS, PLATS, NOR CONSTRUCTION LEVEL SITE PLANS.
- ALTA IS IN THE PROCESS OF BEING COMPLETED. SITE PLAN WILL BE UPDATED WITH THE SURVEYED METES AND BOUNDS AT THE TIME OF THE COMPLETION OF THE ALTA SURVEY

X:\CADD_Virginia\Dominion\Laurel Branch\Civil\CUP Plans\Substation-Switchyard\194-1058-0025CP402.dwg

Dominion Energy

TETRA TECH

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4101 COX ROAD,
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STAMP:

COMMONWEALTH OF VIRGINIA
MICHAEL K. SHORT
Lic No. 047828
08/19/2022
PROFESSIONAL ENGINEER

LAUREL BRANCH SWITCHYARD AND SUBSTATION PROJECT
DOMINION ENERGY VIRGINIA
LUNENBURG COUNTY
VIRGINIA

PROJECT NUMBERS:
194-1058-0025

SHEET TITLE:
METES AND BOUNDS

SHEET SIZE: ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

va811.com Dig With CARE

DATE:	08/19/2022
DRAWN BY:	GR
ENGINEER:	MS
APPROVED BY:	EO

PROJECT PHASE:
CONDITIONAL USE PERMIT SITE PLAN

SCALE:
NTS

SHEET NO.:
CP402

TAB H

Switchyard and
Substation Design

LAUREL BRANCH
Substation/Switchyard Project

Photo Location Map

- 1 Viewpoint Location
- Switchyard Footprint
- Substation Footprint
- Existing Transmission Line

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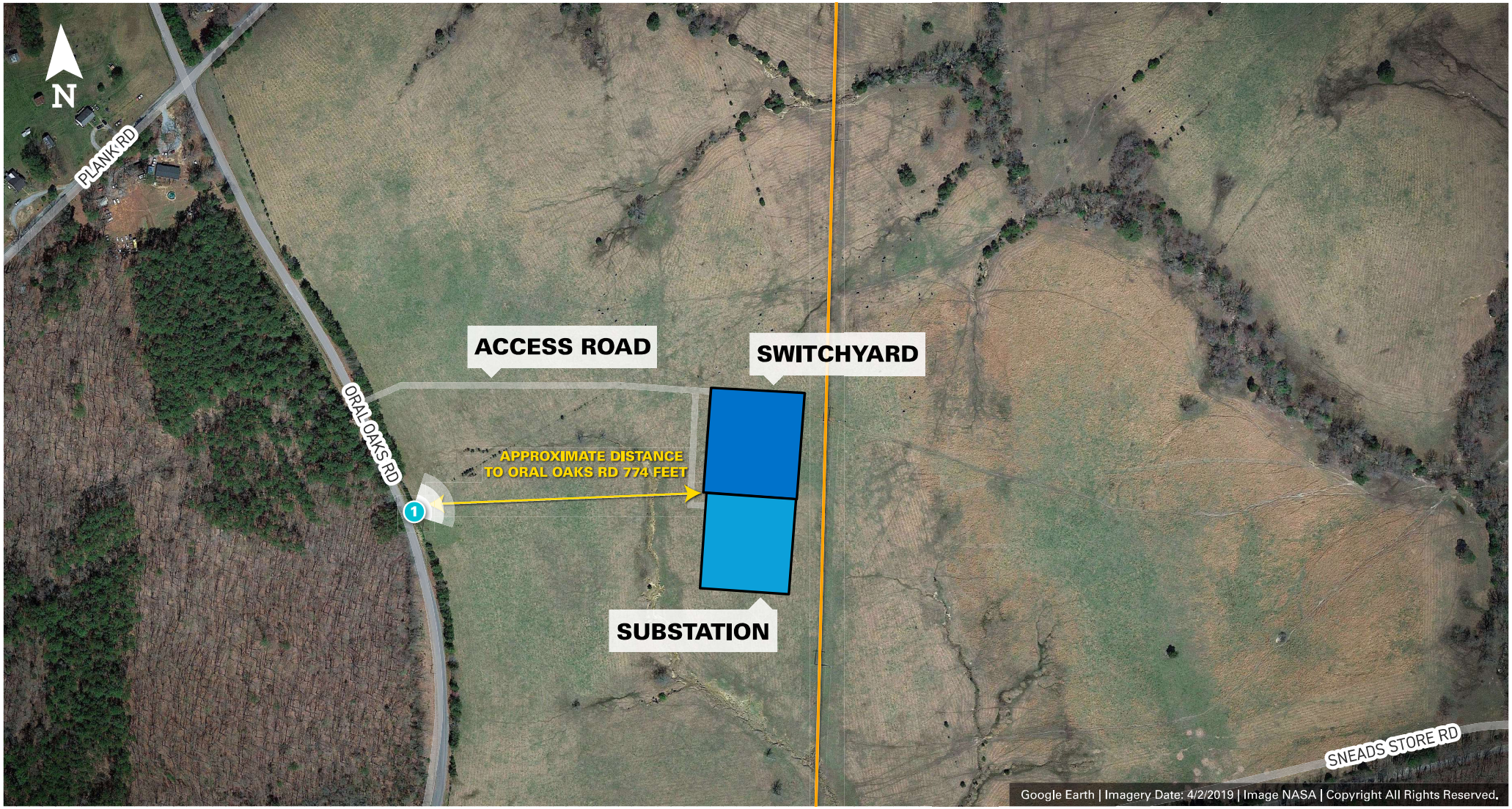


LAUREL BRANCH

Substation/Switchyard Project

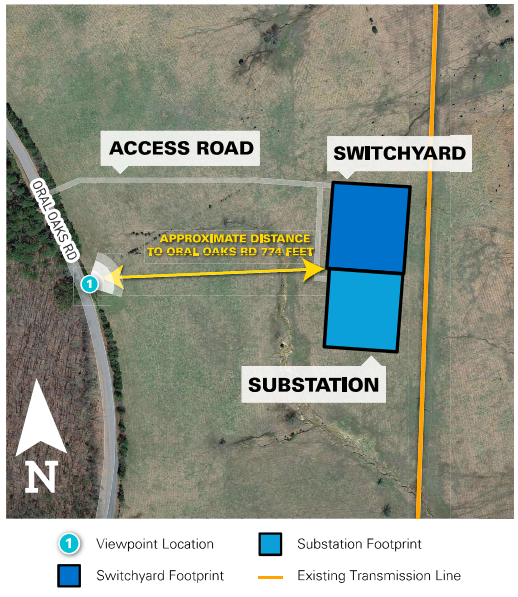
Simulation 1

Date: 01/27/2022

Time: 10:58 am

Viewing Direction:

East from Oral Oaks Rd.



Simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy®

LAUREL BRANCH

Substation/Switchyard Project

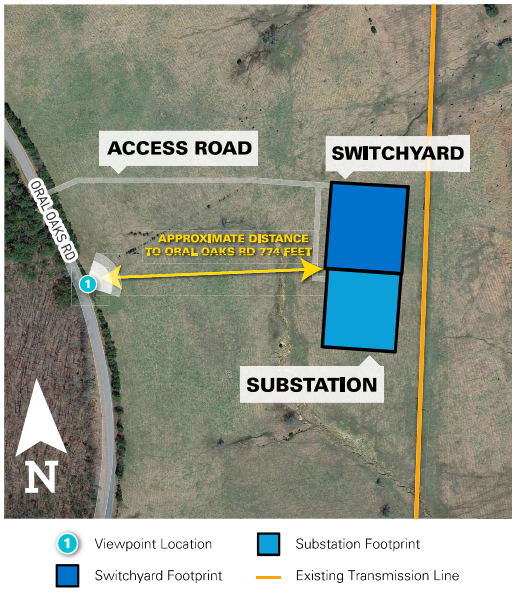
Simulation 1

Date: 01/27/2022

Time: 10:58 am

Viewing Direction:

East from Oral Oaks Rd.



Simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

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LAUREL BRANCH
Substation/Switchyard Project

3D Rendering 1

Simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy®

LAUREL BRANCH
Substation/Switchyard Project

3D Rendering 1

Simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy®

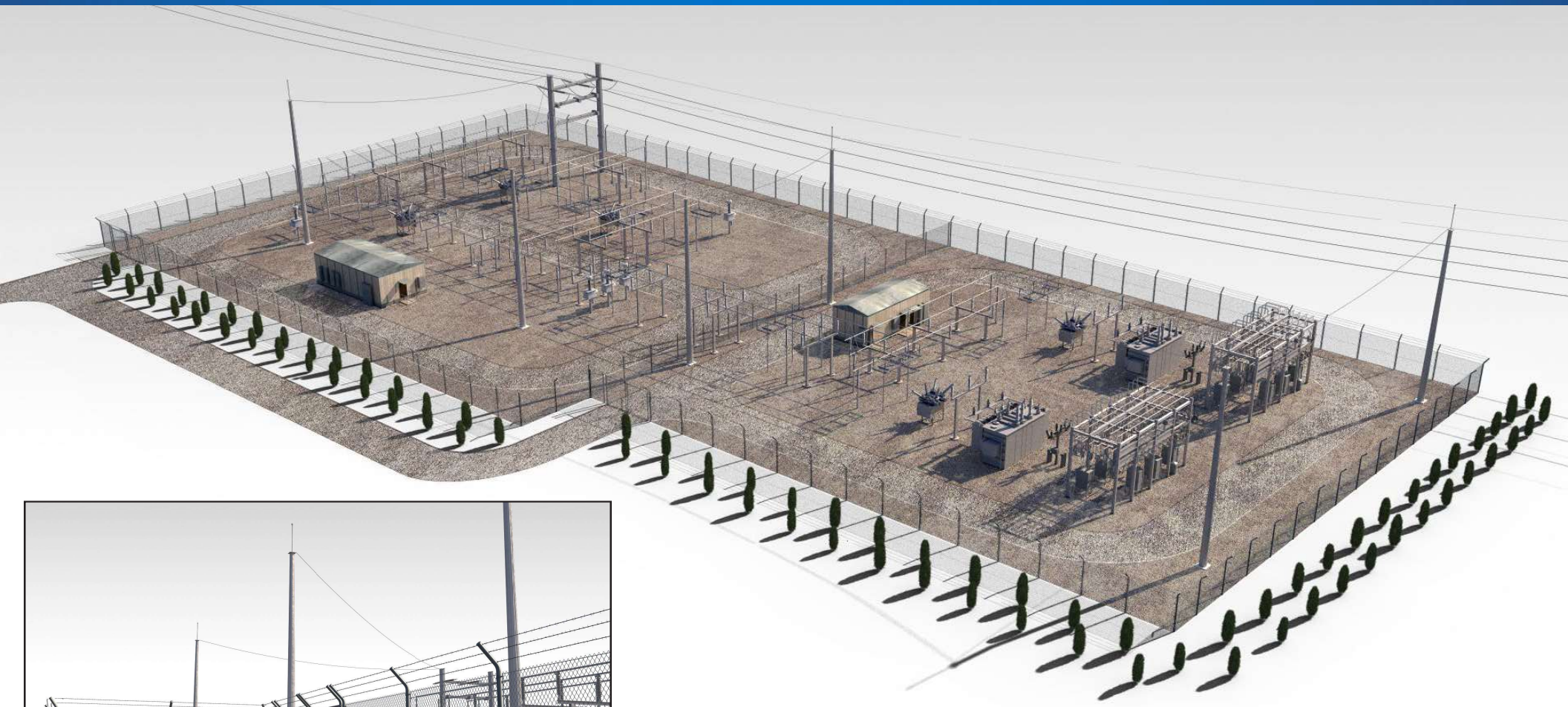
PROPOSED CONDITIONS

Included views of substation/switchyard area are meant to depict the intended materials, colors, and textures of the structures.

LAUREL BRANCH
Substation/Switchyard Project

Substation/Switchyard Detail

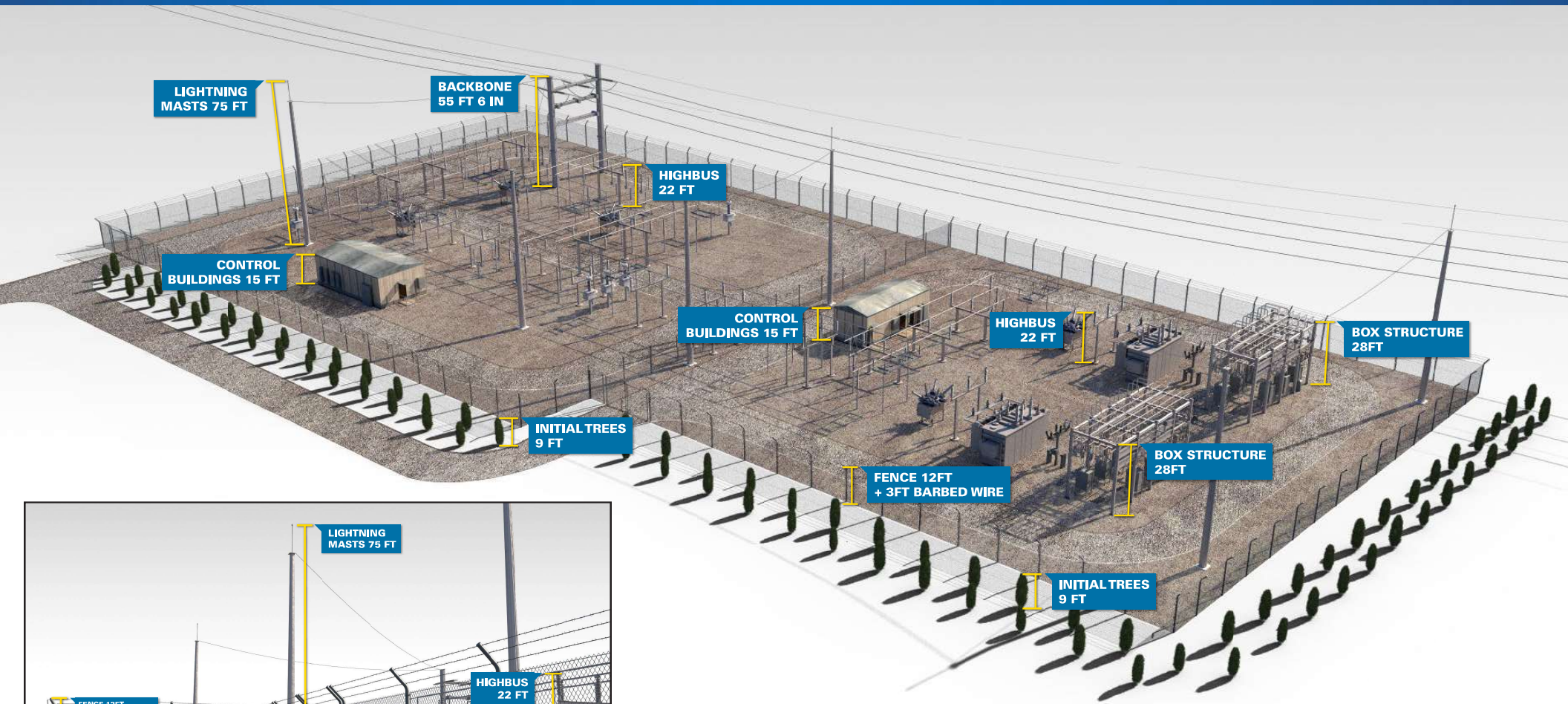
Dominion Energy®



LAUREL BRANCH
Substation/Switchyard Project

Substation/Switchyard Detail

Dominion Energy®



LAUREL BRANCH
Substation/Switchyard Project

Terrain Viewpoint Analysis

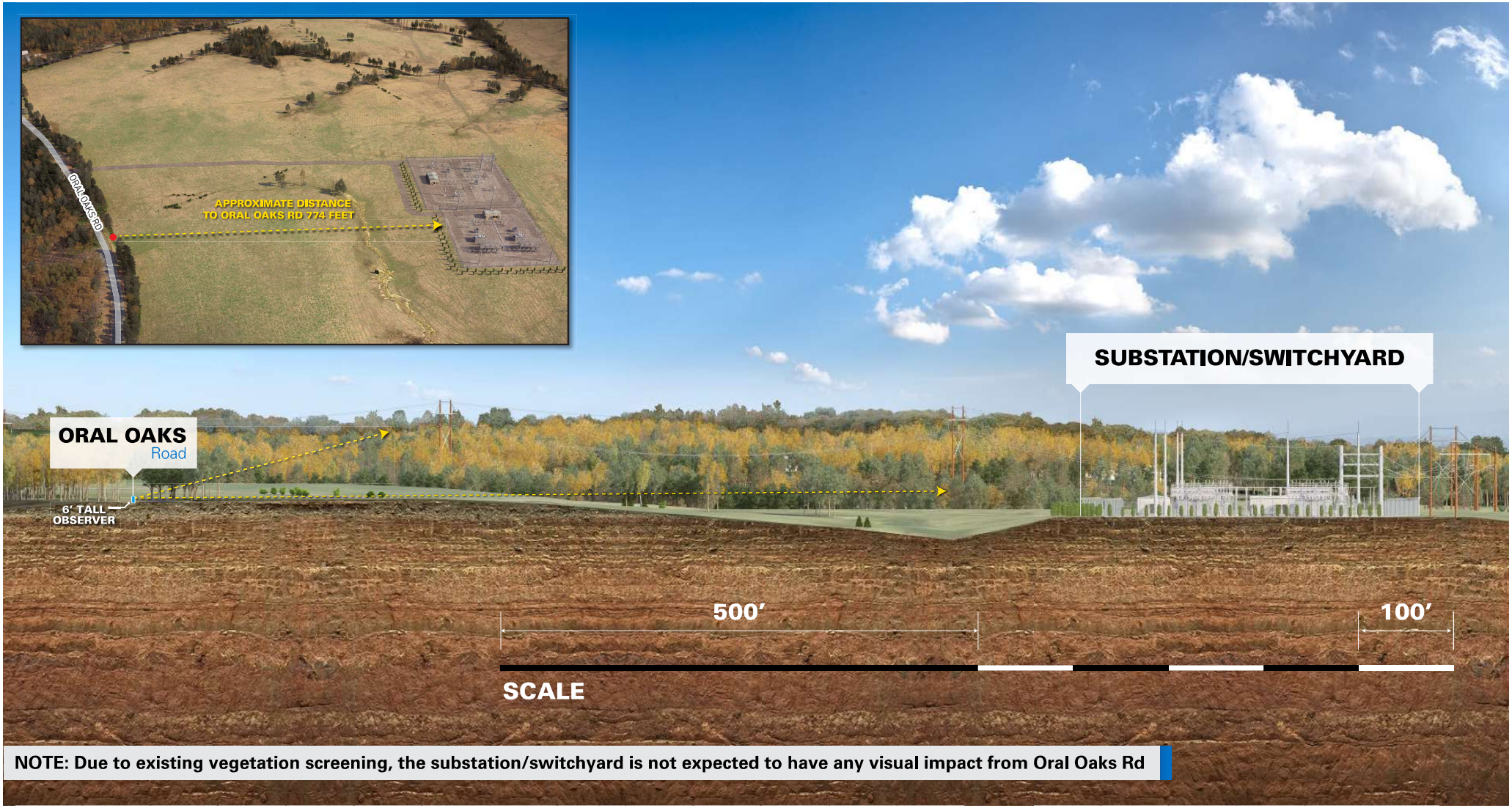
Dominion Energy®

NOTE: Due to existing vegetation screening, the substation/switchyard is not expected to have any visual impact from Oral Oaks Rd

LAUREL BRANCH
Substation/Switchyard Project

Terrain Viewpoint Analysis

Dominion Energy®



NOTE: Due to existing vegetation screening, the substation/switchyard is not expected to have any visual impact from Oral Oaks Rd

TAB I

Traffic Study

Transportation Assessment

Laurel Branch Solar Project: Switchyard and Substation

August 15, 2022

Prepared for

Dominion Energy®

600 E Canal Street
Richmond, VA 23219

Prepared by

TETRA TECH

4101 Cox Road, Suite 120
Glen Allen, VA 23060

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Acronyms and Abbreviations

3D	three-dimensional
ADT	average daily traffic
BABS	Blackstone Area Bus System
CUP	Conditional Use Permit
GIS	geographic information system
GPS	global positioning system
KOP	key observation point
MWac	megawatts (alternating current)
O&M	operations and maintenance
Project Area	The 2,189± acres of privately-owned land where the proposed Project is located
Project	Laurel Branch Solar Project
STAA	Surface Transportation Assistance Act
VDOT	Virginia Department of Transportation
vpd	vehicles per day

1.0 OVERVIEW

Virginia Electric and Power Company (d/b/a Dominion Energy Virginia)("Dominion") is proposing a Substation and Switchyard as part of an 80 MWac utility-scale solar facility known as "Laurel Branch Solar" (the "Project") in Lunenburg County, Virginia (the "County"). The project will be located to the southwest of the Town of Kenbridge on 2,189 acres of land. Access to the site parcels is currently provided via several driveways and agricultural access ways, with the most direct access to the Substation and Switchyard located off of Oral Oaks Road. The proposed project calls for the redevelopment of existing agricultural land to support the construction of an 80 megawatt (MWac) solar photovoltaic power generation facility. Some of the existing single-family homes and several agricultural buildings on-site will be removed. As part of the project, 28 driveways will be constructed on the adjacent roadway system to provide temporary construction access and permanent operations and maintenance (O&M) access to the site.

As part of this assessment, Tetra Tech developed vehicle trip generation estimates associated with the proposed project's anticipated peak construction workforce levels (estimated at up to 150 construction workers). Tetra Tech also reviewed existing traffic volumes and public transportation in the vicinity of the project site. Potential truck haul routes were also identified between the site parcels and the regional highway system to reduce construction-related traffic impacts.

The project is anticipated to generate approximately 486 vehicle trips on a typical weekday day with 149 vehicle trips occurring during the weekday morning and weekday evening commuter peak hours. This equates to approximately two to three new vehicle trips per minute during peak commuting hours. These estimates conservatively assume that all construction workers would arrive within the same hour and depart within the same hour. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic. These trip generation estimates assume 50 daily delivery trips and six delivery trips during each of the peak hours during the peak two to three months of construction activity.

2.0 PROJECT DESCRIPTION

The project calls for the construction of a proposed 80 MWac solar photovoltaic power generation facility to be located on Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and637 (Craig Mill Road) and Hilltop Road in Lunenburg County, Virginia. The project site location in the context of the surrounding area roadways is shown in Figure 1. The project site currently supports agricultural fields and several single-family homes. Access to the site parcels is currently provided via several driveways and agricultural access ways.

The proposed project calls for the redevelopment of existing agricultural land to support the construction of an 80 MWac solar photovoltaic power generation facility. Some of the existing single-

family homes and agricultural buildings on-site will be removed. As part of the project, 28 driveways will be constructed on the adjacent roadway system to provide temporary construction access and permanent O&M access to the site including three driveways on Oral Oaks Road, six driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road.

2.1 Existing Traffic Volumes

The site parcels are accessed by Routes 635 (Oral Oaks Road), 646 (Laurel Branch Road), 647 (Sneads Store Road), 655 (Plank Road) and 637 (Craig Mill Road) and Hilltop Road. These primary roadways serving the site are under Virginia Department of Transportation (VDOT) ownership and allow for two-way travel.

The estimated Average Daily Traffic (ADT) volume estimates for the study area roadways are summarized in Table 1 based on the most recent publicly available data from VDOT. VDOT traffic volume data is provided in Appendix A.

Table 1 Estimated Average Daily Traffic (ADT) Volumes

Roadway	ADT (vehicles per day)
Route 637 (east of Route 655)	1,100
Route 655	540
Route 637 (south of Route 655)	580
Route 635 (south of Route 655)	440
Route 635 (north of Route 655)	310
Sneads Store Road (east of Route 646)	100
Route 646	70
Route 647	20
Hilltop Road	40

Source: VDOT

2.2 Vehicle Trip Generation

The project will consist of three phases: construction, O&M, and decommissioning. The highest volume of site-related trips will occur during the peak construction phase of the project. Therefore, the trip generation for the peak construction phase workforce levels were estimated for this assessment.

Vehicle trip generation estimates for the project were developed based on anticipated construction operations for the project. Construction of the proposed solar facility is expected to include grading, panel installation, inspections, and equipment deliveries. It is anticipated that, at peak operations, the site could experience construction workforce levels of up to 150 construction workers at one time. Construction hours of operation are assumed to generally be 7 AM to 5 PM with construction workers arriving prior to 7 AM and departing after 5 PM. Since the peak hours of the adjacent street traffic are expected to occur sometime during the peak commuting periods of 7 AM to 9 AM and 4 PM to 6 PM, it is expected that the majority of construction workers would be arriving and departing the site outside of the typical weekday morning and weekday evening commuter peak hours of the adjacent street.

However, to present a conservative assessment of potential traffic increases associated with the project, it is assumed that all the construction workers would arrive during the weekday morning peak hour and depart during the weekday evening peak hour. The supporting trip generation calculations and assumptions for the proposed project's peak construction workforce levels are provided in Appendix B.

The Blackstone Area Bus System (BABS) operates public transit service in nearby Lunenburg County. BABS operates the Town and Country bus service on Route 637 which travels from Kenbridge to Victoria. The site is approximately 2 miles southwest of this public transportation service with the closest stop located at the W. 7th Avenue and Broad Street intersection in Kenbridge. For the purposes of this assessment, it was assumed that no construction workers would use public transit to access the site. Public transportation information is provided in Appendix C.

It is anticipated that some construction workers would arrive and depart the site together (carpooling). For purposes of this assessment, it was assumed that 10 percent of the construction workers will carpool to travel to/from the site with two workers per vehicle. Table 1 presents a summary of the trip generation estimates for the project's peak construction workforce activities.

Table 2 Trip Generation Summary – Peak Construction Period

Time Period/ Direction	Project Trips			
	Workforce Trips[1]	Non-Heavy Vehicle Deliveries[2]	Heavy Vehicles[3]	Total
Weekday AM Peak Hour				
Enter	143	1	2	146
Exit	0	1	2	3
Total	**143**	**2**	**4**	**149**
Weekday PM Peak Hour				
Enter	0	1	2	3
Exit	143	1	2	146
Total	**143**	**2**	**4**	**149**
Weekday Daily				
Enter	218	5	20	243
Exit	218	5	20	243
Total	**436**	**10**	**40**	**486**

1 Assumed 150 construction workers per day. Conservatively assumed trips overlap with adjacent street peaks. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.
2 Assumed 5 deliveries per day with 40 percent of trips occurring during peak hours.
3 Assumed 20 deliveries per day spread evenly throughout day.

As shown in Table 1, the peak construction activity for the proposed solar facility is expected to generate 486 new vehicle trips (243 entering and 243 exiting) on a typical weekday, with approximately 149 new vehicle trips (146 entering and 3 exiting) during the weekday morning peak hour and 149 new vehicle trips (3 entering and 146 exiting) during the weekday evening peak hour. These trip generation estimates assume 50 daily delivery trips and six delivery trips during each of the peak hours. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic with the project estimated to generate

approximately two to three additional trips every minute during peak hours. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection.

Post-Construction Conditions. Routine post-construction O&M activities at the site are not anticipated to result in a measurable increase in vehicle traffic. The number of maintenance workers traveling to the site is anticipated to be low and impacts to local traffic are not expected. The proposed solar facility will be unmanned during routine O&M and would only be inspected periodically. Therefore, the site is not expected to add a noticeable increase to existing traffic under typical O&M conditions. Personnel would be on site as necessary for any maintenance and repairs. Additionally, impacts resulting from decommissioning of the project are expected to be similar to or less than those experienced during construction.

2.3 Truck Haul Routes

The construction of the proposed solar facility will require large vehicle deliveries for a variety of materials that may include concrete, solar panels, earth materials, building materials, etc. Tetra Tech identified potential truck haul routes between the site parcels and the regional roadway system for these larger vehicles. For purposes of this assessment, it was assumed that the deliveries would originate from three primary geographical areas: Richmond, VA, Lynchburg, VA, and Raleigh, NC. Factors considered in developing potential truck haul routes are summarized below. Separate inbound and outbound travel routes are provided where appropriate.

- Prioritize designated Surface Transportation Assistance Act (STAA) truck routes from the VDOT database.
- Avoid roadway segments having bridge height and weight limitations based on a review of the VDOT database.
- Minimize impacts to schools, traffic signals, and areas with pedestrian activity.
- Minimize turns at locations with geometric limitations.

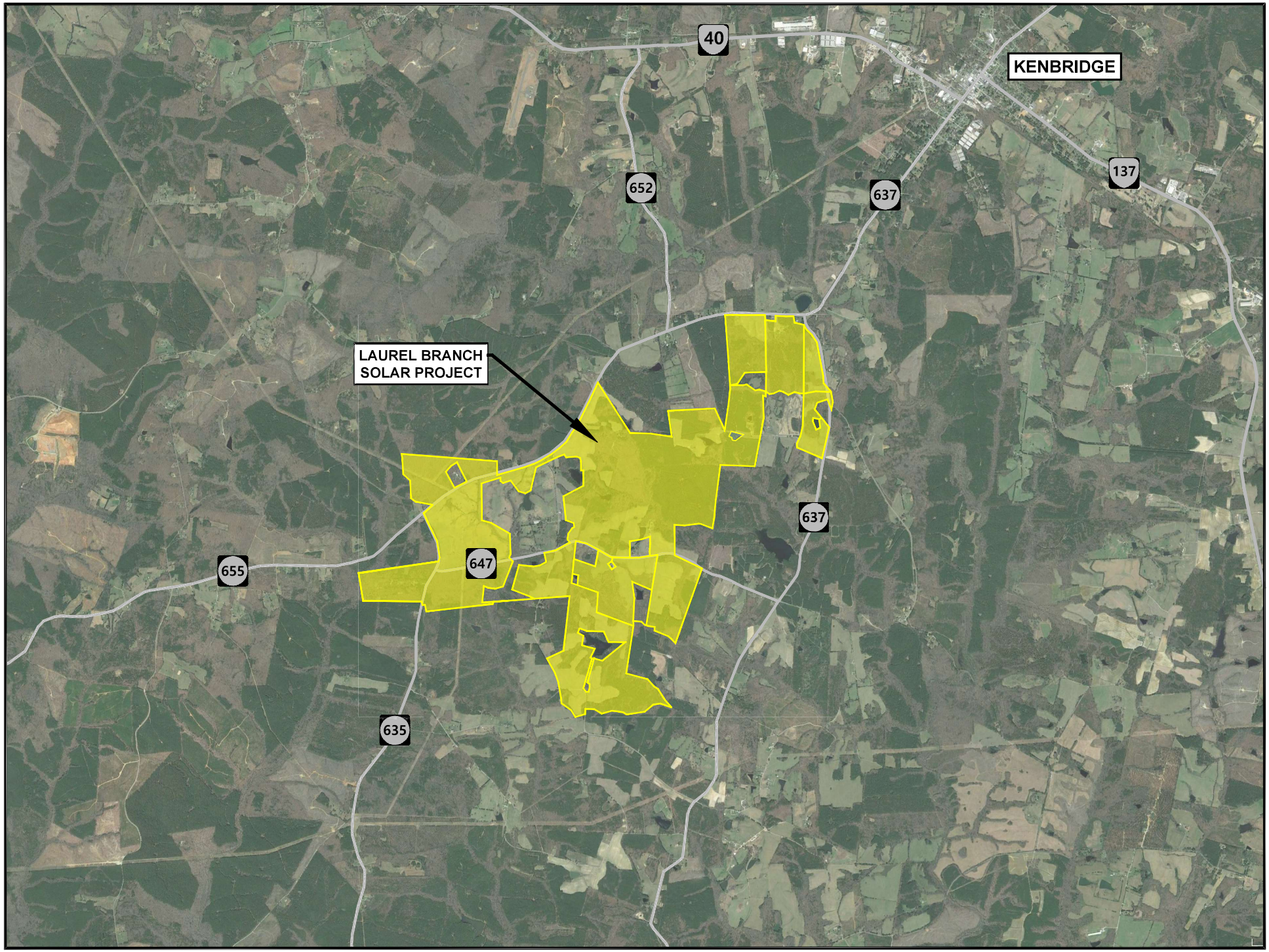
The potential regional truck haul routes are shown in Figure 2. The potential local truck haul routes to/from the proposed site driveways are shown in Figure 3. A preliminary Construction Traffic Management Plan (CTMP) has been prepared for the project and is provided in Appendix D.

3.0 CONCLUSIONS

The peak construction workforce levels for the proposed 80 MWac solar photovoltaic power generation facility is expected to generate approximately 149 trips during the weekday morning peak hour and 149 trips during the weekday evening peak hour during peak construction workforce activity. This equates to approximately two to three new vehicle trips per minute during peak hours. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips. These trip generation estimates are conservative as the majority of peak hour trips are likely to occur outside of the typical weekday commuter peak hours of the adjacent street traffic and do not take credit for possible vehicle trip reductions associated with use of available public transportation. The

project will generate even less traffic post construction with routine inspection and maintenance of the solar panels and supporting equipment. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. As part of the project, 28 driveways will be constructed to provide temporary construction access and permanent O&M access to the site from the public roadway network including three driveways on Oral Oaks Road, six driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic with existing daily traffic volumes of 20 vehicles per day (vpd) to 1,100 vpd. Potential truck haul routes were identified between the site parcels and the regional highway system to reduce construction-related traffic impacts.

FIGURES

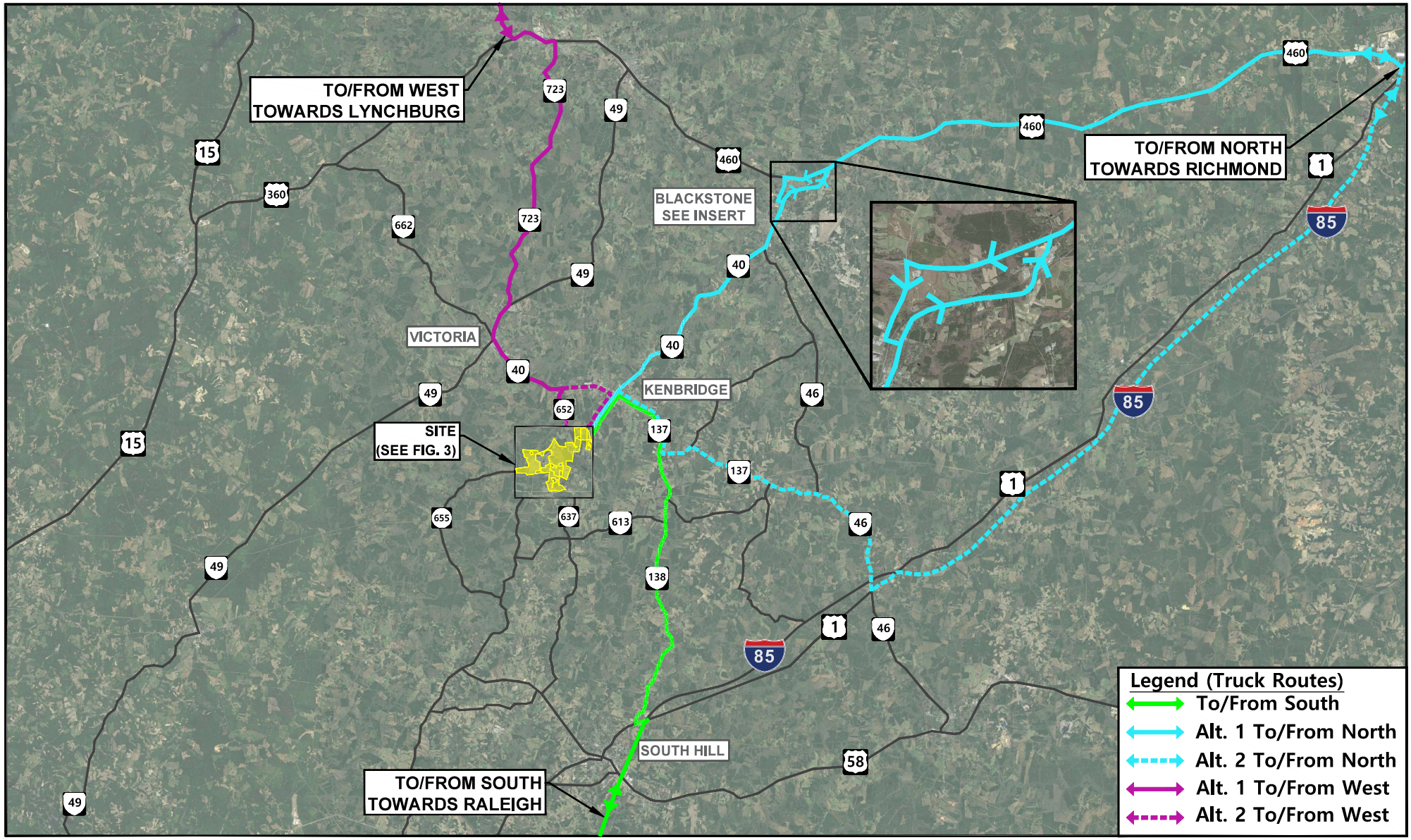


TETRA TECH

Laurel Branch Solar Project
Lunenburg County, Virginia

SITE LOCUS

FIGURE
1

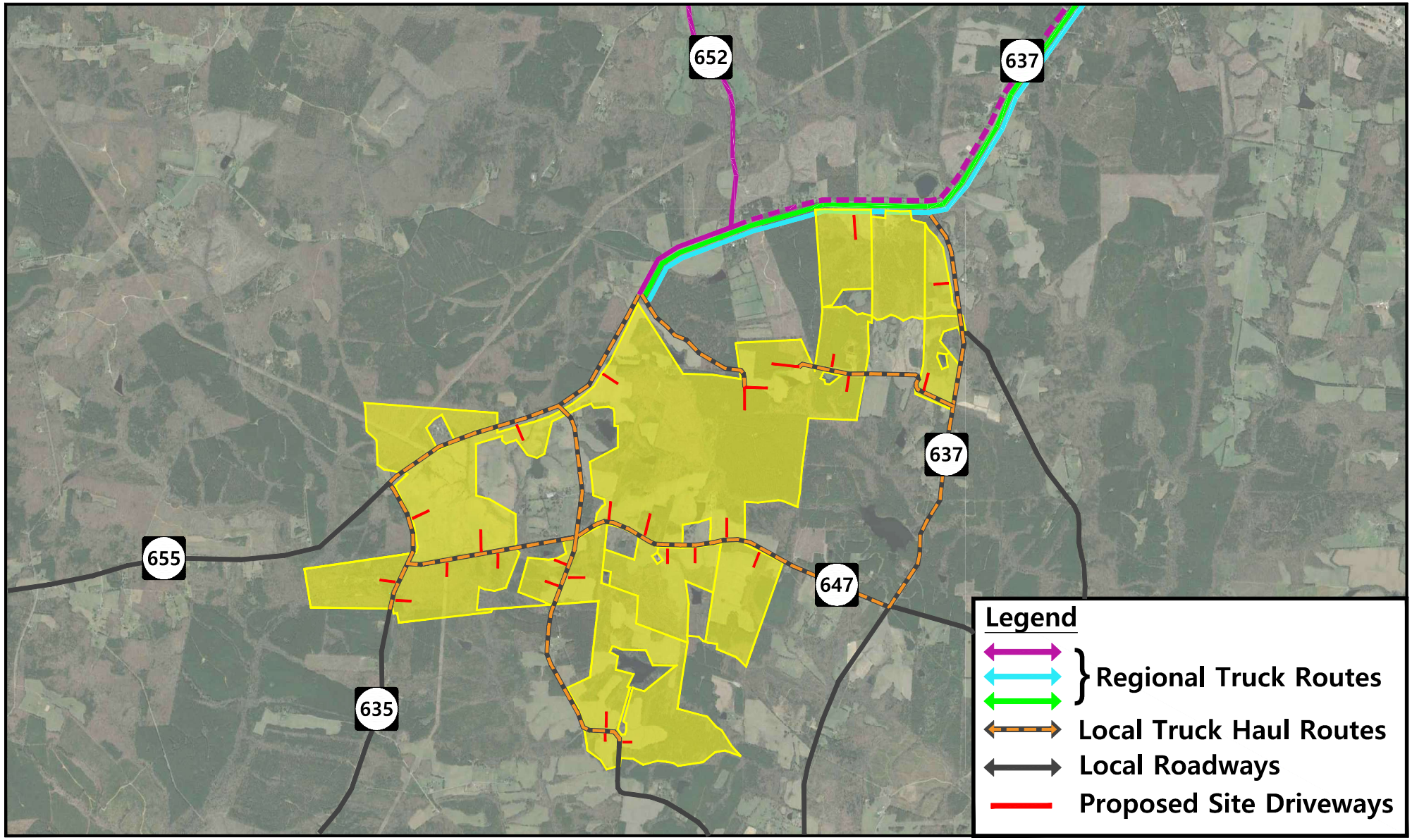


TETRA TECH

Lunenburg County, Virginia

Laurel Branch Solar
Potential Regional Truck Haul Routes

FIGURE
2

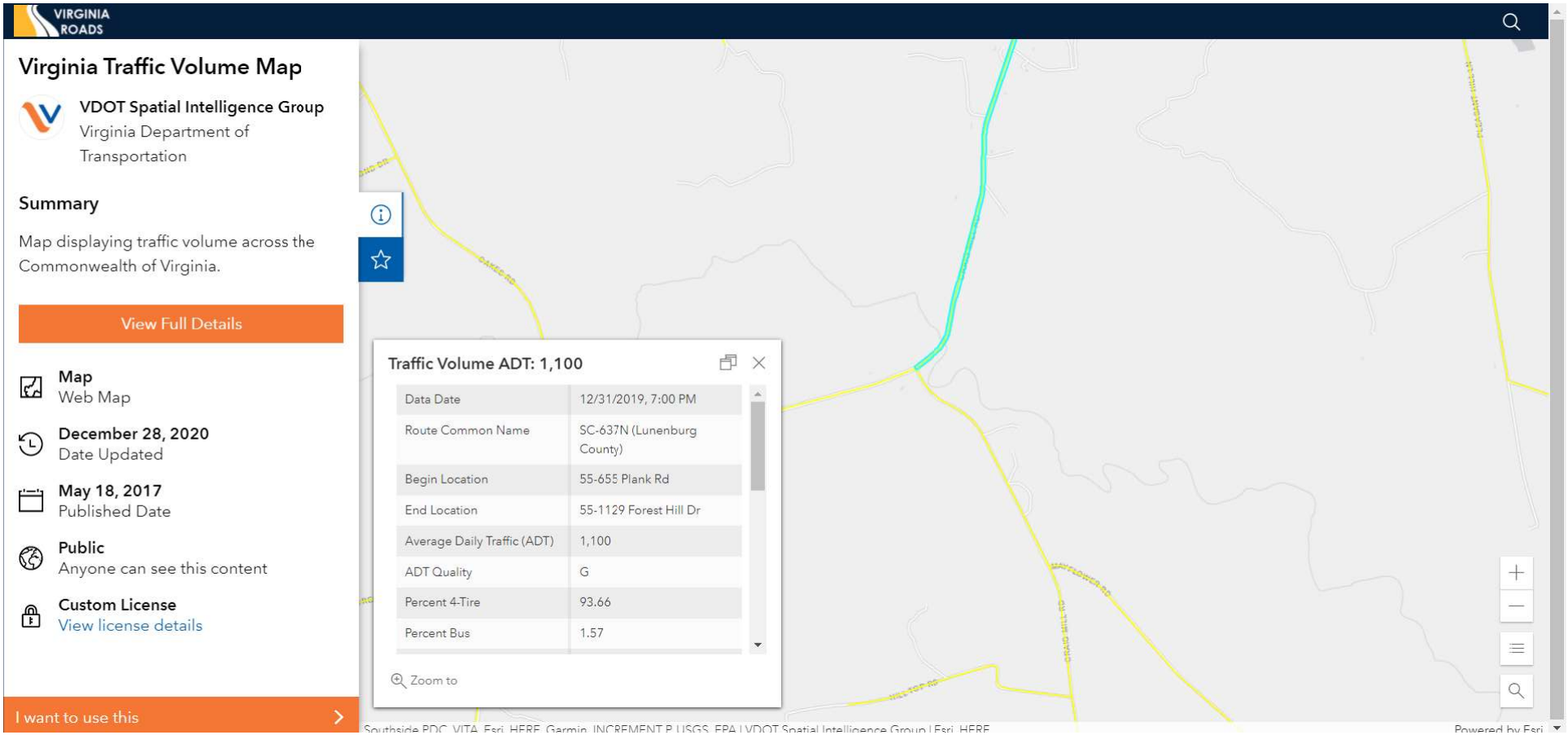


TETRA TECH

Lunenburg County, Virginia
Laurel Branch Solar
Potential Local Truck Haul Routes

FIGURE
3

APPENDIX A: VDOT TRAFFIC VOLUME DATA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May 18, 2017
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Traffic Volume ADT: 1,100
Data Date 12/31/2019, 7:00 PM
Route Common Name SC-637N (Lunenburg County)
Begin Location 55-655 Plank Rd
End Location 55-1129 Forest Hill Dr
Average Daily Traffic (ADT) 1,100
ADT Quality G
Percent 4-Tire 93.66
Percent Bus 1.57
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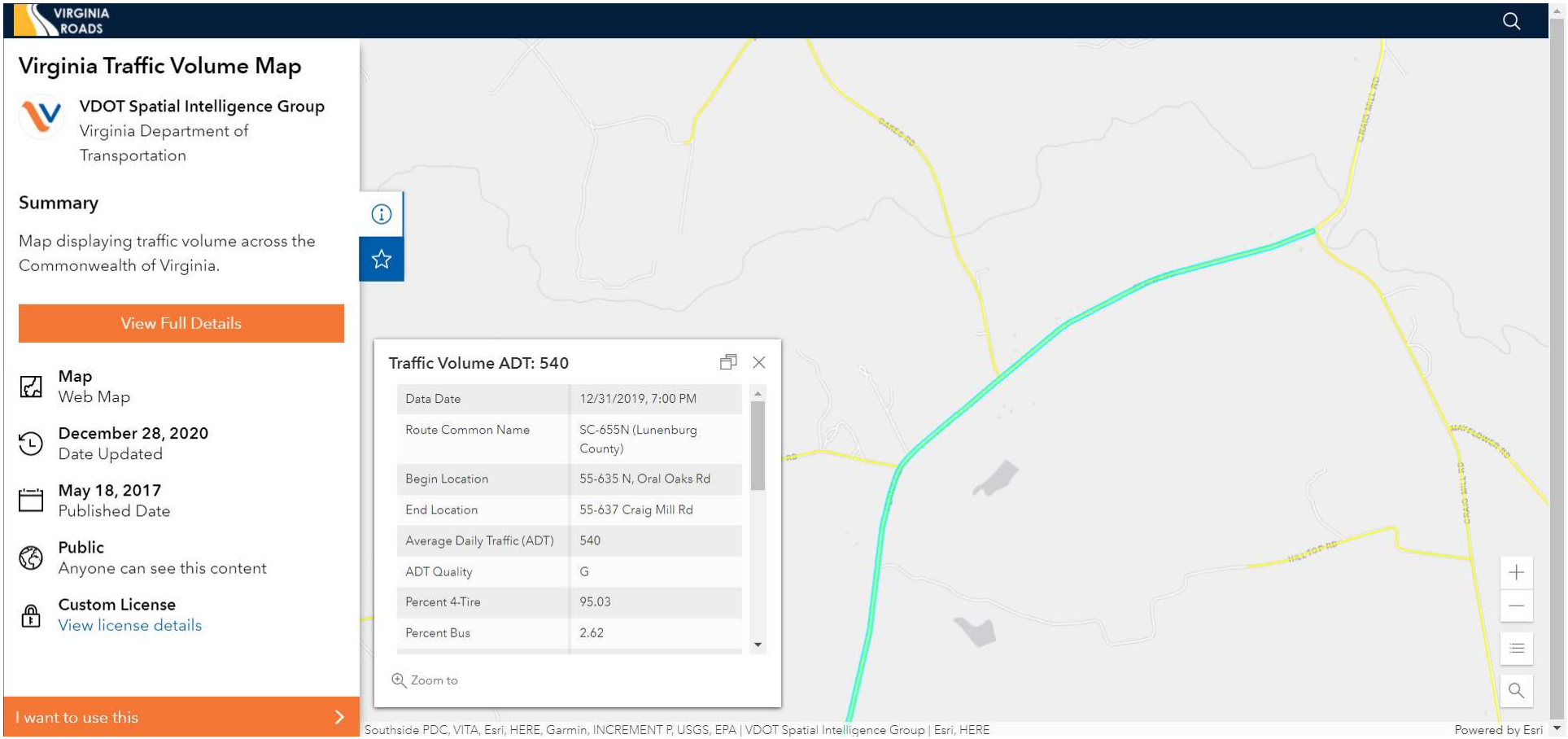
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Traffic Volume ADT: 540
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Route Common Name SC-655N (Lunenburg County)
Begin Location 55-635 N, Oral Oaks Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 540
ADT Quality G
Percent 4-Tire 95.03
Percent Bus 2.62
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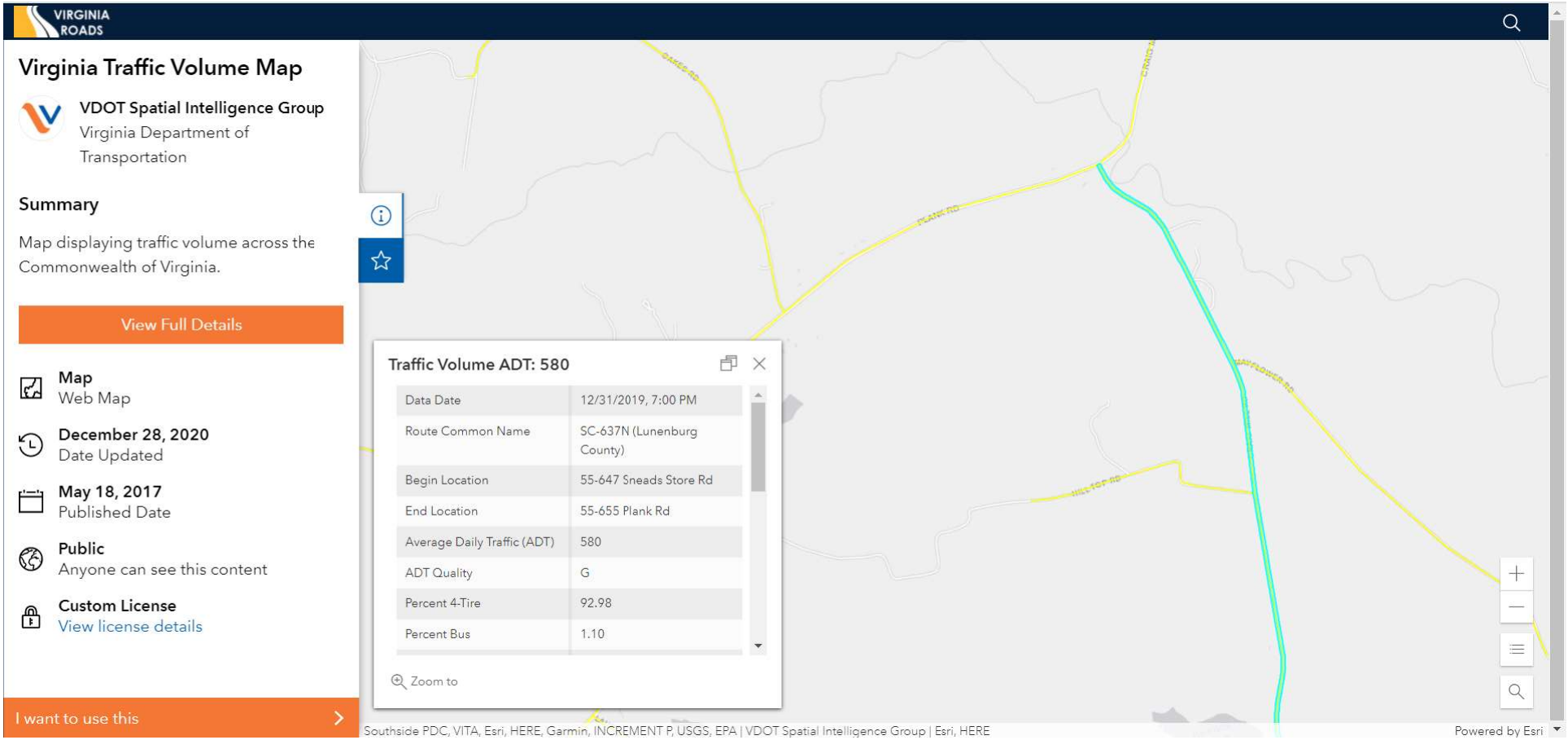
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Begin Location 55-647 Sneads Store Rd
End Location 55-655 Plank Rd
Average Daily Traffic (ADT) 580
ADT Quality G
Percent 4-Tire 92.98
Percent Bus 1.10
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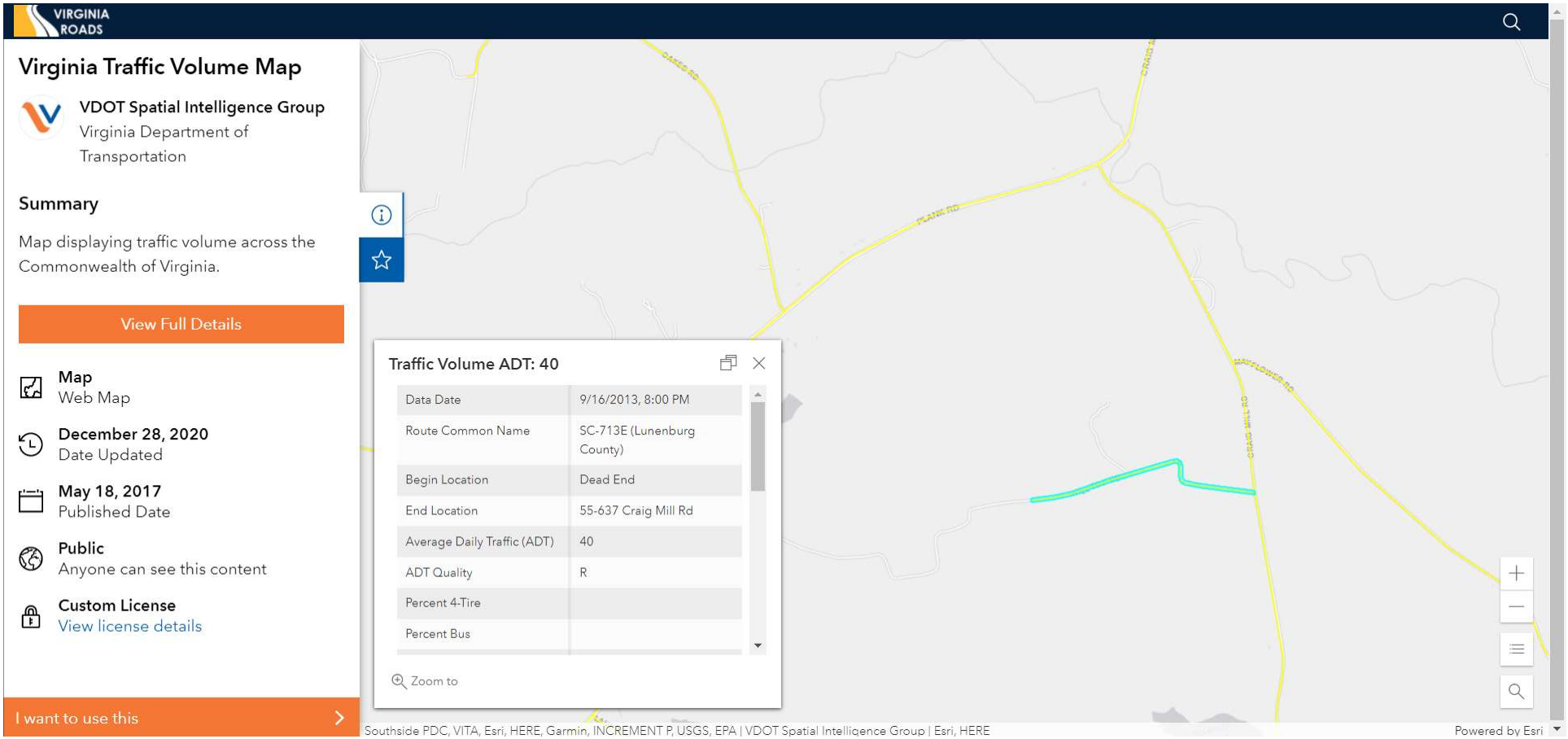
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Route Common Name SC-713E (Lunenburg County)
Begin Location Dead End
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 40
ADT Quality R
Percent 4-Tire
Percent Bus
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PLANK RD
CRAIG MILL RD
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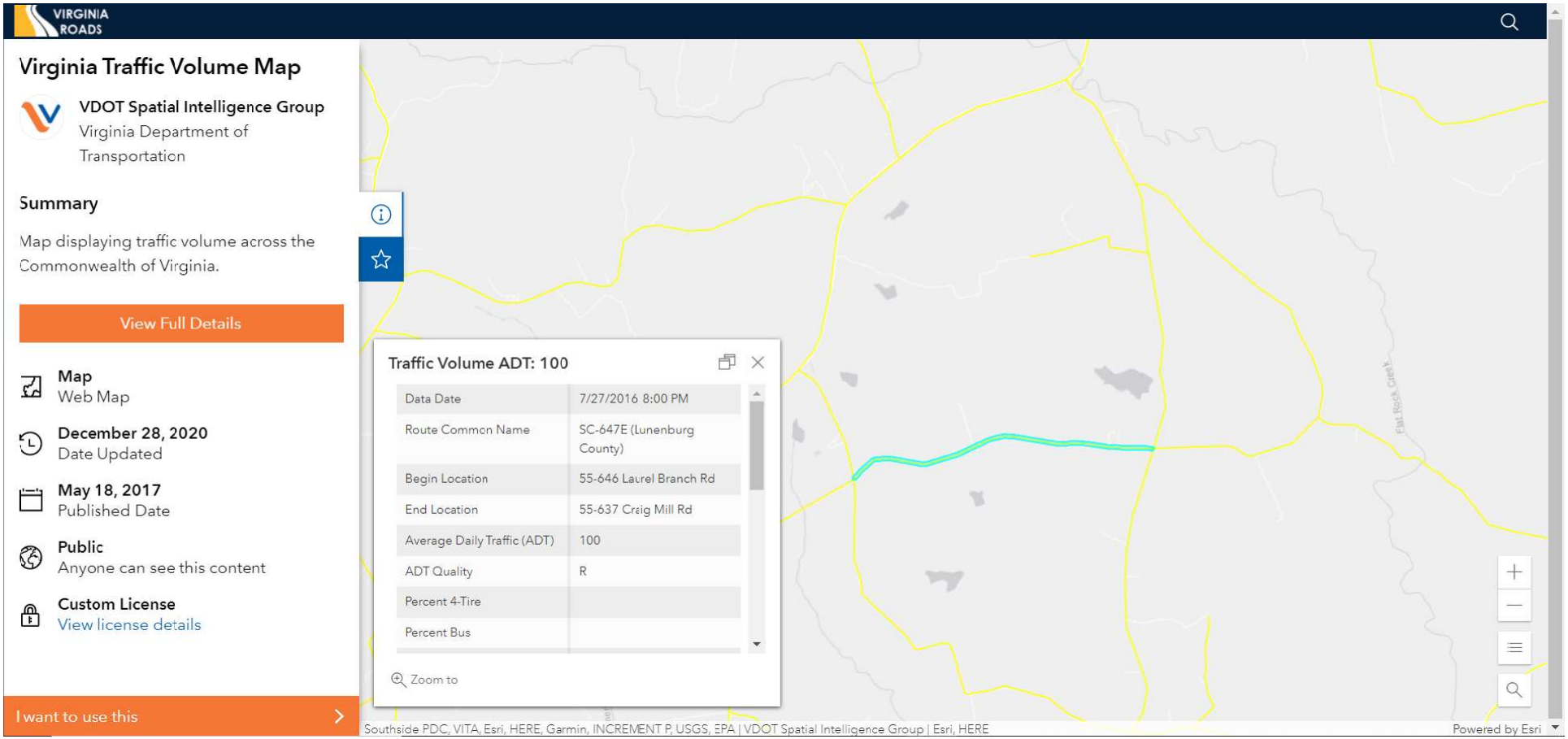
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Traffic Volume ADT: 100
Data Date 7/27/2016 8:00 PM
Route Common Name SC-647E (Lunenburg County)
Begin Location 55-646 Laurel Branch Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 100
ADT Quality R
Percent 4-Tire
Percent Bus
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Flat Rock Creek
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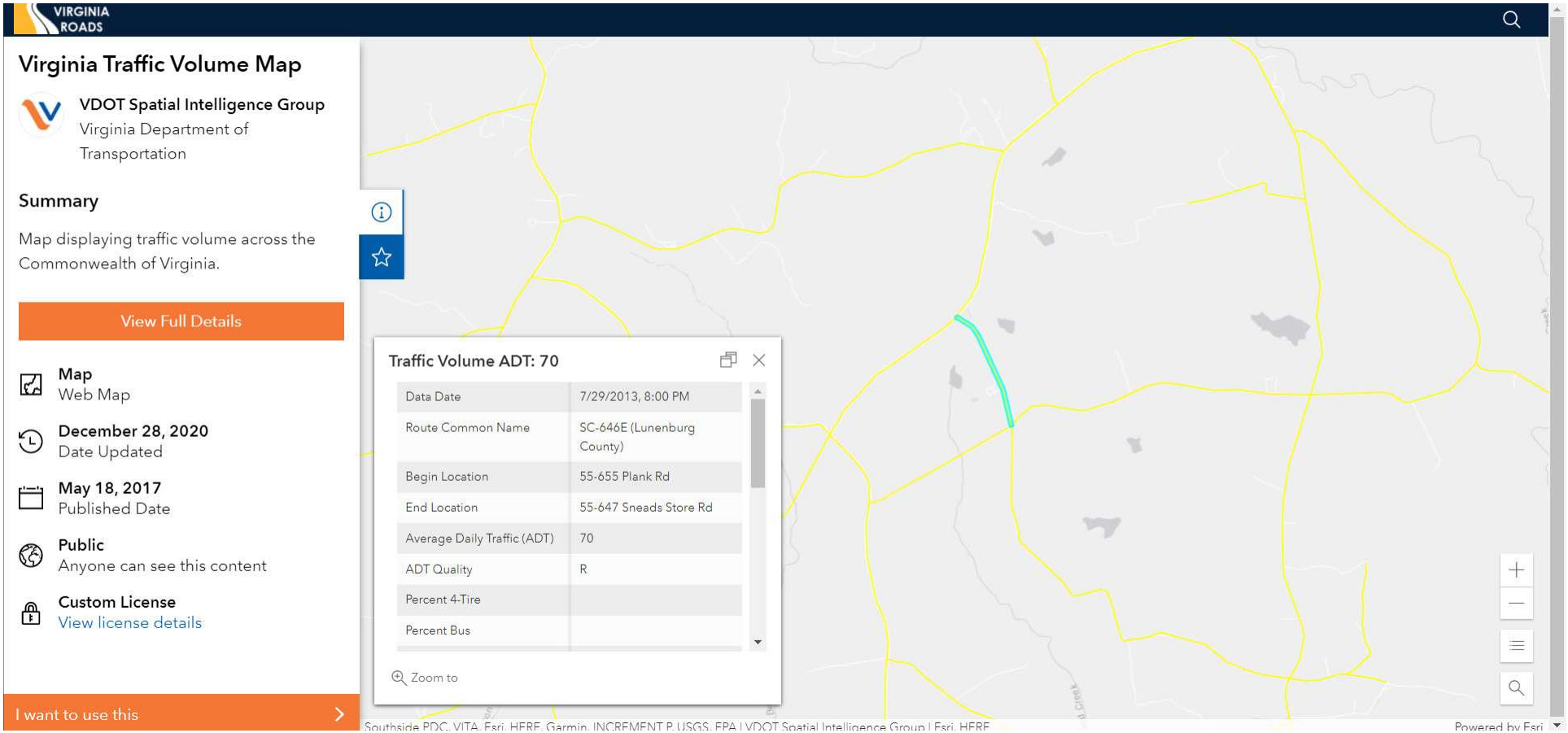
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Traffic Volume ADT: 70
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Route Common Name SC-646E (Lunenburg County)
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End Location 55-647 Sneads Store Rd
Average Daily Traffic (ADT) 70
ADT Quality R
Percent 4-Tire
Percent Bus
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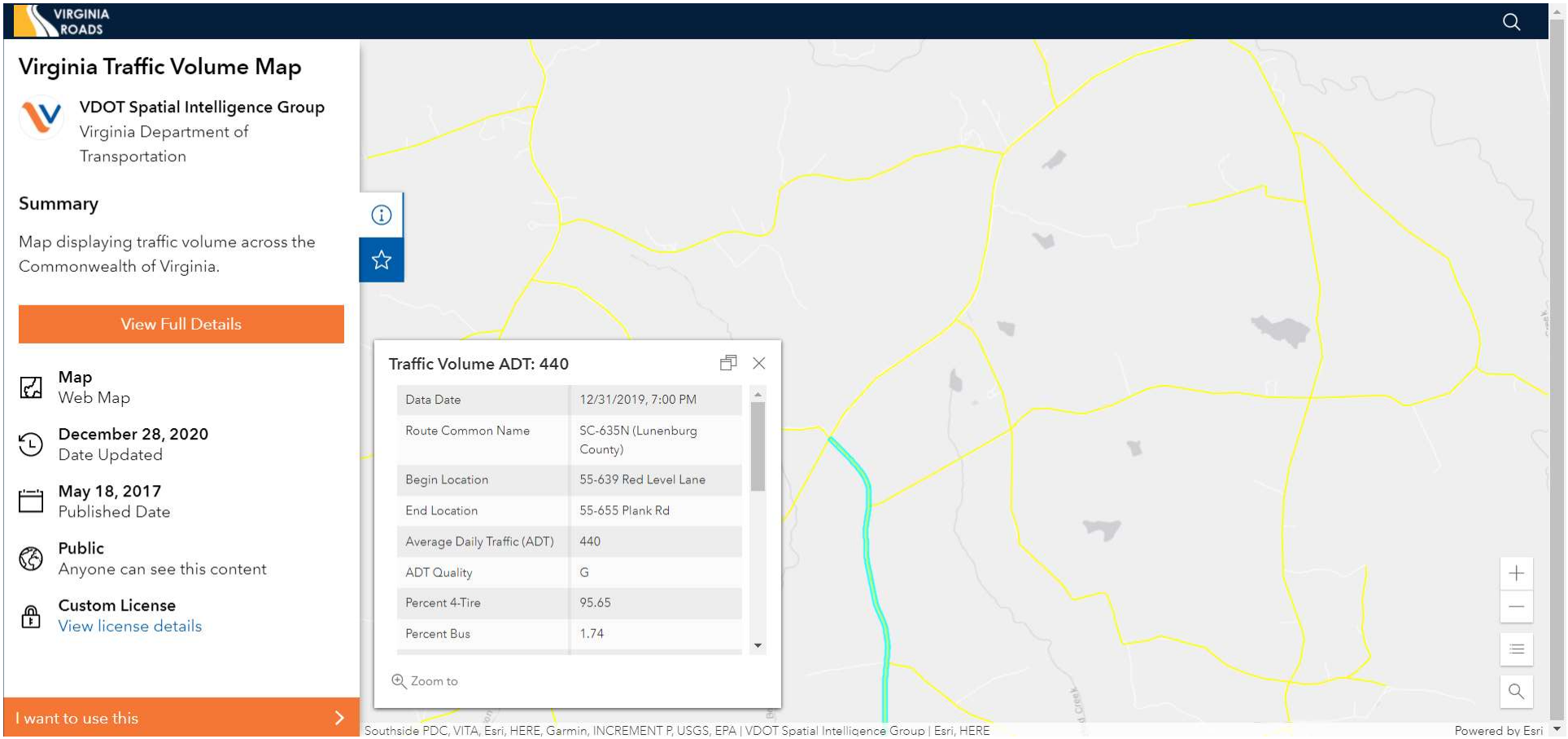
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Route Common Name SC-635N (Lunenburg County)
Begin Location 55-639 Red Level Lane
End Location 55-655 Plank Rd
Average Daily Traffic (ADT) 440
ADT Quality G
Percent 4-Tire 95.65
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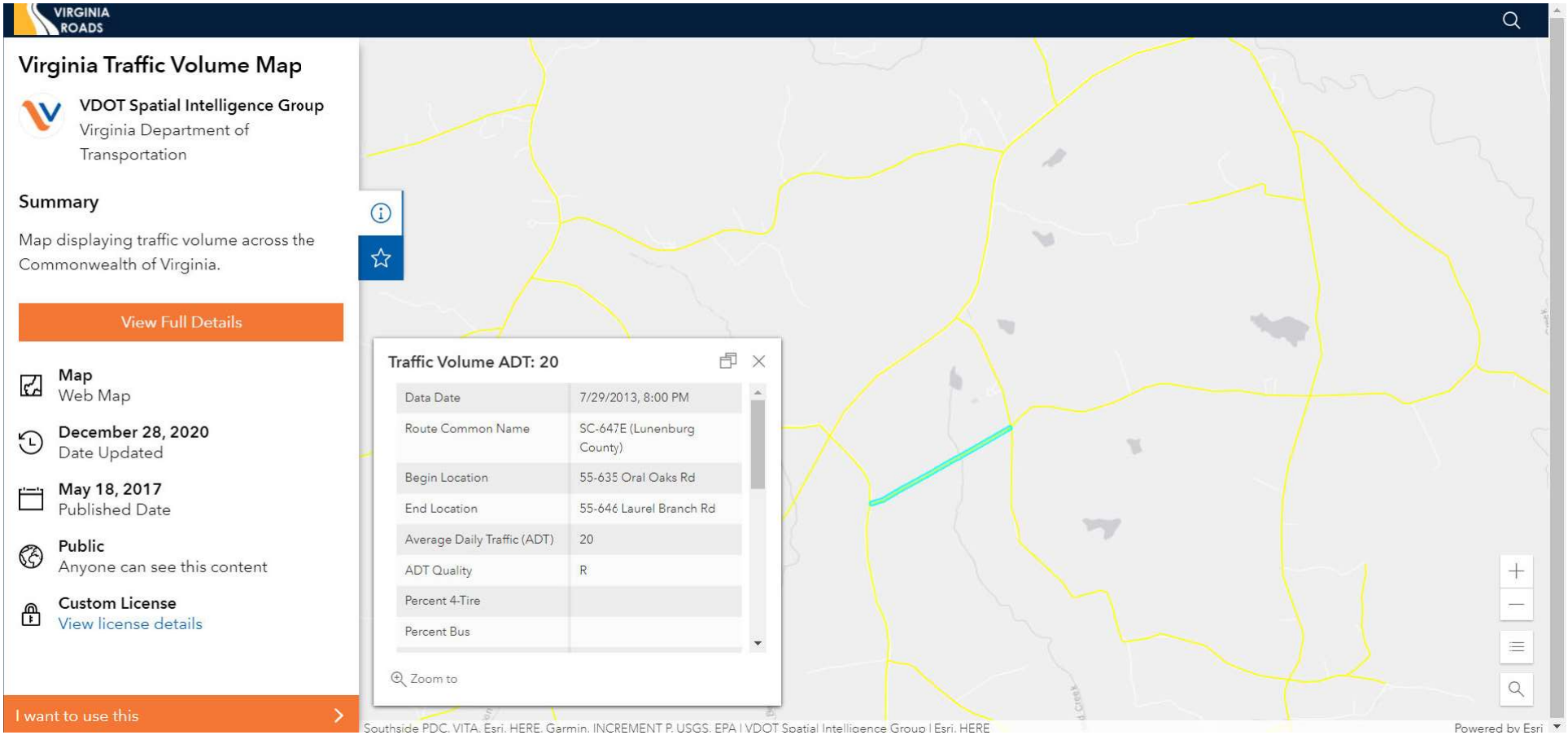
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Begin Location 55-635 Oral Oaks Rd
End Location 55-646 Laurel Branch Rd
Average Daily Traffic (ADT) 20
ADT Quality R
Percent 4-Tire
Percent Bus
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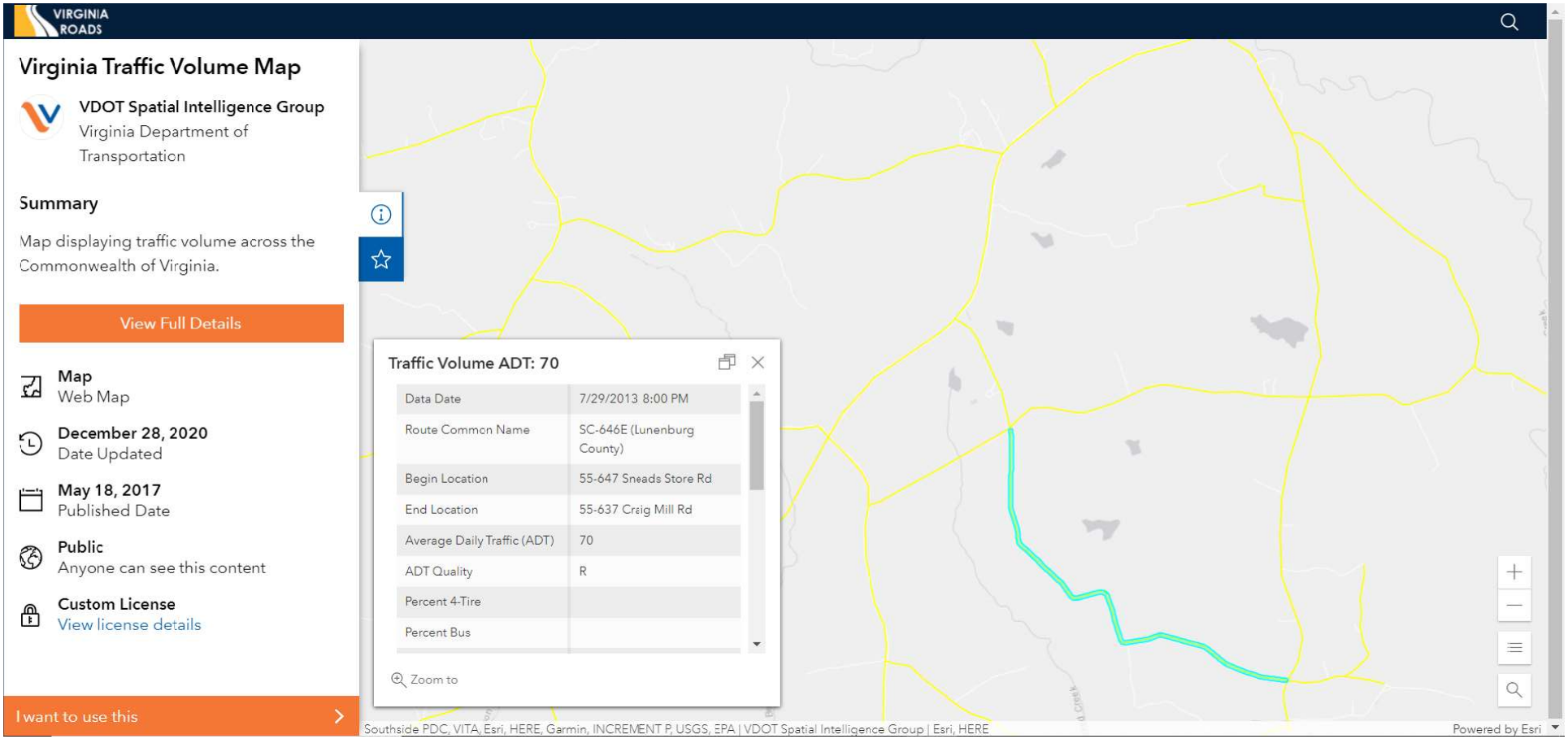
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Begin Location 55-647 Sneads Store Rd
End Location 55-637 Craig Mill Rd
Average Daily Traffic (ADT) 70
ADT Quality R
Percent 4-Tire
Percent Bus
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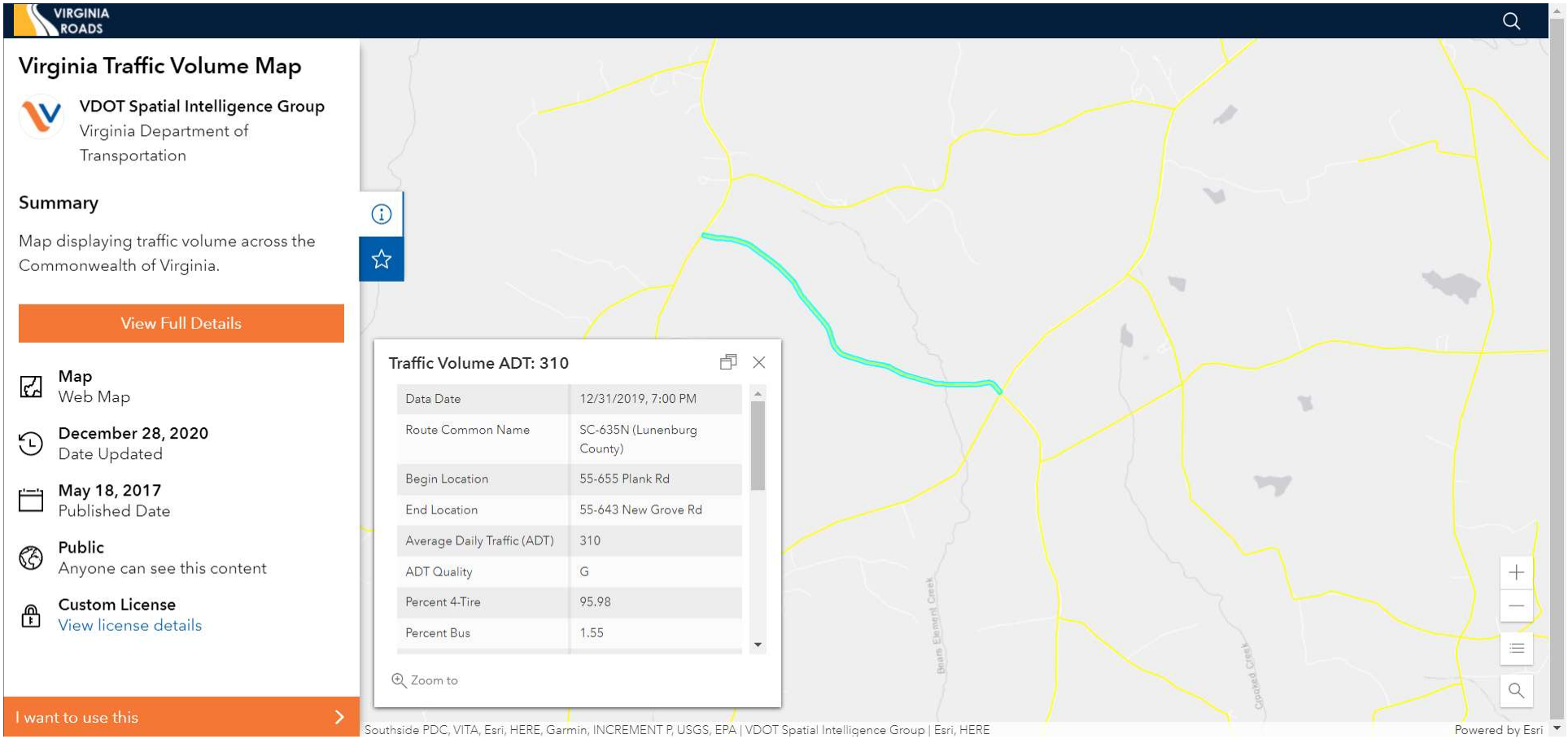
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Begin Location 55-655 Plank Rd
End Location 55-643 New Grove Rd
Average Daily Traffic (ADT) 310
ADT Quality G
Percent 4-Tire 95.98
Percent Bus 1.55
Zoom to
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APPENDIX B: TRIP GENERATION CALCULATIONS

Peak Construction Workforce Trip Generation Calculations and Assumptions

Proposed Dominion Laurel Branch Solar Facility - Lunenburg County, VA

Construction Site Driveway Trips					
	Workforce Trips	Non-Heavy Vehicle Deliveries	Heavy Vehicle Deliveries	Total	CALCULATIONS
AM Peak Hour:					
Enter	143	1	2	146	(150 workers x 100% arrive x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (3 Delivery Vehicles arrive) = 146
Exit	0	1	2	3	(150 workers x 0% depart) + (3 Delivery Vehicles depart) = 3
Total	143	2	4	149	
PM Peak Hour:					
Enter	0	1	2	3	(150 workers x 0% arrive) + (3 Delivery Vehicles arrive) = 3
Exit	143	1	2	146	(150 workers x 100% depart x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (3 Delivery Vehicles depart) = 146
Total	143	2	4	149	
Weekday Daily:					
Enter	218	5	20	243	(150 workers x 100% arrive in AM x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (150 workers x 50% return from lunch/errands midday) + (25 Delivery Vehicles arrive) = 243
Exit	218	5	20	243	(150 workers x 100% depart in PM x (100% - 10% carpool x 1 vehicle/2 carpool workers)) + (35 workers x 50% leave for lunch/errands midday) + (25 Delivery Vehicles depart) = 243
Total	436	10	40	486	

Construction Assumption	AM Peak Hour	PM Peak Hour	Off-Peak	Notes
# of Peak Workers On-Site at One Time:	150	150	150	Assume 150 tradespeople per day
% Workers Arriving:	100%	0%	50%	Assumed hours of operation 7am-5pm (may be longer). Peak Hours of adjacent street traffic assumed to occur between is 7am-9am and 4pm-6pm. Therefore, the majority of construction worker traffic is likely to occur outside of the morning peak hour of adjacent street traffic and some may depart after the evening peak hour. However, as a conservative measure, assumed 100 percent of workers arrive after 7am and depart before 6pm. As a conservative measure, assumed half of workforce depart and return once during off-peak times. Assumed none of the workers get picked up/dropped off.
% Workers Departing:	0%	100%	50%	Assumed hours of operation 7am-5pm (may be longer). Peak Hours of adjacent street traffic assumed to occur between is 7am-9am and 4pm-6pm. Therefore, the majority of construction worker traffic is likely to occur outside of the morning peak hour of adjacent street traffic and some may depart after the evening peak hour. However, as a conservative measure, assumed 100 percent of workers arrive after 7am and depart before 6pm. As a conservative measure, assumed half of workforce depart and return once during off-peak times. Assumed none of the workers get picked up/dropped off.
% Carpool[1]:	10.0%	10.0%	0.0%	Assumed 10% carpooling during commuting
Carpool VOR[2]:	2.00	2.00	1.00	Assumed two workers per car during commuting
# Shuttle Trips:	0	0	0	Assumed all workers and deliveries will occur via the construction driveway; no laydown site is proposed
# Truck Deliveries:	2	2	16	Assumed worker hours of operation 7am-5pm and assumed 20 deliveries per day that would be distributed evenly throughout the day.
# Non-Truck Deliveries:	1	1	3	Occasionally, non-heavy vehicle deliveries will occur. For trip generation analysis purposes, assumed 5 deliveries per day. Conservatively assumed some occurs during peak hours of adjacent street traffic.

[1]Enter % per population - formulas above account for VOR

[2]VOR for carpoolers only

NOTE: Assumes an 80 MW AC facility with 9 months of peak construction and 2 to 3 months of ramp-up/ramp-down construction activity

Source: Tetra Tech

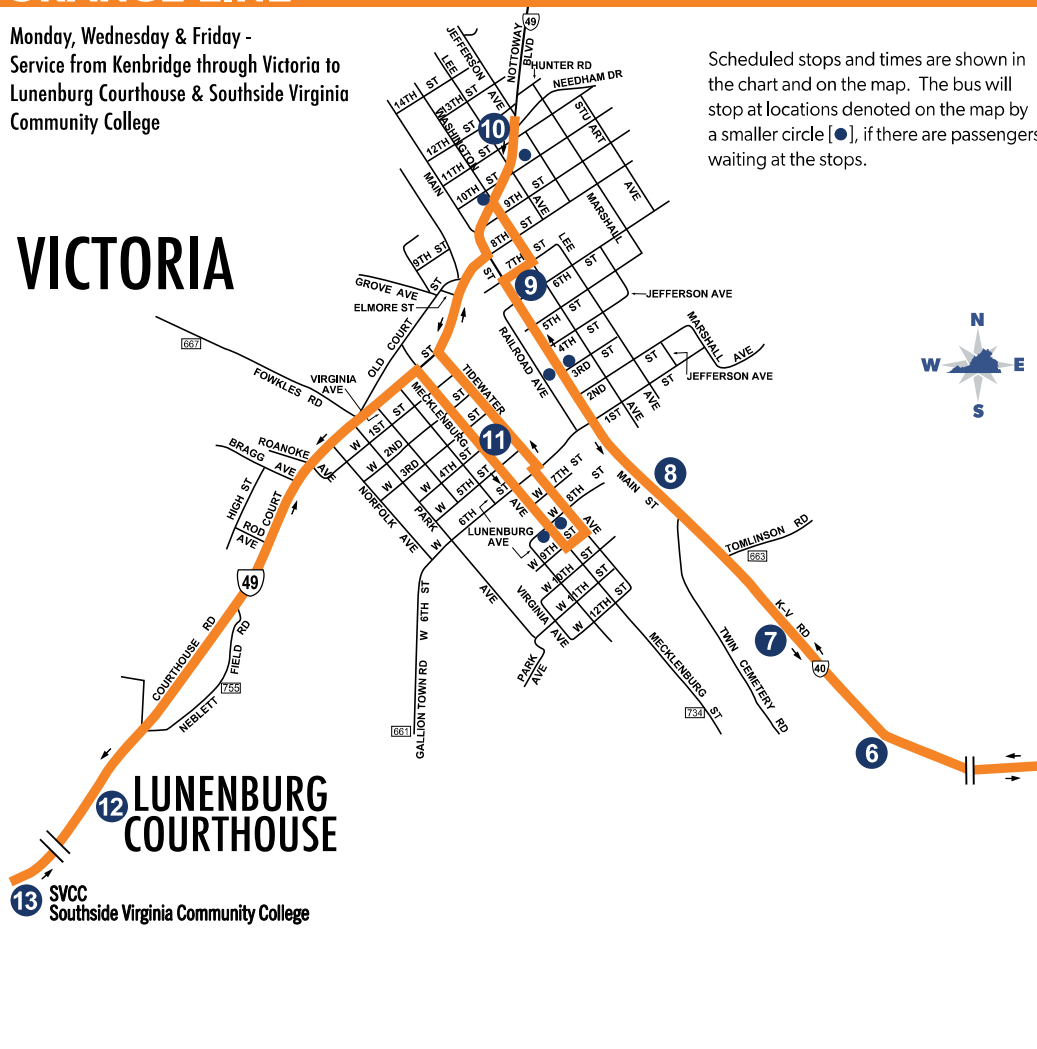
APPENDIX C: PUBLIC TRANSPORTATION INFORMATION

TOWN & COUNTY TRANSIT
ORANGE LINE

Monday, Wednesday & Friday -
Service from Kenbridge through Victoria to Lunenburg Courthouse & Southside Virginia Community College

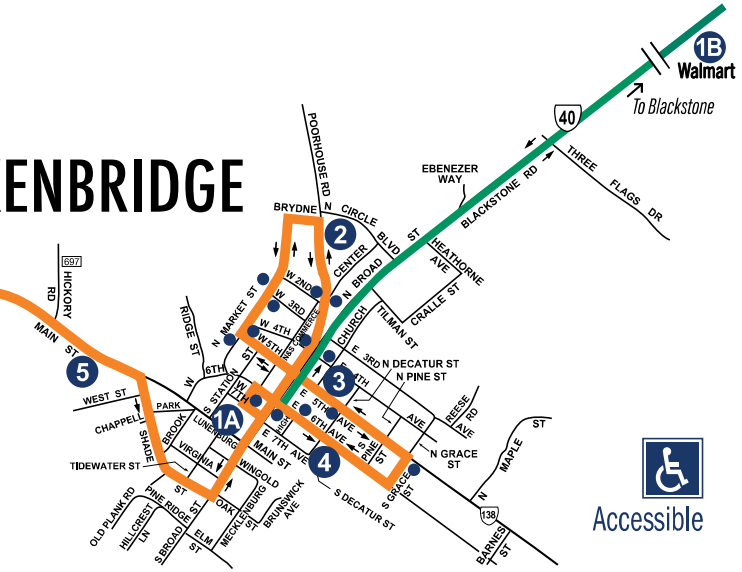
Scheduled stops and times are shown in the chart and on the map. The bus will stop at locations denoted on the map by a smaller circle [●], if there are passengers waiting at the stops.

BABS
BLACKSTONE AREA BUS SYSTEM



TOWN & COUNTY TRANSIT
GREEN LINE

Tuesday & Thursday -
Service from Lunenburg Courthouse & Southside Virginia Community College to Victoria, Kenbridge, and Blackstone. (includes Orange Line)



TOWN & COUNTY TRANSIT

Servicing the County of Lunenburg and the Towns of Kenbridge and Victoria, this route operates from 7:00 AM to 4:15 PM on Monday, Wednesday, Friday, and on Tuesday and Thursday until 4:45 PM. On Tuesday and Thursday this route travels to the Town of Blackstone.

ORANGE LINE
Mon, Wed, Fri

	AM						PM			
1A W. 7th St. & Broad St.	7:00	9:00	–	10:15	–	11:30	1:00	2:20	–	4:15
2 Kenbridge Elementary	7:02	8:53	9:02	10:13	10:17	11:27	1:02	2:13	2:22	4:13
3 Mildred's Meals	7:04	8:51	9:04	10:11	10:19	11:25	1:04	2:11	2:24	4:11
4 Kenbridge Family Practice	7:06	8:49	9:06	10:09	10:21	11:23	1:06	2:09	2:26	4:09
5 Southside Shopping Center	7:10	8:45	9:10	10:05	10:25	11:19	1:10	2:05	2:30	4:05
6 Community Health Center	7:15	8:40	9:15	10:00	10:30	11:14	1:15	2:00	2:35	4:00
7 Village Estates Apts.	7:18	8:37	9:18	9:58	10:32	11:12	1:18	1:58	2:37	3:58
8 Food Lion, Victoria	7:20	8:35	9:20	9:55	10:35	11:09	1:20	1:55	2:40	3:55
9 Victoria Public Library	7:22	8:33	9:22	9:53	10:37	11:07	1:22	1:53	2:42	3:53
10 Vaughn's Grocery	7:25	8:30	9:25	9:50	10:40	11:00	1:25	1:50	2:45	3:50
11 Victoria Place Apts.	7:28	8:27	9:28	9:47	10:43	10:59	1:28	1:47	2:48	3:47
12 Lunenburg Co. Courthouse	7:35	8:20	9:40	–	10:50	–	1:40	–	2:55	3:40
13 SVCC	8:00	–	–	–	–	–	–	–	3:25	–

GREEN LINE
Tues, Thurs

	AM						PM			
1B Walmart, Blackstone	–	–	–	10:35	–	–	–	2:35	–	–
1A W. 7th St. & Broad St.	7:00	9:00	–	10:15	10:50	12:10	1:00	2:20	2:50	4:45
2 Kenbridge Elementary	7:02	8:53	9:02	10:13	10:52	12:08	1:02	2:13	2:52	4:43
3 Mildred's Meals	7:04	8:51	9:04	10:11	10:54	12:06	1:04	2:11	2:54	4:41
4 Kenbridge Family Practice	7:06	8:49	9:06	10:09	10:56	12:04	1:06	2:09	2:56	4:39
5 Southside Shopping Center	7:10	8:45	9:10	10:05	11:00	12:00	1:10	2:05	3:00	4:35
6 Community Health Center	7:15	8:40	9:15	10:00	11:05	11:55	1:15	2:00	3:05	4:30
7 Village Estates Apts.	7:18	8:37	9:18	9:58	11:07	11:52	1:18	1:58	3:07	4:28
8 Food Lion, Victoria	7:20	8:35	9:20	9:55	11:10	11:49	1:20	1:55	3:10	4:25
9 Victoria Public Library	7:22	8:33	9:22	9:53	11:12	11:47	1:22	1:53	3:12	4:23
10 Vaughn's Grocery	7:25	8:30	9:25	9:50	11:15	11:40	1:25	1:50	3:15	4:20
11 Victoria Place Apts.	7:28	8:27	9:28	9:47	11:18	11:37	1:28	1:47	3:18	4:17
12 Lunenburg Co. Courthouse	7:35	8:20	9:40	–	11:30	–	1:40	–	3:25	4:10
13 SVCC	8:00	–	–	–	–	–	–	–	3:50	–

APPENDIX D: CONSTRUCTION MANAGEMENT PLAN

1.1 Introduction

Virginia Electric and Power Company (d/b/a Dominion Energy Virginia)("Dominion") is proposing a Substation and Switchyard as part of an 80 MWac utility-scale solar facility known as "Laurel Branch Solar" (the "Project") in Lunenburg County, Virginia (the "County"). The project will be located to the southwest of the Town of Kenbridge on 2,189 acres of land. The Substation and Switchyard is located along Routes 635 (Oral Oaks Road) in Lunenburg County, Virginia. Project construction is projected to begin the second quarter of 2024 and last approximately 12 months with nine months of typical construction and two to three months of ramp up/ramp down activity. Peak construction activity is anticipated to occur over a two to three-month period.

1.2 Construction Traffic Haul Routes

The construction of the proposed solar facility will require large vehicle deliveries for a variety of materials that may include concrete, solar panels, earth materials, building materials, etc. Tetra Tech identified potential truck haul routes between the site parcels and the regional roadway system for these larger vehicles. For purposes of this assessment, it was assumed that the deliveries would originate from three primary geographical areas: Richmond, VA, Lynchburg, VA, and Raleigh, NC. Factors considered in developing potential truck haul routes are summarized below. Separate inbound and outbound travel routes are provided where appropriate.

- Prioritize designated Surface Transportation Assistance Act (STAA) truck routes from the VDOT database.
- Avoid roadway segments having bridge height and weight limitations based on a review of the VDOT database.
- Minimize impacts to schools, traffic signals, and areas with pedestrian activity.
- Minimize turns at locations with geometric limitations.

The potential regional truck haul routes are shown in Figure 1. The potential local truck haul routes to/from the proposed site driveways are shown in Figure 2.

When accessing the site via Route 406 to the north, all construction traffic (employees, subcontractors, delivery companies, etc.) associated with the project will be instructed to use N West Avenue (Route 606) when entering the site and Cox Road when exiting the site. This will minimize disruptions to downtown Blackstone and avoid potential safety issues with the limited queue storage for Route 406 westbound left-turn movements onto Cox Road.

The final approved truck route map will be distributed to all construction employees and subcontractors to ensure the appropriate routes will be used to access the site. Signage is proposed to guide project-related traffic and make existing roadway users aware of the increased traffic levels and trucking activity during the construction phase. A preliminary signage plan is presented in the Attachments. The signage plan will be subject to review and approval by the Virginia Department of Transportation (VDOT).

1.3 Construction Office, Staging and Employee Parking

The project is currently at the conceptual level. It is anticipated that parking for the construction-related activity (employees and deliveries) will occur entirely on-site. The construction entrance to access the proposed Substation and Switchyard is located at Oral Oaks Road. Laydown yards are currently proposed, all of which will be located within the project boundaries. The laydown yards are typically dimensioned 350 feet by 55 feet. The layout and configuration of the laydown yards' appurtenances such as construction trailers, parking layout, porta johns, dumpsters, material storage and drop-off, etc. will be determined during the construction level plan preparation. The proposed signage plan will also be updated, if needed, during the development of the construction-level plans.

A central parking field is not proposed since the project will consist of numerous solar panel pods. Employees are expected to park at the pod in which they are assigned to on each day of construction. The pods will be accessed via 28 proposed driveways including three driveways on Oral Oaks Road, six driveways on Laurel Branch Road, three driveways on Plank Road, nine driveways on Sneads Store Road, one driveway on Craig Mill Road and six driveways on Hilltop Road. Delivery vehicles will also use the proposed driveways to deliver materials. The proposed signage plan provided in the Attachments includes warning signs to alert motorists of slower moving heavy vehicles in the area.

The project will consist of three phases: construction, O&M, and decommissioning. The highest volume of site-related trips will occur during the peak construction phase of the project. A Transportation Assessment was prepared as part of the Lunenburg County conditional use permit (CUP) review process which included a detailed vehicle trip generation analysis for the peak construction activity anticipated for the project. A summary of the vehicle trip generation estimates provided in the May 2022 Transportation Assessment is provided in Table 1 for reference. These estimates conservatively assume that all construction workers would arrive within the same hour and depart within the same hour. Additionally, there are several routes connecting the site to the regional roadway system thereby reducing impacts to any single roadway segment or intersection. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.

Table 1 Trip Generation Summary – Peak Construction Period

Time Period/ Direction	Project Trips			
	Workforce Trips[1]	Non-Heavy Vehicle Deliveries[2]	Heavy Vehicles[3]	Total
Weekday AM Peak Hour				
Enter	143	1	2	146
Exit	0	1	2	3
Total	**143**	**2**	**4**	**149**
Weekday PM Peak Hour				
Enter	0	1	2	3
Exit	143	1	2	146
Total	**143**	**2**	**4**	**149**
Weekday Daily				
Enter	218	5	20	243
Exit	218	5	20	243
Total	**436**	**10**	**40**	**486**

1 Assumed 150 construction workers per day. Conservatively assumed trips overlap with adjacent street peaks. Peak construction activities are currently anticipated to occur for a period of approximately two to three months. The remainder of the construction period is anticipated to generate fewer vehicle trips.
2 Assumed 5 deliveries per day with 40 percent of trips occurring during peak hours.
3 Assumed 20 deliveries per day spread evenly throughout day.

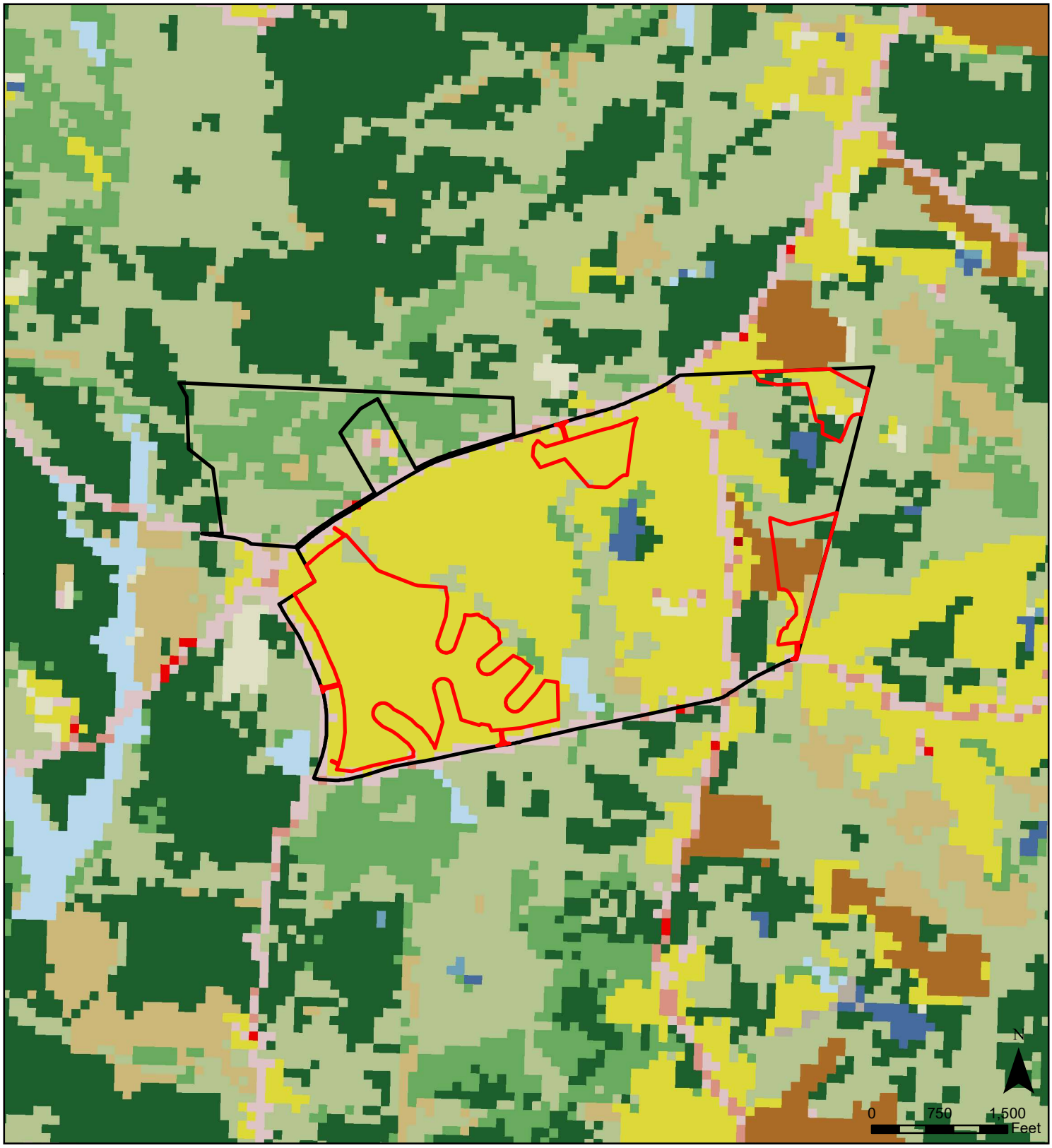
Over the course of the approximate 12-month construction schedule, the volume of daily truck counts will vary, but is anticipated to be up to 20 trucks per day during peak construction days.

1.4 Public Road Evaluation: Pre- and Post-Construction

The project commits to conducting a photographic and video evaluation of the condition of the existing secondary roadways immediately leading to the site as shown in Figure 3. The project is anticipated to begin construction during second quarter 2024. The pre-construction road evaluation on the roadways shown in Figure 3 will be conducted closer to the beginning of the project's construction activity. The specific date of the evaluation will be determined in consultation with VDOT staff during the construction plan preparation phase.

TAB J

Land Cover Map



Limit of Disturbance
Project Area

NLCD Land Cover

- Woody Wetlands
- Unclassified
- Shrub/Scrub (1.03 acres)
- Open Water
- Mixed Forest (6.95 acres)
- Herbaceous (0.86 acres)
- Hay/Pasture (94.56 acres)
- Evergreen Forest (2.77 acres)
- Emergent Herbaceous Wetlands
- Developed, Open Space (0.42 acres)
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, High Intensity
- Deciduous Forest (0.01 acres)
- Cultivated Crops (5.71 acres)
- Barren Land

Acreages in parentheses represent total acreage within the project limit of disturbance.

Source: NLCD (2016)

TETRA TECH

Figure 2
Land Cover

Laurel Branch Switchyard/Substation
Lunenburg County, Virginia

PGH P:\GIS\DOMINION\MAPDOCS\LAURELBRANCH_NLCD.MXD 08/16/22 SP

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
RICHMOND DISTRICT
2430 Pine Forest Drive
COLONIAL HEIGHTS, VA 23834
www.VDOT.Virginia.gov

Stephen C. Brich, P.E.
COMMISSIONER

September 8, 2022

Ms. Taylor N. Newton
Director of Planning and Economic Development
County of Lunenburg
11413 Courthouse Road
Lunenburg, VA 23952

(Sent Via E-mail)

SUBJECT: **Dominion Energy Virginia – Laurel Branch Switchyard**
Rte. 637, Craig Mill Rd. & S. Broad St., Rte. 655, Plank Rd.
Lunenburg County, VA
CUP #6-22 Application Review Comments, Submission Pkg. Date 8/22

Dear Ms. Newton:

The Virginia Department of Transportation, South Hill Residency Southern Region Land Development Office has reviewed the subject submission received by email on August 26, 2022. At this time we offer the below comments to the county.

- In Tab I, Traffic Study part of the package the main secondary routes they describe to be used for haul routes is Rte. 637, Craig Mill Rd. When actually according to their maps it will be Rte. 637, Craig Mill Rd. & S. Broad St. and Rte. 655, Plank Rd. They need to revise the package to reflect this.

- In Appendix D: Construction Management Plan, Section 1.2, in the 3rd paragraph the route description refers to Hwy. 406. That should read Hwy. 460. Also in Figure 2 that is referenced here does not have the Blackstone Insert map of this area as it calls for.

- I understand that section TAB I, Traffic Study in the submission package will be used for the entire Laurel Branch Solar Site as well for this Switch Station CUP. All the construction and permanent entrances associated with the solar farm will be reviewed with the site plan for the solar farm project. This CUP application was strictly for the switch station, the construction/permanent entrance, traffic impact and construction traffic haul routes for the switch station construction. The location of the combined construction and permanent entrance in the preliminary plans in this submission appears adequate for a private entrance. The geometrics and final location will be addressed at switchyard site plan stage.

- I did not see anything in the submission addressing maintenance of all secondary routes effected by construction traffic. I believe as part of the CUP application submission, Lunenburg County requires this to be addressed in it.

If you have any questions please feel free to contact me at 434-774-2310 or by email, todd.cage@vdot.virginia.gov .

Sincerely,

C. Todd Cage

Digitally signed by C. Todd Cage
DN: C=US, E=todd.cage@vdot.virginia.gov, CN=C. Todd Cage
Reason: I am the author of this document
Date: 2022.09.08 14:34:47-04'00'

C. Todd Cage
Land Development Engineer
Southern Region Land Development
Richmond District/South Hill & Petersburg Residencies

CC: Paul Hinson, P.E., LEED AP, VDOT Southern Region Area Land Use Engineer
John Legg, VDOT Southern Region Permits/Subdivision Specialist Sr.
Tommy Johnson, VDOT South Hill Residency Administrator
Kevin Smith, VDOT South Hill Assistant Residency Administrator

Staff Report

Report on Conditional Use Permit CUP-6-22 Laurel Branch Switchyard (Virginia Electric and Power Company) with Respect to Article 15.2-2232 of the Code of Virginia

Purpose of Review and Scope of Hearing

Purpose: To determine whether the request of Dominion Energy Virginia for a Conditional Use Permit for a proposed switchyard ("the Application"), as a "public utility facility" under Virginia Code Section 15.2-2232(A), is substantially in accord with the *Lunenburg/Kenbridge/ Victoria Joint Comprehensive Plan 2019-2024* ("the Comprehensive Plan") relative to the general or approximate location, character, and extent of the proposed facility.

Scope of Hearing: Staff has recommended that the Planning Commission review the request for determination under Virginia Code Section 15.2-2232 prior to any review of a Conditional Use Permit (CUP) application. Therefore, the subject hearing is limited in scope to the determination of whether the request made in the Application, file number CUP-6-22, is 'substantially in accord' with the Comprehensive Plan. During this hearing phase, only those facts that pertain to the broader issues of the Comprehensive Plan will be discussed. Should the request be found to be in accord with the Comprehensive Plan, detailed examination of the Application as a Conditional Use Permit will be addressed in additional hearings before the Planning Commission, with a subsequent hearing before the Board of Supervisors. Should the request be found not to be in accord with the Comprehensive Plan, the Application will be dismissed, and no further hearing nor consideration of the Conditional Use Permit will be conducted; the facility proposed in the Application will not receive approval or permissions to build. The Applicant may appeal this action to the Board of Supervisors.

Project Description and Existing Conditions

Description: The proposed facility will be a public utility switchyard (the "Switchyard") located on an approximately five (5) acre portion of the property located at 464 Laurel Branch Road. The proposed Switchyard and its adjacent substation (the "Substation") will be located within and as part of the proposed Laurel Branch Solar Facility, which has filed a concurrent conditional use application to permit an 80 MW utility-scale solar facility (the "Solar Project").

The Switchyard will be approximately 284 feet x 251 feet in dimension, fenced, and include structures not exceeding 75 feet in height, breakers, and ancillary equipment. There are two existing transmission lines that run through the proposed Solar Project, joining on the north side of Plank Road near Oral Oaks Road. The proposed Switchyard has been strategically located within the Solar Project area to interconnect with the electrical infrastructure already in place. The Switchyard will be an important component of the Solar Project; however, following decommissioning, the Switchyard will continue to provide a valuable service for the County by providing a facility that will interconnect the existing transmission infrastructure.

Preexisting Site Use/Economic Considerations: Preexisting or recent use of the site is not addressed within the Application; however, it appears that timber was harvested. Adjacent uses and uses within the area are comprised of residential and agricultural uses.

Existing Topography: The Application contains a *Slopes* plan indicating topography of the site. Generally, the site slopes downward from south to north and east to west and it is expected that stormwater would generally flow in these directions. Slopes generally range between 0% to 15%.

Soils: According to the Application, on-site soils are moderately fine-grained sands, humus, and clay, including USGS soil category of Ultisols (red clay soils with high acidity). Soil types found on the property include the following classifications: 10B: Helena sandy loam, 10C2: Helena sandy loam, 11B2: Herndon loam, 11C2: Herndon loam, 12B: Iredell loam, 12C2: Iredell loam, , 13C2: Lignum loam, 18B: Orange loam, 1B2: Appling sandy loam, 1C2: Appling sandy loam.

Transportation: The Project will have a limited impact on existing transportation infrastructure once constructed. The Switchyard and the Substation will be constructed as part of the overall construction of the Solar Project. It is anticipated that construction will commence in 2024 and the Solar Project will be operational by the end of 2025.

Existing Air Quality: Given the sparseness of development and traffic, existing air quality should be acceptable. While no sampling has been done, one can expect low levels of degradation in the area due to its limited accessibility and use.

Existing Demand for Emergency Services: The site and existing use pose no unique demands on emergency services at present.

Adjacent and Surrounding Uses: The areas surrounding the proposed project area share the same land use and zoning characteristics – rural, agricultural, forestry uses – as well as the same land use classifications.

Comprehensive Plan Citations

The Comprehensive Plan includes a *Special Policy Areas* discussion and recommendations on solar facilities (Chapter V, *Special Policy Areas*), as follows:

> ***Policy Area: Solar Facilities***
> *Solar Facilities are acres of raw farm land covered with solar panels which enable the owner of the solar facilities to capture sunlight, convert that sunlight into electrical energy and then sell that electricity to the utility company.*
>
> *Solar facilities are located in areas with availability of large tracts of land at low costs as well as available infrastructure (transmission lines) to support additional capacity. The existing land use of Lunenburg County could make the county's open areas an option for Solar Facilities. The County and the Towns should consider the development of alternative energy production while protecting agriculture, forestry lands and watersheds that the county enjoys.*

Alternative energy production may be considered by the County and Towns as an attraction to expand employment opportunities and for companies interested in supporting solar development in communities where they are located.

Recommendations:
The County and Town Planning Commissions should consider safe development of solar energy that minimizes impacts to land uses, properties, and the environment, particularly for economic development purposes. They should develop reasonable conditions for the development of Solar Facilities which will protect the character of surrounding properties and will not limit future property development. Any County or Town planning measures which address Solar Facilities siting should also have an effective decommissioning plan developed and funded by the Solar developer before installation.

Additionally, the following Comprehensive Plan citations should be considered:

- Chapter V, *Special Policy Areas*, *Policy Area: Loss of Agricultural Land and Open Space*, references that "Future residential, commercial and industrial development should be encouraged to locate in areas where adequate public services are available or planned. Any development that does occur in the rural areas should be designed to incorporate significant open spaces and designed to minimize environmental impacts on the land and water resources," and that "Environmental impacts of any newly planned development area should be considered. It is essential to maintain a balance between development and preservation objectives throughout the area." This section recommends that "Commercial and/or industrial developments that are approved in the rural portions of the County should be consistent with the best interest of the community."

- Chapter V, *Special Policy Areas*, *Policy Area: Protection of Water Resources*, references that surface water resources within the County "provide recreational opportunities and are a critical component of the County's infrastructure and quality of life. As such, protection and enhancement of these water resources should be a primary object of the County and the Towns."

- Chapter VI, *Goals, Objectives, and Strategies*, B., *Economy and Employment*:
    - Goal: Promote the expansion of a diversified economy.
        - Objective 1: Encourage quality industries to locate within the County and Towns.
            - Strategy 4: County Government, and other parties, to promote the area to environmentally friendly industries.
        - Objective 2: Provide adequate land and resources for commercial and industrial uses.
            - Strategy 5: Guide community and industrial uses into areas with adequate public utilities and transportation access.

- Chapter VI, *Goals, Objectives, and Strategies*, C., *Land Use*:
    - Goal: Promote a balance of land uses that meet economic and demographic needs of Lunenburg County, the Town of Kenbridge and the Town of Victoria.
        - Objective 4: Encourage quality industries to locate within the County and Towns.
            - Strategy 1: Encourage industries to locate in the County and Towns' industrial parks or in areas where they are compatible to adjacent uses.
            - Strategy 2: Guide community and industrial uses into areas with adequate public utilities and transportation access.
            - Strategy 3: Work with interest groups to attract new industries to the locality. Encourage industries to locate in the industrial parks or in areas where they are compatible to adjacent uses.
            - Strategy 4: Liaise with the Chamber of Commerce, and other parties, to promote the area to environmentally friendly industries.
- Chapter VI, *Goals, Objectives, and Strategies*, F., *Natural Resources*:
    - Goal: Protect and preserve the natural resources of the community.
        - Objective 1: Prevent development in areas of critical environmental importance.
            - Strategy 1: Restrict development in flood plains, swamps and drainage ways.
            - Strategy 2: Restrict development on soils that will not adequately support structures.
            - Strategy 4: Identify and protect all open spaces which have recreational potential or which would enhance the environment in Lunenburg County, the Town of Kenbridge and the Town of Victoria.
            - Strategy 5: Promote the preservation and planting of trees, shrubs and other natural foliage.

Staff Analysis and Comments

Staff has reviewed and analyzed the Application and the above referenced Comprehensive Plan citations to determine whether the project is substantially in accord with the Comprehensive Plan.

With respect to the *Solar Facilities* policy area, Staff is of the opinion that the proposed facility can be characterized as safe development that minimizes, or will minimize through reasonable conditions, impacts to land uses, properties, and the environments.

With respect to the *Loss of Agricultural Land and Open Space* policy area, significant areas of the Solar Project will remain undeveloped and the project is designed to minimize environmental impacts, and/or such impacts will be minimized through reasonable conditions.

With respect to the *Protection of Water Resources* policy area, Staff is of the opinion that the project will be subject to Virginia Department of Environmental Quality regulations and permitting, which will work to ensure protection of the County's water resources.

With respect to applicable *Economy and Employment* goals, objectives, and strategies. Staff is of the opinion that the proposed development works to expand a diversified economy within the County, and would constitute an environmentally friendly industrial use, primarily due to the proposed scale of operation, generally sited in an area with adequate and necessary utility access.

With respect to applicable *Land Use* goals, objectives, and strategies, while the area has adequate and necessary utility access and constitutes a more environmentally friendly industrial use, it is not inherently compatible with adjacent uses, which are almost entirely residential and agricultural. Significant setbacks and buffers/screening work to mitigate for this incompatibility and additional reasonable conditions should be considered as part of the review of the Conditional Use Permit.

With respect to applicable *Natural Resources* goals, objectives, and strategies, Staff is of the opinion that the proposed development does not negatively impact natural resources of the County, especially areas of critical environmental importance.

Staff Conclusions and Recommendations

Staff has analyzed the applicable elements of the Comprehensive Plan referenced above, and the proposed location, character, and extent of the project appears to be consistent with the overall policies, goals, objectives, and strategies of the Comprehensive Plan, or reasonably expected with the imposition of conditions as part of the review of the Conditional Use Permit. Subject to further review of the Conditional Use Permit, Staff is of the opinion and recommends that the proposed switchyard facility is substantially in accord with the Comprehensive Plan, or parts thereof.

As noted at the beginning of this Report, the question before the Planning Commission with this 2232 review is whether the general location or approximate location, character, and extent of the proposed solar energy facility is substantially in accord with the Comprehensive Plan or part thereof. Staff suggests that the Planning Commission consider all relevant portions of the Comprehensive Plan in its analysis, and carefully and thoroughly document the reasons and basis for the action which the Commission takes. Options for Commission action are as follows:

1. By motion, determine that the application is substantially in accord with the Comprehensive Plan, with written reasons for the decision;

2. By motion, determine that the application is not substantially in accord with the Comprehensive Plan, with written reasons for the decision; or

3. By motion, defer action on the review at this time and continue for further discussion and consideration (within the 60-day window).

Planning Commission Actions

Option 1 - Applicant's proposal is substantially in accord with the Comprehensive Plan

I move that Dominion Energy Virginia's proposed 5-acre switchyard and substation facility, as described in the conditional use permit application CUP-6-22, is substantially in accord with the Lunenburg County Comprehensive Plan, or parts thereof, for the following reasons:

1. The proposed facility can be characterized as safe development that minimizes, or will be expected to minimize through conditions, impacts to land uses, properties, and the environments.

2. The project will be subject to Virginia Department of Environmental Quality regulations and permitting, which will work to ensure protection of the County's water resources.

3. The proposed development works to expand a diversified economy within the County, and would constitute an environmentally friendly industrial use, primarily due to the proposed scale of operation, generally sited in an area with adequate and necessary utility access.

4. The area of the proposed project has adequate and necessary utility access and the project constitutes a more environmentally friendly industrial use; while not inherently compatible with adjacent uses, which are almost entirely residential and agricultural, significant setbacks and buffers/screening will work to mitigate for this incompatibility and additional conditions can considered as part of the review of the Conditional Use Permit.

5. The proposed development does not negatively impact natural resources of the County, especially areas of critical environmental importance. Further, the project works to promote the preservation of existing trees by retaining existing vegetated areas along the periphery of the site.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

Option 2 - Applicant's proposal is not substantially in accord with the Comprehensive Plan

I move that Dominion Energy Virginia's proposed 5-acre switchyard and substation facility, as described in the conditional use permit application CUP-6-22, is not substantially in accord with the Lunenburg County Comprehensive Plan, or parts thereof, for the following reasons:

1. The proposed facility cannot be characterized as safe development and does not minimize impacts to land uses, properties, and the environment.

2. The location of the proposed facility is a rural area, the amount of undeveloped area within the project is insufficient and the project is not designed to minimize environmental impacts.

3. Despite being subject to Virginia Department of Environmental Quality regulations and permitting, the project will have negative effects on the County's water resources.

4. The proposed development does not work to expand a diversified economy within the County, and, given the scale of the proposal, would not constitute an environmentally friendly industrial use; furthermore, utility and transportation access to support the development are inadequate.

5. The proposed project is not compatible with adjacent residential and agricultural uses; setbacks and buffers/screening are insufficient, and cannot be improved in a manner that would improve the compatibility of the project with adjacent uses.

6. The proposed development negatively impacts natural resources of the County, especially areas of critical environmental importance such as existing stands of trees and the isolated wetland to the east of the project site.

The Secretary of the Planning Commission is directed to communicate the Planning Commission's findings to the Board of Supervisors.

Option 3 – Deferral of the application

I move that the Planning Commission defer a decision on Laurel Branch Switchyard's request under Va. Code § 15.2-2232 regarding its proposed 5-acre switchyard and substation facility, as described in the conditional use permit application CUP-6-22, until the Planning Commission meeting scheduled to begin at _____ p.m. on _____, in the _____ meeting room.

Public Comment Received

Other Business

County Attorney Update

Next Meeting

The next meeting is scheduled for Thursday, May 4th, 20223, at 7:00 p.m.

(If the time needs to be changed, you will be contacted prior to confirm if it works with your schedule.)