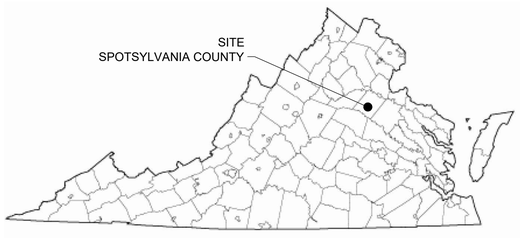
GENERALIZED DEVELOPMENT PLANS

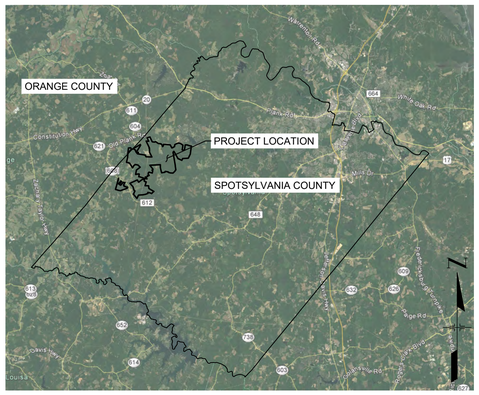
SPOTSYLVANIA SOLAR ENERGY CENTER A

SPECIAL USE PERMIT - SUP 18-0001

LIVINGSTON MAGISTERIAL DISTRICT

SPOTSYLVANIA COUNTY, VA





VICINITY MAP - SPOTSYLVANIA COUNTY, VA
1" = 30,000'

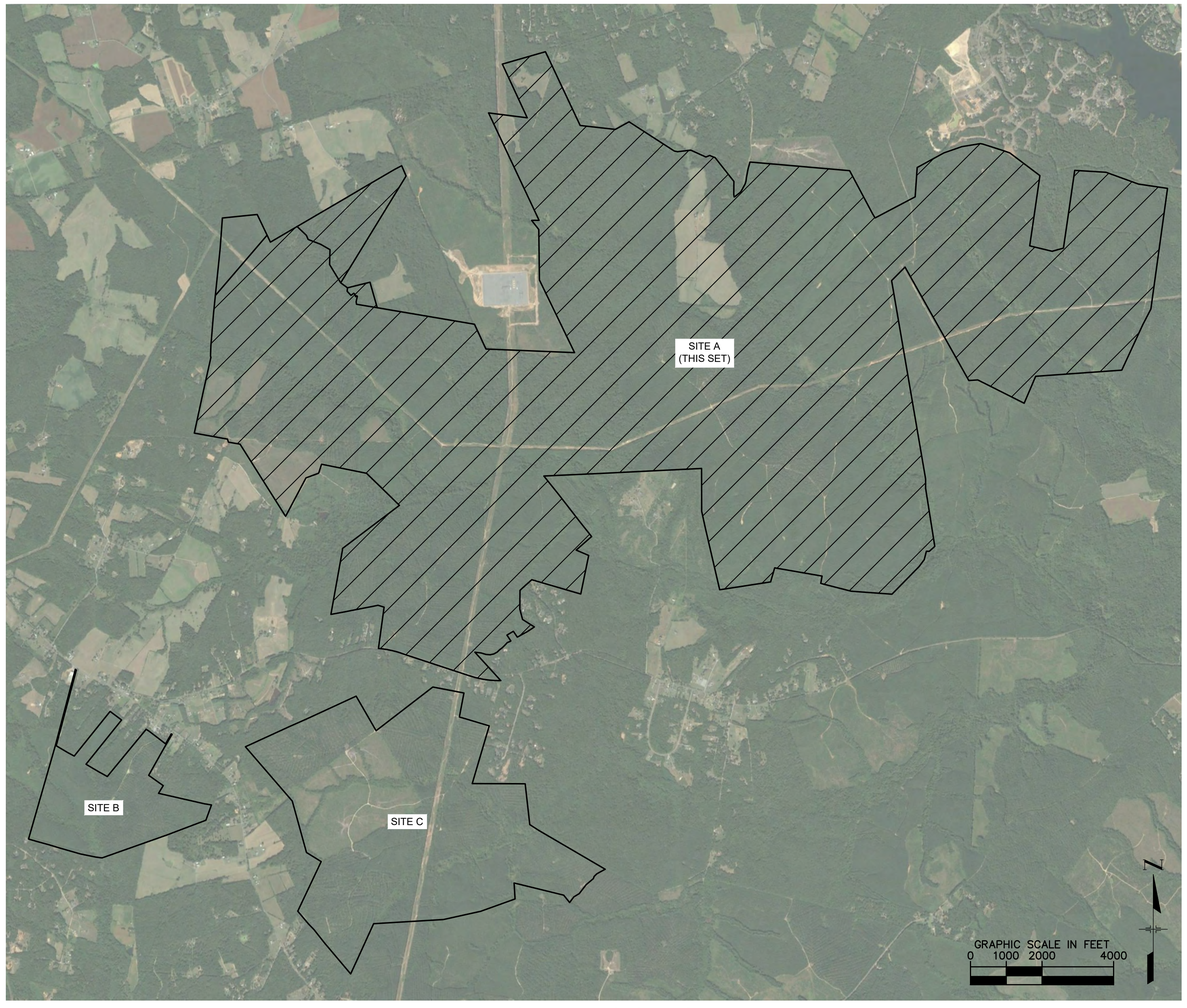
SPOTSYLVANIA SOLAR ENERGY CENTER	
OWNER	sPOWER
EXISTING AND PROPOSED ZONING	AGRICULTURE 3 (A-3)
EXISTING USE	SILVICULTURE
PROPOSED USE	SOLAR ENERGY FACILITY
TOTAL POWER TO BE GENERATED	500 MEGAWATTS AC (MWac)
OVERALL PROJECT SITE DATA:	
PROPERTY AREA	6,350 ACRES
DISTURBED AREA	3,500 ACRES
POWER GENERATED	500 MWac
SITE A DATA:	
PROPERTY AREA	5,200 ACRES
DISTURBED AREA	2,800 ACRES
POWER GENERATED	400 MWac
SITE B DATA:	
PROPERTY AREA	245 ACRES
DISTURBED AREA	200 ACRES
POWER GENERATED	30 MWac
SITE C DATA:	
PROPERTY AREA	905 ACRES
DISTURBED AREA	500 ACRES
POWER GENERATED	70 MWac

OWNER/APPLICANT

sPOWER
2180 SOUTH 1300 EAST, SUITE 600
SALT LAKE CITY, UT 84106
PHONE: 801-679-3513
CONTACT: DANIEL MENAHEM
EMAIL: DMENAHEM@SPOWER.COM

CIVIL ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
11400 COMMERCE PARK DRIVE, SUITE 400
RESTON, VA 20191
PHONE: 703-674-1337
CONTACT: SEAN MILLOT, P.E.
EMAIL: SEAN.MILLOT@KIMLEY-HORN.COM



VICINITY MAP - PROJECT LIMITS
1" = 2,000'

Sheet List Table	
Sheet No.	Sheet Title
C-01	GENERALIZED DEVELOPMENT PLAN COVER
EX-1-0	GENERALIZED DEVELOPMENT PLAN - OVERALL
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EX-1-2	GENERALIZED DEVELOPMENT PLAN - 2
EX-1-3	GENERALIZED DEVELOPMENT PLAN - 3
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EX-1-5	GENERALIZED DEVELOPMENT PLAN - 5
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EX-1-7	GENERALIZED DEVELOPMENT PLAN - 7
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EX-2-0	PRESERVATION AREA PLAN
EX-2-1	LANDSCAPE AND BUFFER AREA PLAN
EX-2-2	ACCESS ROAD SERVICE AREAS
EX-2-3	COUNTY TRAIL OVERLAY MAP
CD-1	CIVIL DETAILS
SHEETS 1-17	ALTA SURVEY

OWNER INFORMATION - SITE A	
OWNER	TAX MAP PARCEL NUMBER
RIVEROAK TIMBERLAND INVESTMENTS LLC	28-A-71
	29-A-2A
	29-A-2
	28-A-77
	16-A-1
	29-A-24
	29-A-25
	29-A-26
	29-A-27
	17-A-47
	29-A-28
	29-A-22
	18-A-15
	18-A-20
	29-A-7
CHARLES WOOLFREY CONSTRUCTION INC	28-A-1
	28-A-78
ROBERT S COLEMAN JR	29-A-1
GARY THOMAS WOOLFREY	28-A-79
GOODWIN BROTHERS LUMBER COMPANY, LLC	30-A-1
	18-A-16
MEADOWS ENTERPRISES	17-A-4
	17-A-3
	17-5-19
	17-A-3A
	17-A-48
MWD PROPERTIES 2009, LLC	17-A-7

PROJECT INFORMATION - SITE A			
AIRPORTS			
NO KNOWN AIRPORTS WITHIN A 5-MILE RADIUS OF SITE A.			
CULTURAL RESOURCES			
TWO KNOWN PLACES OF BURIAL ON OR NEAR PROXIMITY OF PROJECT. NO HISTORIC BUILDINGS EXIST AT THE PROJECT SITE.			
TRAFFIC INFORMATION			
• VOLUMES SUBJECT TO CHANGE BASED ON TRAFFIC IMPACT STUDY RESULTS • SEE TRAFFIC IMPACT ANALYSIS AND EXHIBITS FOR ADDITIONAL TRAFFIC DISTRIBUTION AND RECOMMENDATIONS • PROPOSED CONSTRUCTION TRAFFIC: 700 VEHICLES PER DAY			
IMPERVIOUS AREAS*			
	TOTAL	AREA (SF)	AREA (AC)
SOLAR PANEL POST** (0.11 SF EACH)	217,680	23,945	0.55
INVERTER PAD (40' X 10')	195	78,000	1.79
GRAVEL DRIVES (12' WIDTH)	215,439 LF	2,585,268	59.35
TOTAL IMPERVIOUS ACRES			61.69
TOTAL IMPERVIOUS % OF SITE			1.19%
*IMPERVIOUS AREAS SHOWN FOR THE SITE ARE FOR PRELIMINARY USE ONLY, NOT TO BE USED FOR DESIGN PURPOSES. **PER DEQ REGULATIONS, ONLY POLE MOUNTINGS FOR THE SOLAR PANELS ARE TO BE USED TO CALCULATE IMPERVIOUS AREA. ASSUMED SPACING OF 15' SUBJECT TO FINAL ENGINEERING.			
WATER QUALITY (VRRM)***			
TP LOAD REDUCTION REQUIRED (LB/YR)			377.09
ACRES PLACED IN CONSERVATION AREA			1,173.01
***WATER QUALITY VALUES SHOWN FOR THE SITE ARE FOR PRELIMINARY USE ONLY, NOT TO BE USED FOR DESIGN PURPOSES.			

SOLID WASTE DISPOSAL CALCULATIONS FOR CONSTRUCTION FOR SITES A, B, AND C

Step 3: Identification of Collection Method

Container Type (Compactors, Roll Off, Dumpsters, Carts)	Size (Cubic Yards)	Number of Containers	Number of Pickups Per Week	Material (Trash or Recycle)
Dumpsters	40 YD	2	1	Trash
Dumpsters	40 YD	4	2	Recycle

Spotsylvania County
Non Residential Waste Generation Report
The purpose of this report is to calculate the annual waste stream generated from a proposed project and to ensure adequate collection service is provided.

Step 1: Determination of Annual Waste Generation

Complete the table for the proposed project being submitted. In the column labeled "Floor Area" enter the amount of square feet being occupied by each use. Multiply each square footage figure by the corresponding value in the "Annual Waste Generation Rate" column, and then list the value in "Annual Tonnage" column. Add all values in the "Annual Tonnage" column and enter the total next to "Combined Annual Waste Stream."

Building Use	Floor Area (square feet)		Annual Waste Generation Rate (tons/sq ft)		Annual Waste Generation Rate (Tons)
Office	2660	X	0.0013	=	3.25
Industrial		X	0.0016	=	0
Food/Retail		X	0.0055	=	0
Public Facility		X	0.00105	=	0
Institution/School		X	0.00105	=	0
Warehouse		X	0.00155	=	0
Combined Annual Waste Stream					3.25

Step 2: Determination of Minimum Storage Capacity
Determination of Minimum Storage Container and/or Dumpster Size (With Onsite Recycle Program)

Combined Annual Waste Stream	Cubic Yards Per Ton		Number of Annual Collections (Minimum 2)1		Number of Containers (Minimum 1)	=	Minimum Size of Each Storage Container or Dumpster (Cubic Yards)
3.25	X	4.44	=	52	÷	52	=	0.14

Determination of Minimum Storage Container and/or Dumpster Size (Without Recycle Program)

Combined Annual Waste Stream	Cubic Yards Per Ton		Number of Annual Collections (Minimum 52)		Number of Containers (Minimum 1)	=	Minimum Size of Each Storage Container or Dumpster (Cubic Yards)
3.25	X	4.44	=	52	÷	1	=	0.28

Per design standard the project must provide accommodation for future onsite recycling.
Sufficient area shall be provided at the collection center to accommodate a minimum of two (2) containers or more, of equal capacity, with 1/2 of the total capacity used for refuse collection and 1/2 of the total capacity used for recycle collection.

Step 3: Identification of Collection Method

Container Type (Compactors, Roll Off, Dumpsters, Carts)	Size (Cubic Yards)	Number of Containers	Number of Pickups Per Week	Material (Trash or Recycle)
Dumpster	10	1	0.5	Trash

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APPROVAL

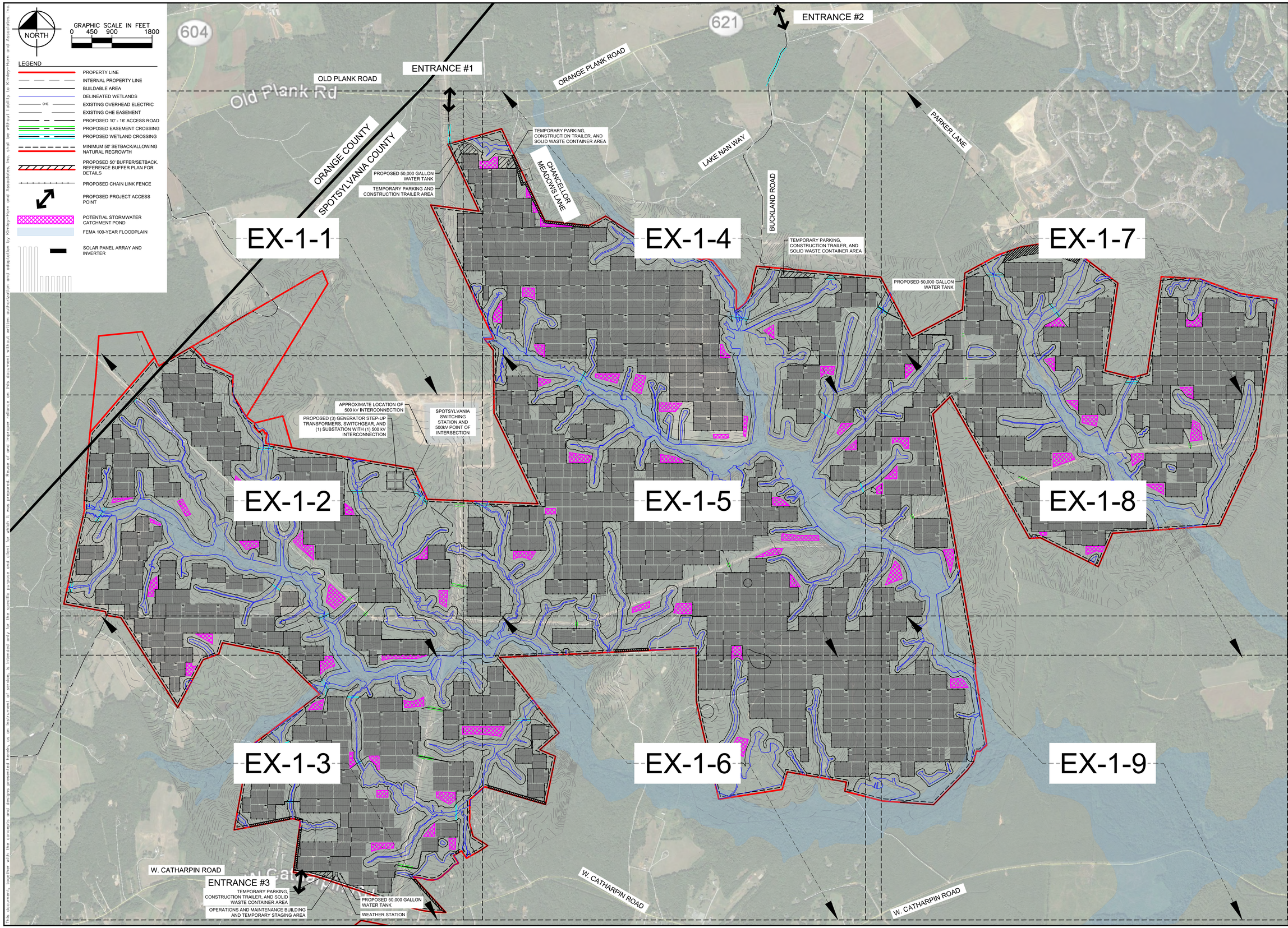
COMMONWEALTH OF VIRGINIA
SEAN MILLOT
Lic. No. 0402052332
PROFESSIONAL ENGINEER
11/20/2018

KHA PROJECT 116626000
DATE 11/20/2018
SCALE AS SHOWN
DESIGNED BY JRB
DRAWN BY JRB
CHECKED BY SMM

SUP 18-0001
GENERALIZED DEVELOPMENT PLAN
COVER

SPOTSYLVANIA SOLAR ENERGY CENTER A
PREPARED FOR S-POWER
SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
C-01



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10/26/2018
PROFESSIONAL ENGINEER

KHA PROJECT	116626000
DATE	10/26/2018
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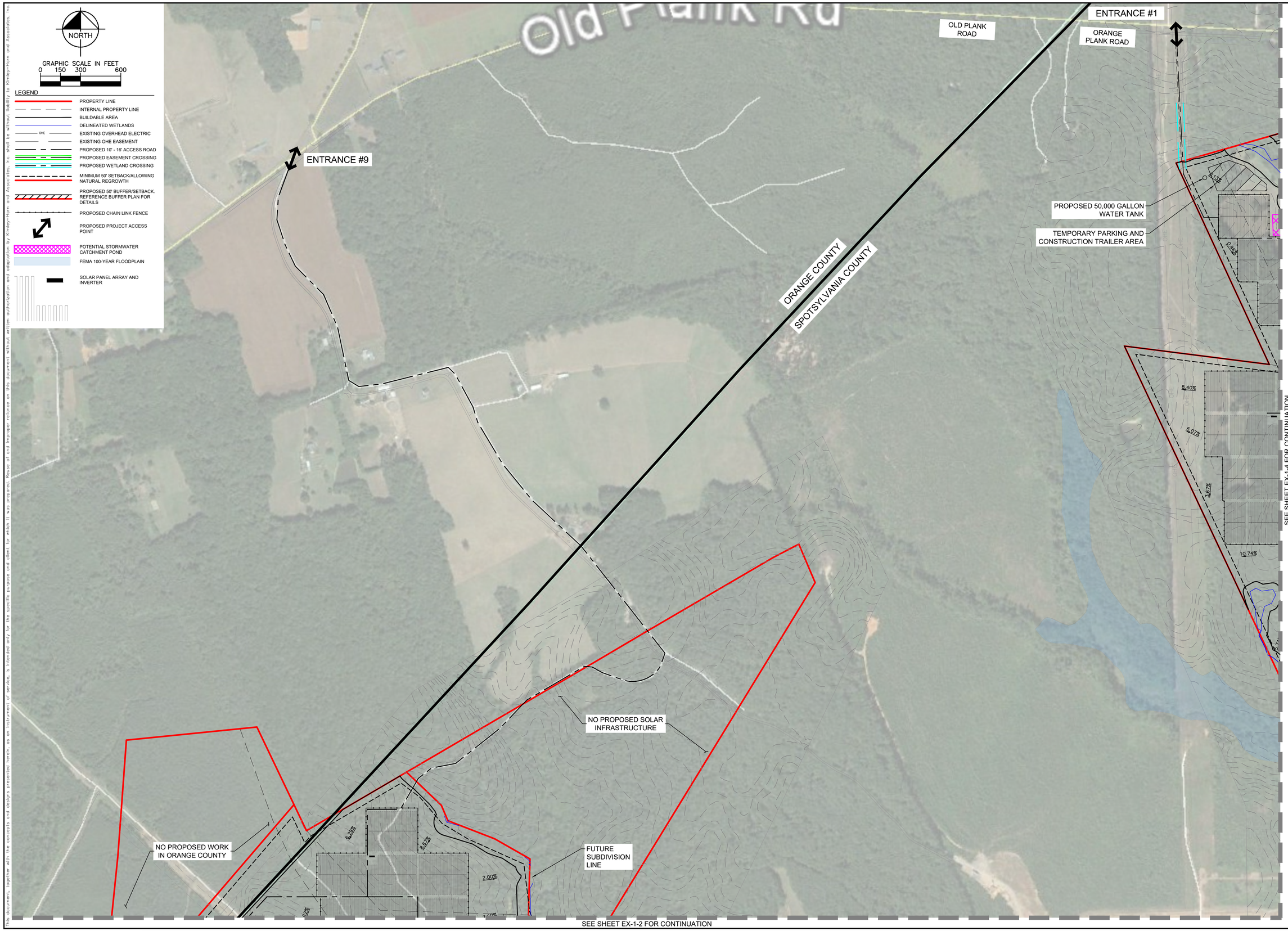
DESIGNED BY	JRB
DRAWN BY	JRB
CHECKED BY	SMM

SUP 18-0001 GENERALIZED DEVELOPMENT PLAN - OVERALL

SPOTSYLVANIA SOLAR ENERGY CENTER A
PREPARED FOR S-POWER
SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
EX-1-0



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SUP 18-0001 GENERALIZED DEVELOPMENT PLAN - 1

SPOTSYLVANIA SOLAR ENERGY CENTER A
PREPARED FOR S-POWER
SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
EX-1-1

SEE SHEET EX-1-1 FOR CONTINUATION

NO PROPOSED WORK IN ORANGE COUNTY

ORANGE COUNTY

SPOTSYLVANIA COUNTY

FUTURE SUBDIVISION LINE

NO PROPOSED SOLAR INFRASTRUCTURE

FUTURE SUBDIVISION LINE

SPOTSYLVANIA SWITCHING STATION AND 500kV POINT OF INTERSECTION

OVERHEAD ELECTRIC LINE TO BE BUILT BY sPOWER

OVERHEAD ELECTRIC LINE TO BE PROVIDED BY DOMINION

POINT OF CHANGE OF OWNERSHIP

PROPOSED (3) GENERATOR STEP-UP TRANSFORMERS, SWITCHGEAR, AND (1) SUBSTATION WITH (1) 500 kV INTERCONNECTION

MCCRACKEN CREEK

ABANDONED GOLD MINE (APPROXIMATE LOCATION)

NORTH

GRAPHIC SCALE IN FEET
0 150 300 600

LEGEND

- PROPERTY LINE
- INTERNAL PROPERTY LINE
- BUILDABLE AREA
- DELINEATED WETLANDS
- EXISTING OVERHEAD ELECTRIC
- EXISTING OHE EASEMENT
- PROPOSED 10' - 16' ACCESS ROAD
- PROPOSED EASEMENT CROSSING
- PROPOSED WETLAND CROSSING
- MINIMUM 50' SETBACK/ALLOWING NATURAL REGROWTH
- PROPOSED 50' BUFFER/SETBACK. REFERENCE BUFFER PLAN FOR DETAILS
- PROPOSED CHAIN LINK FENCE
- PROPOSED PROJECT ACCESS POINT
- POTENTIAL STORMWATER CATCHMENT POND
- FEMA 100-YEAR FLOODPLAIN
- SOLAR PANEL ARRAY AND INVERTER

SEE SHEET EX-1-5 FOR CONTINUATION

SEE SHEET EX-1-3 FOR CONTINUATION

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SUP 18-0001
GENERALIZED
DEVELOPMENT PLAN - 2

SPOTSYLVANIA SOLAR
ENERGY CENTER A
PREPARED FOR
S-POWER

SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
EX-1-2

SEE SHEET EX-1-2 FOR CONTINUATION

TALL OAKS DRIVE

ABANDONED GOLD MINE
(APPROXIMATE LOCATION)

W. CATHARPIN ROAD

ENTRANCE #3

TEMPORARY PARKING, CONSTRUCTION TRAILER, AND SOLID WASTE CONTAINER AREA

OPERATIONS AND MAINTENANCE BUILDING AND TEMPORARY STAGING AREA

WEATHER STATION

PROPOSED 50,000 GALLON WATER TANK

NORTH

GRAPHIC SCALE IN FEET
0 150 300 600

LEGEND

- PROPERTY LINE
- INTERNAL PROPERTY LINE
- BUILDABLE AREA
- DELINEATED WETLANDS
- OHE — EXISTING OVERHEAD ELECTRIC
- EXISTING OHE EASEMENT
- PROPOSED 10' - 16' ACCESS ROAD
- PROPOSED EASEMENT CROSSING
- PROPOSED WETLAND CROSSING
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- PROPOSED PROJECT ACCESS POINT
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- FEMA 100-YEAR FLOODPLAIN
- SOLAR PANEL ARRAY AND INVERTER

SEE SHEET EX-1-6 FOR CONTINUATION

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SUP 18-0001 GENERALIZED DEVELOPMENT PLAN - 3

SPOTSYLVANIA SOLAR ENERGY CENTER A

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S-POWER

SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
EX-1-3

SEE SHEET EX-1-1 FOR CONTINUATION

ORANGE PLANK ROAD

FROM ENTRANCE #2

TEMPORARY PARKING, CONSTRUCTION TRAILER, AND SOLID WASTE CONTAINER AREA

CHANCELLOR MEADOWS LANE

CEMETERY (APPROXIMATE LOCATION)

100' BUFFER

EXISTING ELECTRIC LINE TO BE BURIED

LAKE NAN WAY

BUCKLAND ROAD

TEMPORARY PARKING, CONSTRUCTION TRAILER, AND SOLID WASTE CONTAINER AREA

SHANTY BRIDGE CREEK

SEE SHEET EX-1-5 FOR CONTINUATION

SEE SHEET EX-1-7 FOR CONTINUATION

NORTH

GRAPHIC SCALE IN FEET
0 150 300 600

LEGEND

- PROPERTY LINE
- INTERNAL PROPERTY LINE
- BUILDABLE AREA
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- SOLAR PANEL ARRAY AND INVERTER

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SUP 18-0001 GENERALIZED DEVELOPMENT PLAN - 4

SPOTSYLVANIA SOLAR ENERGY CENTER A
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S-POWER

SPOTSYLVANIA COUNTY VIRGINIA

SHEET NUMBER
EX-1-4