

# **Exhibit A**

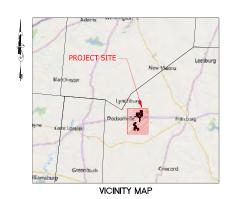
**Preliminary Site Plan** 

Case No. 20-1814-EL-BGN

# DODSON CREEK SOLAR

# HIGHLAND COUNTY OHIO





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# PROJECT DESCRIPTION & NOTES

- BOUNDARY INFORMATION PROVIDED BY NATIONAL GRID RENEWARIES
- TOPOGRAPHIC INFORMATION SHOWN FROM OHIO PUBLIC LIDAR DATABASE.
- WETLAND INFORMATION PROVIDED BY NATIONAL WETLAND INVENTORY
- 4. PARCEL DATA PROVIDED BY LANDGRID DATA STORE



# OWNER:

NATIONALGRID RENEWABLES 8400 NORMANDALE LAKE BLVD. SUITE 1200 BLOOMINGTON, MN 55437



# **ENGINEER:**

TIMMONS GROUP 971 NORTH GILBERT ROAD, SUITE 204 GILBERT, AZ 85234 TELEPHONE: (480) 386-8058

ELEPHONE: (480) 386-8058 WWW.TIMMONS.COM





NAME & ADDRESS



04/02/2021
SECT NUMBER
47489
R. SIERRA

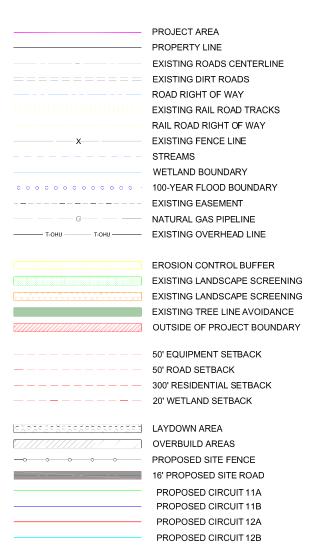


COVER SHEET

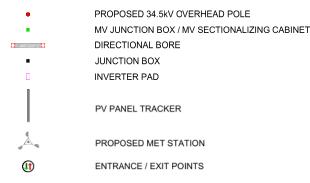
34°x22° FULL SIZE 7°x11° DUOT'S ADE WALF SCALE

N.T.S. DDC-E-000-01

# **LEGEND**



# **SYMBOLS**







CREEK SOLAR HIGHLAND COUNTY OHIO

PROJECT NAME & ADDRESS

O4/16/2021
DECT HARROR
47489
ANNINE
R. SIERRA
BERRERY
S. UPADHYAY



REVISIONS

IMMEDIAY

DESCRIPTION

ENTEROR

ENTOR

ENTEROR

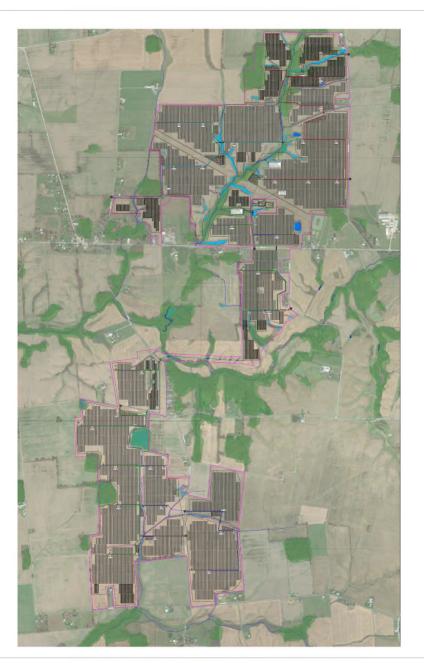
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LEGEND & SYMBOLS

34°x22° FULL SIZE (17°x11° BUTS APE MALE SOALE) SOALE SHEET NUMBER N.T.S. DDC-E-000-02



QUANTITY S	
SYSTEM DC RATING (MW)	193.08
SYSTEM AC CAPACITY( MW)	117
SYSTEM AC NAMEPLATE (MVA)	134.4
DC/AC RATIO (AT INVERTER)	1.44
DC/AC (AT POI)	1.03
MODULE MODEL	JAM72030 540W
GCR	0.30
PITCH (CENTER TO CENTER)	26
TOTAL 540W MODULES	357,552
INVERTER MODEL	SMA SC4200UP
TOTAL NUMBER INVERTERS	32
MODULES PER STRING	26
TOTAL STRINGS	13,792
DC SYSTEM VOLTAGE (V)	1500
COLLECTOR SYSTEM VOLTAGE (kV)	34.5
AZIMUTH	O'

TIMMONS GROUP
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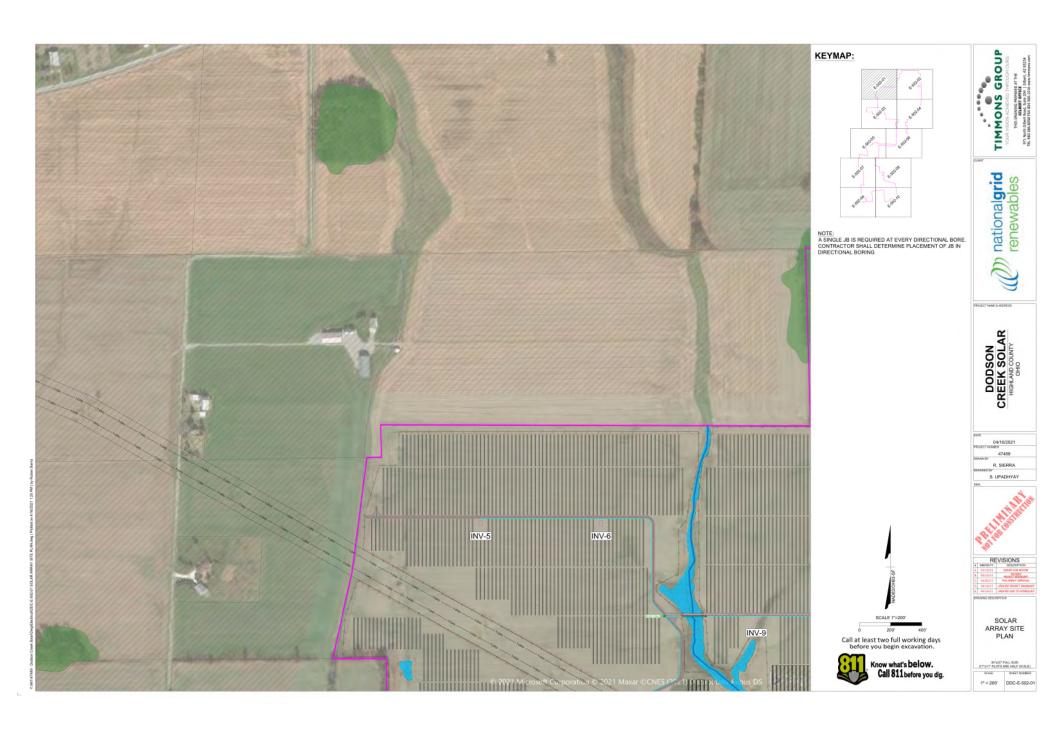


CREEK SOLAR
HIGHLAND COUNTY
OHIO

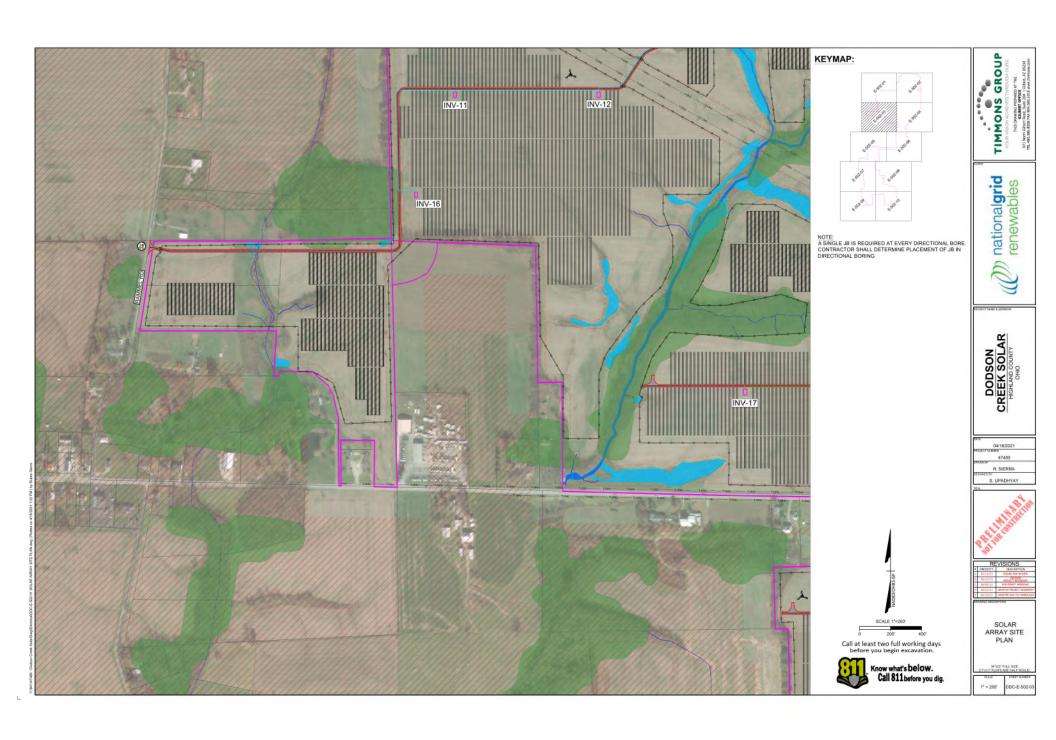
OVERALL SOLAR ARRAY SITE PLAN

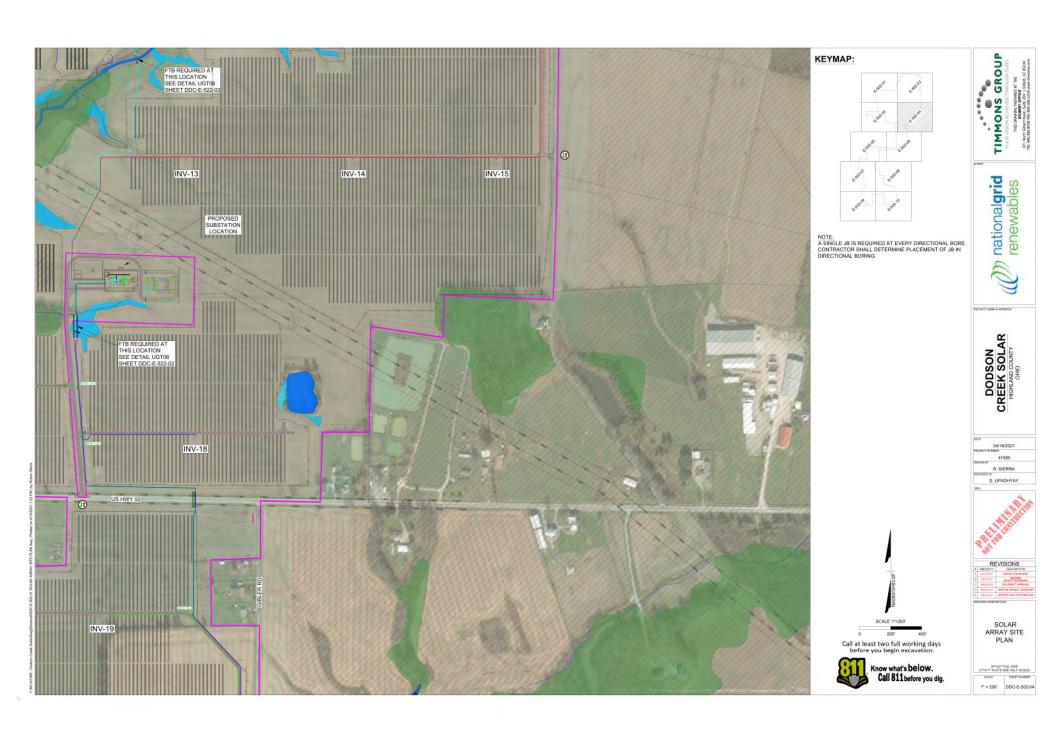
Know what's below.
Call 811 before you dig. 1° = 1,000' DDC-E-500-03

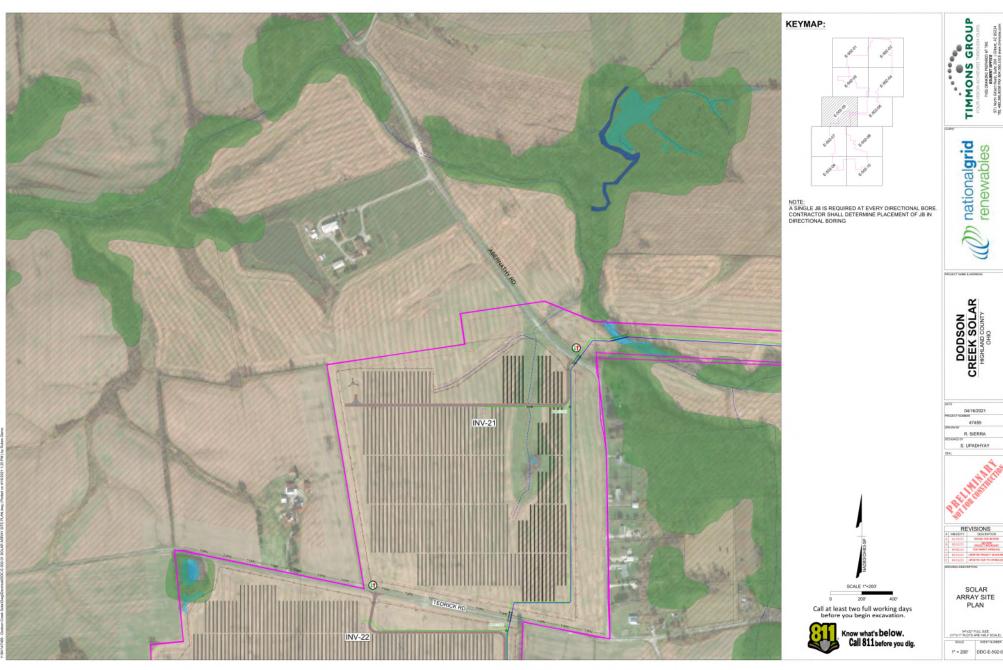
Call at least two full working days before you begin excavation.



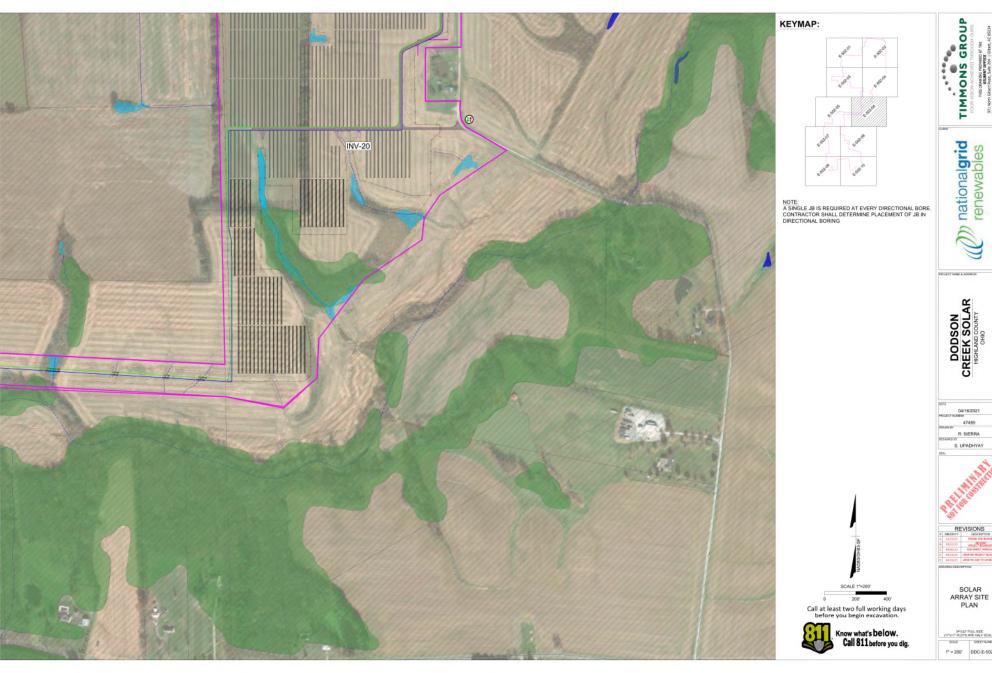








1\* = 200" DDC-E-502-05



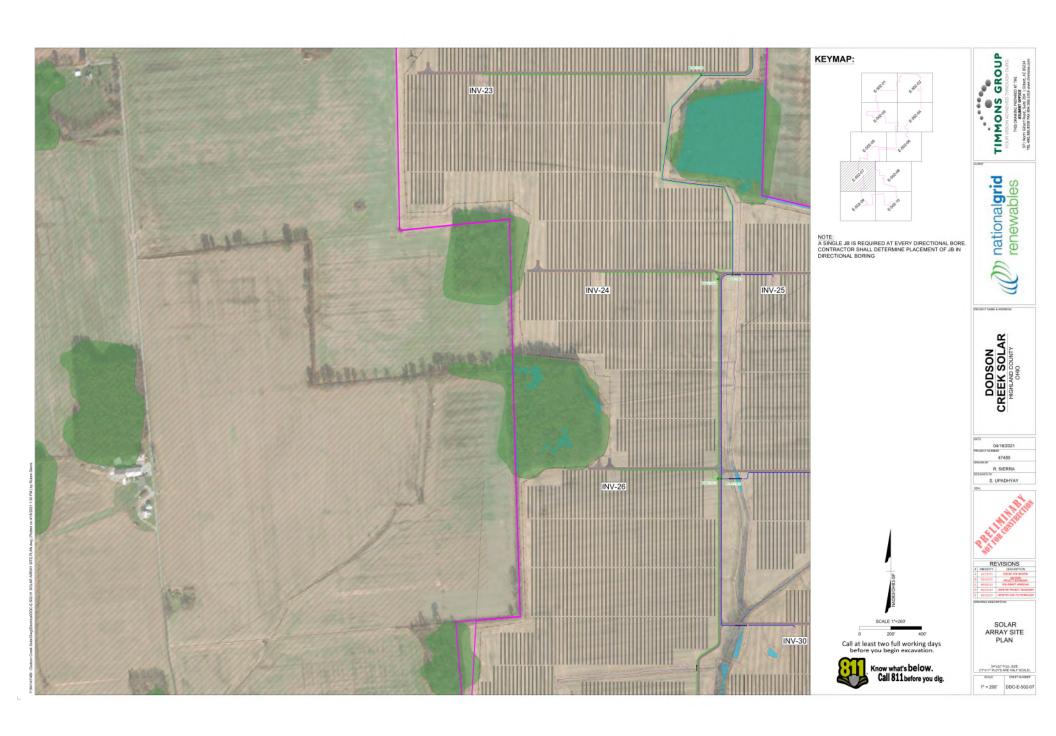
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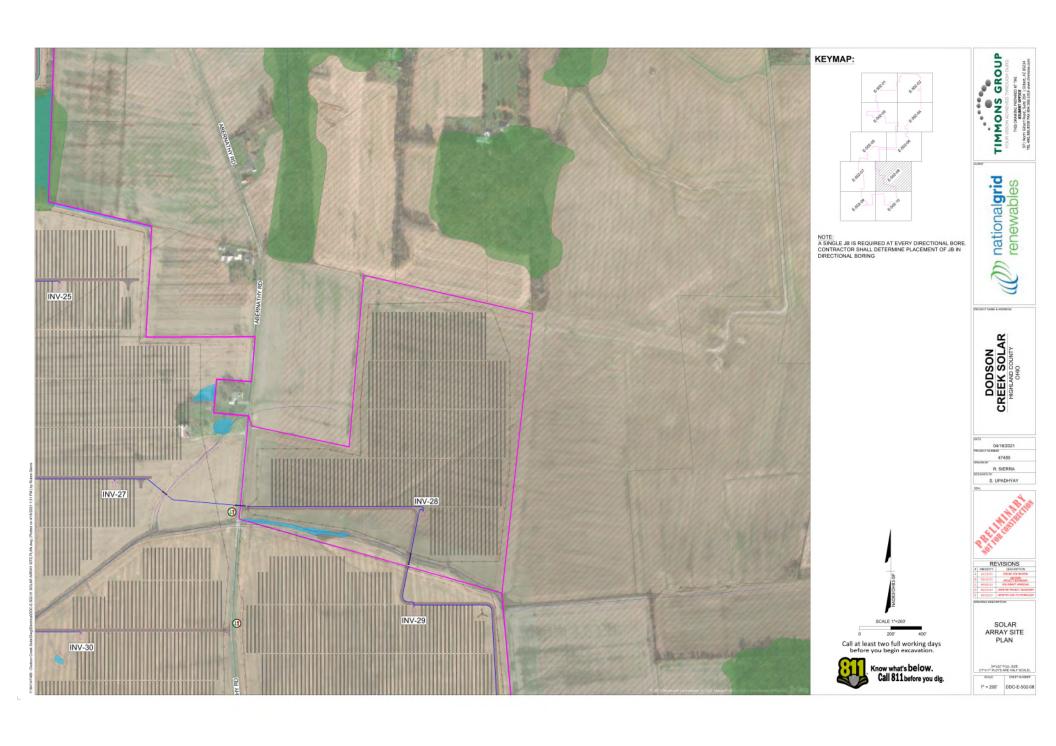
national**grid** renewables

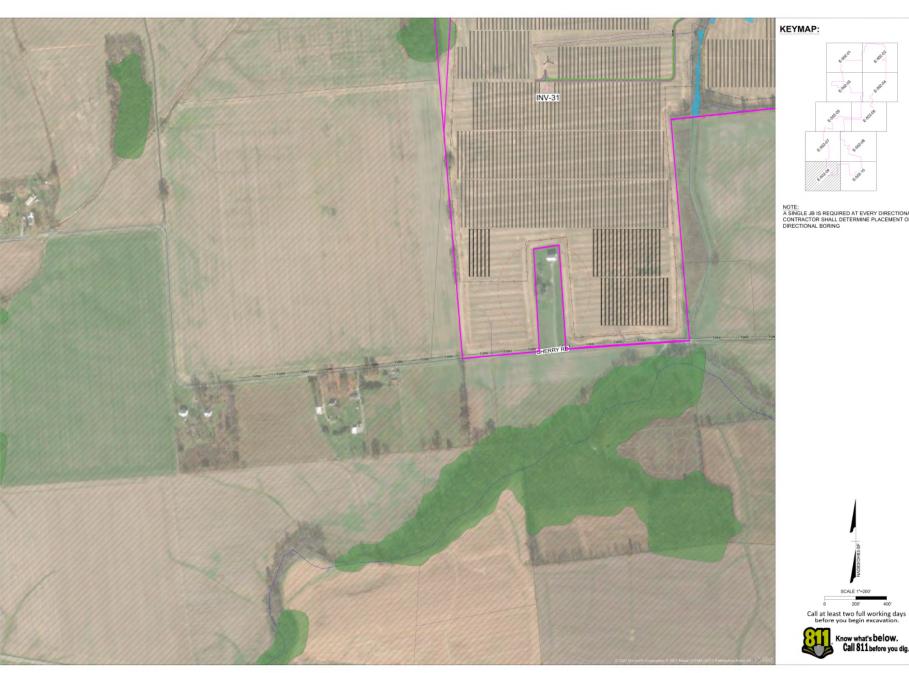
S, UPADHYAY

34"x27 FIEL SZE (17"x11" PLOTS ARE HALF SCALE)

1\* = 200" DDC-E-502-06









NOTE: A SINGLE JB IS REQUIRED AT EVERY DIRECTIONAL BORE. CONTRACTOR SHALL DETERMINE PLACEMENT OF JB IN DIRECTIONAL BORING

Know what's below.
Call 811 before you dig.

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national**grid** renewables



CREEK SOLAR
HIGHLAND COUNTY
OHIO

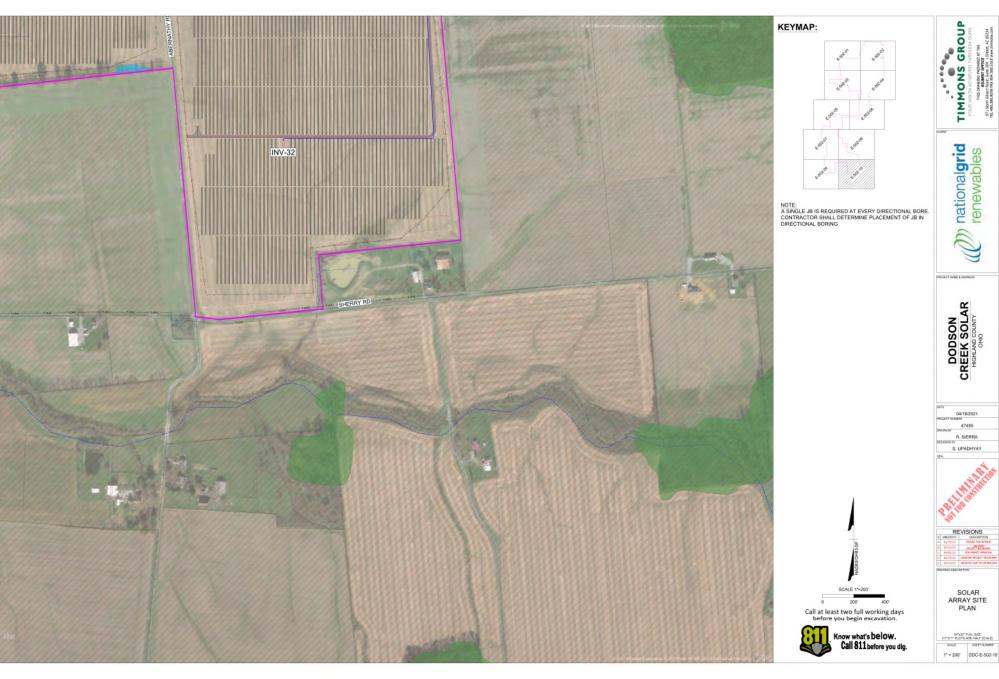
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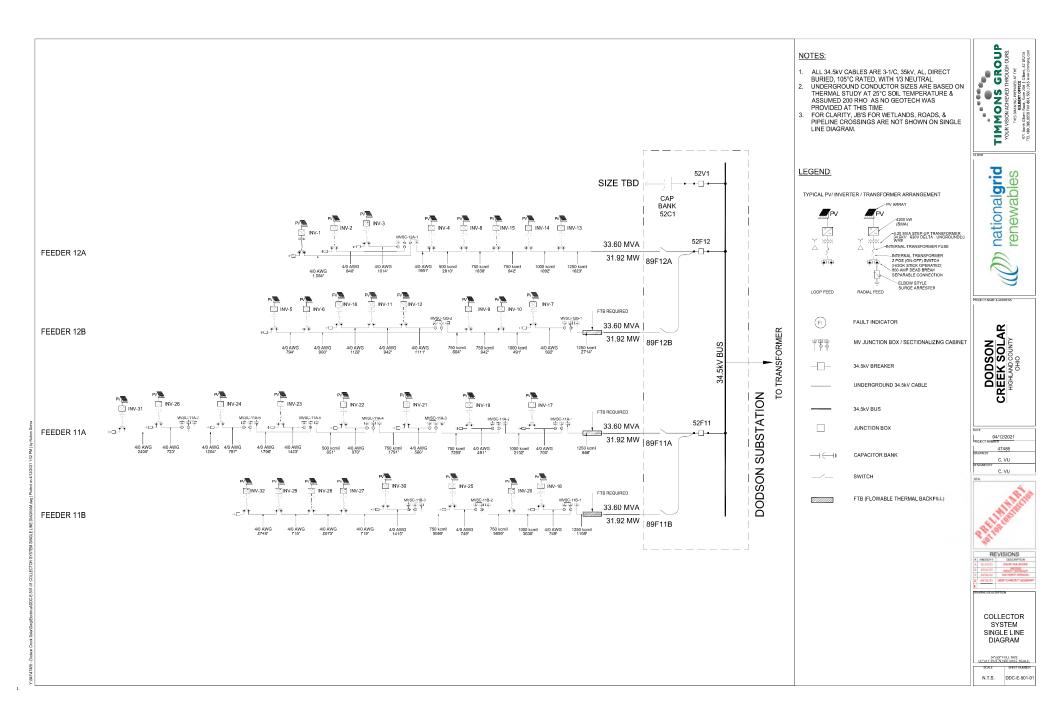
R. SIERRA S. UPADHYAY

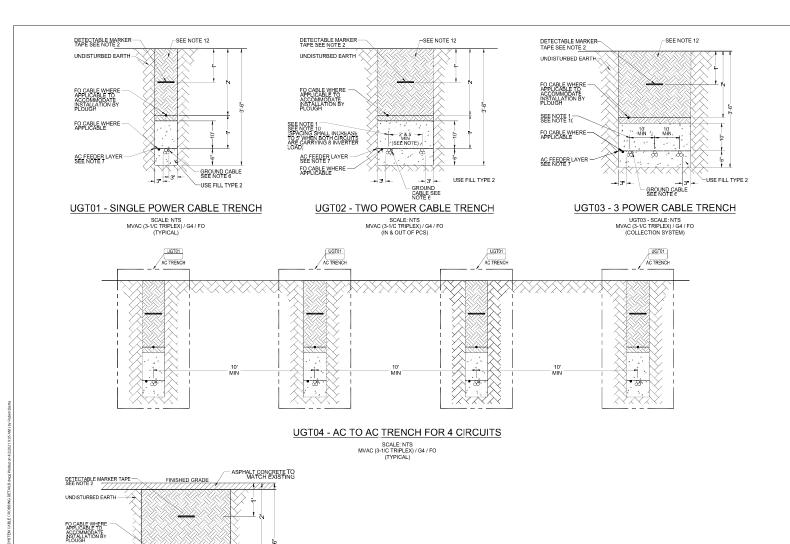
SOLAR ARRAY SITE PLAN

SPYZZ FIEL SZE (STYH! PLOTS ARE HALF SCALE)

1\* = 200" DDC-E-502-09







SEE NOTE 10

(TYP.) PVC SCH 80 CONDUITS

USE FILL TYPE 2

AC FEEDER LAYER SEE NOTE 8

15 15 MIN 15

SITE ROAD CROSSING

SCALE: NTS MVAC (3-1/C) / G4 / FO

### NOTES:

- THE DEAVING IS DIVERSIMATION AND THE STEP SHOWS THE STATE OF THE STATE
- INSTALL 6" WIDE RED DETECTABLE MARKER TAPE IN ALL TRENCHES.
- TRENCHING AND CABLE INSTALLATION MUST BE COORDINATED TO AVOID ALL OBSTRUCTIONS REFERENCE STRUCTURAL AND CIVIL DRAWINGS FOR EQUIPMENT LOCATION COORDINATES GRADING, AND UNDERGROUND OBSTRUCTIONS.
- DIMENSIONS TO CABLE LAYERS ARE FROM FINISHED GRADE TO THE CENTER OF CABLES, EXCEPT WHERE NOTED.
- MISCELLANDOUS CABLES INCLUDING FIBER OPTIC, INSTRUMENTATION AND LOW VOLTAGE MAY UTILIZE THE IRENOV SECTIONS, FIBER OPTIC CABLES MAY BE INSTALLED IN TRENCHES SHOWN ON UNDERGROUND TRENCHING PLAN OR SEPARATELY VIA CABLE PLOW METHOD.
- ALL BARE CU. GROUND WIRE SHALL BE DIRECT BURIED TO A MINIMUM DEPTH OF 30" EXCEPT UNDER ROAD CROSSINGS, GROUND WIRE SHALL BE BURIED AT 38".
- FOR MVAC CONDUCTOR SIZING SEE DRAWING E-501-01. WHEN MVAC CROSSES DC FEEDERS. LOWER MVAC CABLES 12" BELOW DC LAYER
- COMPACTION REQUIREMENTS: 85%
  COMPACTION AND 95% COMPACTION AT ROAD
  CROSSINGS. FIIL LIFT SHALL NOT EXCEED 10"
  MAX. LOSSE THICKNESS PER PROJECT
  GEOTECHNICAL REPORT.
- 9. CLEAN FILL REQUIREMENTS:

TRENCHING: 9A. TYPE 1: NATIVE SOIL, SHALL BE USED FOR BACKFILL AS SHOWN IN SECTIONS. 9B. TYPE 2: FILL SHALL BE CLEAN MATERIAL CONTAINING PARTICLES NO LARGER THAN 3/8" IN DIAMETER IN THE AREA 6" ABOVE AND BELOW.

9C. TYPE 3: FILL SHALL BE CLEAN MATERIAL CONTAINING PARTICLES NO LARGER THAN 3" IN DIAMETER.

DIAME IER.
PLOWING:
P

- NOTE THAT SEPARATION BETWEEN CABLES
   MAY CHANGE ONCE ACTUAL RHO VALUE IS
   RECEIVED.
- 11. TREFOIL CABLE SHALL BE ZIPTIED AT INTERVALS NO LESS THAN 3 FT.
- WHEN APPLICABLE FOR EXAMPLE, TRENCH IS NUMACROSS FARMANAD, OR OUTSIDE OF SOLD APPLICABLE FOR EXAMPLE, TRENCH IS SUN ACROSS FARMANAD, OR OUTSIDE OF SOLD APPLICABLE OF THE TOP SOLD APPLICABLE OF THE TOP SOLD APPLICABLE OF THE TRENCH OF THE DISTURBED SOIL MAINTAIN 45 MINIMUM TO TOP OF TRENCH OF THE DISTURBED SOIL MAINTAIN 45 MINIMUM TO TOP OF TRENCH OF THE TRENCH OF THE TRENCH OF THE TRENCH OF THE DISTURBED APPLICABLE OF THE TRENCH OF THE DISTURBED APPLICABLE OF THE THE THE DISTURBED APPLICABLE OF THE THE DISTURBED APPLICABLE OF THE THE

#### LEGEND:



FILL TYPE 1 (NATIVE SOIL) SEE NOTE 9A



(CLEAN FILL) SEE NOTE 9B FILL TYPE 3

(CLEAN FILL) SEE NOTE 90

1/0 AWG BARE COPPER CABLE G1 4/0 AWG G4

BARE COPPER CABLE

SITE UNDERGROUND TRENCH **DESIGN BASIS** 

EARTH TEMPERATURE = 25.0° C

GROUP B THROUGH OURS. PRICE AT THOUGH OURS. 204 (16th LAS 85234 Lable Work Limmass.com 





ECT NAME & ADDRES

BODSON REEK SOLAR HIGHLAND COUNTY OHIO CR

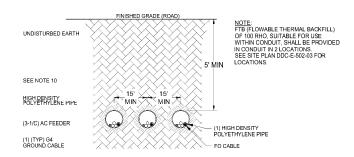
04/02/2021 R. SIERRA C. HARRIS



COLLECTION SYSTEM CABLE CROSSING DETAIL

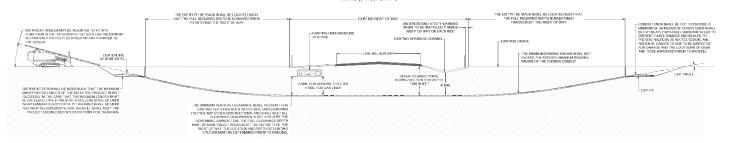
SCALE

DDC-E-522-01

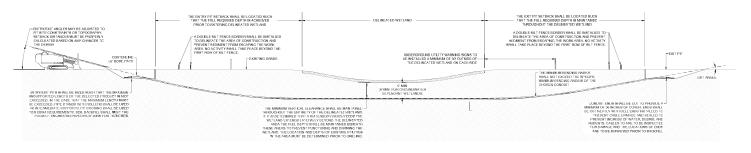


## UGT06 - DIRECTIONAL BORING SECTION

SCALE: NTS MVAC (3-1/C) / G4 / FO



# UNDERGROUND UTILITY HORIZONTAL DIRECTIONAL DRILL ROAD CROSSING



## UNDERGROUND UTILITY HORIZONTAL DIRECTIONAL DRILL WETLAND CROSSING

#### NOTE

- 1. THIS DRAWING IS DIAGRAMMATIC AND INTENDED TO SHOW THE TYPICAL LEVELS AND MINIMUM SPACING BETWEEN CABLES WITHIN THE TRENCH. THE EXACT TYPE OR NUMBER CO. CABLES MAY VARY FROM WHAT IS SHOWN TO DETERMINE WHERE CABLES ARE APPLICABLE ON THE SITE, REFERENCE ALL AC, GROUNDING, FIBER OPTIC AND ALL CHEER CABLUS OF LANS.
- INSTALL 6" WIDE RED DETECTABLE MARKER TAPE IN ALL TRENCHES.
- 3. TRENCHING AND CABLE INSTALLATION MUST BE COORDINATED TO AVOID ALL OBSTRUCTIONS. REFERENCE STRUCTURAL AND CIVIL DRAWINGS FOR EQUIPMENT LOCATION COORDINATES, GRADING, AND UNDERGROUND OBSTRUCTIONS.
- DIMENSIONS TO CABLE LAYERS ARE FROM FINISHED GRADE TO THE CENTER OF CABLES, EXCEPT WHERE NOTED.
- 5. MISCELLANEOUS CABLES INCLUDING FIBER OPTIC, INSTRUMENTATION AND LOW VOLTAGE MAY UTILIZE THE TRENOH SECTIONS, FIBER OPTIC CABLES MAY BE INSTALLED IN TRENCHES SHOWN ON UNDERGROUND TRENCHING PLAN OR SEPARATELY VIA CABLE PLOW METHOD.
- ALL BARE CU. GROUND WIRE SHALL BE DIRECT BURIED TO A MINIMUM DEPTH OF 30".
- FOR MVAC CONDUCTOR SIZING SEE DRAWING E-501-01.
- SOIL COMPACTION REQUIREMENTS: 85%
   COMPACTION AND 95% COMPACTION AT ROAD
   CROSSINGS. REFERENCE GEOTECHNICAL
   REPORT LIFT SEPARATIONS.
- 9. CLEAN FILL REQUIREMENTS:

TRENCHING: 9A. TYPE 1: NATIVE SOIL, SHALL BE USED FOR BACKFILL WITH INTERLOCK ARMOR CABLES OR AS SHOWN IN SECTIONS.

9B. TYPE 2: FILL SHALL BE CLEAN MATERIAL CONTAINING PARTICLES NO LARGER THAN 3/8" IN DIAMETER IN THE AREA 6" ABOVE AND BELOW.

9C, TYPE 3: FILL SHALL BE CLEAN MATERIAL CONTAINING PARTICLES NO LARGER THAN 3" IN DIAMETER.

#### PLOWING:

PLOWING-IN OF FO CABLE IN SOIL CONTAINING ROCK OR OTHER SOULD MATERIAL SHALL BE DONE IN SUCH AMANURE THAT THE SOLID MATERIAL WILL NOT DAMAGE THE CABLE, EITHER DURING THE PLOWING OPERATION OR AFTERWARD. THE DESIGN OF CABLE-PLOWING EQUIPMENT AND THE PLOWING-IN OPERATION SHOULD BE SUCH THAT THE CABLE WILL NOT BE DAMAGED BY BENDING, SIDE-WALL PRESSURE, OR EXCESSIVE CABLE TIMSION.

- NOTE THAT SEPARATION BETWEEN CABLES MAY CHANGE ONCE ACTUAL RHO VALUE IS RECEIVED.
- 11. SEE TABLE 1 FOR INDICATED BORE SIZE TO CABLE SIZE.
- 12. TREFOIL CABLE SHALL BE ZIP TIED AT INTERVALS NO LESS THAN 3 FT.

#### LEGEND:



G1 1/0 AWG BARE COPPER CABLE G4 4/0 AWG BARE COPPER CABLE

### TABLE

HORIZONTAL DIRECTIONAL BORE REQUIREMEN*8				
35KV CABLE SIZE	HDPE SDR 13.5 BORE CONDUIT SIZE	HDPE FIBER OPTIC INNERDUCT SIZE SOR 13.5		
(3) 1/0 AWG	MIN. 6*	2.5"		
(3) 3/0 AWG	MIN. 6*	1,29*		
(3) 4/0 AWG	MIN. 6*	1.25*		
(3) 350 KCMIL	MIN. 6*	1.25*		
(3) 500 KCMIL	MIN. 8*	1.25"		
(3) 750 KCMIL	MIN. 8*	1.25"		
(3) 1000 KCMIL	MIN. 8*	1.25*		
(3) 1250 KCMIL	MIN. 8*	1.25"		

## SITE UNDERGROUND TRENCH DESIGN BASIS

THERMAL RESISTIVITY: (RHO) = 200 EARTH TEMPERATURE = 25.0° C

\*SEE NOTE 10

TIMMONS GROUP

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175 STATE OF THE STATE O



NAME & ADDRESS



O4/02/2021
DECTROMER
47489
R, SIERRA
REPUBLIS
C, HABRIS



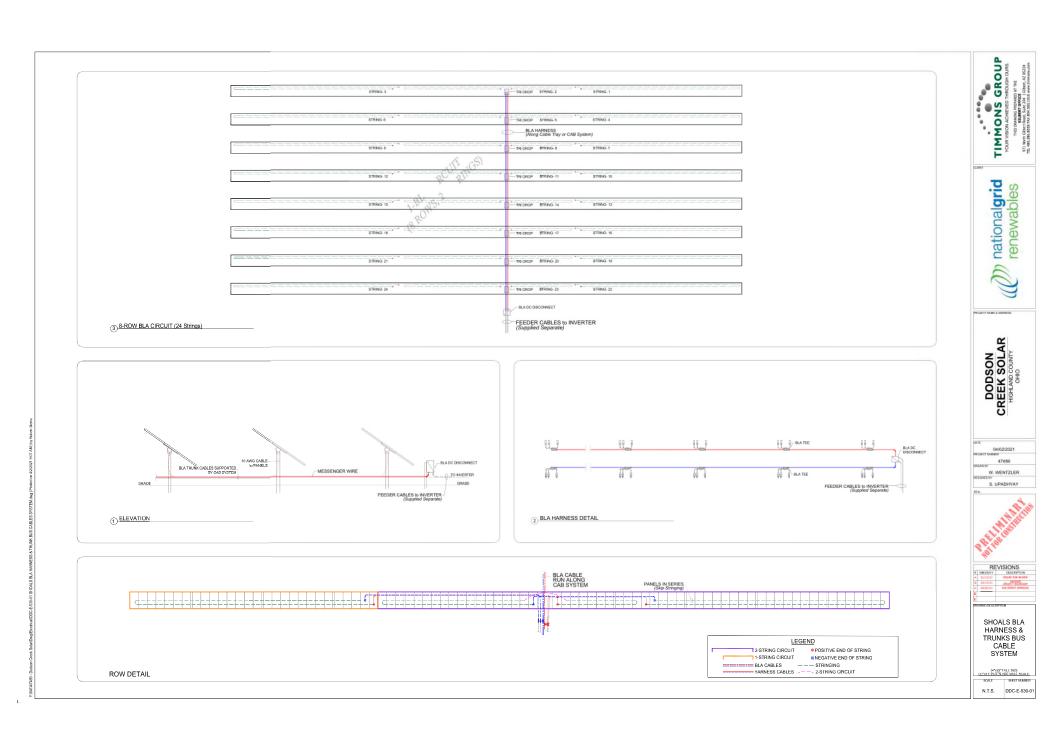
NAMEDRY EXCEPTION

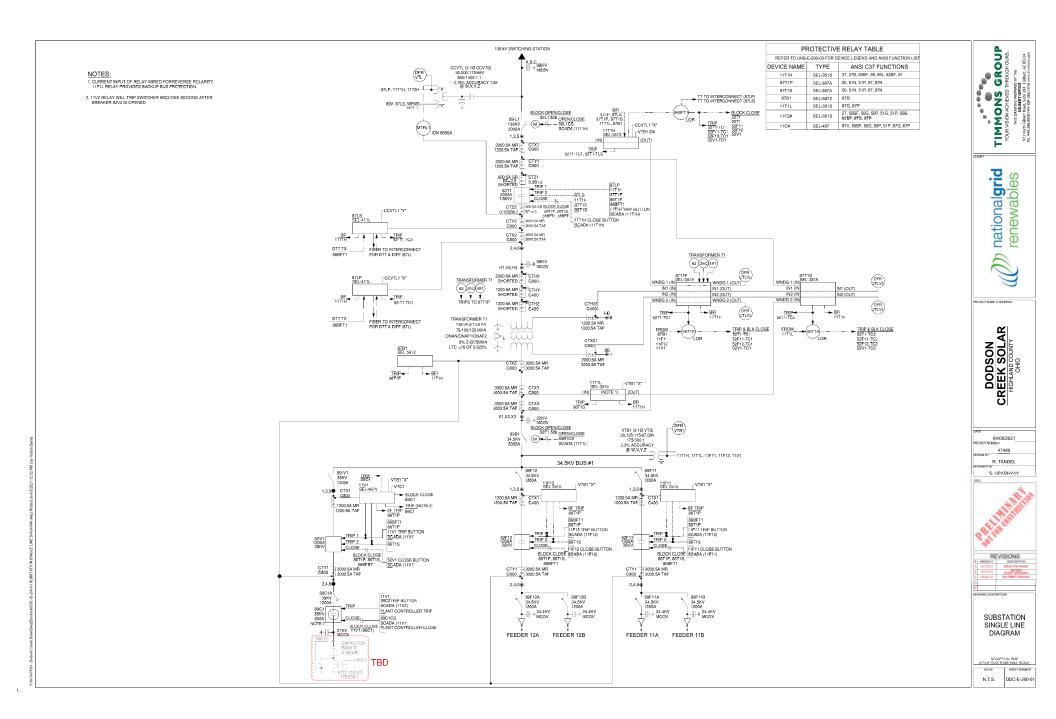
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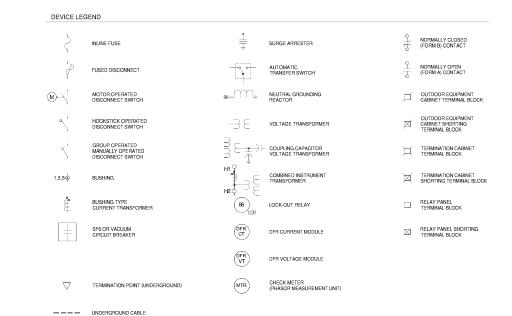
COLLECTION SYSTEM CABLE CROSSING DETAIL

SCALE SHEET NUMBER

N.T.S. DDC-E-522-02







	DEVICE FUNCTION NUM	IDEN LIGIT	(Alna Ca7.2)
NO.	FUNCTION AND DEFINITION	NO.	FUNCTION AND DEFINITION
11	MULTIFUNCTION	59L	HOT LINE (SYNCH, CHECK)
21	DISTANCE	59B	HOT BUS (SYNCH, CHECK)
21G	GROUND DISTANCE	62	TIMING RELAY
24	VOLTS PER HERTZ	63	TRANSFORMER PRESSURE RELAY
25	SYNCH. CHECK (HOT LINE/DEAD BUS)	64	GROUND FAULT
26Q	OIL TEMPERATURE THERMOMETER	67P	AC DIRECTIONAL OVERCURRENT
27	UNDERVOLTAGE	67G	GROUND DIRECTIONAL OVERCURRENT
27B	DEAD BUS (SYNCH, CHECK)	71Q	OIL LEVEL INDICATOR DEVIC
46	REVERSE PHASE LOCK-OUT	81	FREQUENCY
49T	TRANSFORMER THERMAL RELAY	86B	BUS LOCK-OUT RELAY
50	INSTANTANEOUS OVERCURRENT	86BF	BREAKER FAILURE LOCK-OU'
50G	GROUND INSTANTANEOUS OVERCURRENT	86T	TRANSFORMER LOCK-OUT RELAY
50BF	BREAKER FAILURE	87	DIFFERENTIAL
51	AC TIME OVERCURRENT	87L	LINE DIFFERENTIAL
51P	PHASE AC TIME OVERCURRENT	87B	BUS DIFFERENTIAL
51G	GROUND AC TIME OVERCURRENT	87T	TRANSFORMER DIFFERENTIA
51N	NEUTRAL TIME OVERCURRENT	87N	RESTRICTED EARTH FAULT
52	AC CIRCUIT BREAKER	87V	ZERO SEQ. VOLTAGE DIFFERENTIAL
59	OVERVOLTAGE	89	LINE DISCONNECT SWITCH
59N	NEUTRAL VOLTAGE DISPLACEMENT	90	REGULATING DEVICE





PROJECT NAME & ADDRESS



OU/DS/2021

OU/DS/2021

POLICIT MEMBER

47459

PULINEY

R. TANDEL

ESS/2020 F

S. UPADHYAY

EX.

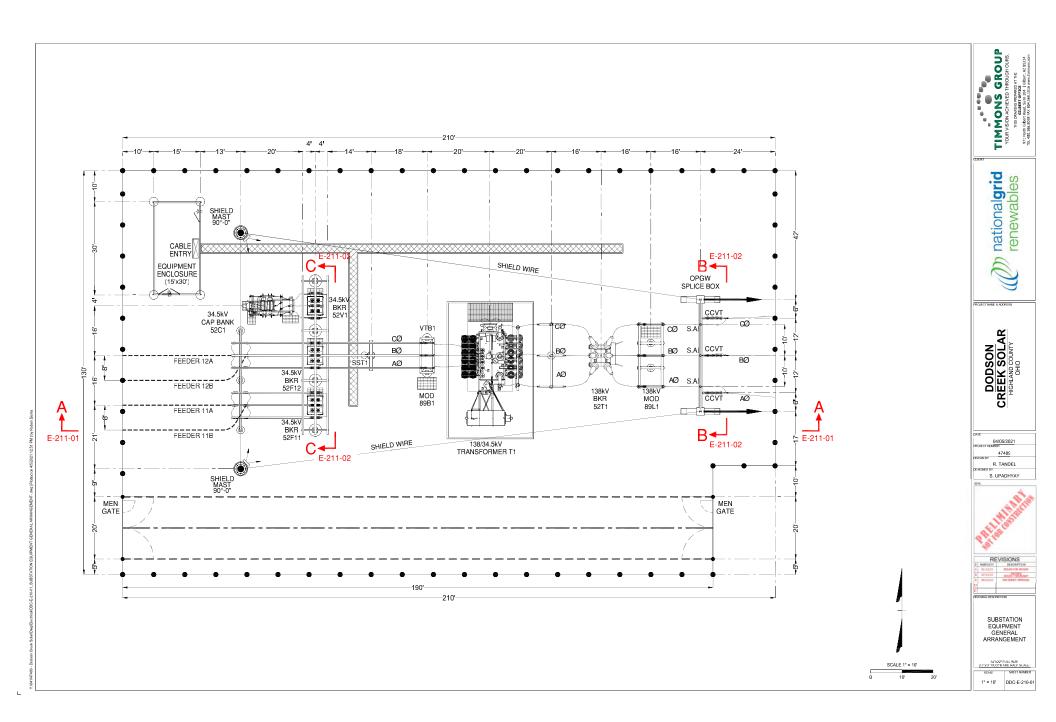


SUBSTATION DEVICE LEGEND

34">22" FULL SIZE (17">11" PUDTS ARE WULF SCALE) SCALE SHEET NUMBER N.T.S. DDC-E-200-02

47489 - Dotson Crost SdarfDwyElectrical/DDC-E-200-01 SUBSTATION SINGLE LINE DIAGRAM dwy i Plated on 415/2021 12:52 PM I by Puben Serna

CT (PASS THROUGH CT) PROTECTIVE RELAY

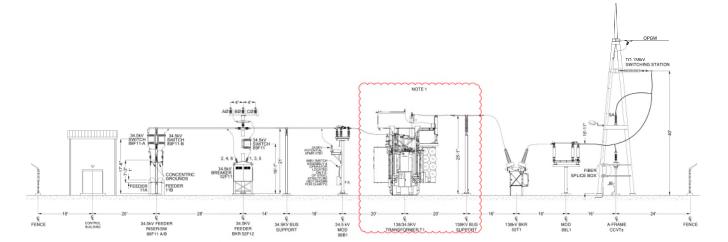




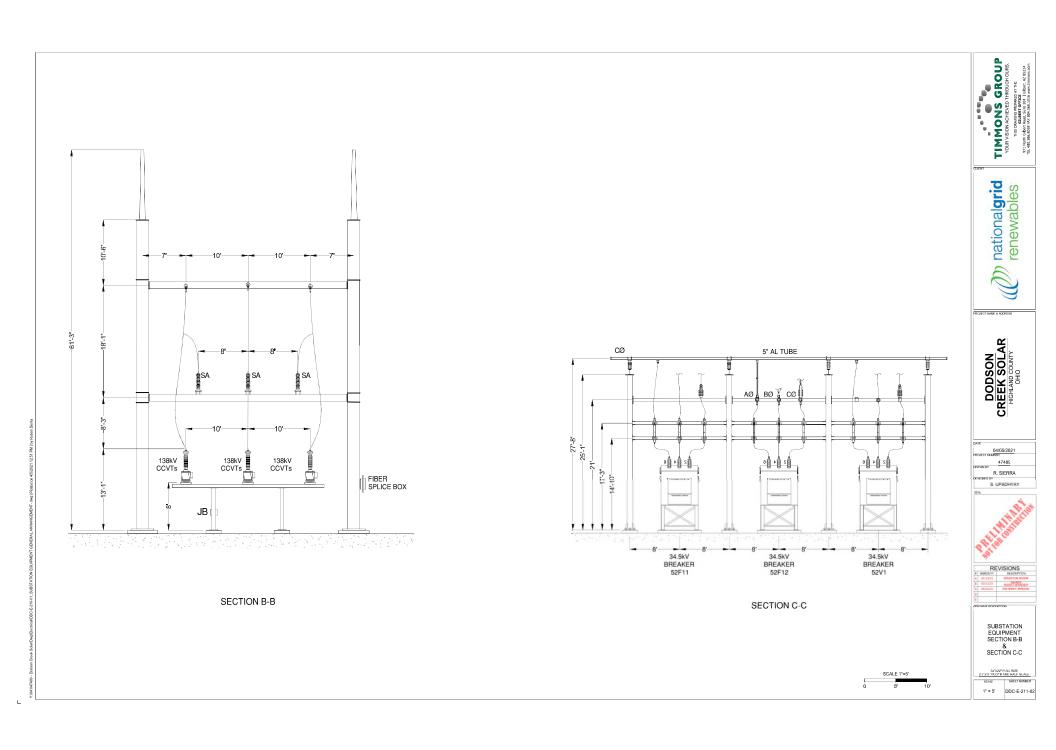
NOTES

 THE DIMENSIONS/DRAWING OF TRANSFORMER IS NOT AVAILABLE. TRANSFORMER FOOTPRINT, BUS SUPPORT HEIGHT AND CONFIGURATION WILL CHANGEAS PER THE TRANSFORMER DIMENSION.

> SCALE 1"=10" 0 10"



SECTION A-A



This foregoing document was electronically filed with the Public Utilities

**Commission of Ohio Docketing Information System on** 

5/27/2021 4:58:16 PM

in

Case No(s). 20-1814-EL-BGN

Summary: Application Exhibit A (Preliminary Site Plan) electronically filed by Mr. Michael J. Settineri on behalf of Dodson Creek Solar, LLC