NOTICE OF A PUBLIC HEARING OF A PETITION FOR SPECIAL EXCEPTION

Notice is hereby given that on the 27th day of September, 2021 6:00 P.M. E.T.,

A public hearing will be held before the Pulaski County Board of Zoning Appeals (BZA) in the Pulaski County Highway Garage, Winamac, Indiana, 46996 on the petition of:

Moss Creek Solar, LLC

Docket # 09272021-01 is filed for a Petition for a special exception for properties comprising approximately 1,620 acres across multiple parcel(s).

The petition is as follows:

Moss Creek Solar, LLC is requesting installation of commercial solar panels in Beaver Township compromising of 1,620 acres.

The application and all submitted documentation are available for review Monday through Friday 8 a.m. to 4 p.m. in the Building/Zoning Department, County Building, 125 South Riverside Drive, Suite 150, Winamac.
*Due to Covid-19 federal, state & county mandates & restrictions, all requests are appointment only and must be accompanied by a Public Access Request Form (IC 5-14-3-3) found at http://gov.pulaskionline.org/building/

The BOARD OF ZONING APPEALS has set said hearing at the time and place specified. Written suggestions or objections concerning this application may be filed with the Plan Administrator or Administrative Secretary a minimum of 48 hours prior to the hearing and will be heard by the BOARD OF ZONING APPEALS at the time and place specified. Interested persons desiring to present their views upon the application, either in writing or verbally, will be given the opportunity to be heard at the above mentioned time and place or via digital means. Said hearing may be continued from time to time as may be necessary.

IMPORTANT NOTICE REGARDING COUNTY MEETINGS:
In an effort to stop the spread of COVID-19, in-person attendance at County meetings at the Highway garage will be based on the Governors executive orders of in-person meeting occupancy based on date of meeting(s). In order to comply with amended Open Door Law policies, the County will live-stream public meetings via Facebook.

Dated at Pulaski County, Indiana, this 5th day of August, 2021.

Karla Redweik
County Inspector
APC/BZA Plan Administrator
574-946-7858
buildinginspector@pulaskicounty.in.gov

#09272021-01 #09272021-01

Pulaski County Advisory Plan Commission & Board of Zoning Appeals
APPLICATION FOR PUBLIC HEARING

DATE FILED: August 2nd, 2021 Docket #_09272021-01/039272021-01

Petition: ____ Map Amendment/Rezone –APC X Special Exception –BZA
____ Use Variance –BZA ____ Variance from Development Standards –BZA

Petitioner Information

Name(s): **Moss Creek Solar LLC**

Street address: 700 Universe Boulevard

City, State Zip: Juno Beach, FL 33408

Telephone: 561-694-4316 Email: Anthony.pedroni@neer.com

Signature: Anthony Pedroni

Petitioner is Sole Owner Joint Owner Tenant Agent Other: _X_____

Property Owner Information (if different from petitioner)

Name(s): **Various** - Attached Exhibit A

Street address: _____

City, State Zip: _____

Telephone: _____ Email: _____

Signature: _____

Premises Affected

Address: **Various (see project site plan)** - addendum attached Exhibit A
(If no assigned address, then provide location relative to nearest cross streets or county roads.)

Parcel #: **Various (see participating parcels list)**
(If more than one parcel is included, please provide key parcel number here and additional numbers as an attachment to this application. Please attach complete legal description(s).)

Acreage: **1620 acres** Current use: **Agricultural**

Present Zoning: **A-1 (General Agricultural)** Proposed Zoning: _____

(For rezoning requests only)
Use of Adjacent properties

North: _____ East: _____ South: _____ West: _____

Pulaski County Building and Zoning Department
125 South Riverside Drive, Room 150, Winamac, Indiana 46996
574-946-7858 (o), 574-946-4917 (f)
Email: buildinginspector@pulaskicounty.in.gov, zoning@pulaskicounty.in.gov
Web: http://gov.pulaskionline.org/bpz/

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AFFIDAVIT OF CONSENT

The undersigned, as Vice Presodent of Moss Creek Solar LLC, a Delaware limited liability company, as Developer of the proposed Moss Creek Solar project ("Project") in Pulaski County, Indiana, hereby affirms under oath that the listing set forth as Exhibit A attached hereto of name and address of all Project property owners ("Owners") is true and accurate; and

Further, that the Leases entered into by and between Developer and Owners each contain a provision which allows the Developer to submit any and all necessary zoning and permitting applications relative to the Project on behalf of the Owner.

FURTHER AFFIANT SAITH NOT

I affirm, under penalties of perjury that the foregoing representations are true to the best of my knowledge.

MOSS CREEK SOLAR LLC

August 2, 2021, 2021

By: Anthony Pedroni
Anthony Pedroni, Vice President

#09272021-01/09272021-01

Exhibit A to the Affidavit of Consent

Moss Creek Solar LLC

Project Parcels/Owners

Property Owner Name/Address	Parcel Numbers
David W. Busch Living Trust 3111 North Lakeshore Dr. Monticello, IN 4 7946	66-11-03-300-004.000-002 66-11-04-400-006.000-002 66-11-04-400-009.000-002 66-11-10-200-001.000-002
Steven L. Cosgray Living Trust Joy E Cosgray Living Trust 9330 N WEST SHAFER DR MONTICELLO, IN 47960	66-11-11-300-012.000-002
Harold R. Johnson Revocable Trust Carol L. Johnson Revocable Trust 6288 S 800 W Winamac, IN 46996	66-11-09-100-003.000-002 66-11-09-100-004.000-002 66-11-09-100-008.000-002 66-11-09-100-013.000-002 66-11-09-200-006.000-002
Timothy J. Kuhn Kathleen A Kuhn 7260 W 5505 WINAINAC, IN 46996	66-11-02-400-009.000-002 66-11-02-400-015.000-002 66-11-02-400-016.001-002 66-11-02-700-017.001-002 66-11-11-100-004.000-002 66-11-11-100-006.000-002 66-11-11-200-002.000-002 66-11-11-200-005.000-002 66-11-11-200-016.000-002 66-11-11-400-010.000-002 66-11-11-400-013.000-002 66-11-11-400-021.001-002 66-11-12-200-001.000-002 66-11-15-100-002.000-002
Meyer Revocable Living Trust 406 W. 5TH BROOKSTON, IN 47923	66-11-10-300-013.000-002 66-11-10-400-016.000-002
Timothy J. Reidelbach Lisa J. Reidelbach 2232 N STATE ROAD 39 WINAMAC, IN 46996	66-11-10-300-009.000-002 66-11-10-400-010.000-002
Joseph P. Kuhn Carole L. Kuhn 5801 W 550 S WINAMAC, IN 46996	66-11-12-300-007.000-002 66-11-09-100-007.000-002 66-11-11-400-011.000-002 66-11-10-100-003.000-002 66-11-10-200-002.000-002 66-11-10-200-007.000-002 66-11-11-300-007.000-002 66-11-14-100-002.000-002 66-11-14-100-006.000-002 66-11-14-200-001.000-002 66-11-14-200-027.001-002

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Project Parcel Owners

Parcel Name	Acres	County PIN	Brief Legal	Section	Township	Range	Approx. Dimensions
CAROL L JOHNSON	40.00	66-11-10-200-006.000-002	002-00318-00 SW NW Sec.10 40A SWINGLE (650)	010	029N	003W	1356'W X 1328'L
Cosgray, Steven L liv trust et al	80.00	66-11-11-300-012.000-002	002-00107-00 S.2 SW SEC. 11 80A STOUT HODGE (649)	011	029N	003W	2614'W X 1329'L
David W Busch Living Trust	40.00	66-11-03-300-004.000-002	002-00035-00 SW SW SEC. 3 40A STOUT HODGE (649) SWINGLE (650)	003	029N	003W	1369'W X 1489'L
David W Busch Living Trust	73.82	66-11-04-400-006.000-002	002-00034-00 PT NE SE & ALL S.2 SE E OF SWINGLE DITCH EX 1A SEC. 4 73.819A STOUT HODGE (649) SWINGLE (650	004	029N	003W	1334'W X 2617'L
David W Busch Living Trust	0.84	66-11-04-400-009.000-002	002-00037-00 SE COR SE SE SEC. 4 1A	004	029N	003W	290'W X 209'L
David W Busch Living Trust	40.00	66-11-10-200-001.000-002	002-00036-00 NW NW SEC. 10 40A SWINGLE (650)	010	029N	003W	1364'W X 1323'L
Johnson, Harold R rev trust	38.12	66-11-09-100-003.000-002	002-00315-00 PT NW NE SEC. 9 38.117A SWINGLE (650) WELTZIN (673)	009	029N	003W	1296'W X 1316'L
Johnson, Harold R rev trust	40.00	66-11-09-100-004.000-002	002-00314-00 NE NE SEC. 9 40A SWINGLE (650)	009	029N	003W	1403'W X 1326'L
Johnson, Harold R rev trust	20.00	66-11-09-100-008.000-002	002-00316-00 N.2 SE NE SEC. 9 20A SWINGLE (650)	009	029N	003W	1366'W X 661'L
Johnson, Harold R rev trust	20.00	66-11-09-100-013.000-002	002-00317-00 S.2 SE NE SEC. 9 20A SWINGLE (650)	009	029N	003W	1334'W X 661'L
Johnson, Harold R rev trust	38.91	66-11-09-200-006.000-002	002-00324-00 SE NW SEC. 9 40A WELTZIN (673)	009	029N	003W	1334'W X 1314'L
JOSEPH & CAROLE KUHN	40.00	66-11-12-300-007.000-002	002-00336-00 NW SW SEC. 12 40A STOUT HODGE (649)	012	029N	003W	1330'W X 1324'L
JOSEPH KUHN	40.00	66-11-09-100-007.000-002	002-00334-00 SW NE SEC. 9 40A SWINGLE (650) WELTZIN (673)	009	029N	003W	1296'W X 1322'L
JOSEPH KUHN	40.00	66-11-11-400-011.000-002	002-00335-00 NE SE SEC. 11 40A STOUT HODGE (649)	011	029N	003W	1316'W X 1322'L
JOSEPH P KUHN	76.06	66-11-10-100-003.000-002	002-00339-00 PT W.2 NE SEC. 10 76.06A STOUT HODGE (649) SWINGLE (650)	010	029N	003W	1332'W X 2650'L
JOSEPH P KUHN	40.00	66-11-10-200-002.000-002	002-00341-00 NE NW SEC. 10 40A SWINGLE (650)	010	029N	003W	1280'W X 1325'L
JOSEPH P KUHN	40.00	66-11-10-200-007.000-002	002-00340-00 SE NW SEC. 10 40A STOUT HODGE (649)	010	029N	003W	1337'W X 1325' L
JOSEPH P KUHN	38.79	66-11-11-300-007.000-002	002-00337-00 NW SW SEC. 11 38.79A STOUT HODGE (649)	011	029N	003W	1314'W X 1329'L
Kuhn, Joseph and Carol L	34.89	66-11-14-100-002.000-002	002-00422-00 PT. NW NE SEC. 14 35.5A STOUT HODGE (649)	014	029N	003W	1290'W X 1315'L
Kuhn, Joseph and Carol L	39.77	66-11-14-100-006.000-002	002-00247-00 SW NE SEC. 14 40A STOUT HODGE (649) SWINGLE (650) HARP HELFRICK (568)	014	029N	003W	1321'W X 1321'L

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Kuhn, Joseph and Carol L	60.00	66-11-14-200-001.000-002	002-00403-00 PT N.2 NW SEC. 14 60.001A STOUT HODGE (649)	014	029N	003W	2639'W X 1320'L
Kuhn, Joseph and Carol L	15.00	66-11-14-200-027.001-002	002-00451-00 PT N.2 NW SEC. 14 14.999A STOUT HODGE (649) SWINGLE (650)	014	029N	003W	1320'W X 679'L
Kuhn, Timothy J and Kathleen A	18.56	66-11-02-400-009.000-002	002-00442-00 PT S.2 SE SEC. 2 18.560A STOUT HODGE (649) BUDD-FISHER (536)	002	029N	003W	661'W X 1330'L
Kuhn, Timothy J and Kathleen A	1.01	66-11-02-400-015.000-002	002-00597-00 PT SW SE SEC. 2 1.01A BUDD-FISHER (536)	002	029N	003W	365'W X 120'L
Kuhn, Timothy J and Kathleen A	50.76	66-11-02-400-016.001-002	002-00681-00 PT S.2 SE SEC. 2 50.762A BUDD-FISHER (536)	002	029N	003W	1664'W X 1329'L
Kuhn, Timothy J and Kathleen A	50.00	66-11-02-700-017.001-002	002-0068200 SE SW & PT SW SE SEC. 2 50.000A STOUT HODGE (649)	002	029N	003W	1649'W X 1329'L
Kuhn, Timothy J and Kathleen A	38.39	66-11-11-100-004.000-002	002-00153-00 PT NE NE SEC. 11 38.39A BUDD-FISHER (536)	011	029N	003W	1316'W X 1319'L
Kuhn, Timothy J and Kathleen A	80.00	66-11-11-100-006.000-002	002-00154-00 S.2 NE SEC. 11 80A STOUT HODGE (649) BUDD-FISHER (536)	011	029N	003W	2635'W X 1325'L
Kuhn, Timothy J and Kathleen A	20.00	66-11-11-200-002.000-002	002-00444-00 PT NE NW SEC. 11 20A STOUT HODGE (649) BUDD-FISHER (536)	011	029N	003W	638'W X 1311'L
Kuhn, Timothy J and Kathleen A	40.00	66-11-11-200-005.000-002	002-00155-00 SE NW SEC. 11 40A STOUT HODGE (649)	011	029N	003W	1321'W X 1329'L
Kuhn, Timothy J and Kathleen A	19.34	66-11-11-200-016.000-002	002-00536-00 PT NE NW SEC. 11 19.34A STOUT HODGE (649) BUDD-FISHER (536)	011	029N	003W	682'W X 1311'L
Kuhn, Timothy J and Kathleen A	34.34	66-11-11-400-010.000-002	002-00053-00 PT NW SE SEC. 11 34.343A STOUT HODGE (649)	011	029N	003W	1316'W X 1322'L
Kuhn, Timothy J and Kathleen A	60.00	66-11-11-400-013.000-002	002-00052-00 SW SE & W.2 SE SE SEC. 11 60A STOUT HODGE (649)	011	029N	003W	1969'W X 1324'L
Kuhn, Timothy J and Kathleen A	11.00	66-11-11-400-021.001-002	002-00685-00 PT. E.2 SE SE SEC. 11 11A STOUT HODGE (649)	011	029N	003W	663'W X 1321'L
Kuhn, Timothy J and Kathleen A	80.00	66-11-12-200-001.000-002	002-00394-00 W.2 NW SEC. 12 80A STOUT HODGE (649) BUDD-FISHER (536)	012	029N	003W	1315'W X 2646'L
Kuhn, Timothy J and Kathleen A	23.88	66-11-15-100-002.000-002	002-00404-00 NW NE SEC. 15 24.752A SWINGLE (650)	015	029N	003W	1317'W X 1315'L
MEYER REV LIV TRUST	40.13	66-11-10-300-013.000-002	002-00408-00 SE SW SEC. 10 40A SWINGLE (650)	010	029N	003W	1337'W X 1332'L
MEYER REV LIV TRUST	35.45	66-11-10-400-016.000-002	002-00407-00 PT SW SE SEC. 10 36.246A SWINGLE (650)	010	029N	003W	1309'W X 1336'L
TIMOTHY J REIDELBACH	80.00	66-11-10-300-009.000-002	002-00463-00 N.2 SW SEC. 10 80A SWINGLE (650)	010	029N	003W	2681'W X 1324'L

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TIMOTHY J REIDELBACH	40.00	66-11-10-400-010.000-002	002-00464-00 NW SE SEC. 10 40A SWINGLE (650)	010	029N	003W	1323'W X 1336'L

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

Date: 7-22-21

Owner Signature

Steven L. Cosgray

Printed Name

Date: 7-22-21

Joy E. Cosgray

Owner Signature

Joy E. Cosgray

Printed Name

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

Date: July 22, 2021

Harold R. Johnson
Owner Signature

HAROLD R. JOHNSON
Printed Name

Date: July 22, 2021

Carol L Johnson
Owner Signature

CAROL L. JOHNSON
Printed Name

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

09272021-01

Date: 7/22/2021

Carole L. Kuhn
Owner Signature

CAROLE L. KUHN
Printed Name

Date: 7/22/2021

Joseph P Kuhn
Owner Signature

Joseph P Kuhn
Printed Name

21623945.v2

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

Date: 7/23/2021

Lisa Reidelbach
Owner Signature

Lisa Reidelbach
Printed Name

Date: _____

_____
Owner Signature

_____
Printed Name

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

Date: 7/21/21

Timothy J Kuhn
Owner Signature

Timothy J Kuhn
Printed Name

Date: 7/21/21

Kathleen A Kuhn
Owner Signature

Kathleen A Kuhn
Printed Name

6-6 6-6

Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 (09272021-01) filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

Date: 07/22/2021

Charles W. Meyer
Owner Signature

Charles W. Meyer
Printed Name

Date: 07/22/2021

Bonnie S Meyer
Owner Signature

Bonnie S. MEYER
Printed Name

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Addendum to Application
Moss Creek Solar LLC ("Applicant")
Pulaski County Board of Zoning Appeals

The undersigned acknowledge Application for Special Exception with Pulaski County Board of Zoning Appeals as Docket No. 09272021-01 filed by Moss Creek Solar and agrees that such Application may be filed on my/our behalf.

0392720 21-01

Date: 7-21-21

David W. Busch
Owner Signature

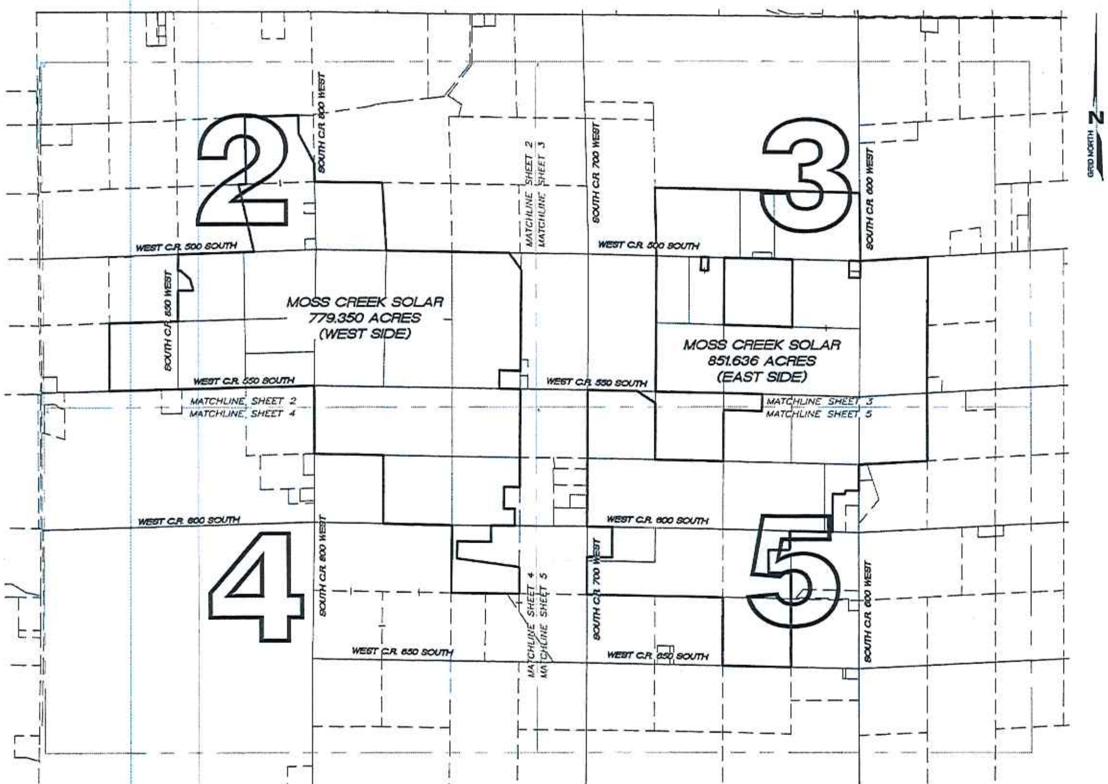
David W. Busch
Printed Name

Date: 7/21/21

Elizabeth T. Busch
Owner Signature

Elizabeth T. Busch
Printed Name

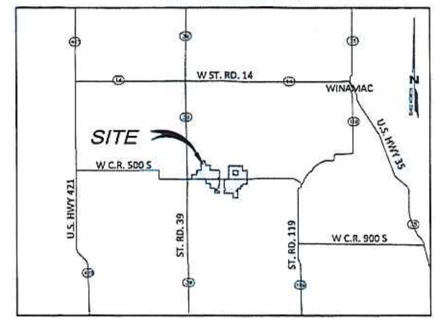
8-1



INDEX MAP

NOT TO SCALE

VICINITY MAP



NOT TO SCALE

SURVEY NOTES:

1. PLANIMETRIC FEATURES SHOWN HEREON ARE BASED UPON A FIELD SURVEY PERFORMED BY SURVEYING AND MAPPING, LLC IN JULY AND AUGUST, 2021.
2. PROPERTY CORNERS SET ARE MAG NAILS OR 5/8" REBAR 30 INCHES IN LENGTH, WITH RED CAP INSCRIBED "SAM, LLC" UNLESS OTHERWISE NOTED HEREON.
3. PROPERTY CORNERS FOUND ARE IN GOOD CONDITION UNLESS OTHERWISE NOTED.
4. LINES OF OCCUPATION (WHERE EXISTING) GENERALLY AGREE WITH PROPERTY LINES.
5. ANY USE OF THIS DRAWING BY PARTIES NOT CONTRACTED DIRECTLY WITH SAM, LLC OR CERTIFIED TO ON THIS DRAWING IS PROHIBITED WITHOUT PRIOR WRITTEN PERMISSION.
6. ALL DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND AND EXPRESSED IN U.S. SURVEY FEET AND DECIMAL PARTS THEREOF.
7. TAX PARCEL NUMBERS AND ADJOINER'S INFORMATION OBTAINED FROM PULASKI COUNTY GIS WEBSITE: HTTPS://PULASKIIN.WTHGIS.COM. NO CERTIFICATION IS MADE TO THE ACCURACY OR CORRECTNESS.

SURVEY DATA:

HORIZONTAL DATUM – BASED UPON THE INDIANA STATE PLANE COORDINATE SYSTEM, WEST ZONE (1302), NAD83. SAID BEARINGS ORIGINATED FROM SAID COORDINATE SYSTEM BY GNSS OBSERVATIONS AND OBSERVATIONS OF SELECTED STATIONS IN THE NATIONAL GEODETIC SURVEY CONTINUOUSLY OPERATING REFERENCE STATION (NGS CORS) NETWORK. NAD83 PLANE COORDINATES WERE CONVERTED TO GROUND COORDINATES BY MULTIPLYING THE PLANE COORDINATE BY THE COMBINED ADJUSTMENT FACTOR OF 1.0000506036.

VERTICAL DATUM – GEOID 12B (CONUS)
BENCHMARK #1: PT. 100
N: 2,086,978.043
E: 3,046,309.919
ELEV.: 689.09

BASIS OF BEARINGS

THE "BASIS OF BEARINGS" FOR THIS SURVEY IS THE INDIANA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83 2011 ADJUSTMENT. SAID BEARINGS ORIGINATED FROM GNSS-RTK OBSERVATIONS AND OBSERVATIONS OF SELECTED STATIONS IN THE NATIONAL GEODETIC SURVEY CONTINUOUSLY OPERATING REFERENCE STATION (NGS CORS) NETWORK.

REFERENCES

DEEDS AS SHOWN

LEGEND AND ABBREVIATIONS:

(M)	MEASURED	EX.	EXISTING
PID	PARCEL IDENTIFICATION	ESMT.	EASEMENT
BK	BOOK	D.B.	DEED BOOK
PG	PAGE	P.B.	PLAT BOOK
P	PAGE	PG.	PAGE
✦	RAIL ROAD SPIKE FOUND	SQ.FT.	SQUARE FEET
▩	REBAR/CAP STAMPED FOUND	AC.	ACRES
∇	MAG NAIL FOUND	# / NO.	NUMBER
⊕	MONUMENT BOX FOUND		
◉	IRON PIPE FOUND (IPF)	N.T.S.	NOT TO SCALE
⊘	REBAR FOUND (RF)	P.O.C.	POINT OF COMMENCEMENT
⊕	MONUMENT FOUND AS NOTED	P.O.B.	POINT OF BEGINNING
●	SOLID IRON PIN FOUND (IPF)		

BOUNDARY LINE
EXISTING APPARENT RIGHT-OF-WAY
ADJOINER TRACT LINES
MATCHLINE

PROPERTY IDENTIFICATION NUMBER AND ACREAGE

PARCEL NUMBER
66-11-10-200-006.000-002, 66-11-11-300-012.000-002, 66-11-03-300-004.000-002, 66-11-04-400-008.000-002,
66-11-04-400-009.000-002, 66-11-10-200-001.000-002, 66-11-09-100-003.000-002, 66-11-09-100-004.000-002,
66-11-09-100-008.000-002, 66-11-09-100-013.000-002, 66-11-09-200-006.000-002, 66-11-09-100-007.000-002,
66-11-11-400-011.000-002, 66-11-10-100-003.000-002, 66-11-10-200-002.000-002, 66-11-10-200-007.000-002,
66-11-11-300-007.000-002, 66-11-12-300-007.000-002, 66-11-14-100-002.000-002, 66-11-14-100-006.000-002,
66-11-14-200-001.000-002, 66-11-14-200-027.001-002, 66-11-02-400-009.000-002, 66-11-02-400-015.000-002,
66-11-02-400-016.001-002, 66-11-02-700-017.001-002, 66-11-11-100-004.000-002, 66-11-11-100-006.000-002,
66-11-11-200-002.000-002, 66-11-11-200-005.000-002, 66-11-11-200-016.000-002, 66-11-11-400-010.000-002,
66-11-11-400-013.000-002, 66-11-11-400-021.001-002, 66-11-12-200-001.000-002, 66-11-15-100-002.000-002,
66-11-10-300-013.000-002, 66-11-10-400-018.000-002, 66-11-10-300-009.000-002, 66-11-10-400-010.000-002,
66-11-11-400-011.000-002, 66-11-11-100-003.000-002, 66-11-11-200-015.000-002, 66-11-10-100-023-001-002,
66-11-11-100-020.000-002, 66-11-11-100-019-000.002, 66-11-10-100-004.000-002, 66-11-10-100-023.001-002,
66-11-09-100-004.000-002, 66-11-04-400-012.000-002, 66-11-09-100-020.000-002

1630.986 ACRES

SURVEYOR'S REPORT

IN ACCORDANCE WITH TITLE 865 IAC 1-12 OF THE INDIANA ADMINISTRATIVE CODE, THE FOLLOWING OBSERVATIONS AND OPINIONS ARE SUBMITTED REGARDING THE VARIOUS UNCERTAINTIES OF THE LOCATION OF THE LINES AND CORNERS ESTABLISHED ON THESE SURVEYS RESULTS FROM:

A. AVAILABILITY AND CONDITION OF REFERENCED MONUMENTS
B. OCCUPATION OR POSSESSION LINES
C. CLARITY OR AMBIGUITY OF RECORD DESCRIPTIONS USED & ADJOINER'S DESCRIPTIONS
D. THEORETICAL UNCERTAINTY OF MEASUREMENTS

THEORY OF LOCATION:

THIS IS A RETRACEMENT OF MULTIPLE ORIGINAL BOUNDARY SURVEYS IN SECTIONS 2, 3, 4, 9, 10, 11, 12, 14 AND 15, TOWNSHIP 29 NORTH, RANGE 3 WEST, BEAVER TOWNSHIP, PULASKI COUNTY, INDIANA. THE VESTING DOCUMENTS FOR THIS SURVEY ARE RECORDED IN THE PULASKI COUNTY RECORDER'S OFFICE, PULASKI COUNTY, INDIANA. THIS RETRACEMENT SURVEY IS FOR THE PURPOSE OF CREATING LEASE PARCELS FOR SOLAR ENERGY PURPOSES AND SOLAR FACILITIES. THERE ARE TWO SEPARATE LEASE PARCELS (ONE HAVING THREE EXCEPTIONS) WITHIN THE RETRACEMENT SURVEY.

A. AVAILABILITY AND CONDITION OF REFERENCED MONUMENTS
MONUMENTS FOUND AND HELD WERE IN GOOD CONDITION UNLESS NOTED.

B. OCCUPATION OR POSSESSION LINES
FENCE POSTS, FENCE LINES AND TREE ROWS WERE LOCATED AND GENERALLY FIT THE LOCATION OF BOUNDARY LINES

C. CLARITY OR AMBIGUITY OF RECORD DESCRIPTION USED & ADJOINER'S DESCRIPTION
DETERMINATION OF SECTIONAL LINES FROM CALLED MONUMENTS AND LEGAL DESCRIPTIONS. NO NOTICEABLE AMBIGUITY

D. THEORETICAL UNCERTAINTY OF MEASUREMENTS
UTILIZATION OF GNSS INFORMATION AND ADJUSTMENTS IN TRIMBLE SOFTWARE ALLOWS FOR ESTABLISHING THIS SURVEY WITHIN THE SPECIFICATIONS FOR RURAL SURVEYS: 0.26 FEET (79 MILLIMETERS) PLUS 200 PARTS PER MILLION

NOTES:

1. BASIS OF BEARINGS: INDIANA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD (2011)
2. ALL IRON PINS SET ARE 5/8" X 30" REBAR WITH "SAM, LLC" CAP.
3. LIDAR TOPOGRAPHIC SURVEY PERFORMED. EXISTING TRANSMISSION LINES PLOTTED
4. UTILITIES LOCATED FROM FIELD MARKINGS MADE BY INDIANA 811 SYSTEM
5. DRAINAGE SHOWN AS TO TOPOGRAPHIC SURVEY
6. ALL DISTANCES ARE HORIZONTAL AND EXPRESSED IN U.S. SURVEY FEET

I HEREBY CERTIFY THAT THIS PLAT OF SURVEY IS COMPLIANT WITH AND MEETS THE "MINIMUM STANDARDS FOR BOUNDARY SURVEYS IN THE STATE OF INDIANA", AS DEFINED BY INDIANA ADMINISTRATIVE CODE, TITLE 865 IAC 1-12. A FIELD SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION BY SURVEYING AND MAPPING, LLC. IN JULY AND AUGUST OF 2021.

SURVEYING AND MAPPING, LLC.

JOSEPH FRANK CHARLSON / REGISTERED / No. LS22100020 / STATE OF INDIANA / LAND SURVEYOR

9/8/21

JOSEPH FRANK CHARLSON — DATE
REGISTERED PROFESSIONAL LAND SURVEYOR
PROFESSIONAL LAND SURVEYOR NO. LS22100020

SAM™
509 EASTWIND DRIVE
SUITE 201
WESTERVILLE, OH 43081
OH: 614-898-0079
email: info@sam.biz

REVISION NO.: DATE:

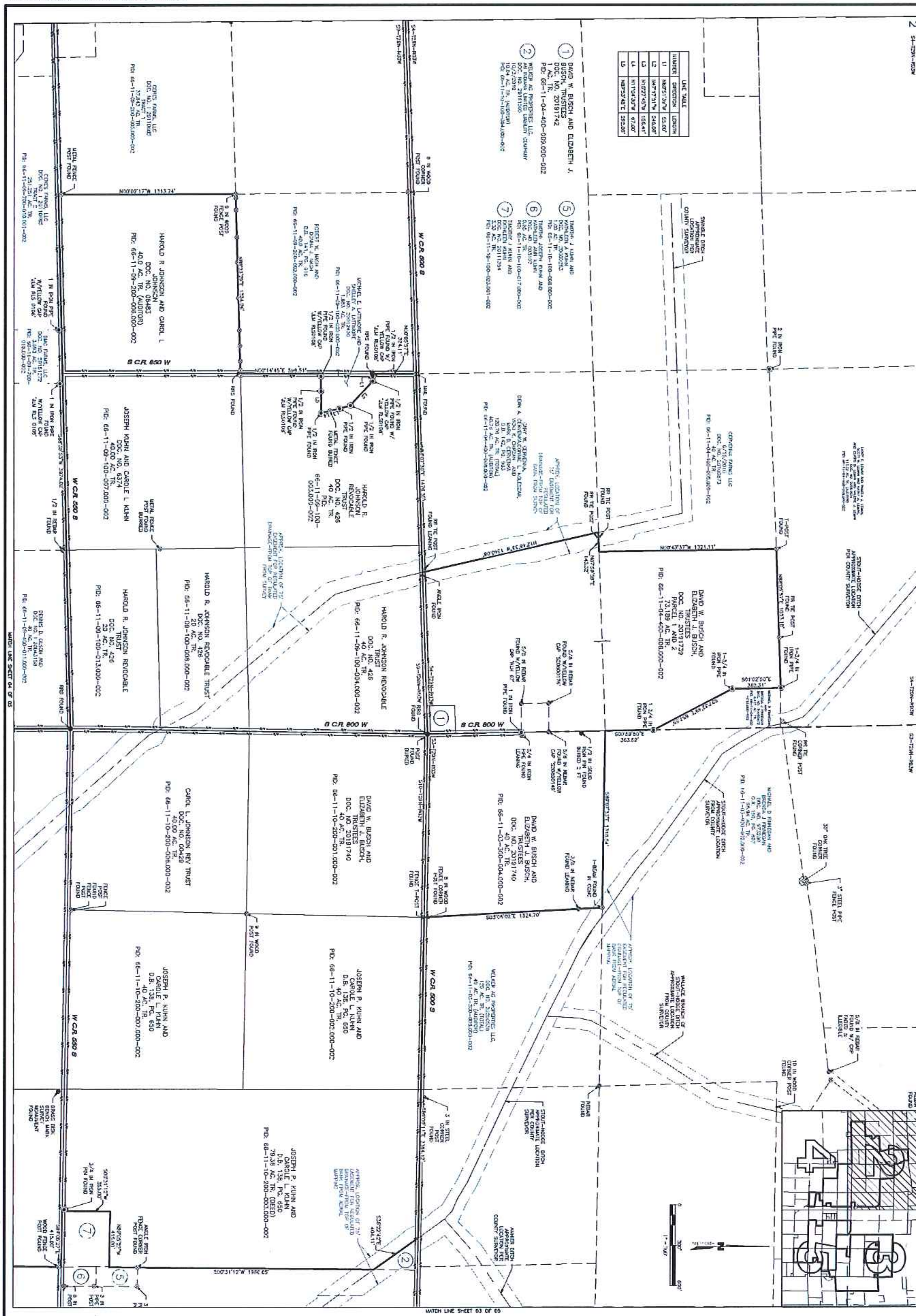
PROJECT: NextEra Energy Resources, LLC MOSS CREEK
JOB NUMBER: 102182124
DATE: 05/08/2021
SCALE:
SURVEYOR: J. CHARLSON, P.S.
TECHNICIAN: TLF
DRAWING: 82124 - MOSS CREEK - SURVEY PLAT DWG
TRACT ID: N/A
PARTYCHIEF: J. MILLER
FIELDBOOKS: BK. 208, PG 77-79, BK. 39542, PG 6-32

NEXTera ENERGY

RETRACEMENT SURVEY PLAT
NextEra Energy Resources, LLC
MOSS CREEK

SITUATED IN THE STATE OF INDIANA
COUNTY OF PULASKI
TOWNSHIP OF BEAVER

SHEET 1 OF 5



MATCH LINE SHEET 03 OF 05

SAM

626 EASTWIND DRIVE
SUITE 201
WESTERVILLE, OH 43081
OH: 614-500-0079
email: info@sam.biz

REVISION NO.:	DATE

PROJECT: NextEra Energy Resources, LLC
MOSS CREEK

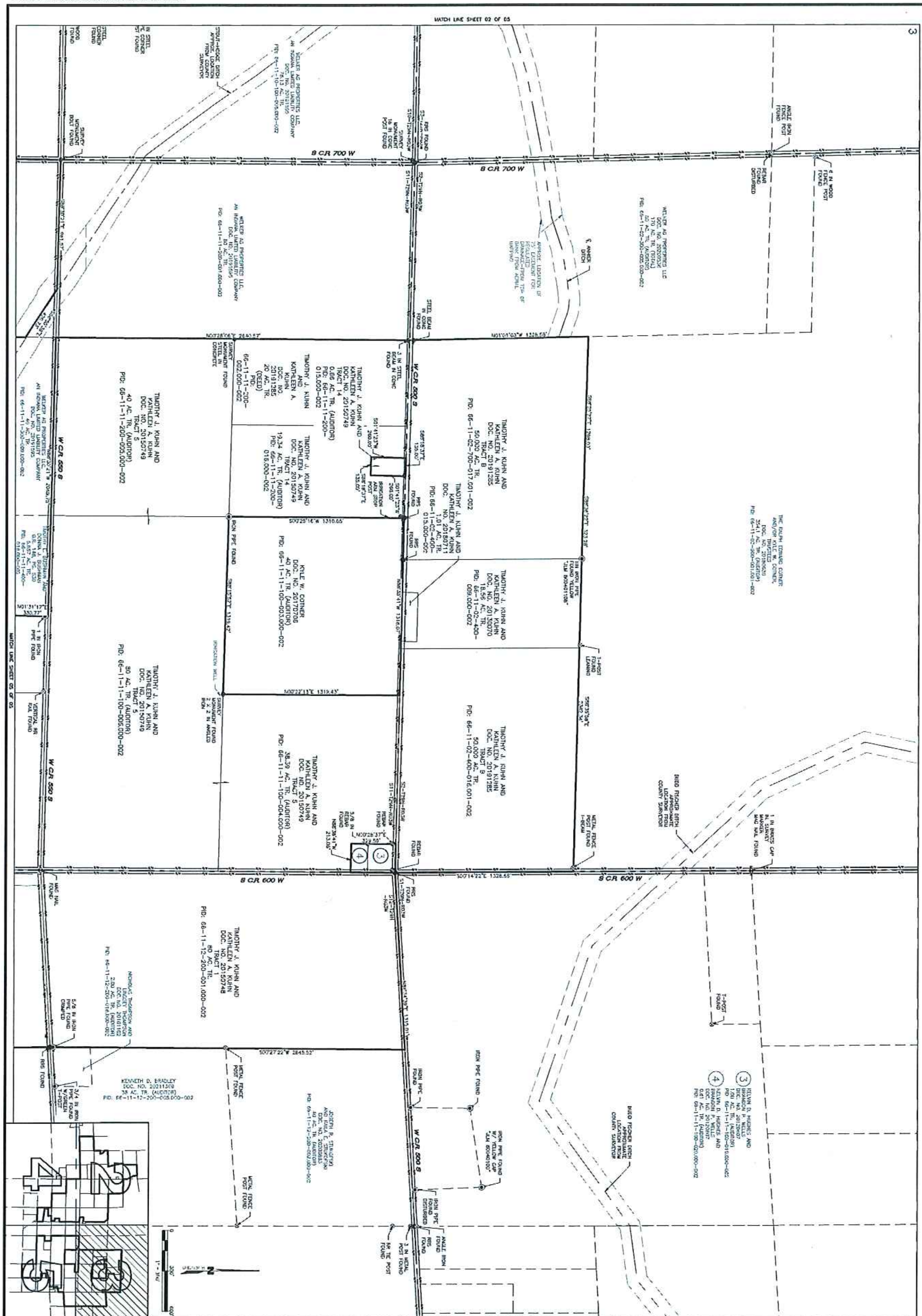
JOB NUMBER	1521042124
DATE	09/08/2021
SCALE	
SURVEYOR	J. CHARLSON, P.S.
TECHNICIAN	TLP
DRAWING	52124 - MOSS CREEK - SURVEY PLAT.DWG
TRACT ID	N/A
PARTYCHIEF	J. MILLER
FIELDBOOKS	BK. 204, PG 77-79, BK. 20042, PG. 6-22

NEXTera ENERGY

RETRACEMENT SURVEY PLAT
NextEra Energy Resources, LLC
MOSS CREEK

SITUATED IN THE STATE OF INDIANA
COUNTY OF PULASKI
TOWNSHIP OF BEAVER

SHEET 2 OF 5



SAM™

629 EASTWIND DRIVE
SUITE 201
WESTERVILLE, OH 43081
OH: 614-508-6079
email: info@sam.biz

REVISION NO.:	DATE

PROJECT: NextEra Energy Resources, LLC
MOSS CREEK

JOB NUMBER:	1021052124
DATE	05/08/2021
SCALE	
SURVEYOR:	J. CHARLTON, P.S.
TECHNICIAN:	TLP
DRAWING:	52124 - MOSS CREEK - SURVEY PLAT.DWG
TRACT ID:	N/A
PARTYCHIEF	J. MILLER
FIELDBOOKS:	BK. 208, PG 77-79, BK. 53642, PG. 6-32

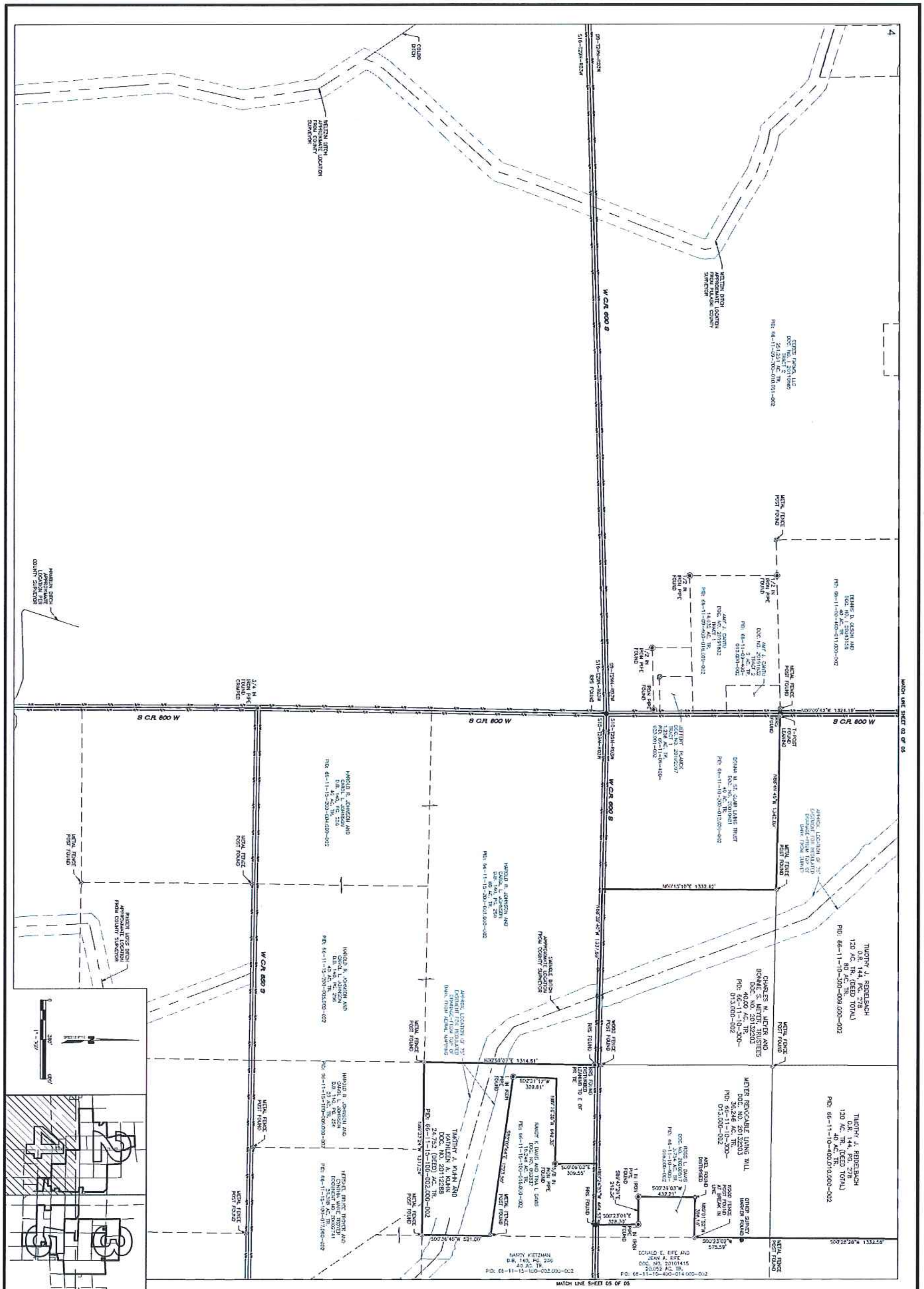
NEXTera ENERGY

RETRACEMENT SURVEY PLAT
NextEra Energy Resources, LLC
MOSS CREEK

SITUATED IN THE STATE OF INDIANA
COUNTY OF PULASKI
TOWNSHIP OF BEAVER

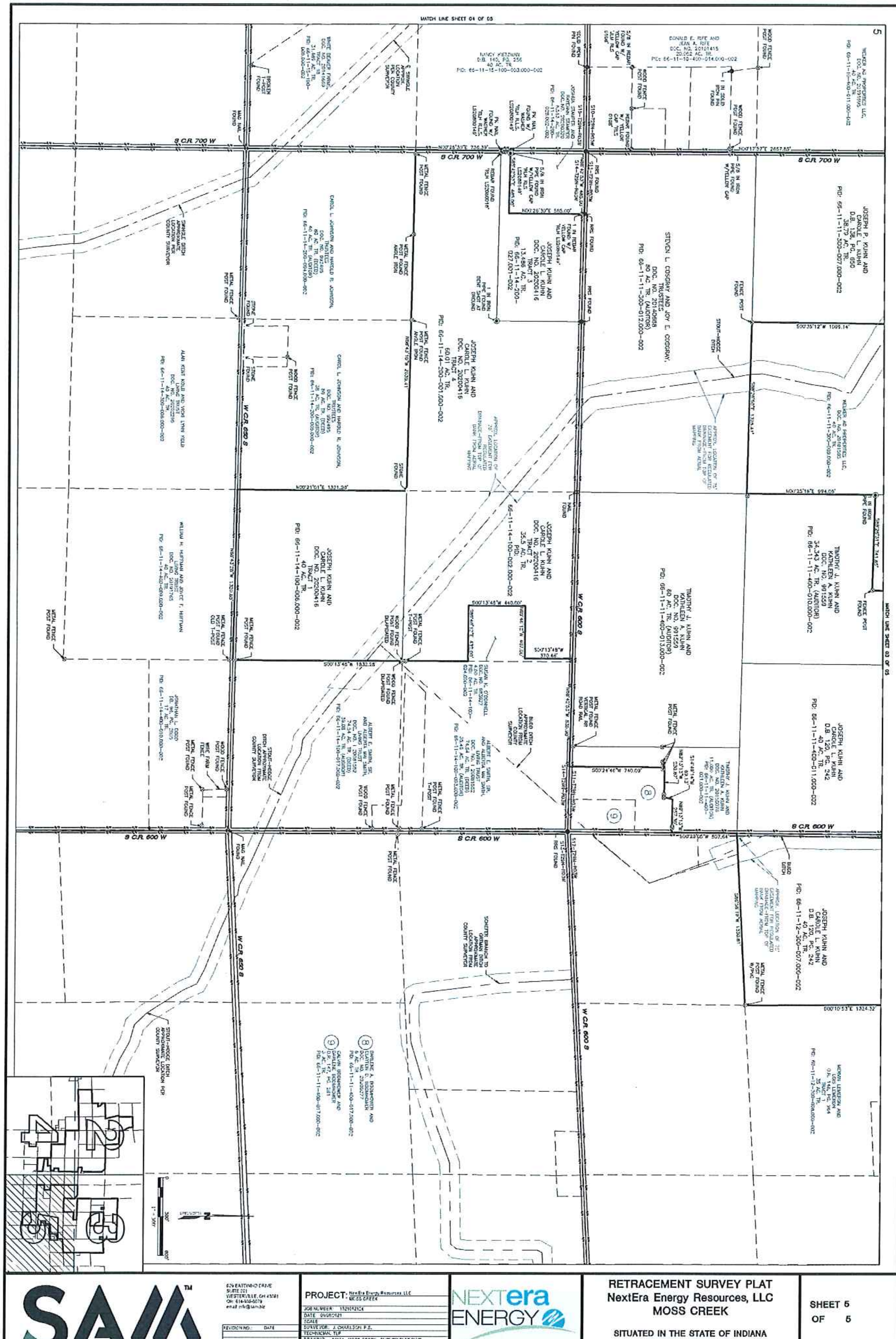
SHEET 3 OF 5

8-4



SAM™ 825 EASTWIND DRIVE, SUITE 201, WESTERVILLE, OH 43081, OH: 614-899-0079, email info@sam.biz; REVISION NO. / DATE	PROJECT: NextEra Energy Resources, LLC MOSS CREEK; JOB NUMBER 1321052124; DATE 09/08/2021; SCALE; SURVEYOR: J. CHARLSON P.S.; TECHNICIAN: TLP; DRAWING 62124 - MOSS CREEK - SURVEY PLAT.DWG; TRACT ID: N/A; PARTYCHIEF J. MILLER; FIELDBOOKS BK. 205, PG 77-78, BK. 32842, PG. 6-32	NEXTera ENERGY	**RETRACEMENT SURVEY PLAT** **NextEra Energy Resources, LLC** **MOSS CREEK** SITUATED IN THE STATE OF INDIANA COUNTY OF PULASKI TOWNSHIP OF BEAVER	SHEET 4 OF 5

8-5



SAM™

626 EASTWIND DRIVE
SUITE 201
WESTERVILLE, OH 43081
OH: 614-899-6079
email: info@sam.biz

REVISION NO.	DATE

PROJECT: NextEra Energy Resources, LLC
MOSS CREEK

JOB NUMBER:	1321052124
DATE:	09/08/2021
SCALE:	
SURVEYOR:	J. CHARLSON P.S.
TECHNICIAN:	TLP
DRAWING:	62124 - MOSS CREEK - SURVEY PLAT.DWG
TRACT ID:	N/A
PARTYCHIEF:	J. MILLER
FIELDBOOKS:	BK. 304, PG 77-78, BK. 38043, PG. 6-32

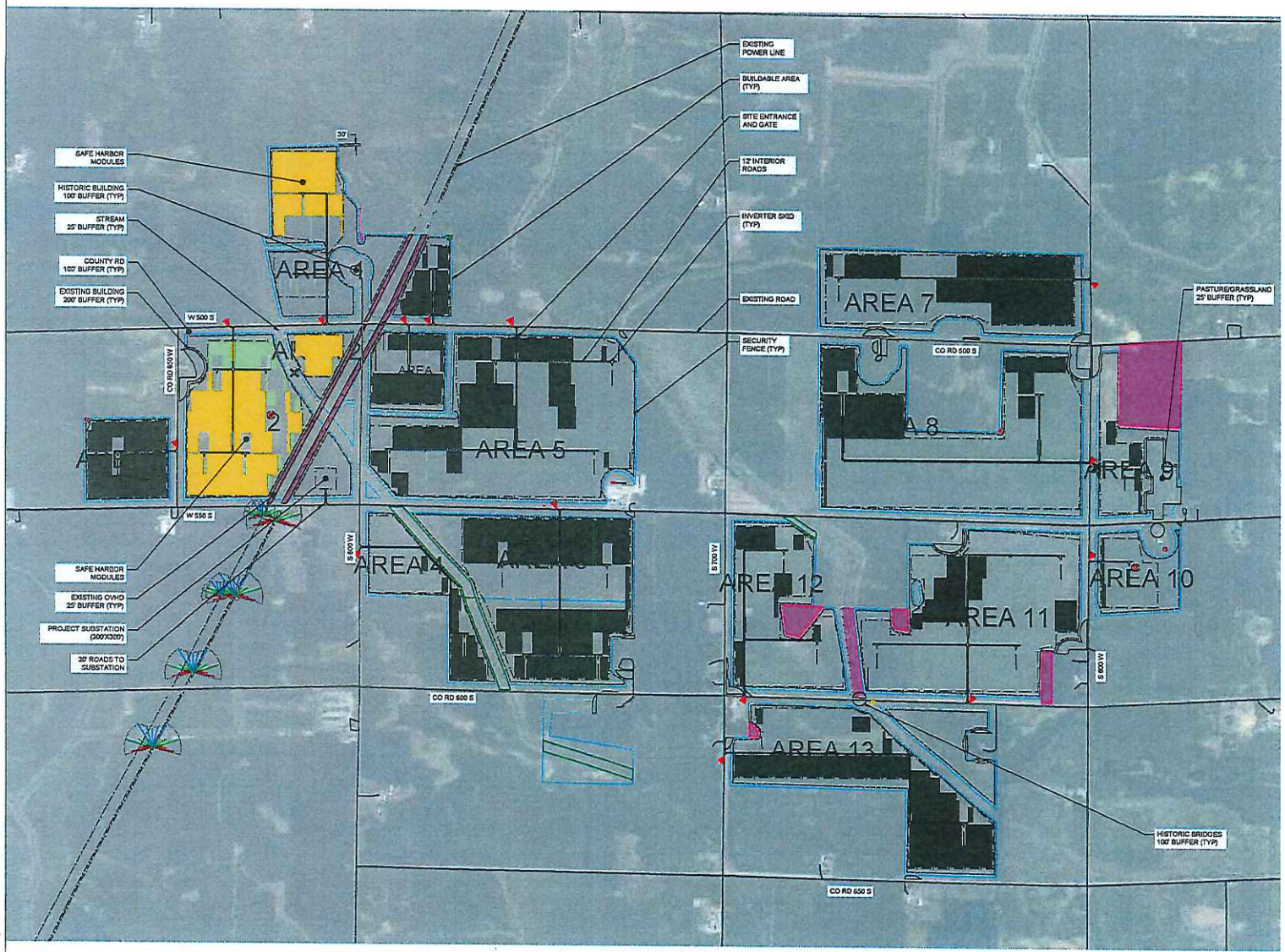
NEXTera ENERGY

RETRACEMENT SURVEY PLAT
NextEra Energy Resources, LLC
MOSS CREEK

SITUATED IN THE STATE OF INDIANA
COUNTY OF PULASKI
TOWNSHIP OF BEAVER

SHEET 5 OF 5

9



1 OVERALL SITE LAYOUT
1" = 700'
0 350 700 1400

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC AND ROAD CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.

SYSTEM SPECIFICATIONS:

SYSTEM STC DC RATING (MW)	280.00	
SYSTEM AC CAPACITY (MW)	218.30	
SYSTEM AC RATING AT POI (MW)	200.00	
DC/AC RATIO AT POI	1.40	
MODULE MODEL	LONGI BF 545W	JINKO 370W
MODULE STC DC RATING (W)	545	370
MODULE COUNT	462098	76086
MODULES PER STRING	26	27
STRING COUNT	17773	2818
4 STRINGS TRACKER	0	0
3 STRINGS TRACKER	5453	846
2 STRING TRACKER	707	140
1 STRING TRACKER	0	0
INVERTER MODEL	PE FS3350M	
INVERTER RATING (MW)	3.465	
QUANTITY OF INVERTERS	57	6
TRANSFORMER RATING (MVA)	3.465	
QUANTITY OF TRANSFORMERS	57	6
DC SYSTEM VOLTAGE (V)	1500	
INTERCONNECTION VOLTAGE (KV)	345	
TRANSMISSION LINE LENGTH (MILES)	-	
RACKING SYSTEM	NEXTRACKER	
MODULE TILT	+/- 60°	
AZIMUTH	180°	
GCR	0.40	0.40
ROW-TO-ROW SPACING (LF)	18.50	36.48
CLEARANCE B/W TRACKERS (LF)	11.10	9.89
ASHRAE 2% DRY-BULB TEMP MAX (°C)	31.7°	
ASHRAE EXTREME ANNUAL MEAN MINIMUM DRY-BULB TEMP	-23.2°	
BUILDABLE AREA (ACRES)	1335	
FENCED AREA (ACRES)	1021	
FENCING LENGTH (L.F.)	120689	
ROADS (L.F.)	49272	

	SYSTEM STC DC RATING (MW)	SYSTEM AC CAPACITY (MW)	MODULE STC DC RATING (W)	INV QTY	DC/AC RATIO AT INVERTER	DC/AC RATIO AT POI
AREA 1	9.39	6.93	370	2	1.355	1.405
AREA 2	18.76	13.86	370	4	1.354	1.407
AREA 3	8.59	6.93	545	2	1.239	1.360
AREA 4	8.53	6.93	545	2	1.231	1.351
AREA 5	56.10	45.05	545	13	1.245	1.367
AREA 6	31.32	24.26	545	7	1.291	1.417
AREA 7	22.43	17.33	545	5	1.295	1.421
AREA 8	40.91	31.19	545	9	1.312	1.430
AREA 9	4.41	3.47	545	1	1.272	1.396
AREA 10	4.45	3.47	545	1	1.284	1.409
AREA 11	35.57	27.72	545	8	1.283	1.408
AREA 12	17.12	13.86	545	4	1.235	1.355
AREA 13	22.43	17.33	545	5	1.295	1.421

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- EXISTING ROAD
- EXISTING OVERHEAD ELECTRICAL
- SETBACK / WATERS
- RIGHT OF WAY (ROW)
- COUNTY DRAIN, 75' BUFFER
- DITCH, 25' BUFFER
- BAT HABITAT
- BUILDABLE AREA
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 26 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)
- TRANSMISSION STRUCTURE SHADE

N

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 302
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978204°, -86.738814°

DRAWING ISSUE		
1	06/22/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE

REVISION ISSUE	

DRAWN BY: AD CHECKED BY: MB
PROJECT NO.: 21070

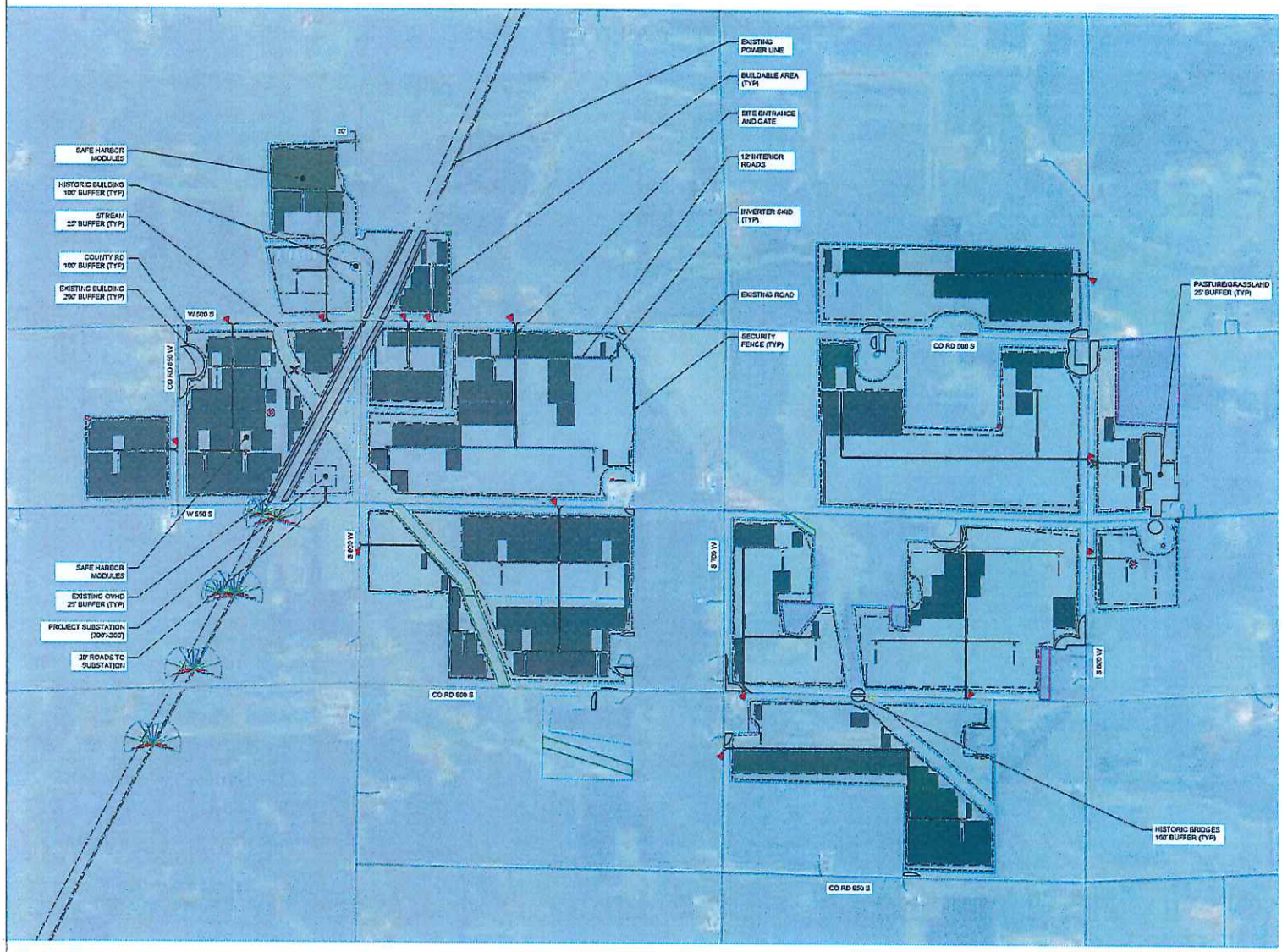
DRAWING TITLE
OVERALL SITE LAYOUT

DRAWING NUMBER
E200

7/19/2021 1:41 PM

21070 - MOSS CREEK - E200 - LAYOUT.DWG

9-1



1 OVERALL SITE LAYOUT
1" = 700'
0' 350' 700' 1400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC AND ROAD CROSSINGS AT EXISTING FEATURES. INV. COLLECTION CROSSINGS ARE TBD AFTER INV. COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- EXISTING ROAD
- EXISTING OVERHEAD ELECTRICAL
- SETBACK/ WATERS
- RIGHT OF WAY (ROW)
- COUNTY DRAIN, 75' BUFFER
- DITCH, 25' BUFFER
- BAT HABITAT
- BUILDABLE AREA
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 26 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)
- TRANSMISSION STRUCTURE SHADE

Petitioner Signature: Abby Sexton

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 303
Oakland, CA 94612
www.revamp-engr.com

ENGINEER'S STAMP

CLIENT NEXTera ENERGY RESOURCES

PROJECT NAME: MOSS CREEK SOLAR

SITE LOCATION: PULASKI COUNTY, IN
40.978204°, -86.738814°

DRAWING ISSUE	
1	06/23/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE

REVISION ISSUE

DRAWN BY: AD CHECKED BY: MD

PROJECT NO.: 21070

DRAWING TITLE: OVERALL SITE LAYOUT

DRAWING NUMBER: E200

21070 - MOSS CREEK - E200 - LAYOUT 2.DWG

d

MOSS CREEK SOLAR

40.978672°, -86.757667°

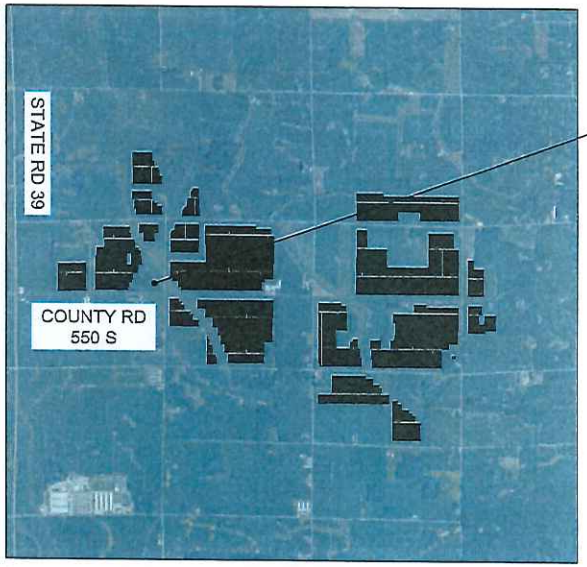
PULASKI COUNTY, INDIANA

DEVELOPMENT PLAN

REGIONAL MAP

PROJECT LOCATION
40.978672°, -86.757667°

VICINITY MAP



PROJECT LOCATION
40.978672°, -86.757667°

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP
ENGINEERING, INC.
428 13TH ST.
3RD FLOOR
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE	
1	08/20/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE
3	08/17/2021 INV SOUND SETBACK
4	09/10/2021 ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH

PROJECT NO.: 21070

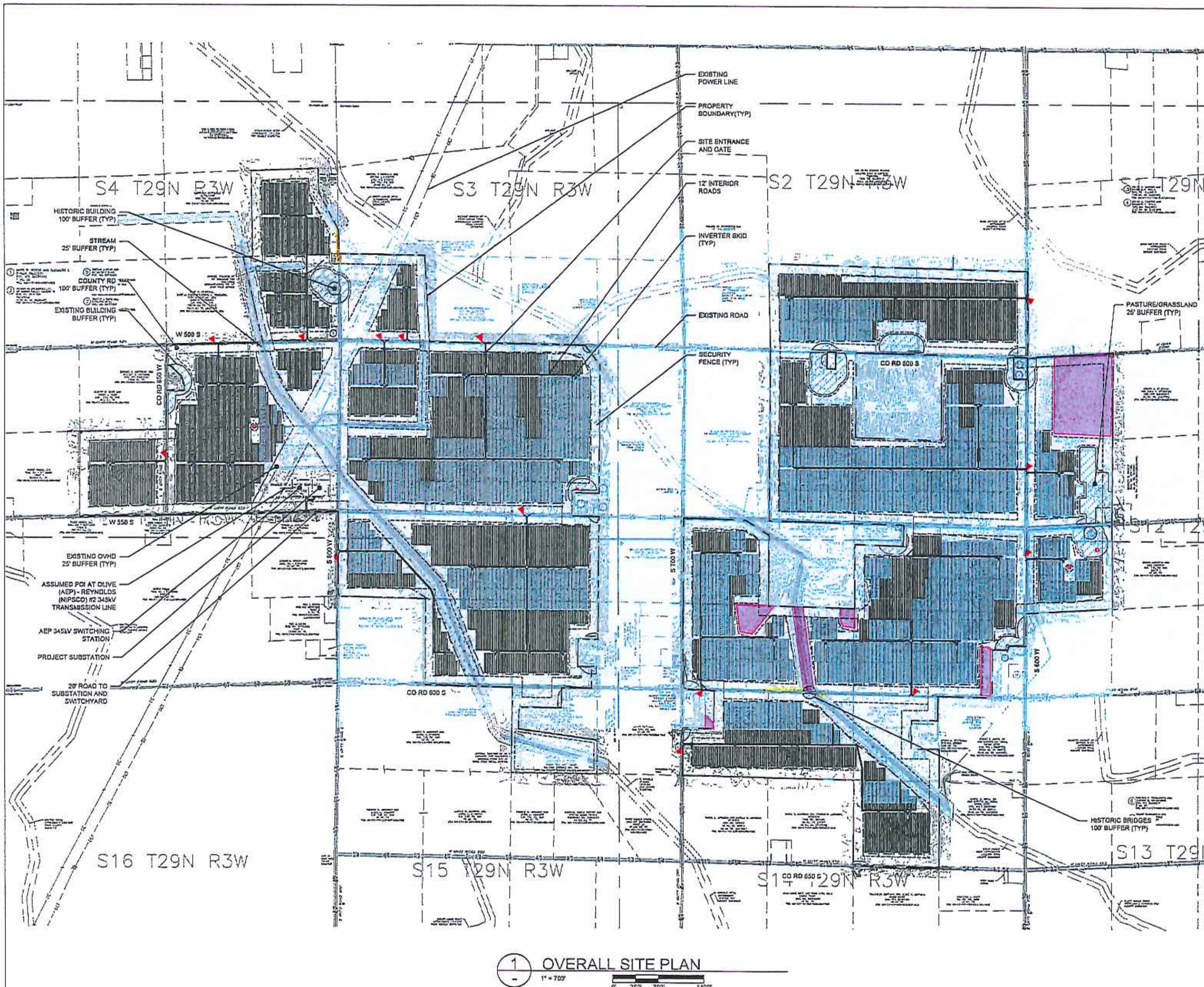
DRAWING TITLE
COVER SHEET

DRAWING NUMBER
CV01

9/15/2021 7:57 AM

21070 - MOSS CREEK - CV01.DWG

10-2



SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 829,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 20 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 302
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP
KAMALJIT BAGHA REGISTERED No. PE12100183 STATE OF INDIANA PROFESSIONAL ENGINEER
09/15/2021

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672°, -86.757667°

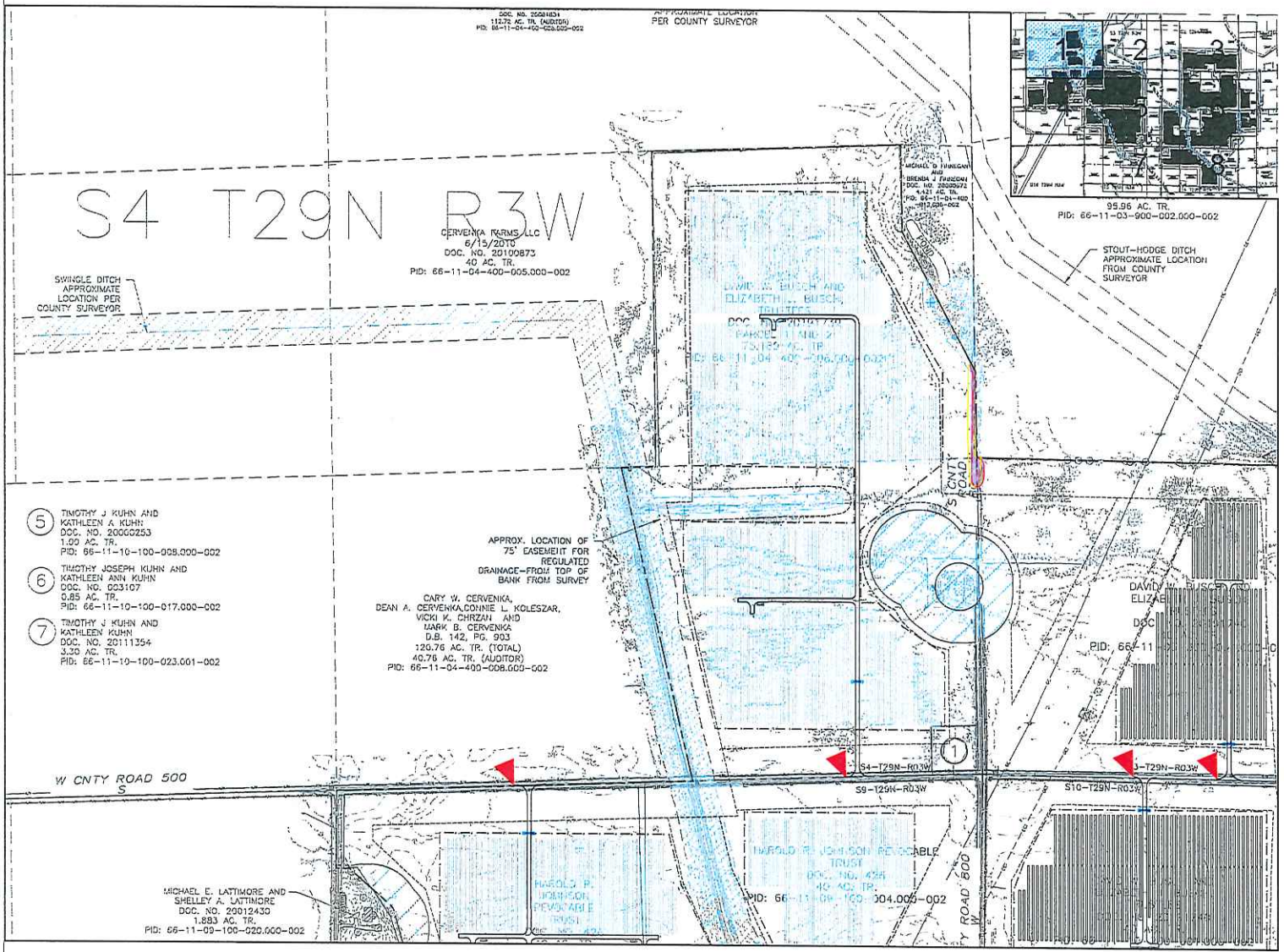
DRAWING ISSUE	
1	06/22/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE
3	08/17/2021 INV BOUND SETBACK
4	09/10/2021 ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH
PROJECT NO.: 21070
DRAWING TITLE
OVERALL SITE PLAN

DRAWING NUMBER
E200

9/15/2021 11:50 AM
21070 - MOSS CREEK - E200 - LAYOUTS.DWG



SHEET NOTES:

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3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 630,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 289 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 20 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP
ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 302
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT: NEXTera ENERGY RESOURCES

PROJECT NAME: MOSS CREEK SOLAR

SITE LOCATION: PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE	
1	08/25/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE
3	09/17/2021 INV SOUND SETBACK
4	09/10/2021 ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH

PROJECT NO.: 21070

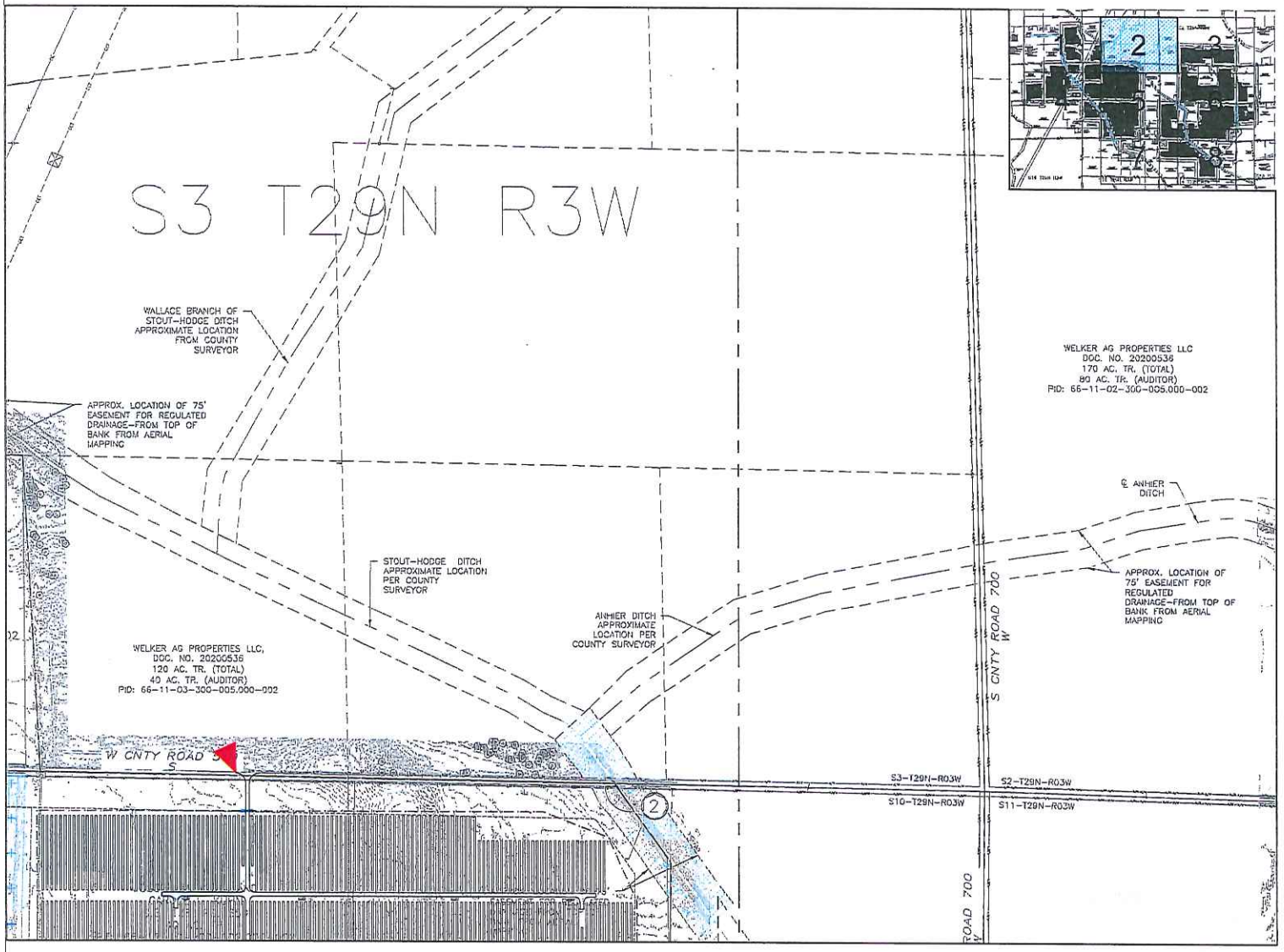
DRAWING TITLE: SITE PLAN

DRAWING NUMBER: E201

9/15/2021 8:19 AM

21070 - MOSS CREEK - E201 - LAYOUT.DWG

10-4



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

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2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 628,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 26 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 302
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT: NEXTera ENERGY RESOURCES

PROJECT NAME: MOSS CREEK SOLAR

SITE LOCATION: PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE		
1	05/20/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE
3	08/17/2021	NW SOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY:MM CHECKED BY:MH

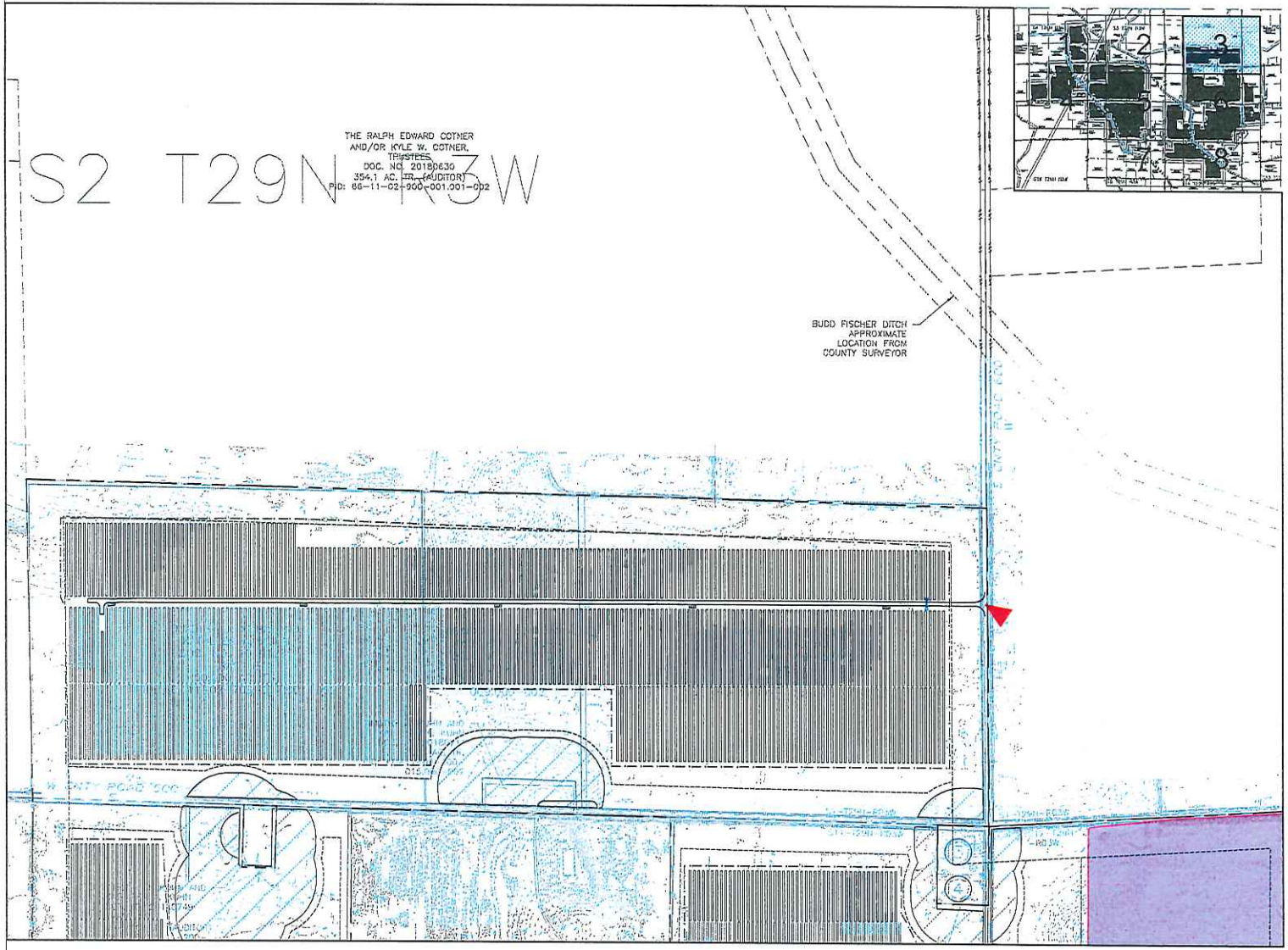
PROJECT NO.: 21070

DRAWING TITLE: SITE PLAN

DRAWING NUMBER: E202

9/10/2021 8:13 AM

21070 - MOSS CREEK - ESS - LAYOUT S.DWG



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 260 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 25 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE	
1	06/22/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE
3	08/17/2021 NW SOUND SETBACK
4	09/10/2021 ZONING PACKAGE

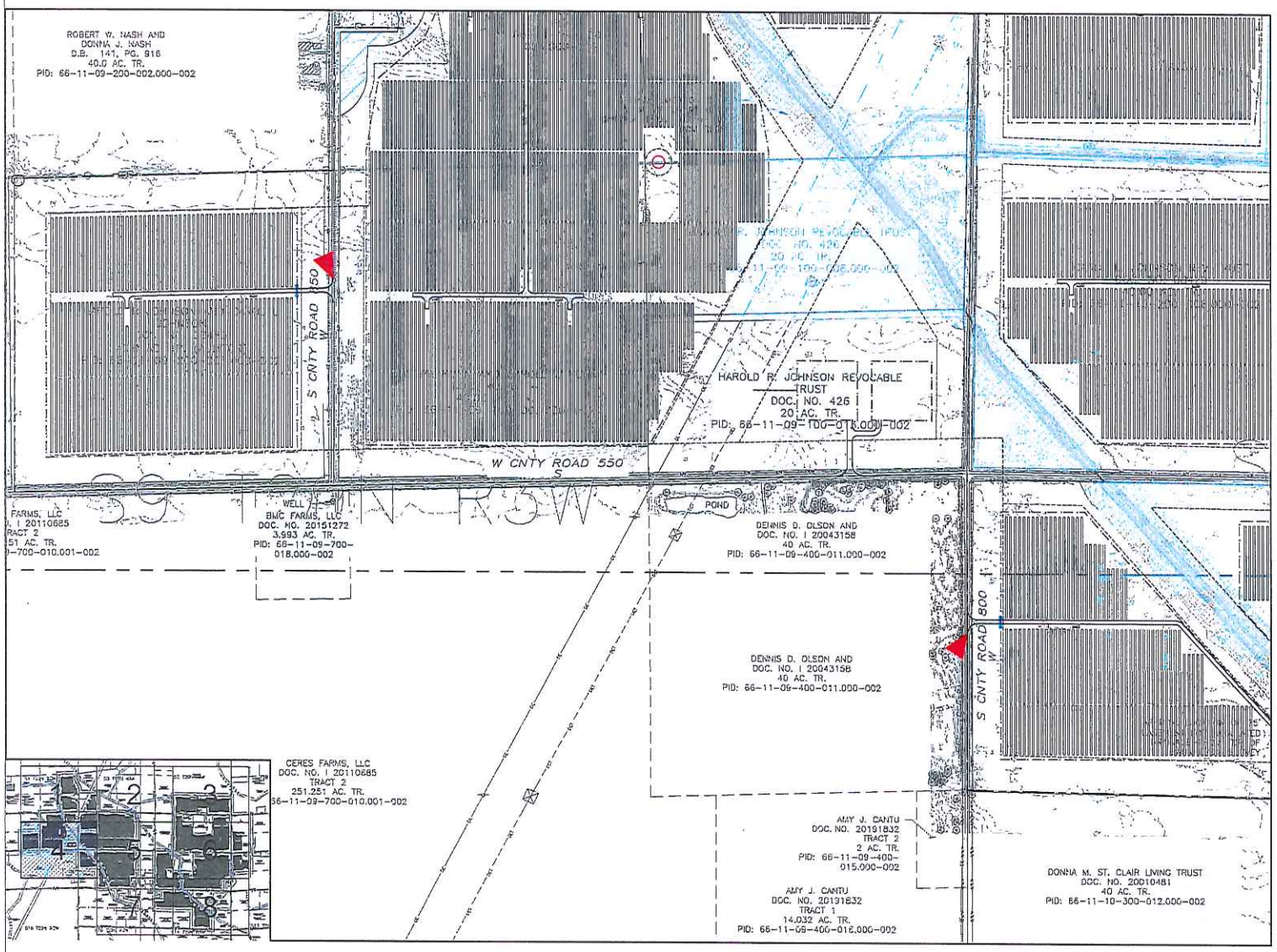
REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH
PROJECT NO.: 21070
DRAWING TITLE
SITE PLAN

DRAWING NUMBER
E203

9/15/2021 8:18 AM
21070 - MOSS CREEK - E200 - LAYOUT E203.DWG

10-6



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 150FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.00 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 50 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 26 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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www.revamp-eng.com

ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.9718672°, -86.7576672°

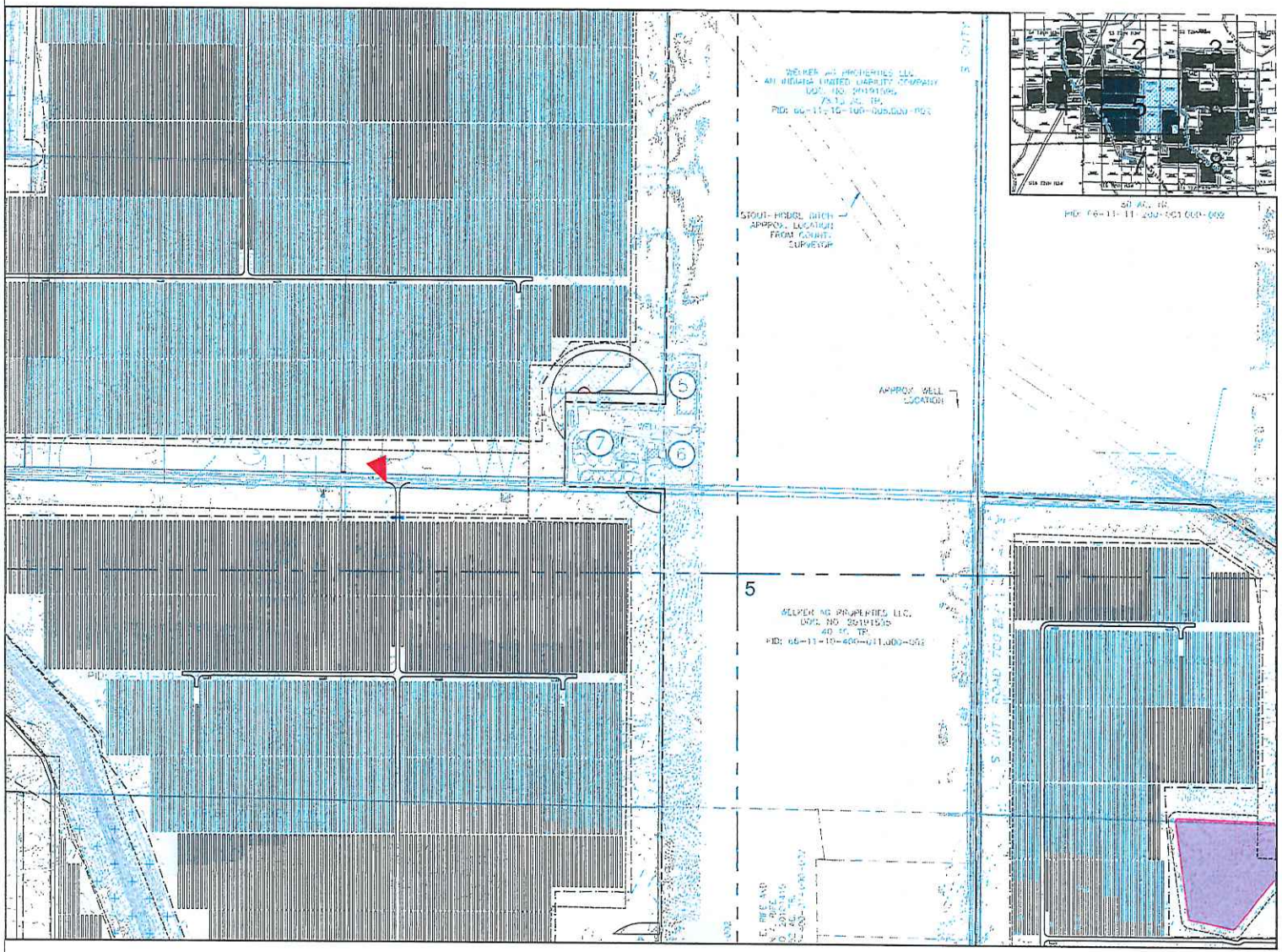
DRAWING ISSUE		
1	05/25/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE
3	08/17/2021	INV SOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH
PROJECT NO.: 21070
DRAWING TITLE
SITE PLAN

DRAWING NUMBER
E204

9/15/2021 8:59 AM
21070 - MOSS CREEK - E200 - LAYOUTS.DWG



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 150FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 150FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12° TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 26 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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Suite 302
Oakland, CA 94612
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ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672°, -86.757667°

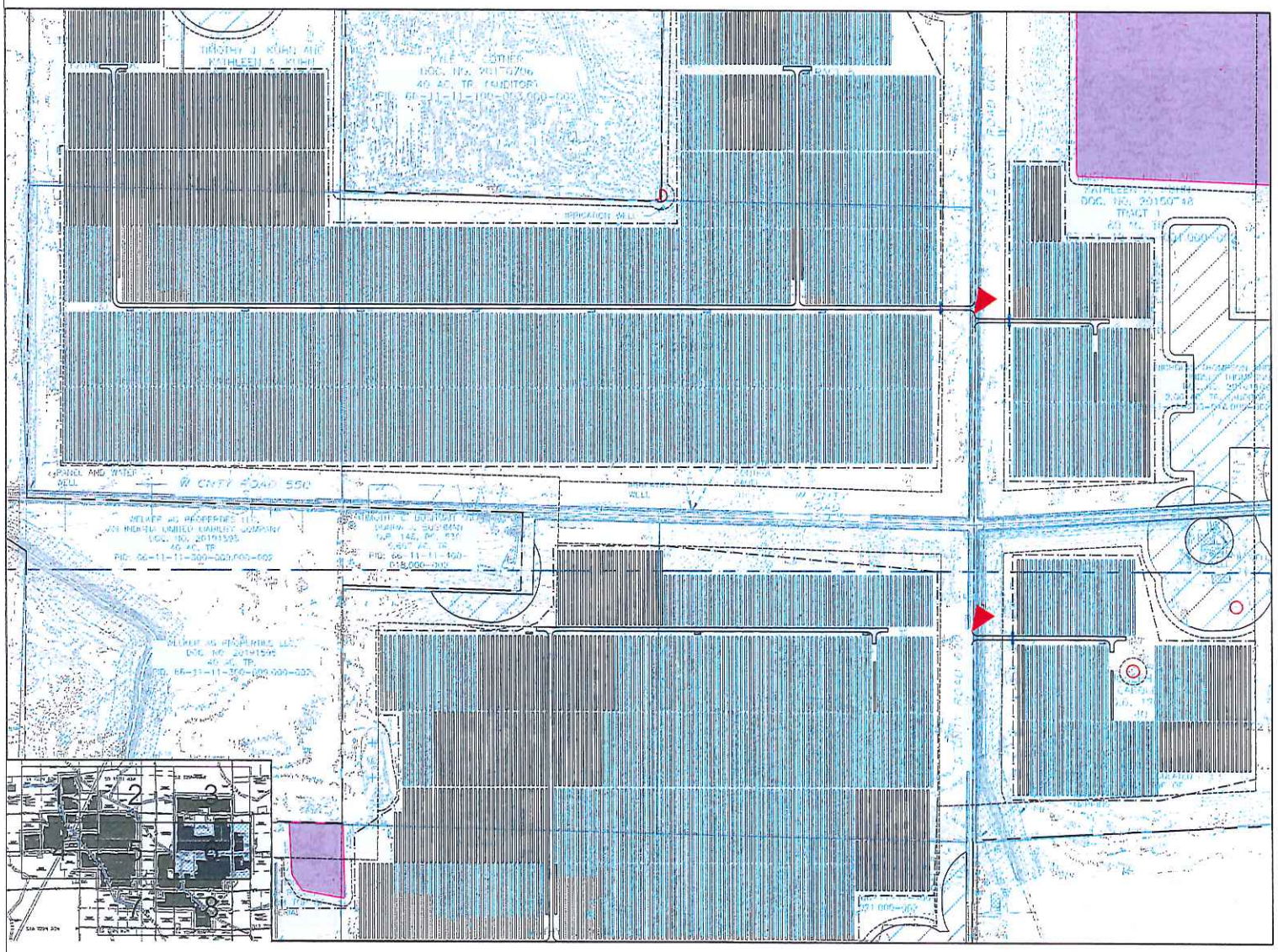
DRAWING ISSUE	
1	09/22/2021 PRELIMINARY
2	07/15/2021 NEW BUILDABLE
3	09/17/2021 NV SOUND SETBACK
4	09/10/2021 ZONING PACKAGE
REVISION ISSUE	

DRAWN BY: MM CHECKED BY: MH
PROJECT NO.: 21070
DRAWING TITLE
SITE PLAN

DRAWING NUMBER
E205

9/15/2021 8:22 AM
21070 - MOSS CREEK - E200 - LAYOUTS.DWG

10-8



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 25 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE		
1	06/22/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE
3	08/17/2021	INV SOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY:MM CHECKED BY:MH

PROJECT NO.: 21070

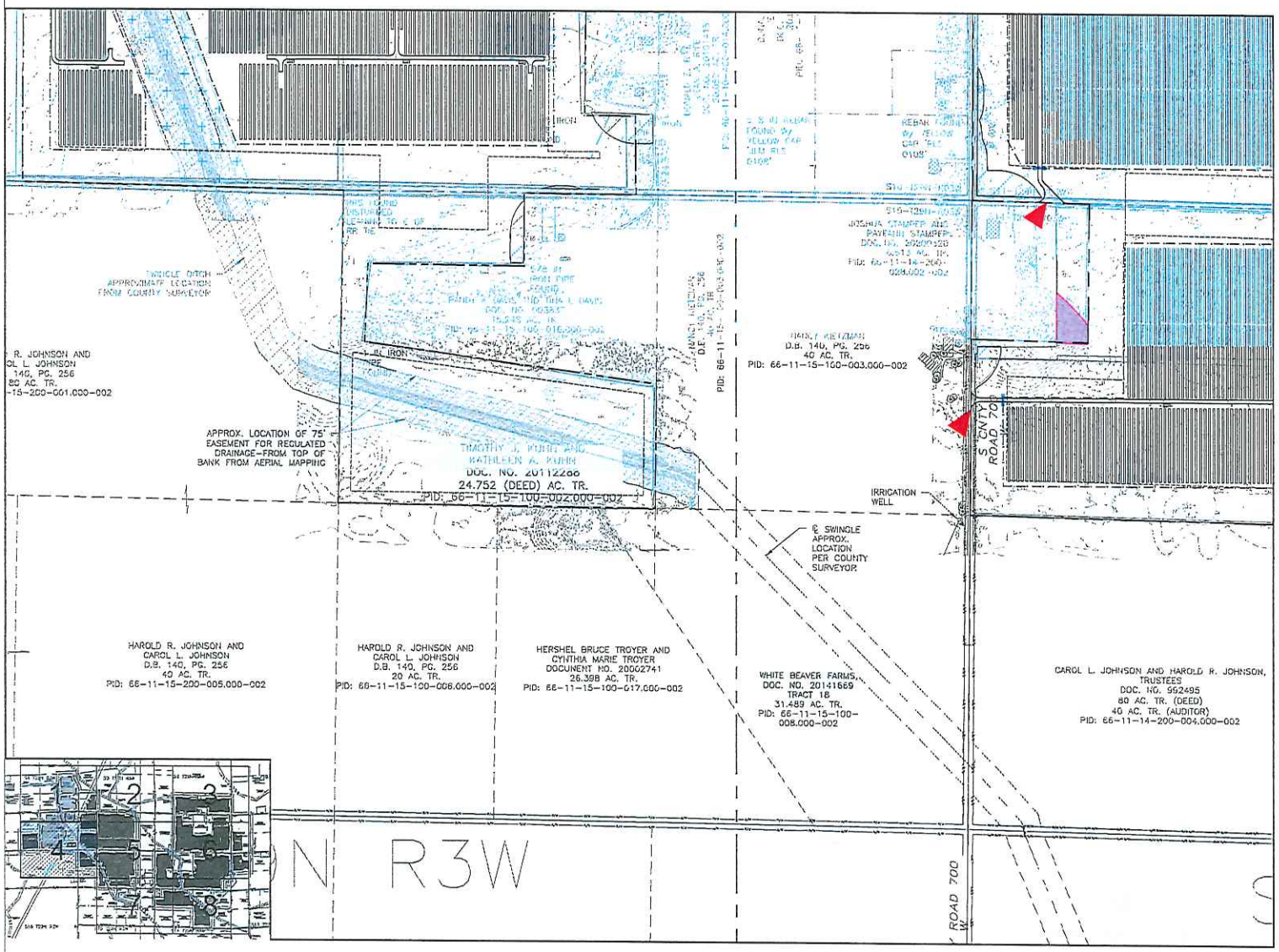
DRAWING TITLE
SITE PLAN

DRAWING NUMBER
E206

9/15/2021 8:24 AM

21070 - MOSS CREEK - E206 - LAYOUTS.DWG

10-9



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

PROJECT DESCRIPTION:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 280 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID: FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #3 345kV CIRCUIT
6. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 25 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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ENGINEERING, INC.
344 Thomas L Berkley Way
Suite 102
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT: NEXTera ENERGY RESOURCES

PROJECT NAME: MOSS CREEK SOLAR

SITE LOCATION: PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE		
1	06/22/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE
3	09/17/2021	INV BOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH

PROJECT NO.: 21070

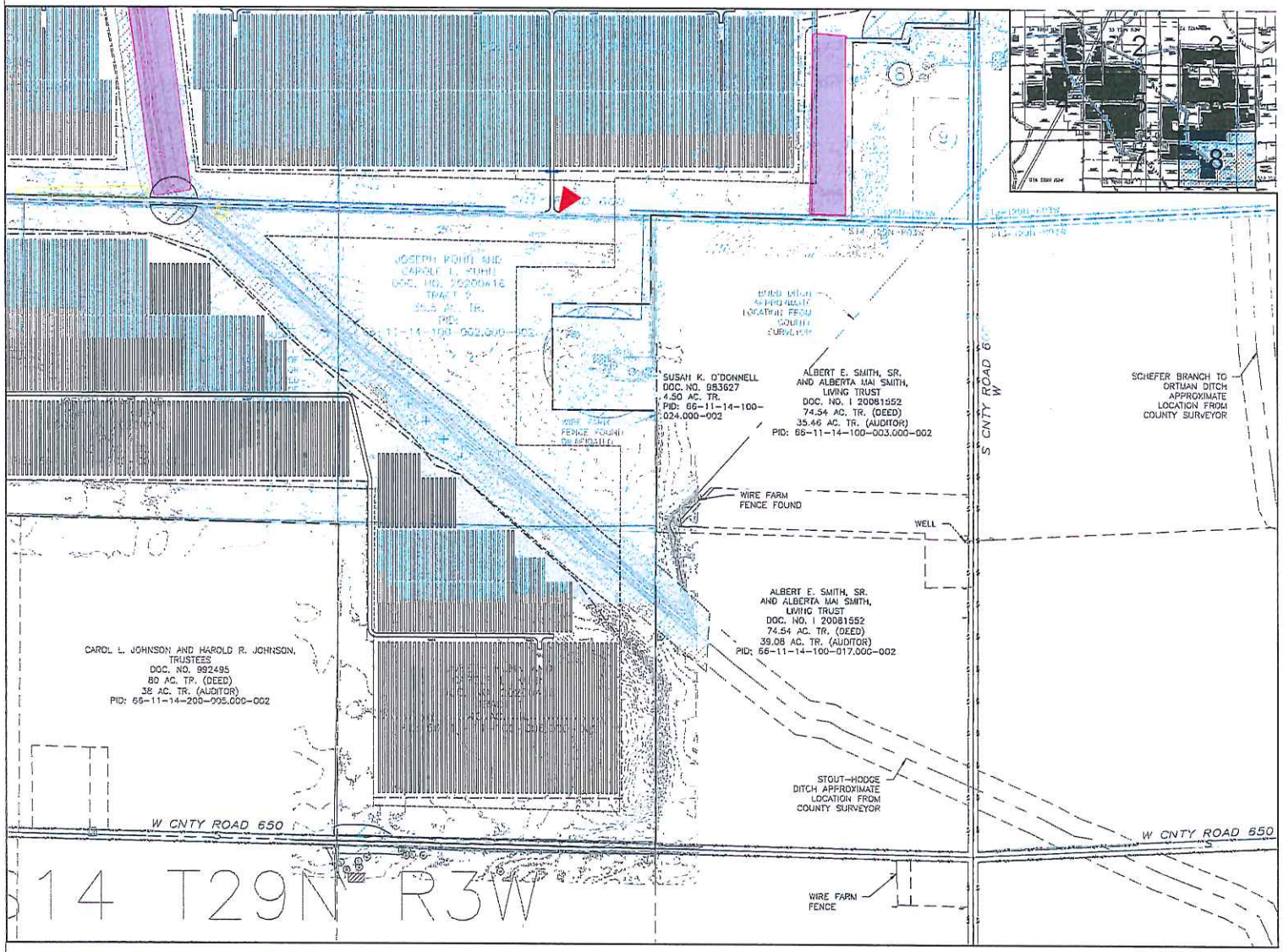
DRAWING TITLE: SITE PLAN

DRAWING NUMBER: E207

9/15/2021 8:29 AM

21070 - MOSS CREEK - 8200 - LAYOUT.DWG

10-10



1 SITE PLAN
1" = 200'
0' 100' 200' 400'

SHEET NOTES:

1. LOCATIONS SHOWN ARE FOR GENERAL GUIDANCE ONLY. SLOPES OF THE SITE ARE NOT DEPICTED AND LOCATIONS MUST BE VERIFIED ON SITE BEFORE INSTALLATION.
2. FINAL STRING SIZING TO BE CONFIRMED BY ENGINEER-OF-RECORD.
3. CROSSING LOCATIONS INDICATE APPROXIMATE DC CROSSINGS AT EXISTING FEATURES. MV COLLECTION CROSSINGS ARE TBD AFTER MV COLLECTION LAYOUT. ALL CROSSINGS TO BE FINALIZED BY ENGINEER OF RECORD.
4. SITE IS IN FEMA FLOOD ZONE X.
5. SETBACKS INCLUDE:
   - 5.1. 150FT SETBACK FROM NON-PARTICIPATING PROPERTY LINE
   - 5.2. 75 FT SETBACK FROM COUNTY DRAINS
   - 5.3. 100FT SETBACK FROM HISTORIC BRIDGES AND STRUCTURES
   - 5.4. 25FT SETBACK FROM PASTURES OR GREENLANDS
   - 5.5. 100FT SETBACK FROM EXISTING ROADS
   - 5.6. 25FT SETBACK FROM TRANSMISSION LINE

SYSTEM SPECIFICATIONS:

1. NUMBER OF PANELS: 629,214
2. TYPE: PHOTOVOLTAIC
3. NAME PLATE GENERATING CAPACITY: 260 MW DC, 218.30 MW AC
4. MAXIMUM SPATIAL EXTENT: 12' TRACKER, 7' FENCE
5. MEANS OF INTERCONNECTING WITH THE ELECTRICAL GRID; FACILITY WILL INTERCONNECT WITH AEP TRANSMISSION SYSTEM VIA NEW STATION CUT INTO THE OLIVE (AEP) – REYNOLDS (REYNOLDS) #2 345kV CIRCUIT
6. EQUIPMENT MANUFACTURER
   - 6.1. PANELS: LONGI 445W
   - 6.2. INVERTERS: POWER ELECTRONICS FS3350M
   - 6.3. TRACKER: SINGLE AXIS WITH BACKTRACKING, MAX ROTATION +/- 60 DEGREES

LEGEND

- PROPERTY LINE
- FENCE LINE
- PROPOSED ROAD
- PROPOSED OVERHEAD ELECTRICAL
- SETBACK
- DITCH, 25FT BUFFER
- BAT HABITAT, 25FT SETBACK
- EXCLUSION AREA
- NWI WETLANDS, 25 FT SETBACK (TYP)
- STREAM BUFFER, 25 FT (TYP)
- WATER WELL BUFFER, 25 FT (TYP)
- SITE ENTRANCE AND GATE
- SITE ACCESS
- CROSSING LOCATION (SEE NOTE 3)

PRELIMINARY - NOT FOR CONSTRUCTION

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344 Thomas L. Berkley Way
Suite 302
Oakland, CA 94612
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT: NEXTera ENERGY RESOURCES

PROJECT NAME: MOSS CREEK SOLAR

SITE LOCATION: PULASKI COUNTY, IN
40.978672°, -86.757667°

DRAWING ISSUE		
1	08/22/2021	PRELIMINARY
2	07/16/2021	NEW BUILDABLE
3	08/17/2021	INV SOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH

PROJECT NO.: 21070

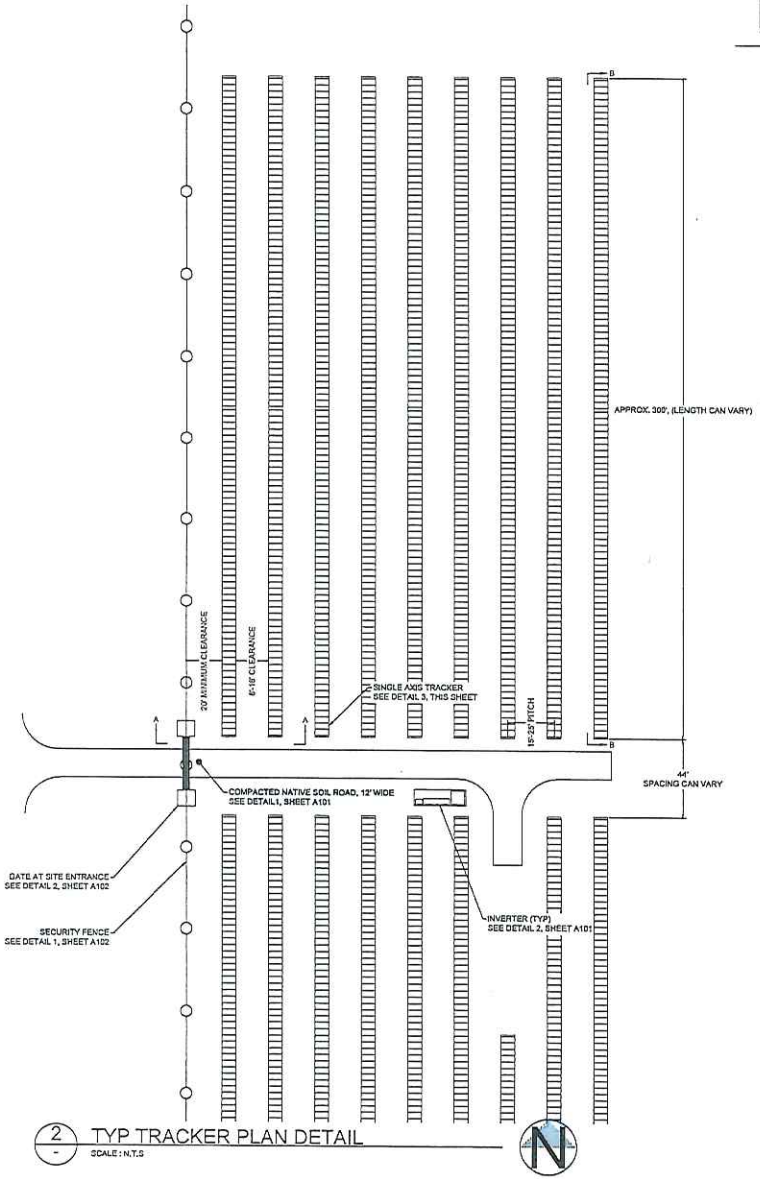
DRAWING TITLE: SITE PLAN

DRAWING NUMBER: E208

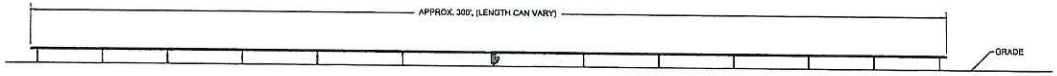
9/13/2021 8:33 AM

21070 - MOSS CREEK - ESSD - LAYOUT.DWG

10 - 11



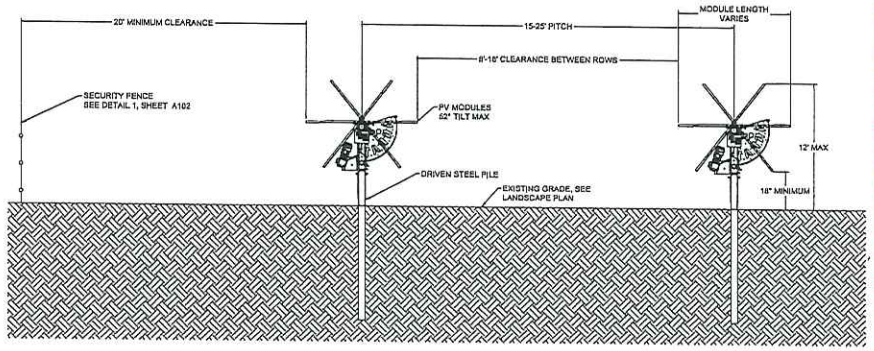
2 - TYP TRACKER PLAN DETAIL
SCALE : N.T.S



1 - TYP TRACKER ELEVATION DETAIL B-B
SCALE : N.T.S

SHEET NOTES:

1. VEGETATION: NATURAL VEGETATION AS GROUND COVER AT THE SITE AROUND AND ADJACENT TO THE ARRAY. THIS PLAN WILL INCLUDE PERENNIAL GRASSES PLANTED ACROSS THE FACILITY TO PREVENT SOIL EROSION AND BENEFIT STORMWATER MANAGEMENT.
2. SEE LANDSCAPE PLAN FOR MORE DETAILS



3 - TYP TRACKER ELEVATION DETAIL A-A
SCALE : N.T.S

PRELIMINARY - NOT FOR CONSTRUCTION

REVAMP
ENGINEERING, INC.
555 12th St, 5th Floor
Oakland, CA 94607
www.revamp-eng.com

ENGINEER'S STAMP

CLIENT
NEXTera ENERGY RESOURCES

PROJECT NAME
MOSS CREEK SOLAR

SITE LOCATION
PULASKI COUNTY, IN
40.978672° , -86.757667°

DRAWING ISSUE

1	06/22/2021	PRELIMINARY
2	07/15/2021	NEW BUILDABLE
3	08/17/2021	INV SOUND SETBACK
4	09/10/2021	ZONING PACKAGE

REVISION ISSUE

DRAWN BY: MM CHECKED BY: MH

PROJECT NO.: 21870

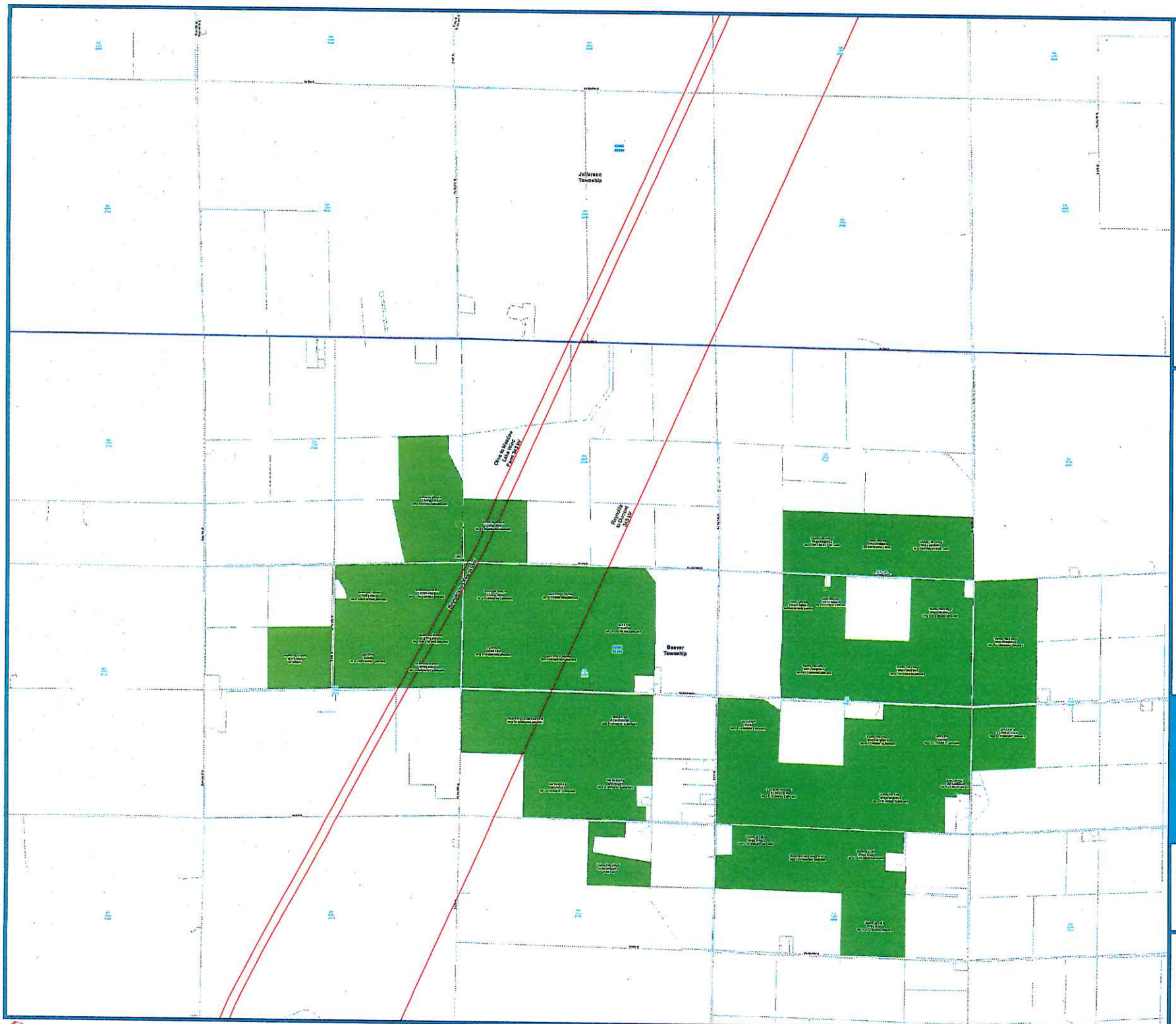
DRAWING TITLE
TRACKER DETAILS

DRAWING NUMBER
A100

9/13/2021 7:53 AM

21870 - MOSS CREEK - A100 - DETAILS.DWG

10-A1



Moss Creek Solar

P-4004 - GIS ID: 10437
240 MW - Solar
Pulaski, IN

Legend

- <all other values>
- **Parcel Status**
  - Signed Lease
- **Survey**
  - Municipal Townships
  - County
  - Township
- **Ventyx Transmission**
  - 100-161
  - 230-300
  - 345
  - 500
  - 735 and Above
  - Ventyx Substations

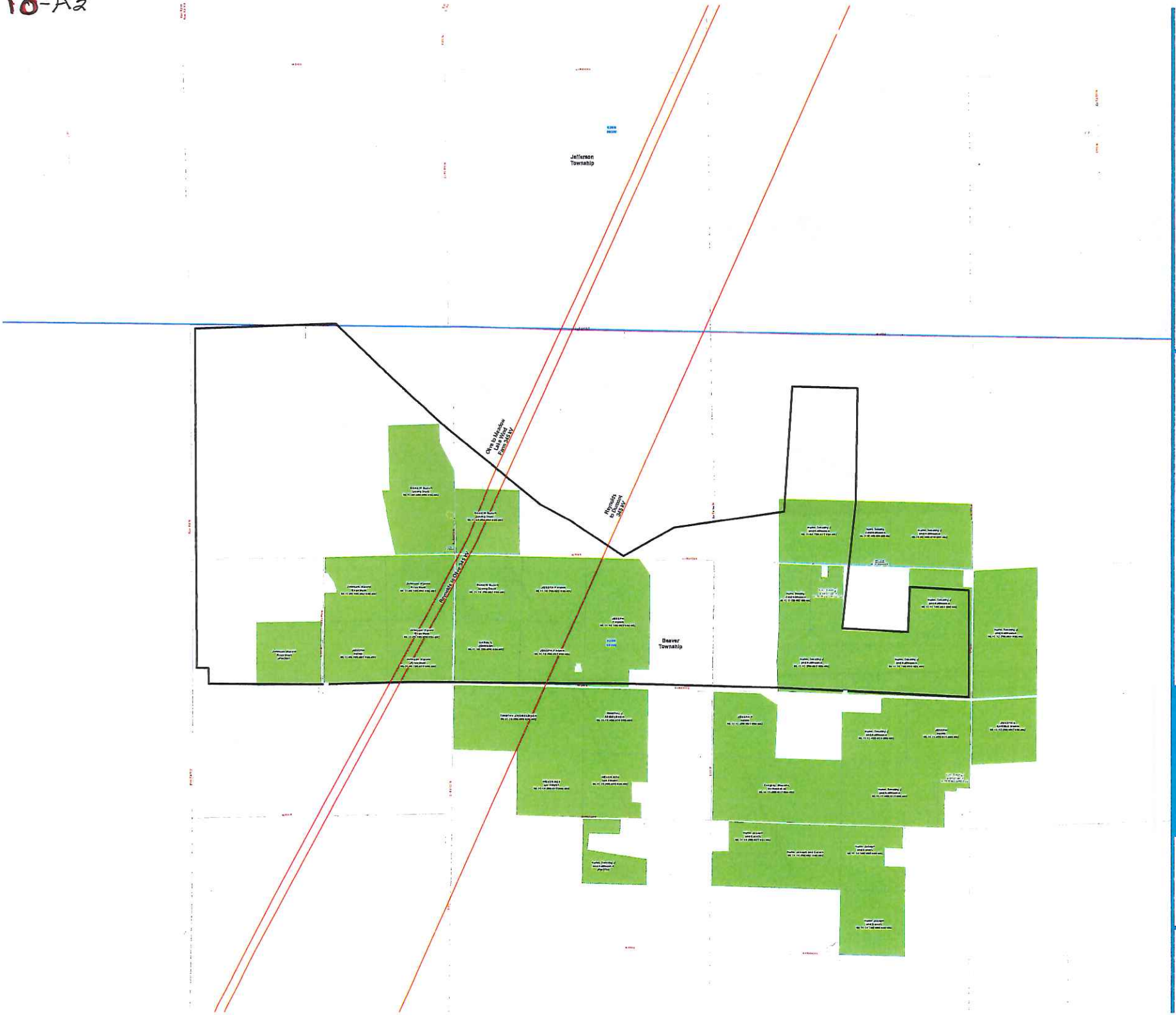
NEXTera ENERGY RESOURCES

N

0 0.25 0.5
Miles

July 29, 2021

10-A2



Moss Creek Solar

P-4004 - GIS ID: 10437
240 MW - Solar
Pulaski, IN

Legend

- <all other values>

Parcel Status
- Signed Lease

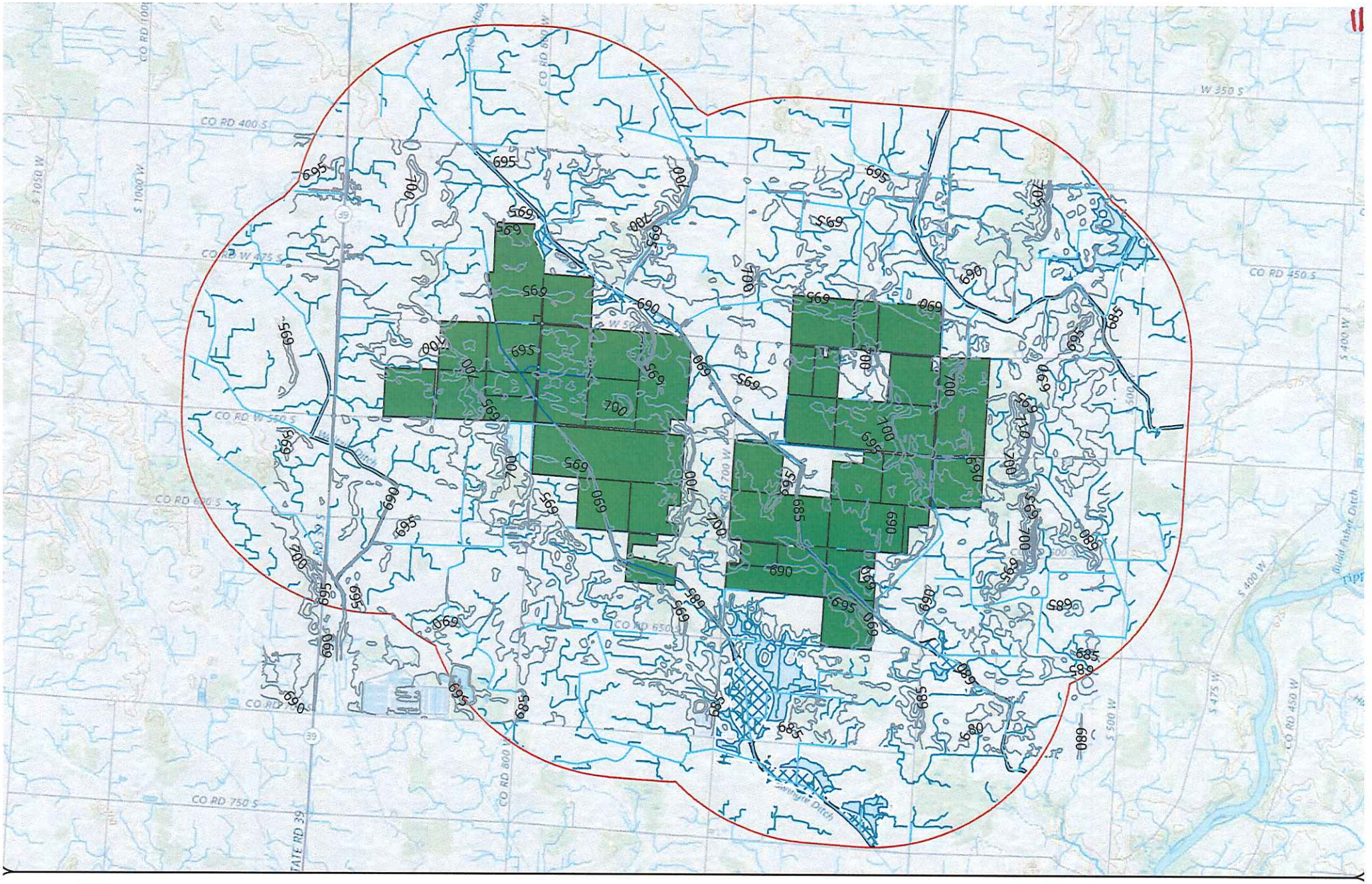
Survey
- Municipal Townships
- County
- Township

Ventyx Transmission
- 100-161
- 230-300
- 345
- 500
- 735 and Above
- Ventyx Substations

NEXTera ENERGY RESOURCES

N

0 0.25 0.5
Miles



Canal and NHD Ditch
Ditch Field
Stream Field

NHD, River, and Stream

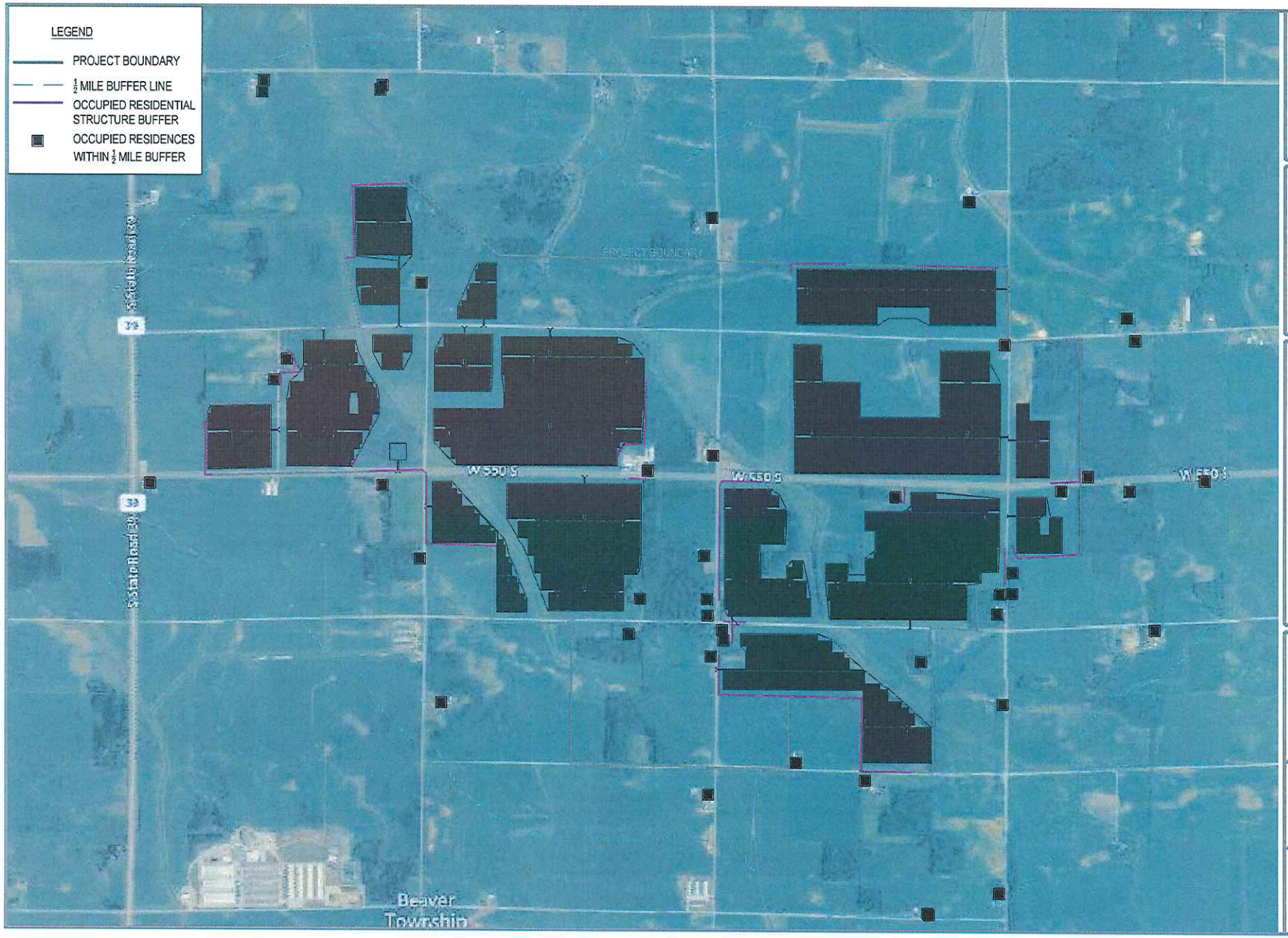
Artifical Path
Stream or River
<all other values>

Contours 5ft
Project Boundary
1-Mile Boundary
Signed Parcel
INDNR Floodplain Fringe
Wetland Field
INDNR Floodway

Moss Creek Topographic Map

NEXTera ENERGY RESOURCES

N
0 1,000 2,000 Feet



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MOSS CREEK SOLAR PROJECT

PRELIMINARY REVISED
PRELIMINARY 9-1-21

200777-0000
ECT PROJECT NUMBER

CM DESIGNED BY | NP CHECKED BY

JJR/MRA DRAWN BY | JB APPROVED BY

SHEET TITLE

LANDSCAPE BUFFERS LOCATIONS

SCALE: 1" = 1600' @ 11"x17"

0 800 1600
FEET

NORTH

FIGURE 1

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12-2

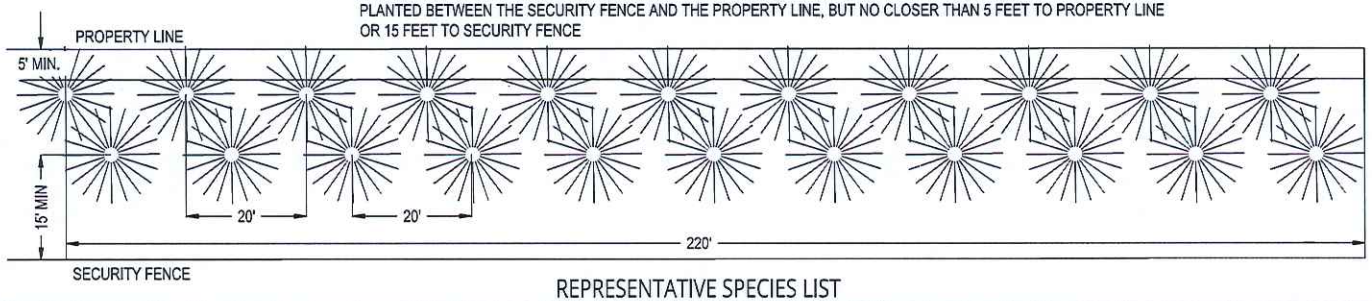
PROPOSED OCCUPIED RESIDENTIAL STRUCTURE BUFFER

LEGEND

EVERGREEN TREE

1. ONE ROW OF AN EVERGREEN TREE PLANTED EVERY 20' FEET OF CONTIGUOUS BOUNDARY WITH AN OCCUPIED RESIDENTIAL STRUCTURE (AS INDICATED ON FIGURE 1 AS OCCUPIED RESIDENTIAL STRUCTURE BUFFER). PLANTED BETWEEN THE SECURITY FENCE AND THE PROPERTY LINE, BUT NO CLOSER THAN 5 FEET TO PROPERTY LINE ,

2. A SECOND ROW OF AN EVERGREEN TREE PLANTED EVERY 20' FEET BEHIND AND CENTERED OF THE FIRST ROW. PLANTED BETWEEN THE SECURITY FENCE AND THE PROPERTY LINE, BUT NO CLOSER THAN 5 FEET TO PROPERTY LINE OR 15 FEET TO SECURITY FENCE



REPRESENTATIVE SPECIES LIST

Occupied Residential Structure Buffer

Scientific Name	Common Name*	Planting Specification, Minimum Spacing	Average Growth Rate	Mature Size	Comments
Evergreen					
Juniperus communis	Common Juniper	5' HT(B&B), 20' O.C.	Slow, 0.5'/yr	29' (H) x 13' (W)	Grows in many conditions.
Juniperus virginiana	Eastern Red Cedar	5' HT(B&B), 20' O.C.	Medium, 1.5'/yr	40'-50' (H) x 8'-20' (W)	Grows best in full sun, tolerates heat, wind and salt.
Juniperus virginiana 'Canaertii'	Canaertii Eastern Redcedar	5' HT(B&B), 20' O.C.	Medium, 1.5'/yr	25'(H) x 15'(W)	Compact form, Ornamental blue berries and attractive, open and irregular branching habit.
Picea glauca	White Spruce	5' HT(B&B), 20' O.C.	Medium-Fast, 1.75'/yr	40'-60' (H) x 10'-20' (W)	Can withstand wind, heat, cold, drought, crowding and some shade.
Picea mariana	Black Spruce	5' HT(B&B), 20' O.C.	Slow, 1.0'/yr	30'-60' (H) x 15'-25' (W)	Adapted to cold and can be resistant to winter injury but cannot tolerate flooding and compact soil.
Pinus strobus	White Pine	5' HT(B&B), 20' O.C.	Fast, 2'/yr	50'-80' (H) x 20'-40' (W)	Fast growing tree.

* The plant species listed are representative of those that are to be installed. This list is not considered to be all inclusive, due to availability at the time of installations, substitutions with similar spreacies may be made.

7.14.C.3. Perimeter Buffer of the Pulaski County Ordinance:

3. The planting of evergreen, construction of an earthen berm, or both along the perimeter of the Commercial Solar Energy System (CSES) shall be required on the outside of the perimeter fencing along road frontage and facing all occupied residential structures on non-participating properties within a half (1/2) mile of a CSES. Such planting of foliage screening, a property placed berm, or combination of both shall be of a sufficient height, density, and layout to screen the solar site immediately; i.e., planting trees young enough that the objectives of this ordinance cannot be met by the time the project is operation is not acceptable.

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BUFFER LANDSCAPE TREE PLANTING SCHEMATICS, TREE LIST AND COUNTY ORDINANCE

SCALE: 1" = 20' @ 11"x17"

0 10 20

NORTH	FIGURE
NA	2

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12-1

12-3

LEGEND

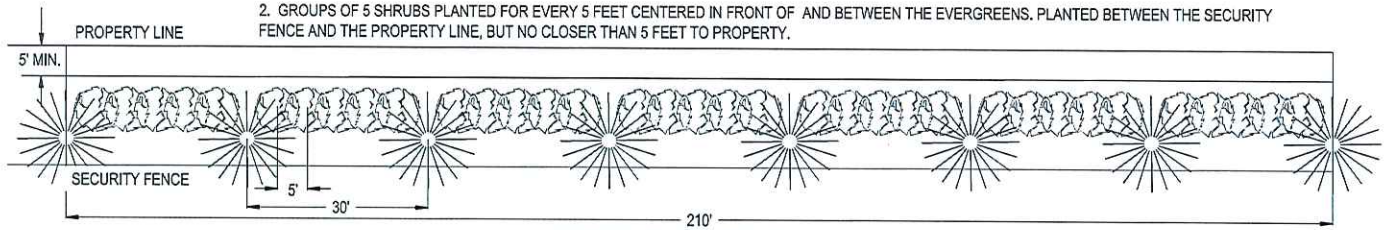
EVERGREEN TREE

LARGE SHRUB

PERIMETER BUFFER B

1. 1 EVERGREEN FOR EVERY 30 FEET OF CONTIGUOUS BOUNDARY WITH AN OCCUPIED RESIDENTIAL STRUCTURE (AS INDICATED ON FIGURE 1 AS PERIMETER BUFFER). PLANTED BETWEEN THE SECURITY FENCE AND THE PROPERTY LINE, BUT NO CLOSER THAN 5 FEET TO PROPERTY LINE.

2. GROUPS OF 5 SHRUBS PLANTED FOR EVERY 5 FEET CENTERED IN FRONT OF AND BETWEEN THE EVERGREENS. PLANTED BETWEEN THE SECURITY FENCE AND THE PROPERTY LINE, BUT NO CLOSER THAN 5 FEET TO PROPERTY.



REPRESENTATIVE SPECIES LIST

PERIMETER BUFFER "B"

Scientific Name	Common Name*	Planting Specification, Minimum Spacing	Average Growth Rate	Mature Size	Comments
Evergreen					
Juniperus communis	Common Juniper	5' HT(B&B), 30' O.C.	Slow, 0.5'/yr	29' (H) x 13' (W)	Grows in many conditions.
Juniperus virginiana	Eastern Red Cedar	5' HT(B&B), 30' O.C.	Medium, 1.5'/yr	40'-50' (H) x 8'-20' (W)	Grows best in full sun, tolerates heat, wind and salt.
Juniperus virginiana 'Canaertii'	Canaertii Eastern Redcedar	5' HT(B&B), 30' O.C.	Medium, 1.5'/yr	25'(H) x 15'(W)	Compact form, Ornamental blue berries and attractive, open and irregular branching habit.
Picea glauca	White Spruce	5' HT(B&B), 30' O.C.	Medium-Fast, 1.75'/yr	40'-60' (H) x 10'-20' (W)	Can withstand wind, heat, cold, drought, crowding and some shade.
Picea mariana	Black Spruce	5' HT(B&B), 30' O.C.	Slow, 1.0'/yr	30'-60' (H) x 15'-25' (W)	Adapted to cold and can be resistant to winter injury but cannot tolerate flooding and compact soil.
Pinus strobus	White Pine	5' HT(B&B), 30' O.C.	Fast, 2'/yr	50'-80' (H) x 20'-40' (W)	Fast growing tree.
Large Shrubs/Small Ornamental Trees					
Amelanchier laevis	Allegheny Serviceberry	36"(potted), 5' O.C.	Medium, 1.5'/yr	15'-25'(H) x 10'-20'(W)	Multi-stem form preferred, Tolerant of wide range of soils, edible fruit.
Aronia melanocarpa	Black Chokeberry	36"(potted), 5' O.C.	Slow, 1.0'/yr	7'(H) x 5'(W)	Tolerant of a variety of soil types, will sucker, edible fruit, up to 7" tall.
Cephalanthus occidentalis	Buttonbush	36"(potted), 5' O.C.	Medium, 1.5'/yr	6'-10'(H) x 5'(W)	Interesting ball-shaped flowers, tolerant of wet soils.
Cornus sericea	Redosier Dogwood	36"(potted), 5' O.C.	Fast, 2.0'/yr	7'-9'(H) x 10'(W)	Bright red stems in winter.
Corylus americana	American filbert	36"(potted), 5' O.C.	Medium-Fast, 1.75'/yr	8'-10'(H) x 8'(W)	Large shrub, edible nuts, will spread.
Hamamelis virginiana	Common Witch Hazel	36"(potted), 5' O.C.	Medium, 1.5'/yr	15'(H) x 15'(W)	Multi-stem form preferred, Fall blooming (Oct-Dec), large shrub for part shade.
Ilex verticillata	Common Winterberry	36"(potted), 5' O.C.	Slow, 1.0'/yr	8'(H) x 8' (W)	Showy red berries in winter, tolerates wet soil.
Physocarpus opulifolius	Ninebark	36"(potted), 5' O.C.	Medium-Fast, 1.75'/yr	8'(H) x 8' (W)	Drought tolerant, tough shrub.
Sambucus canadensis 'Laciniata'	Laceleaf Elderberry	36"(potted), 5' O.C.	Fast, 2.0'/yr	8'(H) x 8' (W)	Compact variety to 8' with deeply dissected leaves, edible fruit.
Viburnum prunifolium	Blackhaw Viburnum	36"(potted), 5' O.C.	Slow-Medium, 1.25'/yr	12'-15'(H) x 8'-12'(W)	Multi-stem form preferred, to 15' tall, hardy.
Viburnum trilobum	American Cranberry Viburnum	36"(potted), 5' O.C.	Medium, 1.5'/yr	10'(H) x 10'(W)	Not the invasive European species (V.opulus), useful for massing.

* The plant species listed are representative of those that are to be installed. This list is not considered to be all inclusive, due to availability at the time of installations, substitutions with similar spreacies may be made.

Proposed Buffer Yard Requirements
Perimeter Buffer "B." Options being explored with property owners subject to 7.14.C.3. as allowed by 7.14.C.3.a.1) and 7.14.C.3.b.1-2):
3.a. Along the property lines, this shall be left to the negotiation process between the developer and the individual neighboring land owner. *1) All property owners subject to the benefits of 7.14.C.3 retain the right to waive the planting requirements; such waiver shall be recorded at the Pulaski County Courthouse.*
3.b. While evergreen trees are understood to be the default form of screening, topographical concerns, homeowner preference, developers' willingness to accede to requests made by homeowners or to County preferences, and the plan administrator's preference or approval may lead to alternative forms of visual screening, such as deciduous trees. *1) If an individual homeowner would prefer the use of deciduous trees, then the developer/owner would not be responsible for the presence of the solar site in the homeowner's viewshed during period of time in which said trees have shed their leaves.*

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MOSS CREEK SOLAR PROJECT

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BUFFER LANDSCAPE TREE PLANTING SCHEMATICS, TREE LIST AND COUNTY ORDINANCE

SCALE: 1" = 20' @ 11"x17"

0 10 20

NORTH	FIGURE
NA	3

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SPECIAL EXCEPTION
FINDINGS OF FACT

Petitioner: MOSS CREEK SOLAR LLC
Project Contact: Ally Sexton, ally.sexton@nexteraenergy.com, (561) 694-4316;
Mary Solada, mary.solada@dentons.com, (317) 635-8900

Case #: **09272021-01 / 039272021-01**

Location: Pulaski County

The Pulaski County Board of Zoning Appeals ("BZA") must determine that the following criteria have been met in order to approve an application for a Special Exception. In accordance with Section 2.3.P of the Pulaski County Unified Development Ordinance ("Ordinance"), the Board of Zoning Appeals shall make the determination concerning the following findings of fact for a Special Exception.

1. *Is the proposed special exception use compatible with the current comprehensive plan for Pulaski County and with the current conditions and character of its vicinity?*

   The Pulaski County Comprehensive Plan specifically identifies as a goal the recognization of renewable energy facilities as economic development opportunities for the County. Additionally, the Comprehensive Plan further indicates that prime agricultural land should be protected, and that the rural character of the County should be preserved. Both of these goals are directly promoted over the long-term by the Moss Creek Solar project.

   The Pulaski County Comprehensive Plan encourages practices that help to sustain the viability of the land for continued farming. A solar power facility will preserve farm land and likely return the land in improved farming condition after the life cycle of the project.

   The Pulaski County Comprehensive Plan encourages economic development activities. The proposed investment for the Project resulting in a minimum of $20 MM in taxes during the life of the Project will be a significant, long term addition to the County tax base, keeping County taxes low. In addition, the Project will represent a cutting-edge investment in the County, creating new jobs and workforce development opportunities. Further, the solar power facility will allow farmers to diversify their farm operations, and help sustain land ownership within multi-generational farm families.

2. *Would the use intended for the proposed special exception provide for the most desirable use for which the land in this zoning district is adapted?*

   Solar power projects are commonly found in agricultural settings, and are well-suited as such. Given that a solar power facility is by design a temporary use, the underlying agricultural land is thereby preserved for future agricultural use. In fact, once the life of solar power project is ended, the land is typically returned in better condition for agricultural purposes than it was prior to the project.

The surrounding area will not be adversely impacted by sound or traffic during the operation of the solar power project. Inverters produce a quiet hum that is barely audible over ambient background levels, especially when placed in the interior of the solar panel layout.

Petitioner submits a Decommissioning Plan Agreement. Such Agreement legally and financially ensures that the Project will be fully decommissioned at the end of its useful life and, at that time, the underlying land will remain available for agricultural use for future generations. Similar to growing corn for ethanol, solar energy represents an opportunity for farmers to harvest the sun for alternative energy production, diversify their farm operations, and help sustain land ownership within multi-generational farm families.

Traffic during operation will be mostly limited to light duty pickup trucks or other vehicles needing access to the facilities for routine maintenance. Following the construction phase, the solar power facility will only attract the occasional maintenance staff visit, so traditional parking areas, access issues, and vehicular traffic concerns will not be applicable. Additionally, solar panels will be set back in a manner to ensure adequate and safe sight distances will be provided for both motorists and/or pedestrians.

3. *Would the proposed special exception likely have a positive, neutral, or negative impact on property values throughout the jurisdiction?*

The surrounding area will not be adversely impacted by sound or traffic during the operation of the solar power project. Inverters produce a quiet hum that is barely audible over ambient background levels, especially when placed in the interior of the solar panel layout.

The solar power facility will not cause significant noise, glare, dust, vibration, smoke or other objectionable externalities. The proposed special exception will not alter the character of the district. The Ordinance specifically provides for solar power facilities as a permissible use in agricultural districts with a special exception to be approved by the BZA.

The Project was sited with due consideration to the adjacent land uses and granting the proposed special exception is in harmony with all adjacent land uses. The Project does not result in adverse aesthetic impacts as the panels will be limited in height, will be setback from all non-participating abutting residential properties, and the Project will include a landscaping plan. Additionally, during operation, the Project will not generate additional traffic in the area and there will be no discernible sound, odors or other impacts to adjacent land uses resulting from the Project.

Site drainage patterns will also be generally retained onsite due to flexibility in photovoltaic solar designs, which allows for general preservation of topsoil and stabilized surfaces post-construction. The facility will obtain all appropriate approvals from the Indiana Department of Environmental Management and the Pulaski County Soil and Water Conservation District ("SWDD"). The solar power facility will also comply with all applicable local, state, and federal construction and drainage requirements.

Due to the manner in which the panels are installed, surface drainage patterns will not be disrupted. Vegetation will be planted between rows of panels and under the panels, preventing excessive water runoff and supporting onsite water retention. Additionally, before construction

commences, groundcover will be in place and maintained to support storm water control and retention. The Petitioner will prepare a detailed drainage plan once project's design is finalized, assessing public and private drains both within and outside the facility's footprint. In accordance with Petitioner's lease agreements and to the extent possible, private drain tiles will be avoided or repaired during construction as damage occurs. The developer will also design a site-specific drainage system for the project. Any issues that appear post-construction will be repaired as quickly as possible at the developer's expense.

With respect to property values, the Project developer has developed utility-scale solar projects throughout the country and is unaware of any documented evidence of a material reduction in property values arising as a result of a solar project. Independent third-party studies have indicated that no consistent negative impact [to property values] has occurred for properties adjacent to solar farms that could be attributed to the proximity of the solar farm. Additionally, numerous County Assessors have also investigated the impact on property values of solar energy projects and found no negative correlation.

Additionally, the CohnReznick Impact Study (dated July 26, 2021) has been as submitted to the case file. This Impact Study, prepared by CohnReznick, LLP, provides for a thorough analysis on the subject of property values and related sales. Multiple property sales in the vicinity of solar facilities were studied, confirming that adjoining property sales are not adversely affected by their proximity to solar farms.

4. *Does the proposed special exception allow for responsible development and growth, or the opposite, considering potential economic impact, availability of adequate public facilities and services, adverse environmental effects, and similar issues?*

The proposed investment for the Project resulting in a minimum of $20 MM in taxes during the life of the Project will be a significant, long term addition to the County tax base, keeping County taxes low. In addition, the Project will represent a cutting-edge investment in the County, creating new jobs and workforce development opportunities. Further, the solar power facility will allow farmers to diversify their farm operations, and help sustain land ownership within multi-generational farm families.

The solar power project will include perimeter security fencing with controlled points of ingress/egress, as well as secondary emergency access locations to facilitate emergency response, if needed. The Petitioner will also have detailed safety protocols for traffic management and public access around the project. The project will have 24/7 security monitoring during the construction period and 24/7 remote monitoring during the operations period. The selected contractor will have extensive experience with the installation of solar power facilities and will operate under a Health and Safety Program that meets local, state and federal environmental, health and safety regulations, as well as their own stringent safety protocols for site personnel and the public, which will comply with applicable laws. Additionally, the solar power project will not impact public facilities, public services, schools or roads.

Solar panels generate electricity through absorption of sunlight and are designed to minimize/avoid light reflection, making glare minimal. Solar panels generate electricity at a

very low voltage, and through a series of transformations, the electricity will be stepped up to 345 kV so that it can interconnect into the existing Olive-Reynolds 345kV transmission line and into the utility grid. The Moss Creek Solar power facility area contains existing high-voltage transmission lines, including 345 kV transmission lines. Accordingly, the Project's highest voltage will be the same or lower than the existing electrical distribution infrastructure. Studies have concluded that the electric magnetic field levels at the boundaries of solar arrays and beyond 15 meters (50 feet) from inverters were not elevated above background levels.[1] The safety of the solar project is further supported by the submitted report authored by the North Carolina Clean Energy Technology Center titled "Health and Safety Impacts of Solar Photovoltaics" (May 2017).

The solar power facility does not present any likelihood of any toxic materials contaminating the soil or groundwater as there will be no exposure of such materials from the solar panels. The primary material in the panel itself is silicon, a very common earth element used in cement, ceramics, glass and many other products. The panels are encapsulated in an aluminum casing and tempered glass. Like in typical construction, limited materials (e.g., fuels, lubricants, adhesives) will be used onsite during construction; all materials will be properly stored and managed onsite and have very low risk for spills or contamination. The facility's skid-mounted transformers will use a mineral oil, and a Spill Prevention, Contingency, and Countermeasure Plan will be prepared in accordance with applicable regulations.

The solar power facility will not cause significant noise, glare, dust, vibration, smoke or other objectionable externalities. The proposed special exception will not alter the character of the district. The Ordinance specifically provides for solar power facilities as a permissible use in agricultural districts with a special exception to be approved by the BZA.

Site drainage patterns will also be generally retained onsite due to flexibility in photovoltaic solar designs, which allows for general preservation of topsoil and stabilized surfaces post-construction. The facility will obtain all appropriate approvals from the Indiana Department of Environmental Management and the Pulaski County Soil and Water Conservation District ("SWDD"). The solar power facility will also comply with all applicable local, state, and federal construction and drainage requirements.

Due to the manner in which the panels are installed, surface drainage patterns will not be disrupted. Vegetation will be planted between rows of panels and under the panels, preventing excessive water runoff and supporting onsite water retention. Additionally, before construction commences, groundcover will be in place and maintained to support storm water control and retention. The Petitioner will prepare a detailed drainage plan once project's design is finalized, assessing public and private drains both within and outside the facility's footprint. In accordance with Petitioner's lease agreements and to the extent possible, private drain tiles will be avoided or repaired during construction as damage occurs. The developer will also design a site-specific drainage system for the project. Any issues that appear post-construction will be repaired as quickly as possible at the developer's expense.

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[1] Guldberg, Peter (2012), *Study of Acoustic and EMF levels from Solar Photovoltaic Projects* prepared for Massachusetts Clean Energy Center.

Additionally, the UL Solar Safety Study (dated September 13, 2021) has been submitted to the case file. This Safety Study, prepared by UL Services Group LLC, provides for a thorough study and analysis of a variety of environmentally-related issues with respect to solar farms. Further, the Safety Study confirms that operational solar farms do not pose a risk to the environment in which they are located.

5. *Does the nature of the proposed special exception require the burden of any particular conditions to improve any potential harmful impacts upon neighboring properties, infrastructure, or the community?*

   Proposed conditions of the special exception will be submitted to address the details of the proposal concerning its impact upon neighboring properties and the community.

Moss Creek Solar Project Narrative

1.1 Project Location

The project is located within Beaver Township in Pulaski County, Indiana. Please refer to the preliminary Site Plan for a more detailed view of the project's location.

1.2 Size of Project Area in acres

Pulaski County

The amount of leased acreage as outlined in the preliminary Site Plan is approximately 1620 acres. The area occupied within our Project Fences will be approximately 1,021 acres in Beaver Township. Neighboring property use consists of A1 or A2 zoned land use. The solar modules will be mounted on single-axis tracker tables and will produce approximately 200 MW of electricity in the Pulaski County planning and zoning jurisdiction. A mixture of low-growing perennial grasses and pollinator-friendly seed mixes will be used to stabilize the surface under the panels and in buffer areas within the perimeter fencing, to be designed and approved as part of the Improvement Location Permit.

1.3 Components of the Proposed Solar Project

The main components of the Project include:

- Solar PV panels – Photovoltaic panels are comprised of silicon wafers and conduit, which are adhered directly to a substrate and encased in safety glass and metal. The panels are constructed with non-reflective coatings and/or glass. These panels are designed specifically to absorb as much sunlight as possible in order to maximize electrical generation, rather than reflect sunlight. Further, the metal supports that form the racking system are typically constructed using galvanized steel or aluminum. The panels have an output rating of 350-700 watts of DC power and are linked to one another via junction boxes to form an array.

- Racking to fasten and support the panels – Steel piles are driven into the soil (foundations typically not required and the depth of the piles would typically be approximately 3-10 feet depending on the groundwater table and soil conditions); horizontal beams are then affixed to piles as part of the mounting structure; and the panels are then secured to the structures.

- Tracking system – The panels are mounted on tracking systems, which increase project output by orienting the solar arrays directly into the sun. A tracker follows the sun from east to west over the course of a day and stows parallel to the ground at night.

- Panel installation height – The single-axis tracking panel would vary in height depending on time of day. The height of the axis on which the panels rotate averages 5-6 ft in height. Panels are horizontal at noon, when the sun is directly overheard, and at nighttime, when panels are in stow position. Throughout the day, the panels are making slow adjustments to orient towards the rising and setting sun, causing one edge of the panel to shift upward. In the morning and evening, the upper edge of the panel will sit around 9 ft tall representing the most likely tallest height for the installation. The upper bound of modules is 12 ft maximum height that could be reached depending on exact solar module procurement and undulations in terrain or soil conditions.

- Transformers and inverters – Inverters are electronic devices which convert solar electricity from direct current (DC) to alternating current (AV) and are typically placed interior at the end of tracker rows.

- Electrical cabling, conduits, and storage – Invertors connect to a project substation via underground cabling. Within the project substation, a step-up transformer will convert the low voltage (AC) to high voltage (AC) for interconnection into the utility transmission system.

- Perimeter fencing, site access and internal roads – The project includes perimeter security fencing with controlled points of ingress and egress. Roads within the site provide access to the project equipment.

- Our vegetative management plan will maintain natural vegetation as ground cover at the site around and adjacent to the array. This plan will include perennial grasses planted across the facility to prevent soil erosion and benefit stormwater management. The vegetation management plan will be finalized once the engineering and design package is complete. See below for outline plan will follow.

Vegetation Management Plan Outline:

Section:

1. Introduction/Site Background
2. Site Preparation
    a. Herbicide use, mowing, soil stabilization, etc.
3. Vegetation Installation
    a. Seeding plan
    b. Installation methods
4. Monitoring and Maintenance
    a. Mowing, invasive species control, tree trimming/removal, herbicide
5. Preliminary Schedule

Appendix (may include):

- Figures
- Proposed Seed Mix
- Maps
- Invasive Species of Concern

Panel Manufacturer List May Include:

- Astronergy
- BYD
- First Solar
- Hanwha
- JA
- Jinko
- Trina
- SUMEC
- LONGi
- Risen

1.4 Site Plan Flexibility

Applicant has provided legal descriptions of the properties included in the project area. Flexibility is reserved to modify the location of project components and improvements on various portions of the project area to accommodate project criteria, subject to County standards, if any, such that, by way of example, solar panels and/or electrical cabling and conduits may ultimately be located on different portions of the project area pursuant to the final site plan submitted to obtain an Improvement Location Permit.

1.5 Construction Timing

Phases of construction

Potential Mobilization	March 2022
Road construction and site preparation	April 2022
Piles and racking installed	June 2022
Panels installed	August 2023
Testing and commissioning complete	December 2023

Types of vehicular equipment during construction

Trucks, bore machines, trenching equipment, medium dozer or excavator

Days and times for construction activities

Negotiable, but typically we stick to 5 days a week sun up till dusk.

Timeframe for completion

Approximately one (1) year.

1.6 About Moss Creek

Moss Creek Solar LLC is a subsidiary of NextEra Energy Resources

NextEra Energy Resources has approximately 21,900 MW of renewable energy and is one of the largest wholesale power generators in the US, with operations in 37 states.

NextEra Energy Resources is the owner and operator of nearly 15% of the nation's solar capacity with solar sites generating a total net capacity of 2,684 MW in 26 states

NextEra Energy Resources also provides operation and maintenance services for most all projects in the fleet

Communications Report

September 13, 2021

Issue: A large solar photovoltaic (PV) installation is proposed in rural Pulaski County, IN. The local zoning ordinance requires that such installations not cause "significant wire or wireless communications signal disturbance… including … GPS, television, microwave, agricultural GPS, military defense systems, and radio reception." For simplicity, in this brief paper, these potential disturbances will be termed electrical noise.

Background: The proposed installation is located roughly near the center of a triangle formed by Chicago, IL, and Fort Wayne and Lafayette, IN, as shown in **Figure 1**.

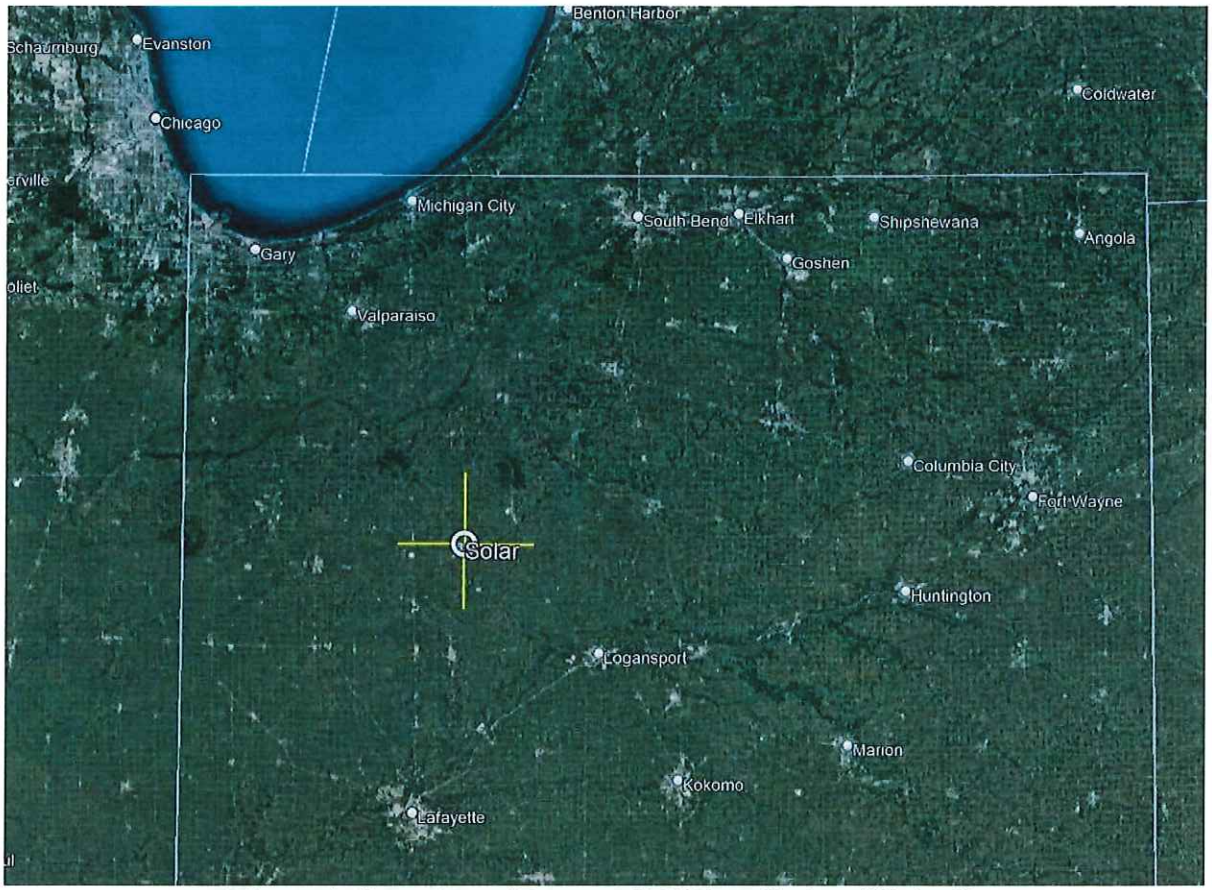

Figure 1. Location of Proposed PV Installation ("Solar")

Electrical noise is a generic term covering a wide range of frequencies and may commonly be referred to as Radio Frequency Interference (RFI) or Electromagnetic Interference (EMI). PV panels generate direct current (DC) power that must be converted to alternating current (AC) for use by commercial and consumer applications. Commonly, a power inverter system as large as several megawatts is used to perform this task, and both magnetic and electrical fields are produced in the process. In the U.S., the power created is 60 Hz (line frequency), characterized as extremely low frequency (ELF).

ELF currents create magnetic fields which decrease rapidly with distance from the conductors. As an example, for high voltage (e.g, 400 kV) towers/lines, studies recommend homes with continuous occupant exposure should be at least 150 meters or approximately 500' away. This is a relatively small distance for most solar installations, and magnetic fields themselves do not create electrical noise.

However, in contrast to magnetic fields, electric fields associated with higher-frequency electrical noise (e.g., RFI in the Very High Frequency (VHF), Ultra High Frequency (UHF), and microwave frequency ranges) created by poorly-designed or installed power conversion circuits have the potential to affect a wide variety of military and consumer electronics systems operating in these bands.

Analysis: Very large solar array power conversion systems are installed at numerous existing locations within the United States. From the installations it is clear that, unless large currents are involved in unshielded (non-metallic) conduits, magnetic effects are expected and known to be negligible beyond a few hundred feet.

Commonly, the medium-voltage (typically under 2,000 volts) power conversion circuitry is completely enclosed within large metal cabinets, including the transformer(s) used to convert solar panel voltages to higher voltage level needed for distribution(See **Figure 2** for a typical large-scale PV installation example.) Such equipment will have relevant certifications such as those from the National Electric Code, Underwriter's Laboratory (UL), or the North American Electric Reliability Corporation (NERC). The collector and distribution power conductors are usually installed underground using Direct Earth Burial (DEB) cables or in above-ground metallic conduits.

RFI must be radiated by much higher frequencies than the 60 Hz line frequency to affect the referenced radio systems. Harmonic (multiples of the 60 Hz primary frequency) testing of the example conversion equipment shows that higher frequency components in the resulting output current are under 5% of the 60 Hz current levels, for frequencies above the 25th harmonic or 1500 Hz. This frequency is nominally five orders of magnitude (or a factor of 100,000) lower than those radio frequencies used for common communications equipment. As a result, RFI radiation in the frequency range of concern is shown to be minimal.

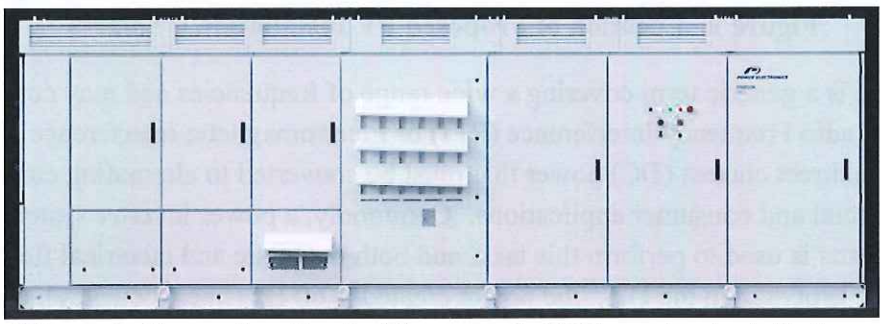

Figure 2: Example of typical large-scale PV inverter installation

External to the power conversion system, a large high-voltage transformer will increase the 60 Hz power to distribution voltage levels (e.g., 240 KV). This last voltage conversion is accomplished, without using switching or electronics circuits, by traditional transformer step-up action relying solely on magnetic coupling between windings without electronic noise generation.

Example Installations. For reference, numerous solar array installations already exist near and on public and military airports which rely on VHF, UHF, and microwave frequencies for aircraft navigation and Air Traffic Control (ATC) communications, microwave paths (i.e., ATC and military radars), and consumer electronics such as GPS, Wi-Fi, and Bluetooth technologies. Airports thus make excellent case studies for the effects of solar installations.

In Palmdale, CA, the arrays are approximately 5000' from the runway. Helicopter approaches to a practice runway directly overfly the arrays at several hundred feet altitude. At the Manchester Airport in New Hampshire, the solar installation is on the airport parking garage approximately 400-500' from the closest taxiways and the Airport Traffic Control Tower. At the San Diego International Airport (KSAN), the arrays are mounted on the roofs of large aircraft hangars only 100' from active aircraft ramps and about 1000' from Runway 27. At the Indianapolis International Airport, a very large installation is located on the airport near the landing threshold of Runway 5R, as shown (circled) in **Figure 3**, with its transmission lines running between the runways.

Figure 3. Solar Installation on Indianapolis International Airport

These airport examples provide significant comfort that typical PV installation practices are successful in limiting electrical noise over a wide range of frequencies used for safety-of-life applications, as well as on-airport consumer use of cell phones, GPS vehicle navigators, and office equipment. However, they do not explicitly address the potential for physical interruption of the line-of-sight between microwave antennas used for long-range transmission of voice and digital

data. To assess this risk, it is necessary to consider microwave paths which may pass over the proposed installation, which uses sun-tracking panels with a maximum height of 14'. **Figure 4** illustrates the local area with the "Solar" installation at center and with yellow lines extending approximately 10 miles from the nominal center of the installation in the cardinal directions.

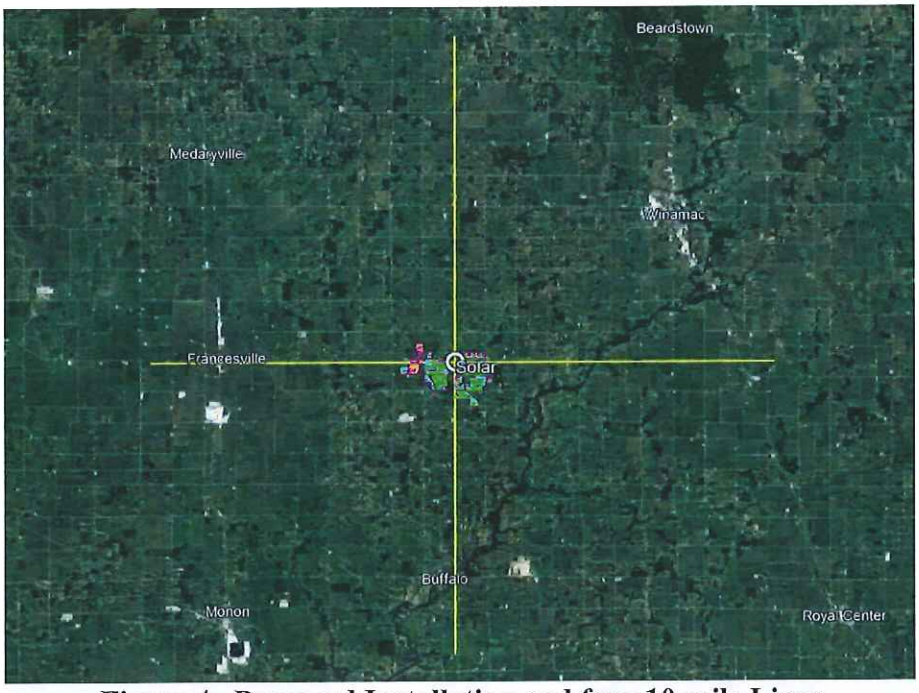

Figure 4. Proposed Installation and four 10-mile Lines

The ground profile along the N-S and E-W lines are shown in **Figure 5**. Both profiles indicate a maximum elevation change of about 50'. Since long-range microwave circuits will always be installed using higher terrain with tall antenna supports to minimize the number of repeaters in the path, the installation of 14' high PV panels is indirectly assured to have extremely low risk of physically blocking an existing microwave path.

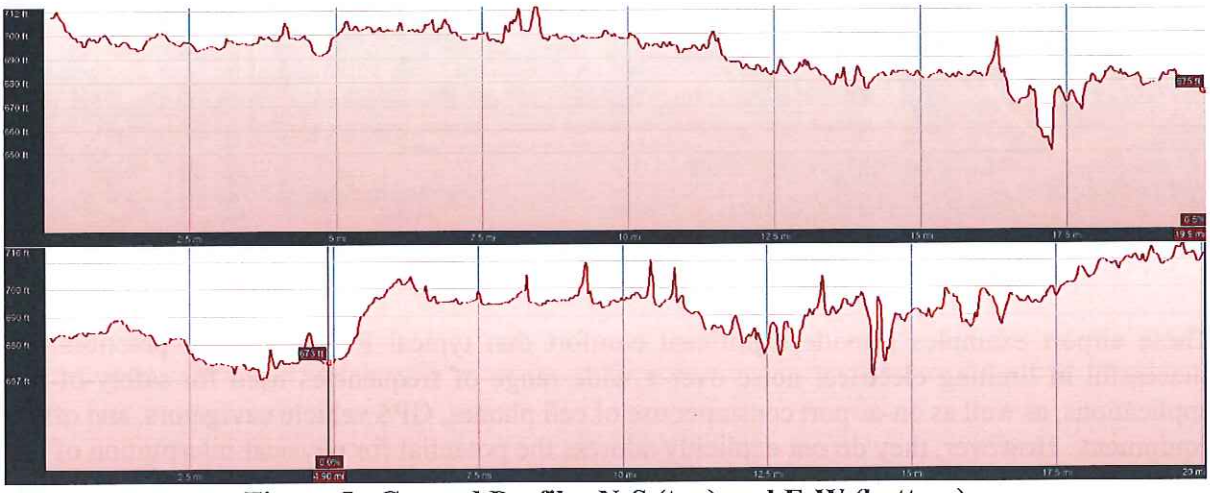

Figure 5. Ground Profiles N-S (top) and E-W (bottom)

Conclusion: Well-designed and -constructed PV installations of industrial size present minimal risk to operation of typical wired and wireless communications services using a very wide range of radio frequency bands due to radio frequency or electromagnetic interference.

L. Nelson Spohnheimer
Managing Partner
Spohnheimer Consulting Airspace Systems, LLC

16-1

> memo

To: Hannah Marsico, Moss Creek Solar, LLC

From: Jeff Brown, Environmental Consulting & Technology, Inc. (ECT)

Date: September 14, 2021

Re: Moss Creek Solar Project
Agency Correspondence
Beaver Township, Pulaski County, Indiana
ECT Project No. 200777

- Appendix A: Agency Correspondence

Moss Creek Solar, LLC (Moss Creek) contracted Environmental Consulting & Technology, Inc. (ECT) to coordinate with the United States Fish and Wildlife Service (USFWS) and the Indiana Department of Natural Resources (IDNR) to request information regarding sensitive species and habitats within the vicinity of the proposed 200-megawatt (MW) photovoltaic (PV) solar project (Moss Creek Solar Center) in Beaver Township, Pulaski County, Indiana. This memorandum summarizes correspondence responses from the USFWS and IDNR.

USFWS CORRESPONDENCE

On January 8, 2021, ECT submitted a letter to USFWS requesting information on sensitive species and habitats and other potential environmental concerns for the Desktop Survey Area. On March 2, 2021, the USFWS provided a response to the coordination letter. A copy of the full agency response is provided in **Appendix A**.

USFWS indicated the Desktop Survey Area is within the range of the Federally endangered Indiana bat, clubshell mussel, northern riffleshell mussel, rayed bean mussel, and sheepnose mussel, and the threatened northern long-eared bat and rabbitsfoot mussel. USFWS does not know the current status of the Indiana bat or northern long-eared bat within the Desktop Survey Area and recommended a bat habitat assessment if the project is likely to adversely effect bats. As part of the field studies (i.e., wetland delineation and stream assessment), wooded areas were assessed for potential Indiana bat and northern long-eared bat habitat by qualified biologists[1]. No potential habitat was identified from within the areas of proposed construction.

---

[1] ECT. 2021. Bat Habitat Assessment. Report submitted to Moss Creek Solar, LLC.

Additionally, USFWS noted the Desktop Survey Area is within 12 miles of the Jasper-Pulaski State Fish and Wildlife Area, a major staging area for the Midwest population of greater sandhill cranes (*Antigone* [*Grus*] *canadensis tabida*), including part of the experimental/nonessential Wisconsin introduced population of Federally endangered whooping cranes (*Grus americana*). The USFWS is concerned that reflective glare from the photovoltaic solar panel array may adversely affect migratory birds in an area due to Project proximity, specifically that a collection of over 1,000 panels may create a reflective glare that could be mistaken as a body of water by birds in flight and their insect prey, cause injury or direct mortality, and array damage. The USFWS encouraged the use of glare-reducing coatings on any potential solar array proposed for the site. A memorandum was prepared to address topics related to birds, including panel glare.[2] The memorandum provided information regarding the intended use of anti-reflection coating on the PV panels to reduce glare.

INDNR CORRESPONDENCE

On January 8, 2021, ECT submitted a letter and Indiana Natural Heritage Data Center (INHDC) request to INDNR requesting information on sensitive species and habitats within the vicinity of the Desktop Survey Area. On January 21, 2021, the INDNR responded with INHDC records within the vicinity of the Desktop Survey Area.

INDNR indicated that no species are located within the Desktop Survey Area, but there are known occurrences of species associated with the Tippecanoe River, [redacted] Additionally, although the bald eagle is not a federally nor state-listed species, INDNR identified a single (1) bald eagle nest [redacted] A raptor nest survey of the Project area conducted in 2021 did not identify any bald eagle nests within, or adjacent to the Project area.[3] INDNR also indicated that a public access site to the Tippecanoe River is located approximately one (1) mile southeast of the Desktop Survey Area (two miles southeast of the Project Area). A copy of the full agency consultation is provided in **Appendix A**.

[2] Moss Creek Solar Project Avian Considerations. 9/10/2021, Memorandum from ECT to Moss Creek Solar, LLC.
[3] Moss Creek Solar Project – Raptor Nest Survey Memorandum. 5/11/2021, Memorandum from ECT to Moss Creek Solar, LLC

APPENDIX A

Agency Coordination

United States Department of the Interior
Fish and Wildlife Service

Indiana Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

March 2, 2021

Mr. Jeffery Brown
Environmental Consulting & Technology, Inc.
161 East Aurora Road
Northfield, Ohio 44067

Project: Pulaski Solar Energy Project
Location: Pulaski County, Indiana

Dear Mr. Brown:

This responds to your letter dated January 8, 2021, with additional information provided on February 17, 2021, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The proposed project consists of the construction of a photovoltaic solar farm in Beaver Township between Francesville and Pulaski in Pulaski County, Indiana. The project site is a mix of row-crop agricultural land, woodlands and fencerows, grassland/pasture, and rural residences/farmsteads. The study area is basically centered on County Roads 550 South and 700 West, with SR 39 near the western boundary and the Tippecanoe River beyond the eastern boundary. Two electric transmission line are parallel to each other on a diagonal through the western portion of the study area.

Although the majority of the project study area consists of agricultural row-cropland, there are significant woodlands scattered throughout. An extensive network of ditches drain the area toward the Tippecanoe River. Although the ditch banks are primarily grasses/herbaceous vegetation, sections of woody vegetation are also present, often in association with adjacent fencerows. Scattered wetlands, most of which are likely farmed wetlands, remain within this former wet prairie area.

The project study area is within 9 miles southwest of the Winamac State Fish and Wildlife Area and 11 miles southeast of Jasper-Pulaski State Fish and Wildlife Area, both of which are large, significant wildlife habitats. Jasper-Pulaski is a major staging area for the Midwest population of greater sandhill cranes (*Antigone [Grus] canadensis tabida*), which is around 100,000 birds, although they are not all present at

the same time. Although we do not have information about cranes utilizing fields within the project study area for feeding, it is known that they fly over this area during migration and utilize fields on the south side of Jasper-Pulaski during their stay. The sandhill crane population now includes some of the Federally endangered whooping cranes (*Grus americana*) which are part of the experimental/nonessential Wisconsin introduced population.

The FWS believes it is prudent to identify potential impacts to migratory birds if a solar farm is constructed. We are concerned that reflective glare from a photovoltaic solar panel array may adversely affect migratory birds in an area close to a significant migratory pathway such as Jasper-Pulaski and Winamac State Fish and Wildlife Areas, especially for large waterbrids such as cranes and numerous waterfowl. While a small array may not pose a significant threat, a collection of panels over 1,000 acres or more may create a reflective glare that could be mistaken as a body of water by birds in flight and their insect prey. Cranes may mistake the solar array for shallow water suitable for roosting. Injury or direct mortality may result if birds attempt to land on the solar panel array, and the array could also be damaged. In order to avoid or minimize migratory bird impacts, we encourage the use of glare reducing coatings on any potential solar array proposed for the site.

Upland woodlands found within the proposed project area are likely remnants of the black oak savannas that were originally present within dry sand areas of north central Indiana prior to European settlement and drainage. The red-headed woodpecker (*Melanerpes erythrocephalus*), a species listed as likely present in the project study area, is an iconic bird of the black oak savannas which has been suffering steep population declines due to loss of habitat. Partners in Flight has designated the red-headed woodpecker as a Watch List Species due to these declines, and the USFWS has included the species on its list of Birds of Conservation Concern (BCC), which identifies birds of high conservation priority. The BCC process utilizes Bird Conservation Regions (BCR) as the smallest geographic scale for bird conservation efforts, as endorsed by the North American Bird Conservation Initiative (NABCI). The NABCI is a cooperative endeavor among the United States, Canada, and Mexico to promote the effectiveness of bird conservation at the continental level under the Migratory Bird Treaty Act.

Jasper-Pulaski and Winamac State Fish and Wildlife Areas and the Pulaski solar project study area are within BCR 22, Eastern Tallgrass Prairie, which has 39 species and subspecies of BCC, including breeding and non-breeding species. Breeding BCC species in the project area include red-headed woodpecker, northern flicker (*Colaptis auratus*), dickcissel (*Spiza americana*), field sparrow (*Spizella pusilla*), grasshopper sparrow (*Ammodramus savannarum*), and Henslow's sparrow (*Ammodramus henslowii*). Red-headed woodpeckers and flicker utilize the same type of savanna/open woodland habitats, but the dickcissel is a grassland ground nester that is now known to regularly nest in soybean fields throughout its range in BCR 22. Such fields are not subject to early mowing, as are hay fields, so nesting is more likely to be successful. Field, grasshopper, and Henslow's sparrows utilize various types of grasslands, with field sparrow favoring brushy old fields, grasshopper sparrow preferring sparse vegetation, and Henlow's utilizing thick, weedy grasslands and wetlands with sparse shrubs.

Red-headed woodpeckers, northern flickers, and dickcissel appear more likely to be impacted by the Pulaski solar project than field, grasshopper, and Henslow's sparrows because of the types of habitats that would be impacted. The woodpeckers and flickers are likely utilizing the woodlands/savannas and fencerows that could be modified or removed, and dickcissels could be affected by the loss of soybean fields. Therefore, these 3 species should be given special consideration during the environmental studies for this project. Although wood thrush (*Hylocichia mustelina*) is listed in the USFWS IPaC information provided to you, we are not aware of this species being present within the actual habitats found within the project study area.

There are bald eagle nests along the Tippecanoe River south of the proposed project study area and at Jasper-Pulaski State Fish and Wildlife Area, but we are not currently aware of any within the proposed solar farm area. Various hawks and owls could be present as nesters within the proposed project area and will need to be addressed.

We are concerned about the possible introduction and/or spread of invasive non-native plant species in association with the proposed project. Species such as garlic mustard and shrub honeysuckle are likely already present. Without active management, including the re-vegetation of disturbed areas with native species, the project site could be a source for the movement of these and other exotic, invasive plant species. Therefore, we strongly recommend that only native plant species be used in association with all aspects of this project.

Impacts to natural resources from construction, operation, and maintenance of solar farms include: The removal of woodlands and riparian buffers; creation of monotypic habitat; introduction/spread of invasive species; use of herbicides/pesticides; creation of large, cleared open spaces; and barriers to wildlife movement created by fencing. Therefore, we recommend that any solar farm in this area make use of already-cleared cropland with minimal clearing of woodlands/savannas; wooded fencerows and ditch banks also need to be avoided to the extent possible, and all wetlands need to be avoided.

To off-set the overall impacts of the solar farm, we recommend that the project design include the following:

- Sow native seed mixes throughout the site with native plant species that are beneficial to pollinators. Taller growing species should be planted around the periphery of the site and anywhere on the site where mowing can be restricted during summer months. Low growing/groundcover native species should be planted under the solar panels and between the rows of panels.

- Provide openings in fencing to allow passage for small mammals/reptiles. Snake-friendly erosion control blankets should be used wherever necessary.

- Mitigate for the loss of woodland/savanna habitat that cannot be avoided. A possible mitigation measure at this site could be management of upland woodlands to restore them to the native savanna through thinning of dense trees and control of non-native invasive species like honeysuckle, multiflora-rose, and garlic mustard.

ENDANGERED SPECIES

The proposed project is within the range of the Federally endangered Indiana bat (*Myotis sodalis*), clubshell mussel (*Pleurobema clava*), northern riffleshell mussel (*Epioblasma torulosa* rangiana), rayed bean mussel (*Villosa fabalis*), and sheepnose mussel (*Plethobasus cyphyus*), and the threatened northern long-eared bat (*Myotis septentrionalis*), and rabbitsfoot mussel (*Quadrula cylindrica cylindrica*).

Indiana bats have been found at several locations within Pulaski County. No surveys have been conducted within the project study area or other nearby sites, so we do not know the current status of the Indiana bat or northern long-eared bat within the proposed project area. However, potential summer nursery habitat is present and may be affected by the project.

It will be necessary for Environmental Consulting & Technology to complete a bat habitat assessment within the proposed project area, as described in Appendix A of the Range-wide Indiana Bat Survey Guidelines (March 2020 or any subsequent versions) to address the woodlands and fencerows within the

project boundaries and the proposed impacts upon these habitats. Loss of fencerows, which connect the various woodlands, could adversely affect bat foraging and/or travel corridors even if large woodlands are not directly affected by the project.

The mussel species are found within the nearby Tippecanoe River, with living rayed bean, rabbitsfoot, and sheepnose being known in the reach of river just east of the solar project study area. The reach of river through Pulaski County upstream to the City of Winamac is designated Critical Habitat for the rabbitsfoot. We do not expect direct adverse impacts to the Tippecanoe River, the mussels, or the Critical Habitat since the project study area is further than 2,500 feet from the river. However, project-related erosion and/or hazardous materials spills during construction and/or operation could reach the river. It will be necessary to address any indirect adverse impacts to the Tippecanoe River that could occur due to the solar farm.

These endangered species comments constitute informal consultation only. They do not fulfill the requirements of Section 7 of the Endangered Species Act of 1973, as amended.

We appreciate the opportunity to comment on this proposed project. For further discussion, please contact Elizabeth McCloskey at elizabeth_mccloskey@fws.gov.

Sincerely yours,

/s/ *Elizabeth S. McCloskey*

for Scott E. Pruitt
Supervisor

Sent via email March 2, 2021; no hard copy to follow.

cc: Christie Stanifer, Environmental Coordinator, Division of Fish and Wildlife, Indianapolis, IN

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Daniel W. Bortner, Director

Division of Nature Preserves
402 W. Washington St., Rm W267
Indianapolis, IN 46204-2739

January 21, 2021

Jeff Brown
Environmental Consulting and Technology, Inc.
161 E. Aurora Road
Northfield, OH 44067

Dear Jeff Brown:

I am responding to your request for information on the threatened or endangered (T&E) species, high quality natural communities, and natural areas for the Pulaski County Solar Project located in Pulaski County, Indiana. The Indiana Natural Heritage Data Center has been checked and included you will find a geospatial with information on the tracked species documented within and around the requested project area. By accepting this spatial data from us you agree to the terms and conditions included as an enclosure of this letter.

Within the search radius of the project site is the Tippecanoe River Public Access Site which is a property that is owned and managed by IDNR Division of Fish and Wildlife. For more information concerning this property and any further coordination, contact Division of Fish and Wildlife Property Management (574)946-4422.

If you need a review of the impacts to the animal species mentioned or a general environmental review, you can submit the project information to Christie Stanifer, DNR Environmental Coordinator, at environmentalreview@dnr.in.gov (preferred), or send to the street address below. For more help or guidance contact Christie Stanifer at cstanifer@dnr.in.gov.

Department of Natural Resources
Environmental Review
Division of Fish and Wildlife
402 W. Washington Street, Room W273
Indianapolis, IN 46204

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. If you have concerns about potential Endangered Species Act issues you should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service
620 South Walker St.
Bloomington, Indiana 47403-2121
812-334-4261

Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)233-2558 if you have any questions or need additional information.

Sincerely,

Taylor Davis

Taylor Davis
Indiana Natural Heritage Data Center

Enclosure: Terms and Conditions
shapefile
datasheet
invoice

January 19, 2021

Division of Nature Preserves
402 W. Washington St., Rm W267
Indianapolis, IN 46204-2739

The State has provided Heritage Data to the recipient:

1) The State has delivered to the requester a geospatial subset of the data contained in the Natural Heritage Information System ("Data Base") fully incorporated herein, that are within Data Base on endangered, threatened and rare species and significant natural communities documented from Indiana ("Data Set").

2) The State shall have no obligation to obtain any further data or complete any records under this request. The State has only delivered information existing in the Data Base at the time of the request specified.

3) Disclaimer. The Data Set is made available to Requester on an "as is" basis, without express or implied warranty of any sort including any implied warranties of fitness for a particular purpose, warranties of merchantability, or warranties relating to the accuracy or completeness of the Data Base.

Use of Heritage Data:

1) Requester understands that this data is being released as project specific data and is not intended to be retained by the requester after the completion of the project for which it was sent, and should thenceforth be destroyed.

2) Requester shall not use information provided in the Data Set in any manner that will endanger the natural resources described in the Data Set.

3) Requester shall use the Data Set only for environmental conservation purposes in order to identify areas of protective action in consideration of endangered species and avoidance of sensitive resources.

4) Requester may produce, for the Requester's use, whether by hardcopy or in digital format, summaries, reports, maps proposals, plans, analyses ("Products") and compilations from the Data Set for the purposes for which the data set was requested. All Products are subject to the use restrictions in these Terms and Conditions.

5) Except for Products authorized herein, Requester may not transfer or allow access to the Data Set, in whole or in part, to any other party without prior written consent of the State.

6) Requester must place the following notice on any Products created in which the Data Set is reproduced or shown in whole or in material part: "Indiana Natural Heritage Data Center, 2020, State of Indiana, Department of Natural Resources, Division of Nature Preserves. This report

includes data provided by the Indiana Natural Heritage Data Center. These data are not based on a comprehensive inventory of the State. The lack of data for any geographic area shall not be construed to mean that no significant natural features are present. The State of Indiana is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data."

7) To prevent rare features contained in the Data Set from exploitation, Requester shall mask the identity and specific location of rare features in any Products for distribution or use. The data should be identified using generalized identifiers other than the species' scientific genus or common name. For example, use of the term "endangered plant" or "bird species of special concern" is preferred. Masking of the feature's location shall be accomplished by using a description no more precise than Section level of the Public Land Survey System ("PLSS"). For species designated as Data Sensitive, occurrences shall be designated as both generalized taxonomic group and location to PLSS Section on any product to an external partner or client.

8) Requester shall not edit, alter, or change any information provided in the Data Set without prior written consent of the State.

9) Requester shall have no obligation to find errors, collect data, or correct or modify the information in the Data Set. However, if Requester should find an error in the Data Set provided by the State, the Requester shall promptly provide the State with such information. The State has the right to incorporate the information provided by the Requester into the Data Base.

Printed Name: Jason Damoss

Signature: Jason Damoss

Title / Company: Associate Scientist III; ECT, Inc.

Date: 01/19/2021

Printed Name: _____

Signature: _____

Title / Company: _____

Date: _____

Interconnection Que

17

From: SystemPlanning.Admin@pjm.com
To: Vallejo, Patricia; Vallejo, Patricia
Cc: Komal.Patel@pjm.com; SystemPlanning.Admin@pjm.com; Jeannette.Mittan@pjm.com
Subject: AF2-205 (Olive-Reynolds 345 kV) Attachment N
Date: Wednesday, April 15, 2020 3:36:08 PM
Attachments: AF2-205 Attn N.pdf

PJM is in receipt of your generation interconnection request for the following project: **Olive-Reynolds 345 kV** as per your transmittal received March 24, 2020. Your project has been assigned queue position **AF2-205**. A copy of the fully executed Feasibility Study Agreement (Attachment N) is attached.

Since this request was received in the 6th month of the **AF2** queue, we are obligated to have a scoping meeting with you, within 20 days of receiving this request or of clearing any deficiencies, by **04-27-2020.** Komal Patel will be your PJM single point of contact for all matters related to your request. Please contact Komal to schedule your kickoff meeting. Komal can be reached at 610-666-4306 or at Komal.Patel@pjm.com.

System Planning Admin
Interconnection Projects
PJM Interconnection | 2750 Monroe Blvd. | Audubon, PA 19403

Attachments:
AF2-205 Attn N.pdf(898.2 KB)

From:	Queue Point
To:	Vallejo, Patricia; queuepoint-feasibility-analysis@pjm.com; Komal.Patel@pjm.com; queuepoint-impact-analysis@pjm.com
Subject:	Application for Moss Creek Solar (Attachment N - Imp) has been received (Confirmation number 10763LUV)
Date:	Friday, August 28, 2020 10:06:09 AM
Importance:	High

Thank you for submitting your data for Moss Creek Solar Center, LLC (Queue # AF2-205).

Once PJM receives the executed Tariff Attachment and the required deposit, PJM will review the data provided and will respond if we have any questions.

Thank you,
PJM Planning.

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• Vegetation Management Plan
Moss Creek Solar Project
Pulaski County, Indiana

September 2021
ECT No. 200777

MOSS CREEK SOLAR, LLC
Juno Beach, Florida 33408

Business Confidential: Not for Distribution

ECT
161 East Aurora Road
Northfield, Ohio 44067
www.ectinc.com

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Table 1. Preliminary Seeding and Maintenance Schedule 4

1.0 Introduction

Moss Creek Solar, LLC (Moss Creek) contracted Environmental Consulting & Technology, Inc. (ECT), to prepare a Vegetation Management Plan (Plan) for the proposed 200 megawatts (MW) photovoltaic (PV) Moss Creek Solar Project (Project) in Pulaski County, Indiana. The Plan describes appropriate procedures for clearing and revegetation strategies to be implemented in order to ensure compliance with the Pulaski County, Indiana, Unified Development Ordinance requirements for Solar Energy Systems, including revegetation of the site, incorporation of native and regionally appropriate plants, and pollinator-friendly species, strategies for invasive plants and noxious weed control, and maintenance and monitoring methods over the lifetime of the Project.

Implementation of the Plan will both ensure the safe production of electrical power and improve the quality of the surrounding environment by enhancing soil water retention, reducing stormwater and runoff erosion, and planting pollinator-friendly species. This Vegetation Management Plan is designed in accordance with the Project's Stormwater Management and Erosion Control Pollution Prevention Plans and Indiana's Storm Water Run-off Associated with Construction Activity general permit. (327 Indiana Administrative Code [IAC] 15-5 [Rule 5]). However, this Plan is supplemental and does not replace any of the above-required plans or permits.

Approximately 2,324 acres of land being considered for the Project Study Area (Study Area) were investigated in early 2021 to identify existing natural resources. Findings from the environmental desktop review were used to exclude environmentally sensitive areas and refine the Project Site. The final 1,590-acre Project Site lies within the boundaries of the Study Area and was field reviewed for environmental features April 12 through April 13, 2021, and April 20, 2021. The Project is located approximately six (6) miles east of Francesville, Indiana (**Appendix A – Site Location Map**).

Project facilities include solar array blocks consisting of PV modules mounted on a single-axis, horizontal tracker mounting system, collection lines, power conversion units (PCUs), and the collection substation. Array blocks are typically installed on driven posts and will not require concrete footers or pads. Gravel access roads will be located around and between facilities. All non-impervious surfaces will be stabilized with perennial herbaceous vegetation as described in the Plan.

2.0 Existing Conditions

Site visits and field delineations were conducted in April 2021 to evaluate landscape conditions and water resources within the Project Site. The Study Area was dominated by crop and open pasture fields with smaller areas of successional woods. Streams within the Study Area were heavily channelized along the edges of agricultural fields and road rights-of-way (ROW). Wetlands consisted primarily of emergent communities along streams and undeveloped natural habitats (e.g., woodlots, narrow tree-lined ditches, grassy areas/old fields, ponds/waterbodies) within the Project Site. The Project is designed to avoid all identified wetlands, ditches, and forested areas. Stream crossings for access roads for the construction and maintenance of panels may be necessary. Stream crossings will be minimized to the greatest extent practicable and are expected to be permitted under a non-reporting U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) or Regional General Permit (RGP) and an Indiana Department of Natural Resources (IDEM) Water Quality Certification.

The seedbank is expected to be dominated by planted perennial grasses that have been established along the drainage furrows traversing the site. These areas were primarily composed of brome species (*Bromus* spp.), reed canary grass (*Phalaris arundinacea*), Timothy grass (*Phleum pratense*), and bristlegrass species (*Setaria* spp.). The presence of seed from the adjacent natural areas is not likely to be abundant within the seeding area. All wetlands, ditches, and forested areas have been avoided by the Project as well as the majority of streams/waterways, including minimum 25-foot setbacks from wetlands, 75-foot setbacks from the majority of streams/waterways, and 25-foot setbacks from forested areas. Agricultural weeds are also likely to be abundant within the existing seedbank but have been controlled by agricultural maintenance activities and were not observed during site inspections to be present in significant populations.

3.0 Preliminary Schedule

Temporary seeding during construction for the stabilization of soil shall be done in accordance with the Project's Stormwater Management and Erosion Control Pollution Prevention Plans and Indiana's 327 IAC 15-5 (Rule 5): Storm Water Run-off Associated with Construction Activity general permit. Best management practices (BMPs), including the use of temporary (annual) seed mixes and winter cover crops as well as temporary stabilization measures, will reduce soil erosion during stormwater events and minimize damage to land and water resources as a result of construction traffic.

Site preparation for permanent seeding should begin with invasive species control following construction activities in a given area. Construction for the Project is anticipated for June 2022 to December 2023 (see **Table 1** below). Post-construction invasive species control is planned to be completed as site conditions require, in up to three (3) separate herbicide treatments, with most of the herbicide treatments anticipated to occur during Spring 2023. Site preparation and permanent seeding will be completed following post-construction invasive species treatments. Ideal conditions for the successful establishment of permanent seeding are usually in the spring or the fall.

Site maintenance will continue from the time of planting until Project decommissioning. Years one (1) through three (3) are considered establishment management years. During this period, management of invasive species will be addressed as needed and revegetation, as required, will be completed in the spring and the fall for areas that do not establish or have excessive invasive species growth. Years four (4) through thirty (30) are considered general maintenance years. During this period spot treatment of invasive species will be minimal and mowing will be completed as needed during the dormant season (i.e., spring and fall; **Table 1**).

Table 1. Preliminary Seeding and Maintenance Schedule

Stage	Timeframe*‡
Temporary Seeding and Erosion Control Measures (During Construction)	June 2022 – December 2023
Order Seed	Spring 2021
COD	December 2023
Invasive Species Control Pre-seeding	Spring 2023 – Spring 2024
Site Preparation	Spring 2023 – Spring 2024
Permanent Seeding	Spring 2023 – Spring 2024
Management Years 1-3	2025 - 2027
Management Years 4-30	2028 - 2054

* Refer to Section 5.1 Maintenance of Vegetation for nesting birds' information.
‡ Timeframes are adjusted for phased construction

4.0 Site Preparation and Revegetation

Revegetation of the site will stabilize soil following construction activities, protect neighboring crop fields and natural areas by minimizing the establishment of invasive vegetation and noxious weeds and maintain the health of the soil for future agricultural use. In order to comply with local ordinances, the Project will incorporate two (2) seed mixes for permanent revegetation: the Array Seed Mix (a combination of shorter perennial grasses and few low-growing wildflowers), and the Pollinator Seed Mix (a combination of a diverse assemblage of native grasses and wildflowers). Areas designated for the Pollinator Seed Mix will meet all three (3) of the following criteria:

- Areas within the Project fencing area to reduce the maintenance challenges of areas outside of the fencing
- Areas greater than 20 feet away from any panels, access roads, and fences to avoid impeding Project infrastructure
- Areas greater than 30 feet from adjacent agricultural fields to avoid the established seed mix and attracted pollinators from being impacted by herbicide and insecticide drift from agricultural activities

The remaining areas of the Project Site will be seeded with the Array Seed Mix. Establishing vegetation coverage throughout the Project Site will facilitate stormwater infiltration, groundwater recharge, and maintain soil health. Use of Integrated Pest Management (IPM) practices for all plantings will ensure successful establishment and maintain permanent vegetative cover and pest management (requirements 7.14.I 1(f) and 7.14.I 1(g) of the Pulaski County Ordinances).

4.1 Construction and Site Preparation

Limited grading is planned for the site and will primarily support the construction of impervious features including the substation, switchyard, and access roads. The majority of areas within the Project footprint consist of cultivated cropland and will require minimal vegetation clearing. Moss Creek will minimize the number of trees to be removed, limiting clearing operations to isolated trees scattered throughout the agricultural areas. All delineated wetlands, including wooded riparian areas and forested areas, have been avoided through Project design.

The vegetation seeding and management contractor will assess the site conditions post-construction to determine what site preparation activities will be needed. If determined necessary based on site conditions, invasive species management will be implemented prior to seeding. Invasive species management could range from individual spot spraying to up to three (3) complete herbicide treatments of the Project Site during site preparation. Herbicides will be nonselective (i.e., target a large range of noxious and invasive species listed in **Appendix B)**. Any chosen herbicides will also come from the Office of Indiana State Chemist's (OISC) approved herbicide list and will be applied by OSIC certified applicators. Herbicide application rates and the timing between treatments will be determined by the herbicide manufacture's label. Herbicide treatments should be targeted to the early spring and late fall when noxious weeds and invasive species are actively growing but native species are dormant. This strategy will reduce impacts to native species while also controlling the number of required applications per requirement 7.14.I 1(f) of the Pulaski County Ordinances.

The site will be rough graded and any soil compaction from construction activities found on site will need to be addressed during site preparation. Soil compaction could be disked, tilled, or raked during topsoil preparation as the vegetation seeding and management contractor deems appropriate. Seeding of the site may be done by hand, mechanical broadcast seeding, or drill seeding. Seeding method will be determined by the vegetation seeding and management contractor as dictated by the seed mix being applied and any site constraints.

4.2 Permanent Stabilization

Permanent stabilization will be completed in accordance with the Project's Stormwater Pollution Prevention Plan and Indiana's 327 IAC 15-5 (Rule 5): Storm Water Run-off Associated with Construction Activity general permit. Permanent seeding will be scheduled as soon as possible following construction in a given area, pending appropriate seeding conditions. Prior to permanent stabilization seeding, targeted herbicide applications may be necessary to remove invasive vegetation or noxious weeds and are discussed in further detail in Section 5.2.

Areas within the Project footprint will be separated into two (2) management strategies based on facility components and ecological impacts: low-growing, shade-tolerant vegetation directly beneath

and around arrays (Array Seed Mix), and strategically sited pollinator-friendly areas (Pollinator Seed Mix).

4.2.1 Solar Array Areas

The majority of the site, including areas beneath and around the solar arrays and PCUs, will be seeded with a low-growing, shade-tolerant, perennial seed mix specifically compiled for use under the arrays as permanent ground cover. Species utilized for the Array Seed Mix will include wildlife-friendly, non-native plant species, as well as select low-growing native flowering species. Species selected for the Array Seed Mix will not exceed 18 inches in growth height, will be shade tolerant, and can withstand multiple mowing events. Incorporating low-growing, pollinator-friendly species into the Array Seed Mix will increase the number blooming plants within the site and is anticipated to attract a wider range of pollinator species including bee species to meet requirement 7.14.I 1(d) of the Pulaski County Ordinances. Additionally, planting short-statured species not only reduces mowing regimens (requirement 7.14.I 1(c) of the Pulaski County Ordinances) but will also allow for planted wildflowers to successfully produce flowers and set seeds below the mower set height. A list of possible low-growing grasses and wildflowers for the Array Seed Mix are included in **Appendix C.**

4.2.2 Pollinator-Friendly Areas

Multiple areas within the Project fencing but outside of the arrays will be seeded with pollinator-friendly plantings in order to provide Project benefits of species friendly to native pollinators and birds (requirements 7.14.I 1(b) and 7.14.I 1(d) of the Pulaski County Ordinances). Once established (approximately three [3] to five [5] growing seasons), the pollinator-friendly areas are also anticipated to provide enhanced visual aesthetics while in bloom, ensuring that the Project Site creates as little contrast as possible relative to nearby environs including agricultural and residential properties (requirement 7.14.I 1(e) of the Pulaski County Ordinances).

The final pollinator–friendly areas will be selected based on their size, contiguity, proximity to adjacent natural areas, and likelihood of successful establishment. The siting of the pollinator-friendly areas will maximize habitat connectivity and access for pollinators and grassland birds (requirements 7.14.I 1(f) and 7.14.I 1(g) of the Pulaski County Ordinances).

Species utilized for Pollinator Seed Mix will be native to northern Indiana. The Pollinator Seed Mix is anticipated to be composed of native grass and wildflower species with a wide range in blooming dates (April to October) that will maximize the benefits of the pollinator-friendly areas. Additionally, since this seed mix is not intended for the panel arrays, the planted areas can be allowed to grow taller than the Array Seed Mix areas, reducing the amount of mowing needed (requirement 7.14.I 1(c) of the Pulaski County Ordinances).

4.2.3 Standards for Seed Mixes

Listed plant species in **Appendix C** are based off of suitable species known to thrive in northern Indiana. At time of ordering due to individual site conditions and/or seed availability the chosen seed mix may be subject to change.

Associated seed tags will identify purity, germination, date tested, total weight and Pure Live Seed (PLS) weight, weed seed content and supplier's information. Seed will be used within 12 months of testing. The seed tags will certify that the seed is "noxious weed free". Seeding rates will be based on the PLS rate and number of pure live seeds per square foot.

5.0 Vegetation Monitoring and Maintenance

Moss Creek will implement a vegetation management program with the goal to keep the Project Site free of invasive and noxious weeds (requirement 7.14.I 1(g) of the Pulaski County Ordinances). The implementation of the management plan will also minimize overall maintenance costs over the Project life. Maintenance activities will begin when the permanent ground cover has been established.

5.1 Maintenance of Vegetation

The Array Seed Mix will be composed of low-growing grass and wildflower species that will present little interference with the safe and reliable operation of the Project. Maintenance of the Array Seed Mix areas during both the establishment and maintenance periods of the Project is anticipated to include mowing. Mowing during the first year is to be done as needed during the growing season to facilitate establishment of the Array Seed Mix. Two (2) to three (3) mowing events are anticipated during the first year while plants are establishing. After establishment, it is anticipated that the Array Seed Mix will only need to be mowed once per year. However, additional mowing events may be required depending upon site conditions. Mowing of the Array Seed Mix should be conducted with a blade height of four (4) to six (6) inches or more to target taller growing grass or woody species but maintain low-growing wildflower species during the growing season.

The Pollinator Seed Mix is to be composed of mixed height native grasses and wildflowers. Taller grasses and wildflowers that develop from the Pollinator Seed Mix should not present an operational hazard or require frequent maintenance once established because the Pollinator Seed Mix will not be located within the solar module arrays. It is expected to take approximately three (3) years for desired plant communities from the Pollinator Seed Mix to become established. During this establishment period, mowing will be conducted as needed (approximately one [1] or [2] times a year) at a recommended height of four (4) to six (6) inches to prevent a weed cover from shading out the habitat plantings.

Once the desired plant community is well established and in order to preclude the establishment of woody vegetation, mowing will occur as needed (approximately every two [2] to three [3] years) within Pollinator Seed Mix Areas. Mowing in these areas should be targeted for the dormant season (i.e.,

early spring/and or late fall) to avoid cutting actively blooming wildflowers. Additionally, the spring dormant mow (March) functions to aid in decomposition by mulching the previous year's growth and by reducing the possibility of woody seedlings taking hold. The fall (after the first frost) functions as height management and reducing the possibility of woody seedlings taking hold. If mowing is required between May and August (grassland bird nesting season) staff will be trained to look for ground nests.

A flail mower (or equivalent) is recommended to ensure that mowed vegetation will be appropriately spread to prevent smothering of the vegetation. If a flail mower is unavailable or if mowed vegetation cannot be spread such that good vegetation growth will result, some of the mowed vegetation may be removed. Mowing equipment will be inspected prior to use at the site to prevent the spread of non-native and invasive species.

The vegetation on-site will require maintenance throughout the life of the Project. As with any natural landscape, the intensity of vegetation management will decrease following the establishment period. The length of the establishment period is typically three (3) years but may vary depending on a multitude of factors including soil type, vegetation history, seed mix composition, extent of initial site preparation, and weather patterns.

5.2 Noxious Weed and Invasive Species Management

The chosen vegetation management contractor will annually manage the Project Site for noxious weeds, invasive species, and re-sprouts of the stumps of tall growing tree species for three (3) growing seasons to ensure initial establishment. After year three (3), invasive management will continue as needed throughout the life of the Project. Infestation areas identified will be treated via mechanical methods or with approved herbicides in accordance with the OISC guidelines. In the event that herbicide is required, it will be sprayed in a manner that targets the noxious species and minimizes incidental impacts to native and desirable species.

Any herbicide applications will be led by a certified professional holding a valid Commercial Pesticide Applicator license with the OISC. Only aquatically certified herbicides will be used within 75 feet of delineated water resources on the site.

5.3 Decommissioning

When the Project is decommissioned, it will be done in compliance with the Project specific Decommissioning Plan. Maintenance of perennial vegetation during the Project's lifespan across a majority of the Project footprint will maintain or improve soil tilth and organic matter levels, thereby maintaining soil conditions that are favorable for farming

6.0 Conclusions

All disturbed, non-impervious areas within the Project Site will be revegetated with an Array Seed Mix, which will be planted under and around panels, or a Pollinator Seed Mix, which will be planted in designated pollinator-friendly areas. Designated pollinator-friendly areas may provide nectar and food sources for a variety of pollinators and larva adjacent to natural areas. Low-growing wildflowers will also be sown throughout the Project Site, incorporated as part of the Array Seed Mix, which is comprised mostly of shorter grasses to reduce shading of panels.

The Project will be managed via annual visits for three (3) years to determine the success of the plantings and to assess the need for additional seeding and/or noxious vegetation control. Selective herbicide treatments in years one (1) to three (3) may be needed. After Year three (3), invasive and or/noxious weed management will continue as needed throughout the life of the Project.

Mowing frequency of both the Array Seed Mix and Pollinator Seed Mix plantings will differ between the establishment and maintenance phases of the Project. During the establishment phase, mowing will be scheduled more frequently (two [2] to three [3] times per year) to encourage the healthy establishment of the plantings, and to prevent plant growth from shading the panels. During the maintenance phase of the Project, mowing frequency between the seed mix areas will differ with Array Seed Mix areas being mowed more frequently as necessary to prevent the obstruction of the panels. After the establishment phase, mowing will occur as necessary (one [1] to two [2] times per year) to maintain safe and reliable operation of the Project.

This Plan, as set forth, provides a framework to implement and maintain perennial ground cover in the Project Site throughout the life of the Project.

Appendix A Site Location Map

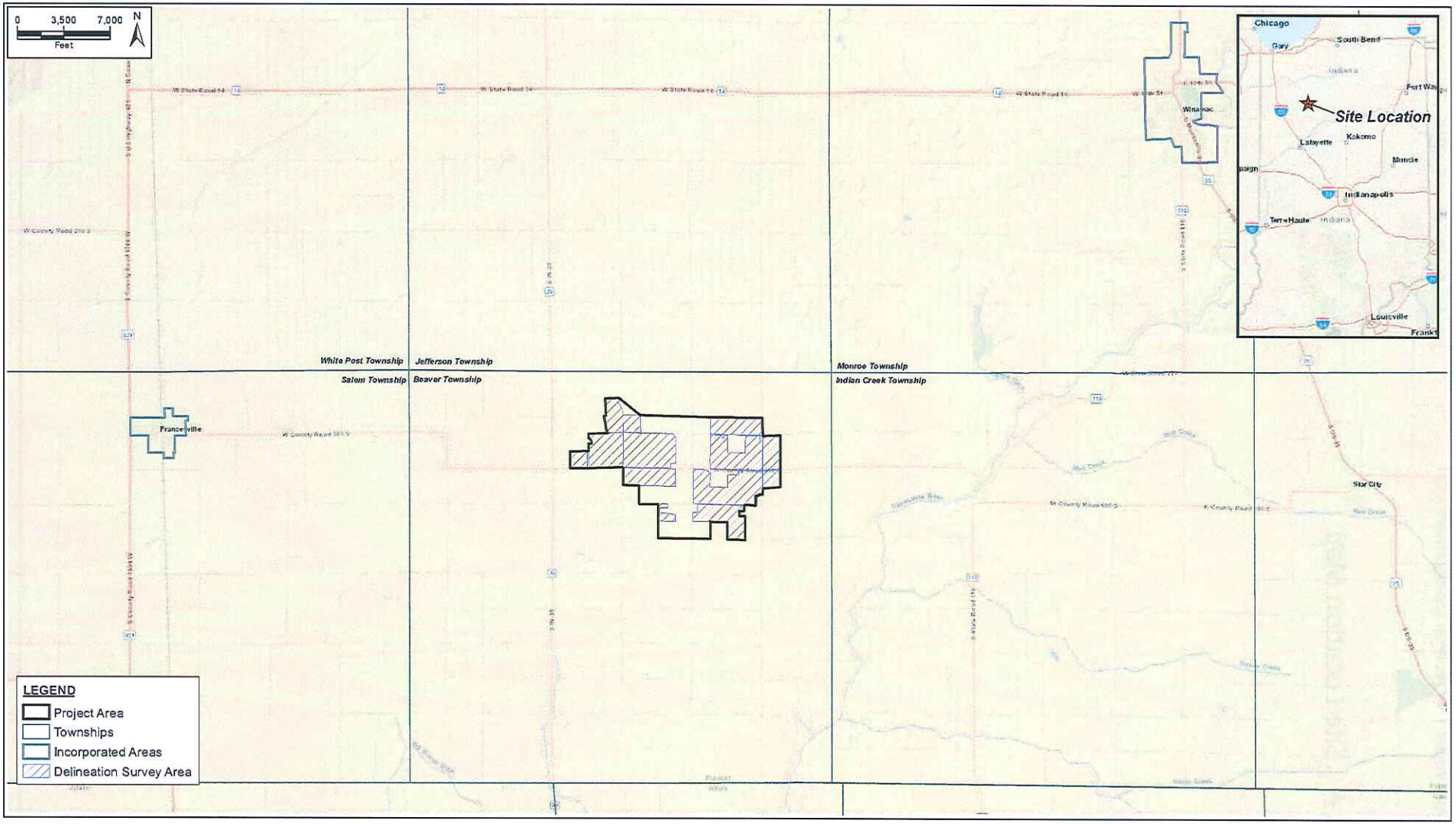

FIGURE 1.
SITE LOCATION
MOSS CREEK SOLAR SITE
PULASKI COUNTY, INDIANA

Sources: ECT, 2021.

ECT Environmental Consulting & Technology, Inc.

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Appendix B Indiana Department of Natural Resources Noxious & Invasive Species List

Indiana Invasive Plant List

Created by the Invasive Plant Advisory Committee of the Indiana Invasive Species Council
Established 9-26-2012; updated 12-17-2019

List is organized by regulation, rank and common name
For more information, go to: Indianainvasivespecies.org

Ranks: H=High, M=Medium, L=Low, C=Caution, FN= Federal Noxious

All species listed are invasive per the Federal Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species (definitions are below). Species are ranked based on their invasiveness in Indiana. Species ranked high are either regulated and prohibited from trade or will be evaluated for potential inclusion as a state regulated species in the future. The Invasive Plant Advisory Committee (IPAC) is appointed by the Indiana Invasive Species Council to assess plants and update this official list. Assessments for regulated species are available here: www.indianainvasivespecies.org

Invasive Species: with regard to a particular ecosystem, a non-native organism whose introduction causes or is likely to cause economic, or environmental harm, or harm to human, animal or plant health.
Non-native Species or Alien Species: with regard to a particular ecosystem, an organism, including its eggs, seeds, spores, or other biological material capable of propagating that species that occurs outside of its natural range.
Native Species: with respect to a particular ecosystem, a species that has evolved in a given place over a period of time sufficient to develop complex and essential relationships with the physical environment and other organisms in a given ecological community.

Regulated Species				
Prohibited Aquatic Plant				
Common Name	**Latin Name**	**Growth Form**	**Indiana Invasive Rank**	**Current IN Legal Status**
Anchored water hyacinth	*Eichhornia azurea*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Arrowhead	*Sagittaria sagittifolia*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Asian marshweed	*Limnophila sessiliflora*	aquatic	High	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Brazilian elodea	*Egeria densa*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Brittle naiad	*Najas minor*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Caulerpa	*Caulerpa taxifolia*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Chinese waterspinach	*Ipomoea aquatica*	aquatic	High	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Curly-leaved pondweed	*Potamogeton crispus*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Duck lettuce	*Ottelia alismoides*	aquatic	High	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Eurasian watermilfoil	*Myriophyllum spicatum*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
European frogbit	*Hydrocharis morsus-ranae*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Exotic bur-reed	*Sparganium erectum*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Flowering rush	*Butomus umbellatus*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Giant salvinia	*Salvinia auriculata*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Giant salvinia	*Salvinia biloba*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Giant salvinia	*Salvinia herzogii*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Giant salvinia	*Salvinia molesta*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Heartshape	*Monochoria vaginalis*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Hydrilla	*Hydrilla verticillata*	aquatic	High	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Miramar weed	*Hygrophilia polysperma*	aquatic	High	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Monochoria	*Monochoria hastata*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Mosquito fern	*Azolla pinnata*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Narrow-leaved cattail	*Typha angustifolia*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Oxygen weed	*Lagarosiphon major*	aquatic	FN	Federal noxious weed, prohibited invasive aquatic plant per 312 IAC 18-3-23
Parrotfeather	*Myriophyllum aquaticum*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-2-23
Purple loosestrife	*Lythrum salicaria*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-13
Starry stonewort	*Nitellopsis obtusa*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Water chestnut	*Trapa natans*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Water soldier	*Stratiotes aloides*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Yellow floating hearts	*Nymphoides peltata*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Yellow iris	*Iris pseudacorus*	aquatic	High	Prohibited invasive aquatic plant per 312 IAC 18-3-23
Prohibited Terrestrial Plant				
Amur cork tree	*Phellodendron amurense*	tree	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Amur honeysuckle	*Lonicera maacki*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Asian bittersweet	*Celastrus orbiculatus*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Autumn olive	*Elaeagnus umbellata*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Bell's honeysuckle	*Lonicera x bella*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Black alder	*Alnus glutinosa*	tree	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Black swallow-wort	*Vincetoxicum nigrum*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Blunt leaved privet	*Ligustrum obtusifolium*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Bohemian knotweed	*Reynoutria x bohemica*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Bull thistle	*Cirsium vulgare*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Canada thistle	*Cirsium arvense*	forb	High	Noxious weed per IC 15-3-4.6; detrimental plant per IC 15-3-4
Chinese yam	*Dioscorea polystachya*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Common buckthorn	*Rhamnus cathartica*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Common reed	*Phragmites australis*	grass	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Common teasel	*Dipsacus fullonum*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Crown vetch	*Coronilla varia*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Cut-leaved teasel	*Dipsacus laciniatus*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Dame's rocket	*Hesperis matronalis*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Field bindweed	*Convolvulus arvensis*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Garlic mustard	*Alliaria petiolata*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Giant hogweed	*Heracleum mantegazzianum*	forb	Medium	Federal noxious weed
Giant knotweed	*Reynoutria sachalinensis*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Glossy buckthorn	*Frangula alnus*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Goatsrue	*Galega officinalis*	forb	Medium	Federal noxious weed
Japanese barberry	*Berberis thunbergii*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Japanese chaff flower	*Achyranthes japonica*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Japanese honeysuckle	*Lonicera japonica*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Japanese hops	*Humulus japonicus*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Japanese stiltgrass	*Microstegium vimineum*	grass	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Japanese knotweed	*Reynoutria japonica*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Johnson grass	*Sorghum halepense*	grass	High	Noxious weed per IC 15-3-4.6; detrimental plant per IC 15-3-4 and IC 15-3-5
Kudzu	*Pueraria montana*	vine	High	Pest species per 312 IAC 18-3-16
Leafy spurge	*Euphorbia esula*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Mile-a-minute vine	*Polygonum perfoliatum*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]

Common Name	Latin Name	Growth Form	Indiana Invasive Rank	Current IN Legal Status
Morrow's honeysuckle	*Lonicera morrowii*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Mugwort	*Artemisia vulgaris*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Multiflora rose	*Rosa multiflora*	shrub	High	Prohibited species per IC 14-24-12 and 312 IAC 18-3-13
Musk thistle	*Carduus nutans*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Pale swallow-wort	*Vincetoxicum rossicum*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Pepperweed	*Lepidium latifolium*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Poison hemlock	*Conium maculatum*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Reed canarygrass	*Phalaris arundinacea*	grass	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Sericea lespedeza	*Lespedeza cuneata*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Small carpgrass	*Arthraxon hispidus*	grass	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Spiny plumeless thistle	*Carduus acanthoides*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Spotted knapweed	*Centaurea stoebe*	forb	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Tatarian honeysuckle	*Lonicera tatarica*	shrub	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Tree of heaven	*Ailanthus altissima*	tree	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
White mulberry	*Morus alba*	tree	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Wintercreeper	*Euonymus fortunei*	vine	High	Prohibited Invasive Terrestrial Plants [312 IAC 18-3-25]
Non-Regulated Species				
Ranked High				
Burning bush	*Euonymus alatus*	shrub	High	None
Callery pear	*Pyrus calleryana*	tree	High	None
Chinese maiden grass	*Miscanthus sinensis*	grass	High	None
Highbush cranberry	*Viburnum opulus v. opulus*	shrub	High	None
Japanese hedge parsley	*Torilis japonica*	forb	High	None
Lesser celandine	*Ranunculus ficaria*	forb	High	None
Moneywort	*Lysimachia nummularia*	vine	High	None
Norway maple	*Acer platanoides*	tree	High	None
Spreading hedge parsley	*Torilis arvensis*	forb	High	None
Sweet autumn clematis	*Clematis terniflora*	vine	High	None
Wild parsnip	*Pastinaca sativa*	forb	High	None
Ranked Medium				
Beafsteak plant	*Perilla frutescens*	forb	Medium	None
Bicolor lespedeza	*Lespedeza bicolor*	shrub	Medium	None
Bouncing bet	*Saponaria officinalis*	forb	Medium	None
Creeping Charlie	*Glechoma hederacea*	vine	Medium	None
English ivy	*Hedera helix*	vine	Medium	None
Japanese meadowsweet	*Spiraea japonica*	shrub	Medium	None
Jetbead	*Rhodotypos scandens*	shrub	Medium	None
Korean lespedeza	*Kummerowia stipulacea*	forb	Medium	None
Mimosa	*Albizia julibrissen*	tree	Medium	None
Narrowleaf bittercress	*Cardamine impatiens*	forb	Medium	None
Periwinkle	*Vinca minor*	vine	Medium	None
Queen Anne's lace	*Daucus carota*	forb	Medium	None
Princess tree	*Paulownia tomentosa*	tree	Medium	None
Ravenna grass	*Saccharum ravennae*	grass	Medium	None
Russian olive	*Elaeagnus angustifolia*	shrub	Medium	None
Siberian elm	*Ulmus pumila*	tree	Medium	None
Striate lespedeza	*Kummerowia striata*	forb	Medium	None
Tall fescue	*Schedonorus arundinaceus*	grass	Medium	None
Vetch	*Vicia cracca*	vine	Medium	None
White sweet clover	*Melilotus alba*	forb	Medium	None
Wisteria	*Wisteria sinensis*	vine	Medium	None
Yellow sweet clover	*Melilotus officinalis*	forb	Medium	None
Ranked Low				
St. John's wort	*Hypericum perforatum*	forb	Low	None
Ranked Caution				
Amur privet	*Ligustrum amurense*	shrub	Caution	None
California privet	*Ligustrum ovalifolium*	shrub	Caution	None
Chinese privet	*Ligustrum sinense*	shrub	Caution	None
Common barberry	*Berberis vulgaris*	shrub	Caution	None
Common privet	*Ligustrum vulgare*	shrub	Caution	None
Giant reed	*Arundo donax*	grass	Caution	None
Giant miscanthus	*Miscanthus x giganteа*	grass	Caution	None
Hybrid cattail	*Typha x glauca*	forb	Caution	None
Large-leaved periwinkle	*Vinca major*	vine	Caution	None
Lyme grass	*Leymus arenarius*	grass	Caution	None
Porcelain berry	*Ampelopsis brevipendunculata*	shrub	Caution	None
Sawtooth oak	*Quercus acutissima*	tree	Caution	None
Wine raspberry	*Rubus phoenicolasius*	shrub	Caution	None

Appendix C Possible Plant Species for Array Seed Mix

Preliminary Species Options for Array and Pollinator Seed Mixes

Common Name	Scientific Name
Array Seed Mix	
Grasses and Sedges	
Sheep fescue	*Festuca ovina*
Red fescue	*Festuca rubra*
Nodding fescue	*Festuca subverticillata/obtusa*
Kentucky blue grass	*Poa pratensis*
Wildflowers	
Whorled milkweed	*Asclepias verticillate*
Nodding Onion	*Allium cernuum*
Virginia strawberry	*Fragaria virginiana*
Common selfheal	*Prunella vulgaris*
Bristly buttercup	*Ranunculus hispidus*
White blue-eyed-grass	*Sisyrinchium albidum*
Alsike clover	*Trifolium hybridum*
Red clover	*Trifolium pratense*
White clover	*Trifolium repens*
Hooded blue violet	*Viola sororia*

SOLAR FIRE SAFETY PREVENTION AND PROTECTION

PREPARED FOR:
NEXTERA ENERGY RESOURCES, LLC

Ref. No.: PR-020952

MOSS CREEK SOLAR PROJECT
Pulaski County, Indiana

13 September 2021

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1. INTRODUCTION

UL Services Group LLC ("UL") has been engaged by NextEra Energy Resources, LLC ("NextEra", the "Client") to provide a report summarizing fire safety topics around the development of a solar PV plant as it pertains to the Moss Creek Solar Project in Pulaski County, Indiana.

2. FIRE SAFETY AT A PV PLANT

2.1 Design for Fire Safety

The first step in creating a safe PV plant begins during the design phase of the project and includes complying with local and state building, electrical, and fire code requirements, industry standards, and good design practices.

Good design practices include specifying equipment that is suitable for the intended use and environmental conditions and ensuring that all equipment used in the project has the appropriate UL listings.

PV modules and arrays generate electricity during daylight hours and cannot easily be shut off; therefore, it is important to include DC disconnect switches in the system design to allow small portions of the Project to be electrically isolated from the rest of the plant. This is typically accomplished by using DC combiner boxes with disconnect switches to disconnect groups of PV modules form the rest of the array and from the inverters. By disconnecting small sections of PV modules from the main array, the amount of energy available in each section can be greatly reduced, thus reducing the risk of fire and electric shock during maintenance operations. Isolating small sections of PV modules from the rest of the array allows work to be safely completed without shutting down the entire solar plant.

The installation of appropriate warning labels helps to identify areas where arc-flash hazards exist, to indicate DC voltage and current levels at various pieces of equipment and to identify the location of PV system disconnects. These warning labels help workers and fire fighters identify hazards and provide information on how to minimize those hazards.

Large PV systems may be comprised of smaller array sections that are separated by roads, woods, wetlands or other areas where the installation of PV modules is not practical or desired. Each of these smaller sections are enclosed by fencing to limit access to the electrical equipment. Gates are installed at various locations in the fences around the arrays to provide access for operations and maintenance personnel and equipment as well as to provide access for emergency vehicles. Roads within the array sections allow maintenance workers to access the major system components. These roads can be used by firefighters and EMTs to respond to emergencies within the project boundaries. Roads within the project boundaries are designed to be wide enough to provide access for cranes and trucks to reach the inverters for major maintenance activities and provide sufficient room for emergency vehicles access as well. The project designer should consult with the local fire officials to ensure there is sufficient room for fire equipment as well as room to turn the equipment around if necessary.

The latest version of the International Fire Code [1] lists requirements for ground mounted PV systems in section 1205.5 Ground-mounted photovoltaic panel systems. These requirements include 10-foot (3 meter) brush free areas around the PV modules along with a requirement for a maintained vegetative surface under the photovoltaic arrays and associated electrical equipment. The IFC also requires that the maintained vegetative base be approved by the fire code official (AHJ) who oversees the project's location.

The system designer will specify the appropriate seed mixtures to be planted around and under the PV arrays to minimize soil erosion and module shading. The vegetation used around and under the PV array will typically be low growing plants that require minimal maintenance and will not present a fire hazard to the project.

In a typical PV project, the PV arrays will be set back from the fence and property lines to minimize shading on the arrays from trees and structures that are outside of the project area and outside of the project's control. These setbacks also provide maintenance personnel access to various areas of the project and can act as fire breaks between the project and its neighbors.

All large PV projects have supervisory data acquisition and control systems (SCADA) to monitor the performance of the project and to allow remote control of all equipment within the project. The SCADA system allows the plant operators to shutdown portions of the solar array or the entire plant for maintenance purposes or in the event of an emergency

2.2 Construction

The Occupational Safety and Health Administration (OSHA) sets standards relevant to construction work and to workplaces in general industry which are applicable to solar construction sites just as they are to all other industries in the United States.

OSHA Standard 29 CFR 1926 for Safety and Health Regulations for Construction covers fire protection, fire prevention, flammable liquids, liquefied petroleum gas, and temporary heating devices [2]. OSHA Subpart 1926.150, which covers fire protection, requires developers to create a fire protection program for all phases of the construction and demolition work and to maintain and provide water supplies and additional required firefighting equipment. In cases where a fire hazard becomes present, fire responses and necessary equipment are to be provided with no delay. Next, OSHA Subpart 1926.151 covers fire prevention, and it includes requirements for safe electrical wiring (which presents a hazard since solar modules are generally rated for 1500 Vdc), usage of batteries and flammable gases and vapors, temporary buildings that may be brought onsite for the duration of the construction phase, open yard storage, driveways, portable fire extinguishing equipment to be provided for hazards, and safety clearances.

OSHA Standard 29 CFR 1910 is another relevant standard which sets Occupational Safety and Health Standards and applies to workplaces in general industry [3]. Within it, subpart 1910.39 requires employers to create fire prevention plans. Construction contractors will be responsible for developing and implementing the Fire Prevention Plan based on the specific hazards they bring to the site. The plan must include:

- Identifying all major fire hazards
- Provisions for storage and handling of flammable materials used during the construction, such as fuel for power equipment and flammable waste from shipping materials
- Identifying potential ignition sources, and their control
- Fire protection equipment necessary to control each major hazard
- Procedures to control accumulations of flammable and combustible waste materials
- Procedures for regular maintenance of safeguards on heat-producing equipment (i.e., hot work) to prevent accidental ignition of combustible materials
- Information on employees responsible for maintaining equipment to prevent and control fires, and the employees responsible for controlling fuel source hazards

As an example, the Texas Department of Insurance has written and made freely available a sample Fire Prevention Plan (29 CFR 1910.39) as a part of its Occupational Safety and Health Consultation Program [4]. The Fire Prevention plan provides information for: management, plan administrators, supervisors, employees; training on OSHA and plans for fire response and prevention; a walkthrough for identifying fire hazards; a fire prevention checklist; a list of recommended best practices to limit the risk of fire; and maintenance per National Fire Protection Association (NFPA) requirements.

In addition to developing the Fire Prevention Plan, the solar project's designated engineering, procurement, and construction company (EPC) will provide the local fire department with maps and diagrams of the facility showing the location of entrance points, hazardous material storage area and any safety control points, such as power disconnects. Access to this information is critical for a rapid response in case of an emergency due to the size of the PV Plant.

2.3 Operations and Maintenance

Operation and maintenance (O&M) programs are designed to keep the PV plant operating at maximum efficiency and include tasks that also minimize the fire risk at the project. The scope of work typically includes:

- Developing and implementing of Lock Out Tag Out procedures to ensure equipment is de-energized prior to being serviced, thus reducing the risk of electrical arcs and electrical shock;
- Ensuring the equipment is properly maintained in accordance with manufacturer's instructions and applicable industry standards;
- Verifying the equipment doors and covers are in place, closed and secured and all holes are sealed to prevent animals from entering energized equipment;
- Regularly inspecting equipment to confirm there is no evidence of impending failure, such as arcing, overheating, loose or bound equipment or parts, and there is no visible damage or deterioration of equipment; and
- Regular thermal inspections of connections, PV modules and inverters can indicate equipment that is degrading.

The most important part of an O&M program is developing and executing a vegetation management plan to keep grass, trees and brush away from PV modules and to minimize the amount of dry material around the PV arrays. Many projects are planted with low growing local vegetation that requires minimal maintenance, helps minimize erosion and keeps dust generation to a minimum. As noted above in the discussion about PV system design in Section 2.1, the IFC requires that brush and trees be kept at least 10-feet away from PV modules. In practice, trees and brush are kept further away from the modules to minimize shading and maximize energy production. The IFC also requires that a vegetative base that was approved by the local fire officials be maintained under the PV modules. Maintaining the vegetation at a low height around the PV array helps avoid shading of the PV modules to maximize energy production and eliminates the accumulation of vegetation around the PV modules which can damage the arrays and dry to become a fire hazard.

Large projects may have an O&M facility on site that contains an area to store spare parts, a workshop to repair equipment, offices and a room with monitoring and control equipment. There are typically no hazardous materials stored on a PV project.

For any O&M activities beyond visual system inspections, OSHA requirements from the previous section including those related to OSHA Standard 29 CFR 1910 will still apply, since the maintenance and repair activities fall under the construction category. Like the construction contractor, the O&M provider will be responsible for developing a Fire Prevention Plan that is specific to the personnel and tasks involved in operations and maintenance work at the solar plant. This will include identifying potential ignition sources from hot work and their control, as well as following procedures for regular

maintenance of safeguards on heat-producing equipment to prevent accidental ignition of combustible materials.

The O&M provider will also work with the local fire department to provide them maps and diagrams of the facility showing the location of entrance points (which may differ from those provided during construction), hazardous material storage area and any safety control points, such as power disconnects.

2.4 Fire Operations

Local fire departments have been trained to fight fires in various scenarios, including in electrical sub-stations and brush fires started by downed electrical lines. Fire fighters have been trained to identify hazards and to minimize their exposure to those hazards through avoidance, appropriate PPE, and methods of operation. Appropriate signs and labels installed around a PV project will help firefighters identify the various hazards in and around a solar project. Maintaining appropriate system documentation, including system drawings and emergency shut down procedures on site will help to minimize to first responders and to minimize the risk of damage to the project. Training opportunities and periodic tours of the PV facility will allow first responders to become familiar with the equipment and the layout of a project and will allow the local fire officials to work with their teams to develop operating procedures for dealing with incidents at the solar project.

In 2011, UL Fire Hazard and the UL Electrical Hazard Groups conducted a series of tests to determine best practices for fire fighters in the event a fire were to occur at a PV system [5]. The tests investigated different spray patterns for water, safe working distances for the nozzle operators and the effectiveness of a firefighter's PPE in wet conditions. The report provides several useful take-aways that can be used by first responders to augment their operational plans to deal with events at solar projects. These items include:

- Recognizing that if a PV module or array is illuminated, it will be energized;
- Water sprays as opposed to streams should be used to extinguish fires around PV arrays as straight streams or standard foam can conduct more electrical current than spray patterns;
- Firefighter PPE does not provide sufficient electrical shock resistance when wet or worn and should not be considered equivalent to electrical PPE; and
- Typical outdoor rated electrical equipment enclosures are not resistant to water penetration by fire hose streams.

A fire at a PV plant presents unique challenges to the first responders and fire fighters, however with appropriate system design, O&M activities, and training for the first responders a fire can be successfully controlled and damage to the PV plant can be limited. The most important factor in minimizing the fire risk at a PV plant is conducting regular vegetation management activities and performing regular tests and inspections on the equipment within the PV plant.

3. CONCLUSION

With appropriate design and operating practices, UL considers the risk of fire at a PV project to be minimal. The contractors installing the PV project and the O&M providers are required by OSHA to develop and adhere to a fire prevention plan during the construction and operation of the facility. These fire prevention plans are typically created from a standard template but contain modifications that reflect the unique nature of each PV system. Engaging with first responders and fire officials early in the design process can help minimize or eliminate issues that would hinder the response to emergencies and will allow first responders to become familiar with the project.

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[2] Occupational Safety and Health Administration, "OSHA Laws & Regulations / 1926," OSHA, [Online]. Available: https://www.osha.gov/laws-regs/regulations/standardnumber/1926.

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[4] Texas Department of Insurance, "OSHCON: Occupational Safety and Health Consultation Program," TDI, [Online]. Available: https://www.tdi.texas.gov/oshcon/.

[5] R. Backstrom and D. Dini, "Firefighter Safety and Photovoltaic Installatoins Research Project," Underwriters Laboratories Inc, Northbrook, IL, 2011.

AFFIDAVIT

To the Pulaski County Plan Administrator,

I, Gregory J. Ewing, do affirm under penalty of perjury that I have, at least 45 days, and no more than 60 days, prior to the scheduled public hearing for my petition to the

Pulaski County Board of Zoning Appeals, for a Special Exception

for Moss Creek Solar LLC, filed by Mary E. Solada, Attorney for the applicant,

on the 10th day of August, 2021,

provided notice by USPS Certified Mailing, Form 3800, to all legal landowners with properties within 2,640' of the subject property of the petition, as determined in consultation with the Administrator. Said Certified Mail returns (Green Cards) will be submitted to the Pulaski County Building and Zoning Department, 125 South Riverside Drive, Suite 125, Winamac, Indiana 46996.

Further affiant sayeth naught.

G. E.

Signature

August 24, 2021
Date

Gregory J. Ewing
Printed name

STATE OF INDIANA)
) SS:
COUNTY OF PULASKI)

Before me, a Notary Public in and for said County and State, hereby certify that

Gregory J. Ewing, personally known to me to be the affiant in the foregoing affidavit, personally appeared before me this day and having been by me duly sworn deposes and says that the facts set forth in the above affidavit are true and correct.

Witness my hand and official seal this the 24th day of August, 2021.

Cathy McQueen

Signature

Hancock

County of Residence

Cathy McQueen Notary Public Seal Hancock County State of Indiana My Comm. Expires 01/04/2027 NP0623315

Printed Name

Commission Expiration Date

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