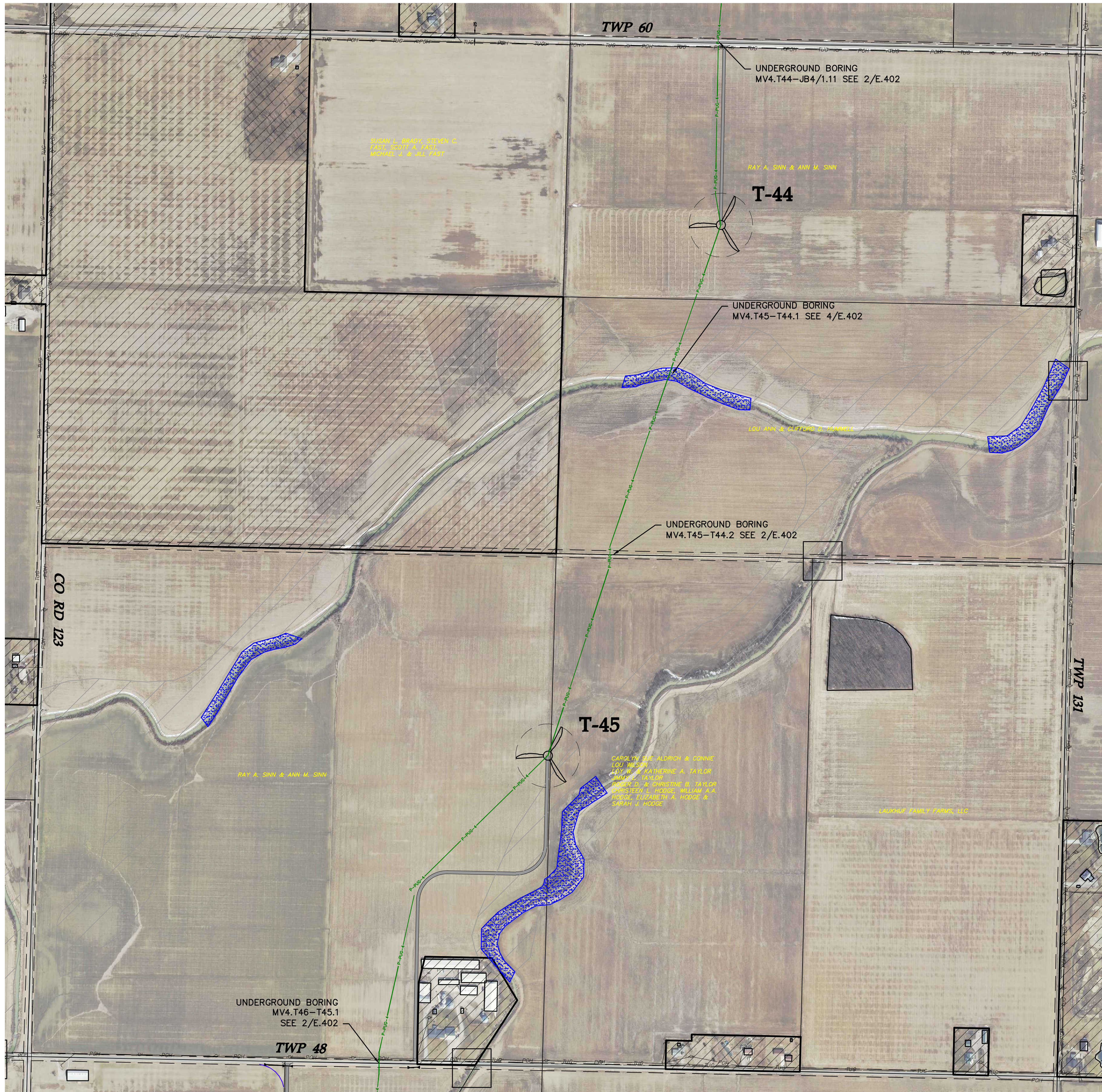


SEE SHEET E.316



SEE SHEET E.330

LEGEND

- TURBINE LOCATION
- T-XX** TURBINE NUMBER
- P-PUG-1 CIRCUIT 1
- P-PUG-2 CIRCUIT 2
- P-PUG-3 CIRCUIT 3
- P-PUG-4 CIRCUIT 4
- DELINEATED WETLAND
- NON-PARTICIPATING PROPERTY

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Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

Revisions	DATE	DESCRIPTION
B	10/03/17	Issued for Procurement - Revised
C	10/19/17	60% plans
D	10/30/17	90% plans
E	11/08/17	90% plans
F	11/22/17	Issued for Construction

Prepared for:



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Clinton, IN 47842

Trishe Wind Ohio, LLC
c/o Starwood Energy Group, LLC
5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831



Northwest Ohio Wind Project

Paulding County, Ohio

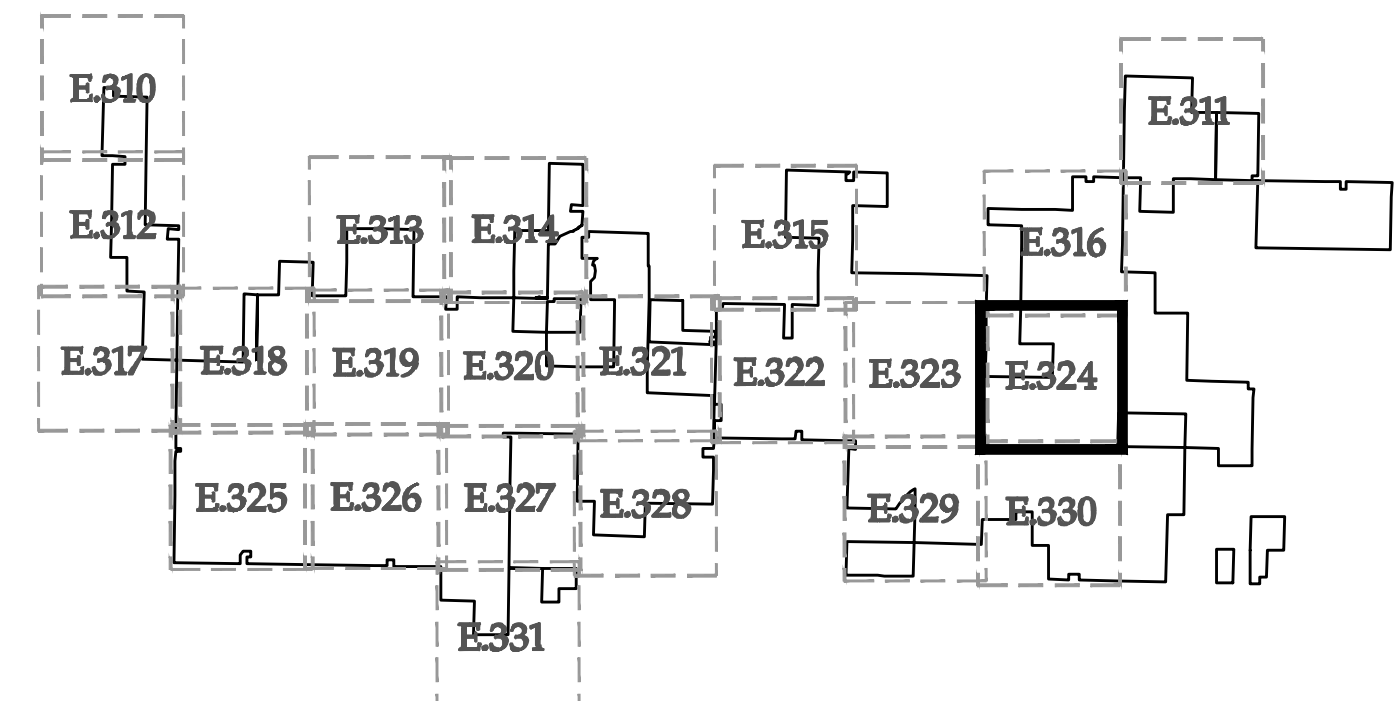
Electrical Site Plan

Issued For Construction

Array Date: 09/14/2017

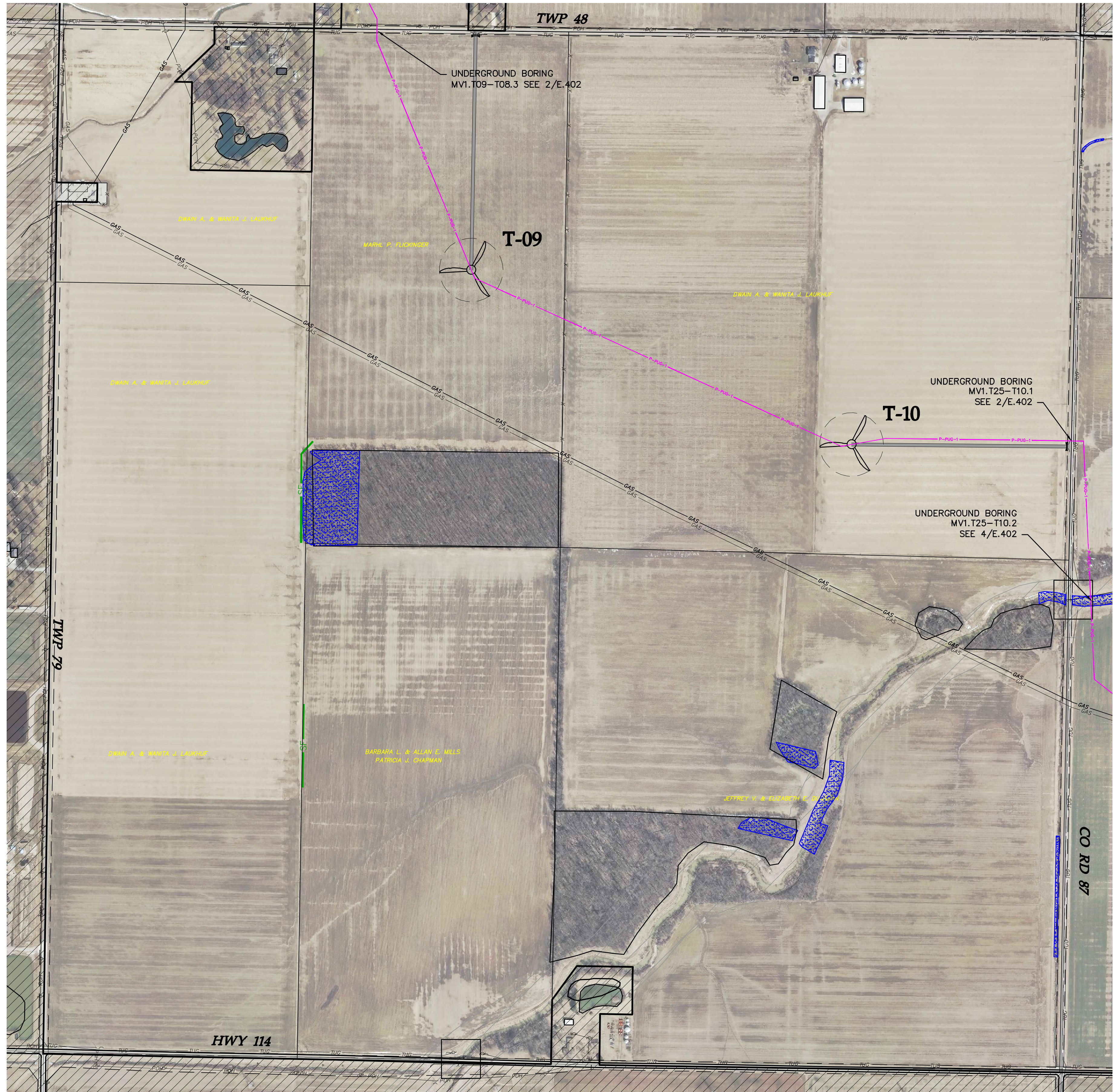
Sheet: **E.324**

0007186_Electrical Site Plans.dwg



KEY MAP

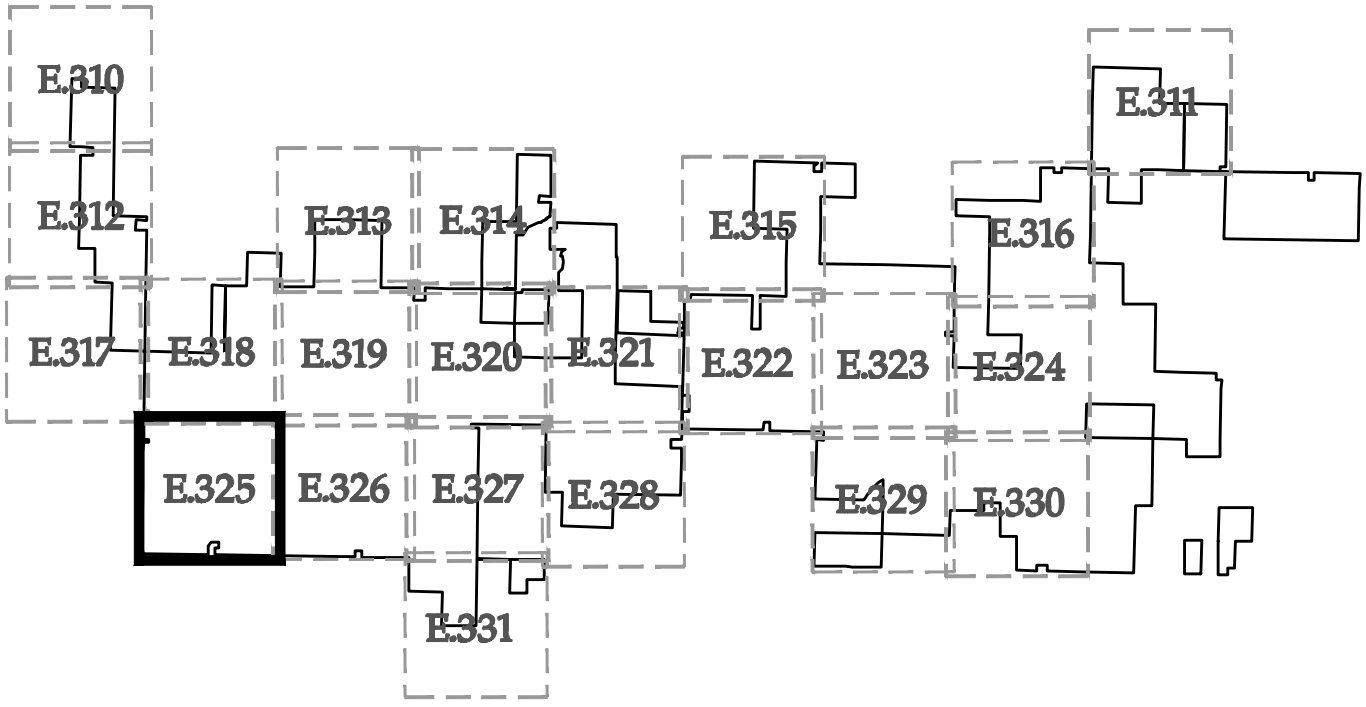
SEE SHEET E.318



LEGEND

	TURBINE LOCATION
T-XX	TURBINE NUMBER
	CIRCUIT 1
	CIRCUIT 2
	CIRCUIT 3
	CIRCUIT 4
	DELINEATED WETLAND
	NON-PARTICIPATING PROPERTY

SEE SHEET E.326



KEY MAP

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Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

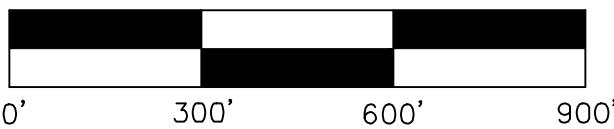
Revisions	DATE	DESCRIPTION
B	10/03/17	Issued for Procurement - Revised
C	10/19/17	60% plans
D	10/30/17	90% plans
E	11/08/17	90% plans
F	11/22/17	Issued for Construction

Prepared for:



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Greenwich, CT 06831



**Northwest
Ohio Wind
Project**

Paulding County, Ohio

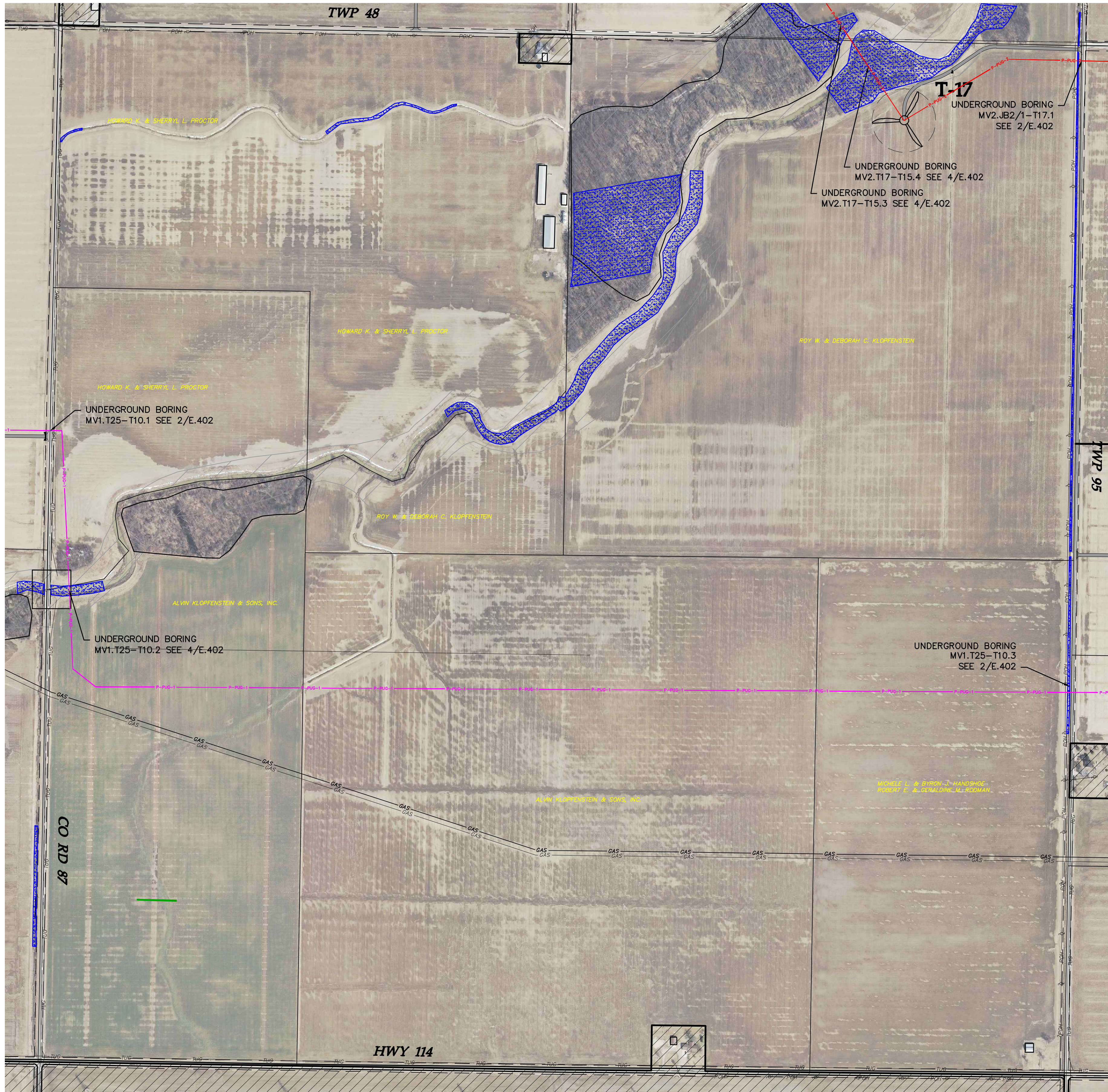
Electrical Site Plan

Issued For Construction

Array Date: 09/14/2017

Sheet: E.325

SEE SHEET E.319



LEGEND

- TURBINE LOCATION
- T-XX** TURBINE NUMBER
- P-PUG-1 CIRCUIT 1
- P-PUG-2 CIRCUIT 2
- P-PUG-3 CIRCUIT 3
- P-PUG-4 CIRCUIT 4
- DELINEATED WETLAND
- NON-PARTICIPATING PROPERTY

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Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

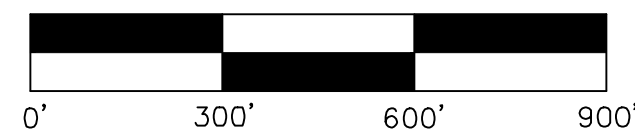
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E	11/08/17	90% plans
F	11/22/17	Issued for Construction

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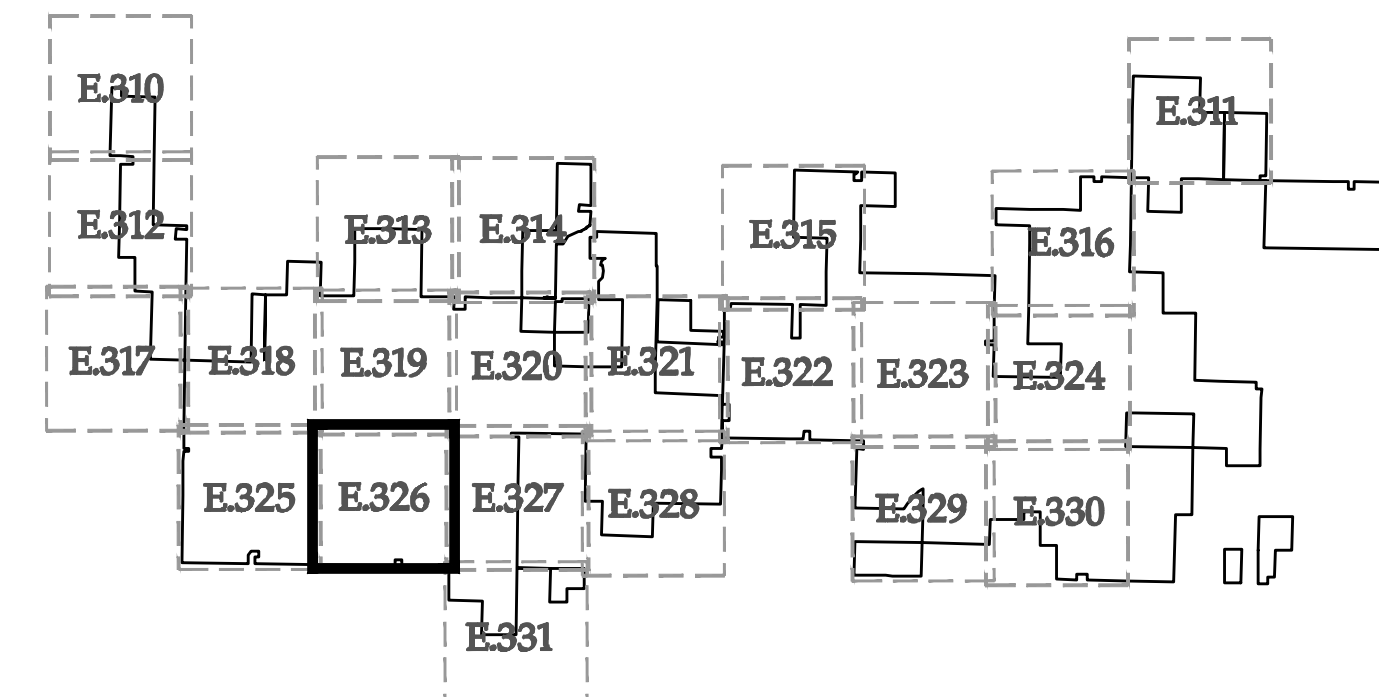
Electrical Site Plan

Issued For Construction

Array Date: 09/14/2017

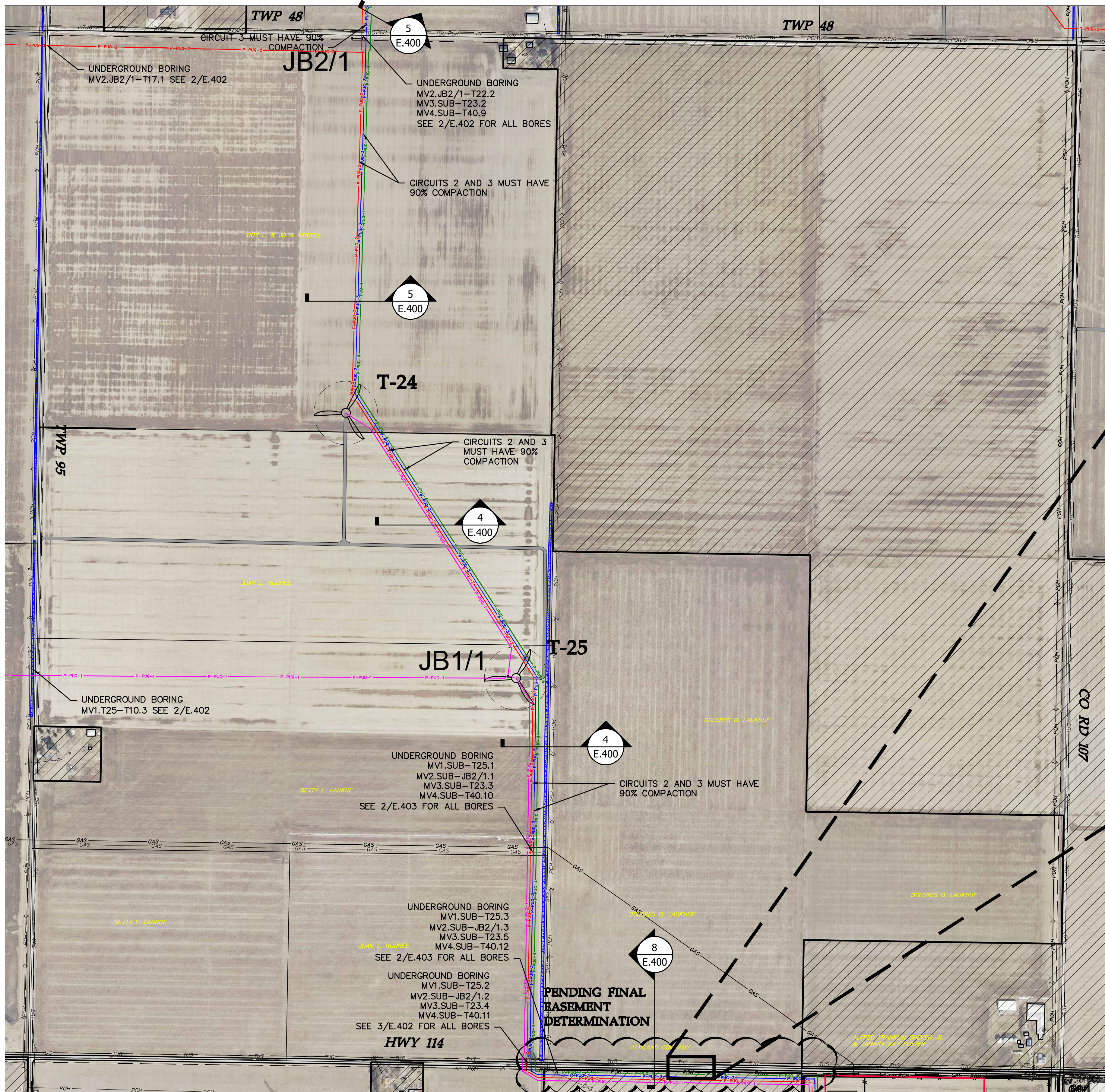
Sheet: E.326

0007186_Electrical Site Plans.dwg



KEY MAP

SEE SHEET E.320



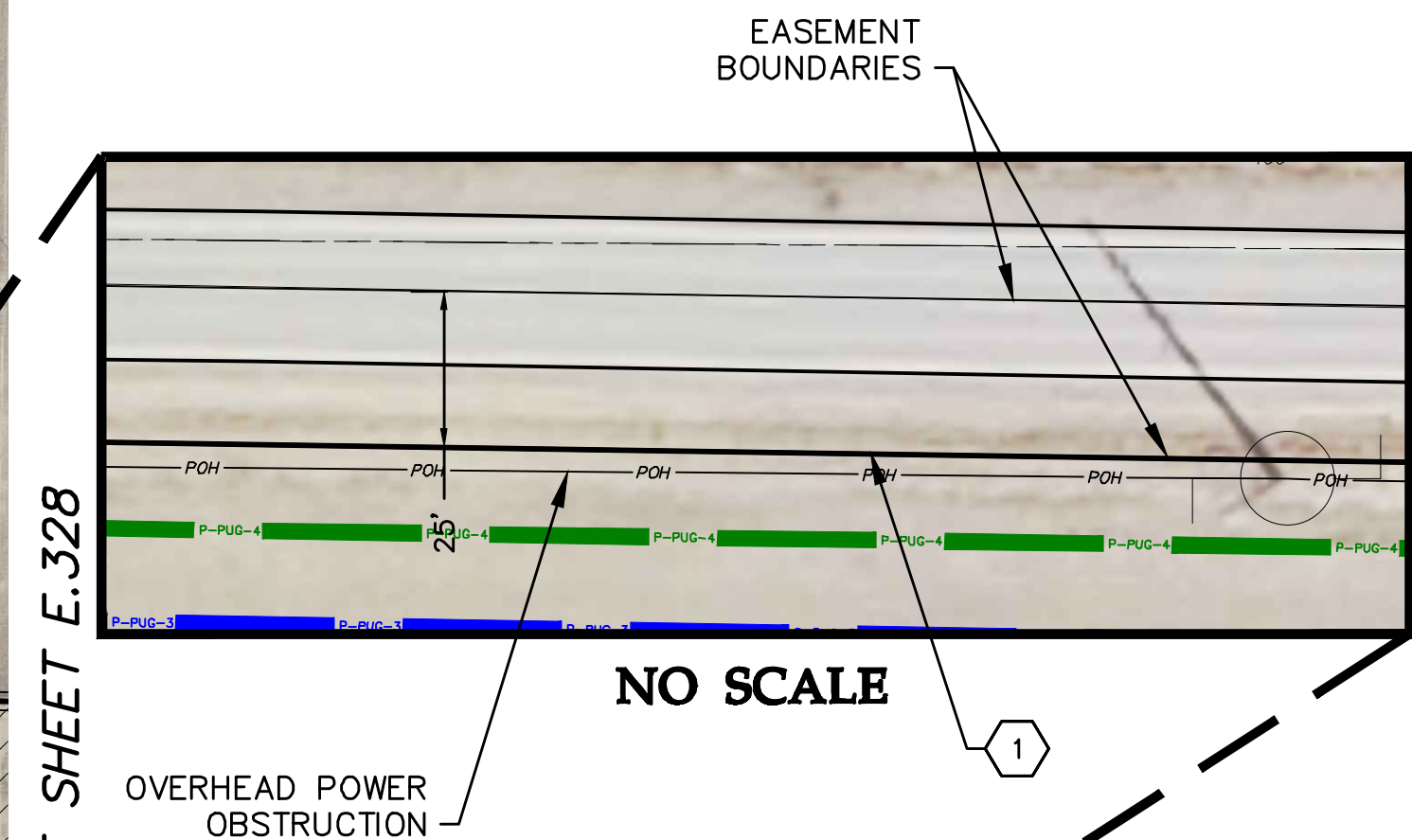
SEE SHEET E.331

LEGEND

- TURBINE LOCATION
- T-XX** TURBINE NUMBER
- P-PUG-1 CIRCUIT 1
- P-PUG-2 CIRCUIT 2
- P-PUG-3 CIRCUIT 3
- P-PUG-4 CIRCUIT 4
- DELINEATED WETLAND
- NON-PARTICIPATING PROPERTY

KEY NOTES

- 1 34.5KV COLLECTOR CIRCUITS 1,2,3 AND 4 CONTAINED WITHIN EASEMENT ON SOUTH SIDE OF HWY 114 FOR EAST-WEST RUN.



SEE SHEET E.328

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Drawn: JMC, JRG

As-Built Drawing:

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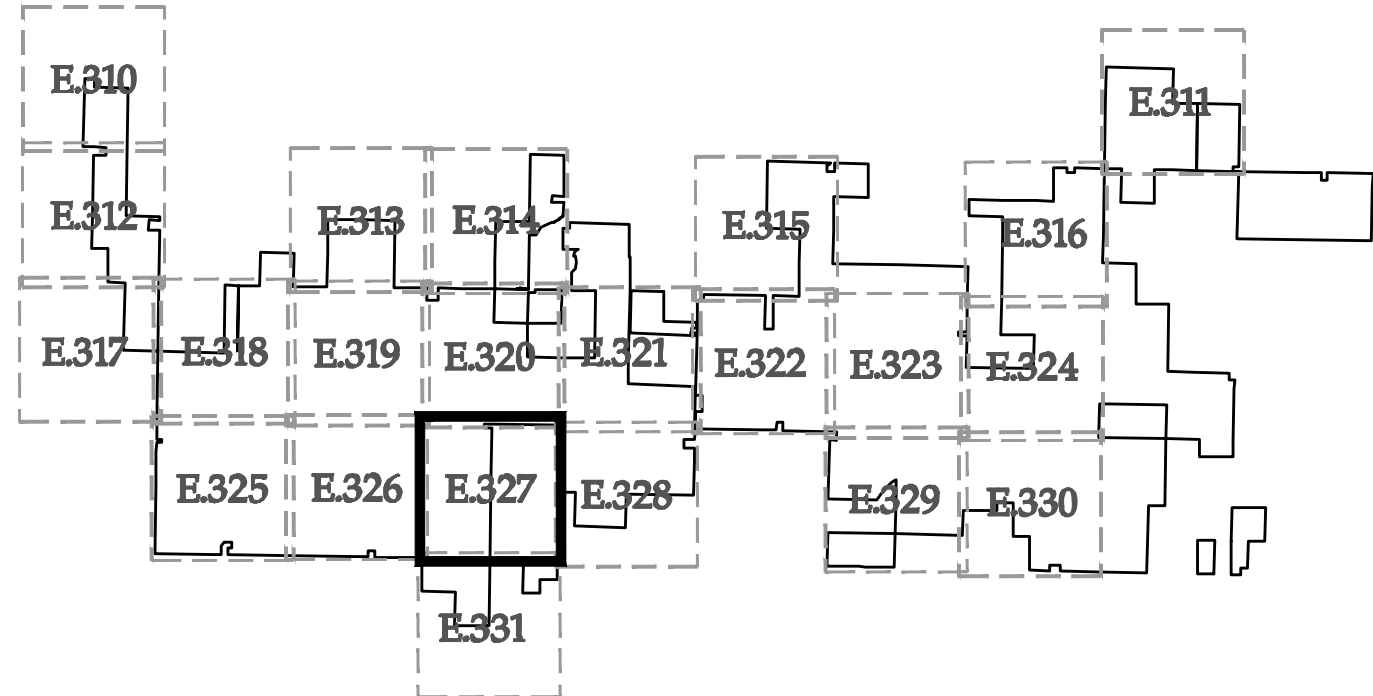
Paulding County, Ohio

Electrical Site Plan

Issued For Construction

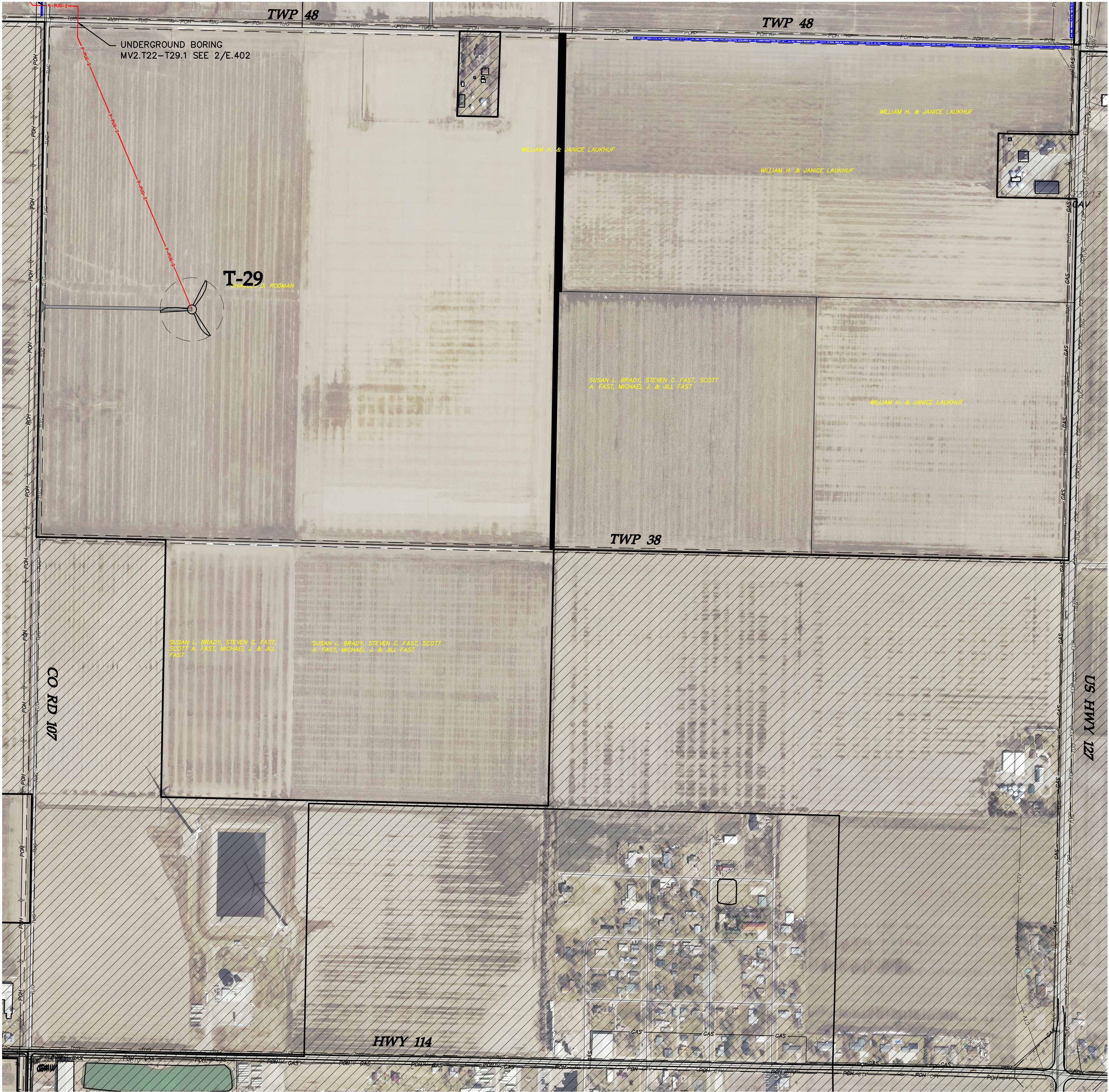
Array Date: 09/14/2017

Sheet: E.327

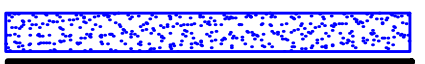


KEY MAP

SEE SHEET E.321



LEGEND

-  TURBINE LOCATION
- T-XX** TURBINE NUMBER
-  P-PUG-1 CIRCUIT 1
-  P-PUG-2 CIRCUIT 2
-  P-PUG-3 CIRCUIT 3
-  P-PUG-4 CIRCUIT 4
-  DELINEATED WETLAND
-  NON-PARTICIPATING PROPERTY

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Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

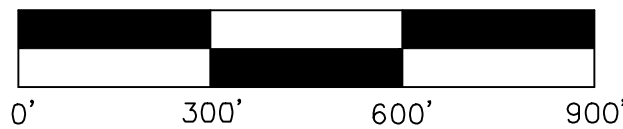
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**Northwest
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Paulding County, Ohio

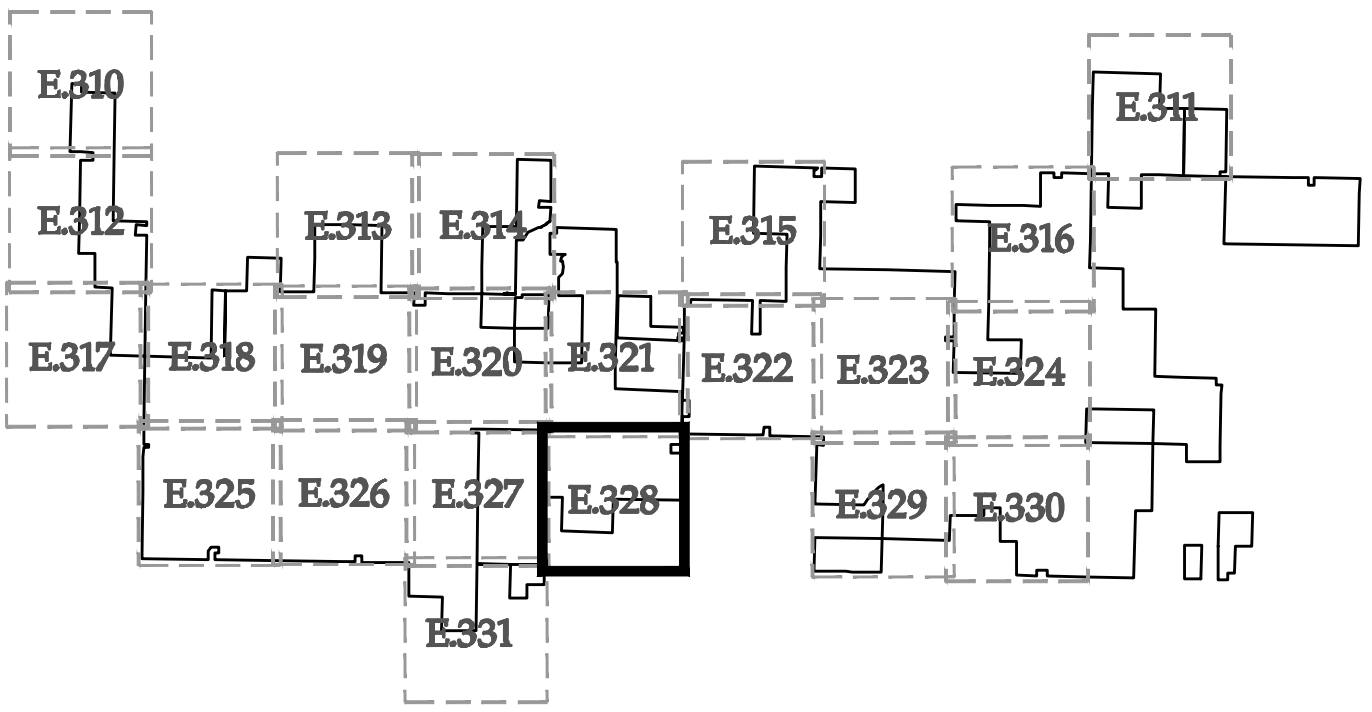
Electrical Site Plan

Issued For Construction

Array Date: 09/14/2017

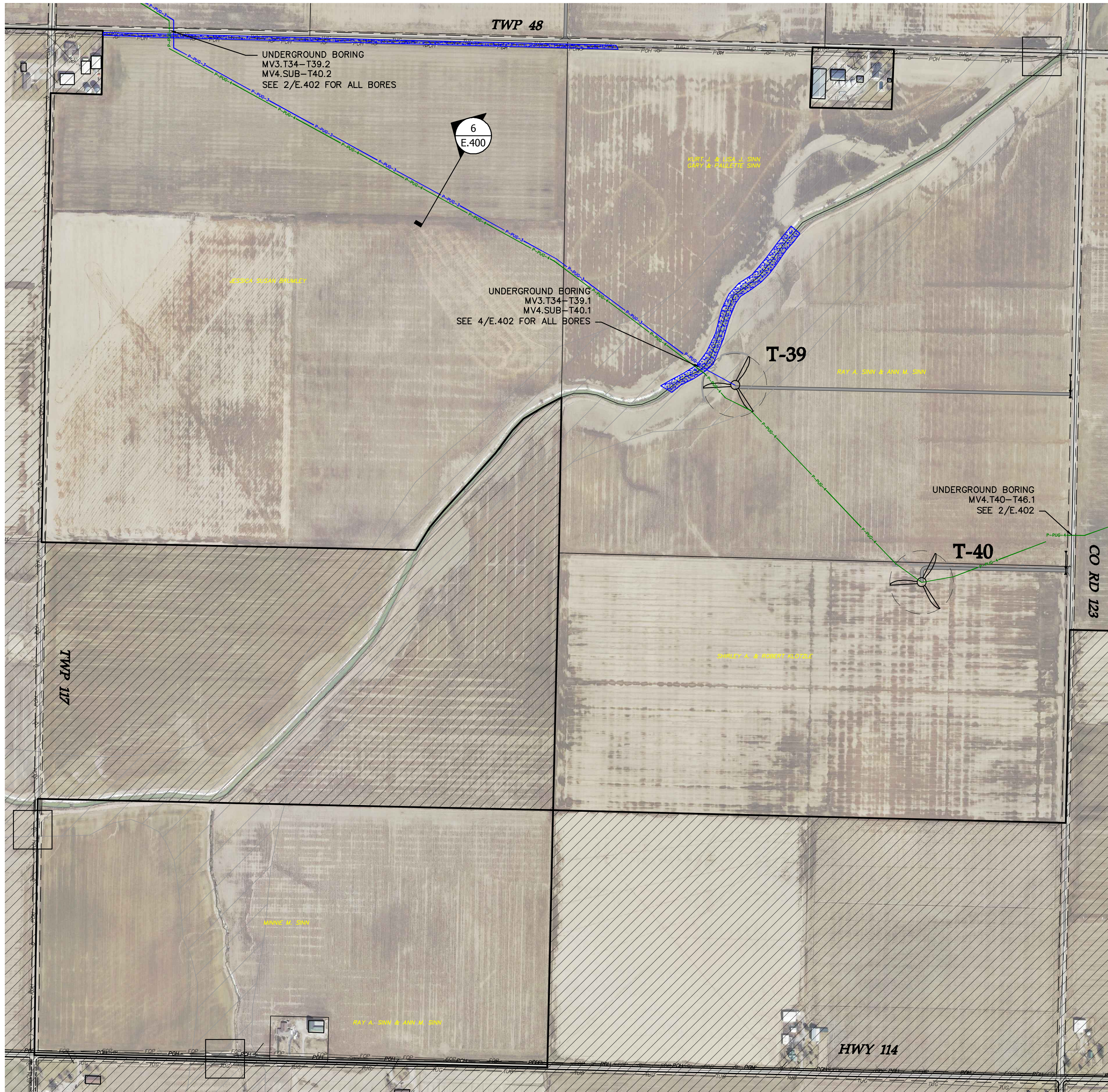
Sheet: **E.328**

0007186_Electrical Site Plans.dwg



KEY MAP

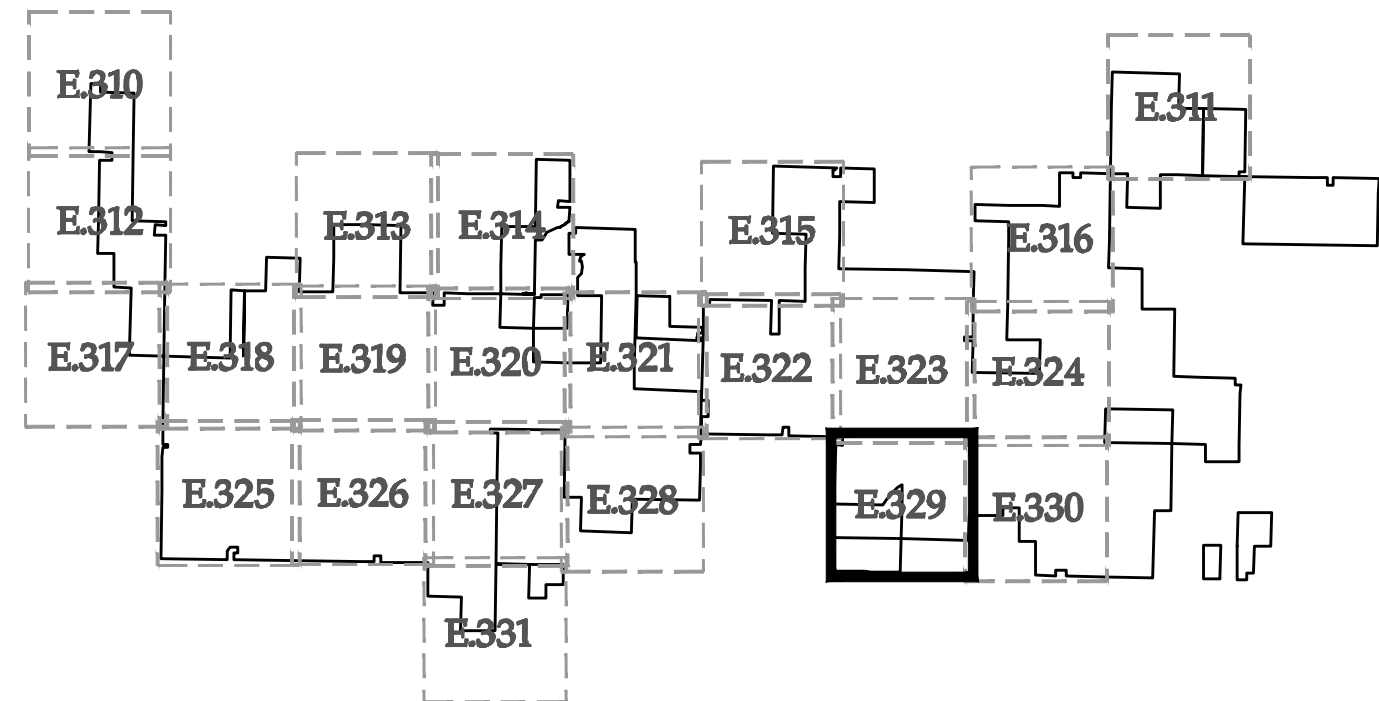
SEE SHEET E.323



LEGEND

- TURBINE LOCATION
- T-XX** TURBINE NUMBER
- P-PUG-1 CIRCUIT 1
- P-PUG-2 CIRCUIT 2
- P-PUG-3 CIRCUIT 3
- P-PUG-4 CIRCUIT 4
- DELINEATED WETLAND
- NON-PARTICIPATING PROPERTY

SEE SHEET E.330



KEY MAP

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Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

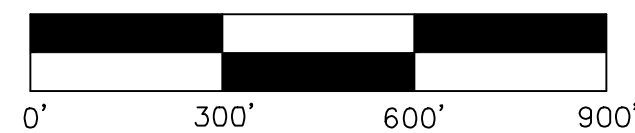
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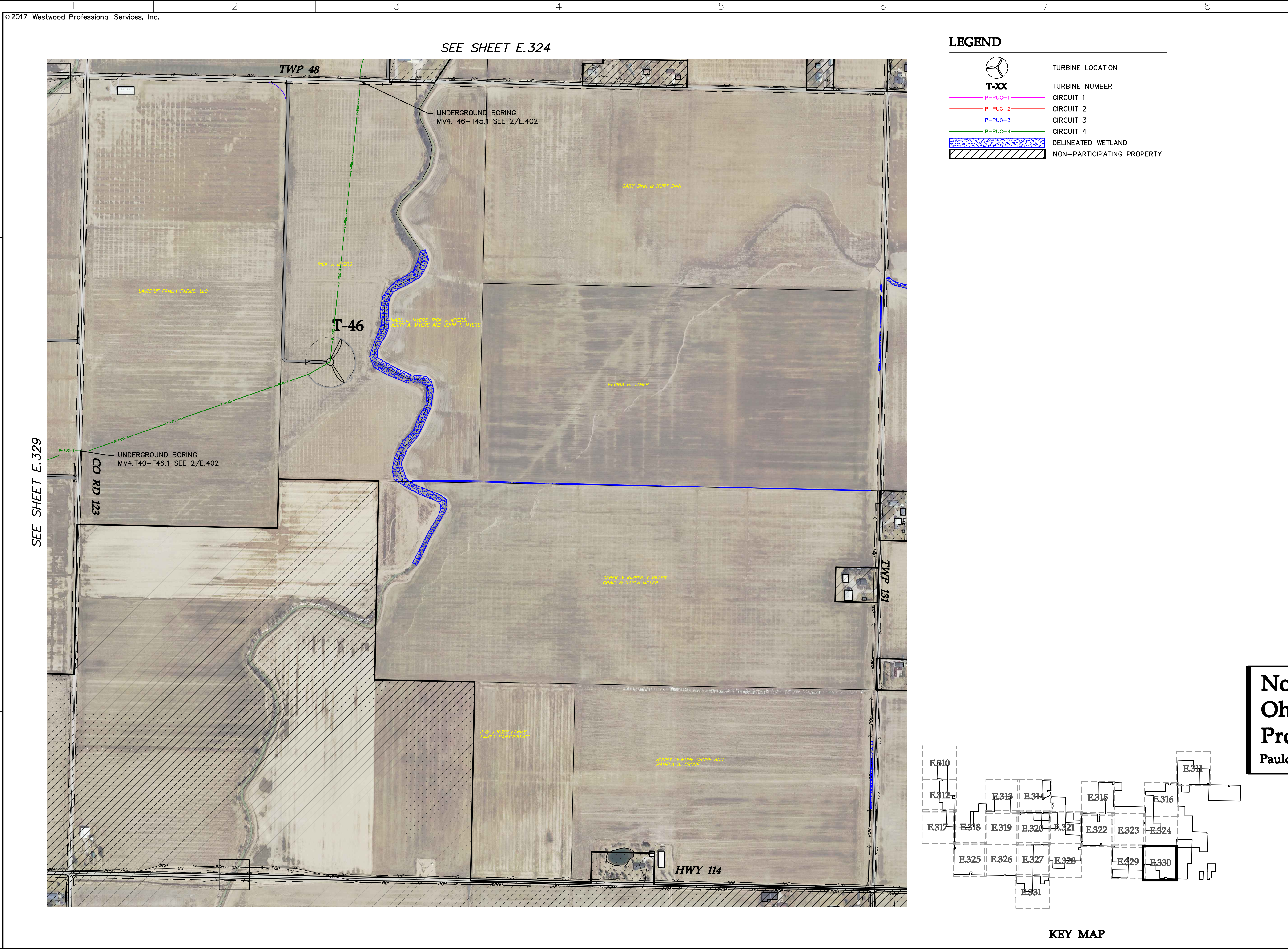
Paulding County, Ohio

Electrical Site Plan

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Array Date: 09/14/2017

Sheet: **E.329**



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STATE OF OHIO
JOSHUA R. VENDEN
E-81713
REGISTERED PROFESSIONAL ENGINEER
11-22-2017

Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

Revisions:

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C	10/19/17	60% plans
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E	11/08/17	90% plans
F	11/22/17	Issued for Construction

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WHITE
an IEA company

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0' 300' 600' 900'

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Paulding County, Ohio

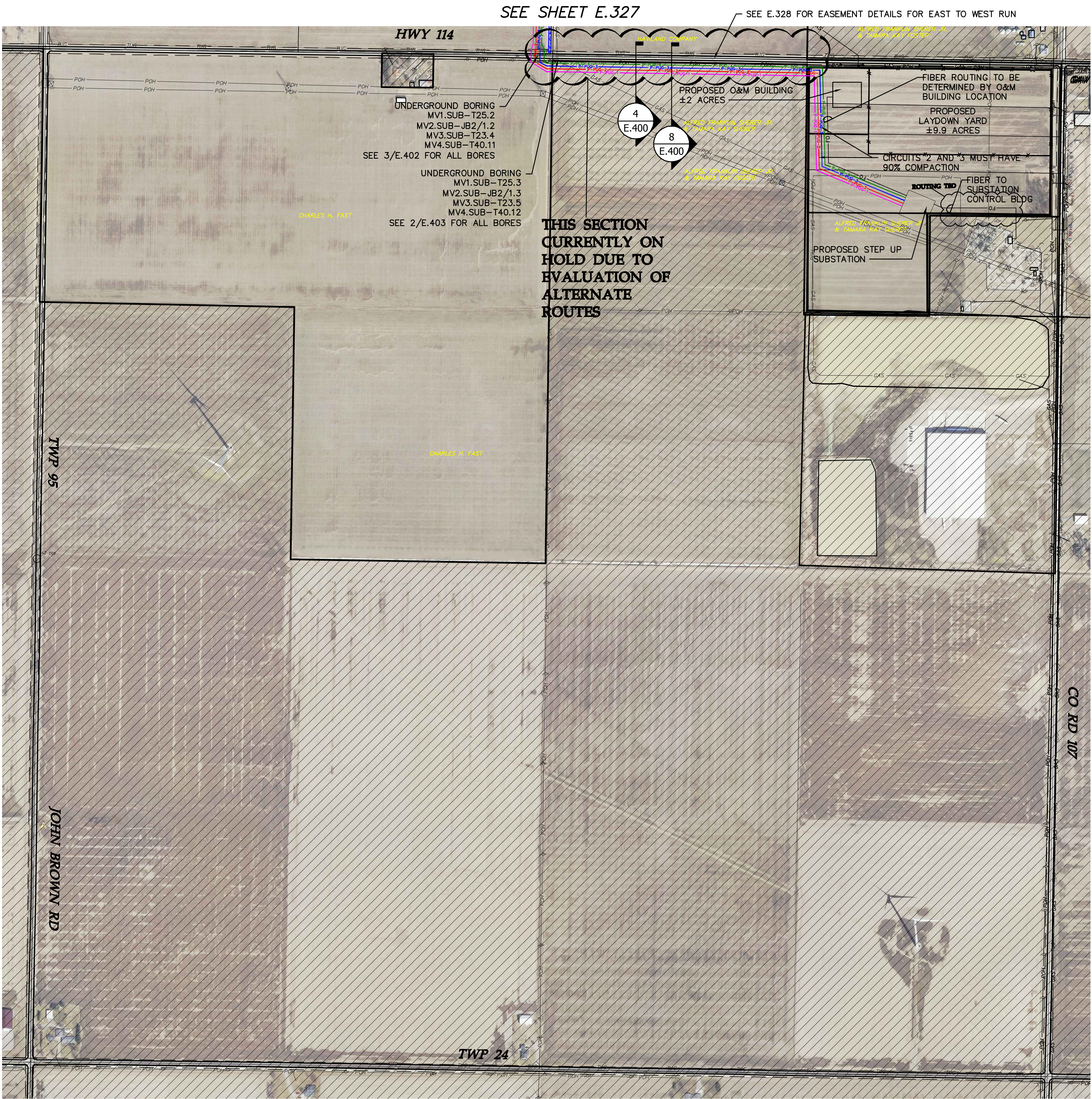
Electrical Site Plan

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Array Date: 09/14/2017

Sheet: E.330

0007186_Electrical Site Plans.dwg



LEGEND

	TURBINE LOCATION
T-XX	TURBINE NUMBER
	P-PUG-1
	P-PUG-2
	P-PUG-3
	P-PUG-4
	DELINEATED WETLAND
	NON-PARTICIPATING PROPERTY
	FIBER OPTICS

GENERAL NOTES

- FIBER OPTIC RUN BETWEEN COLLECTOR SUBSTATION CONTROL BUILDING AND AEP HAVILAND SUBSTATION CONTROL BUILDING TO CONSIST OF TWO SEPARATE BURIED FIBER OPTIC CABLES INSTALLED IN 1.5" HDPE INNERDUCT. MINIMUM SPACING BETWEEN CABLES TO BE 10'.

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As-Built Drawing:

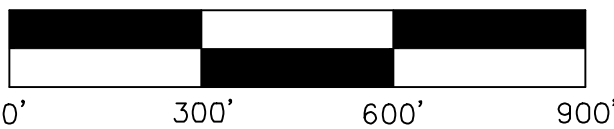
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Greenwich, CT 06831



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Ohio Wind
Project**

Paulding County, Ohio

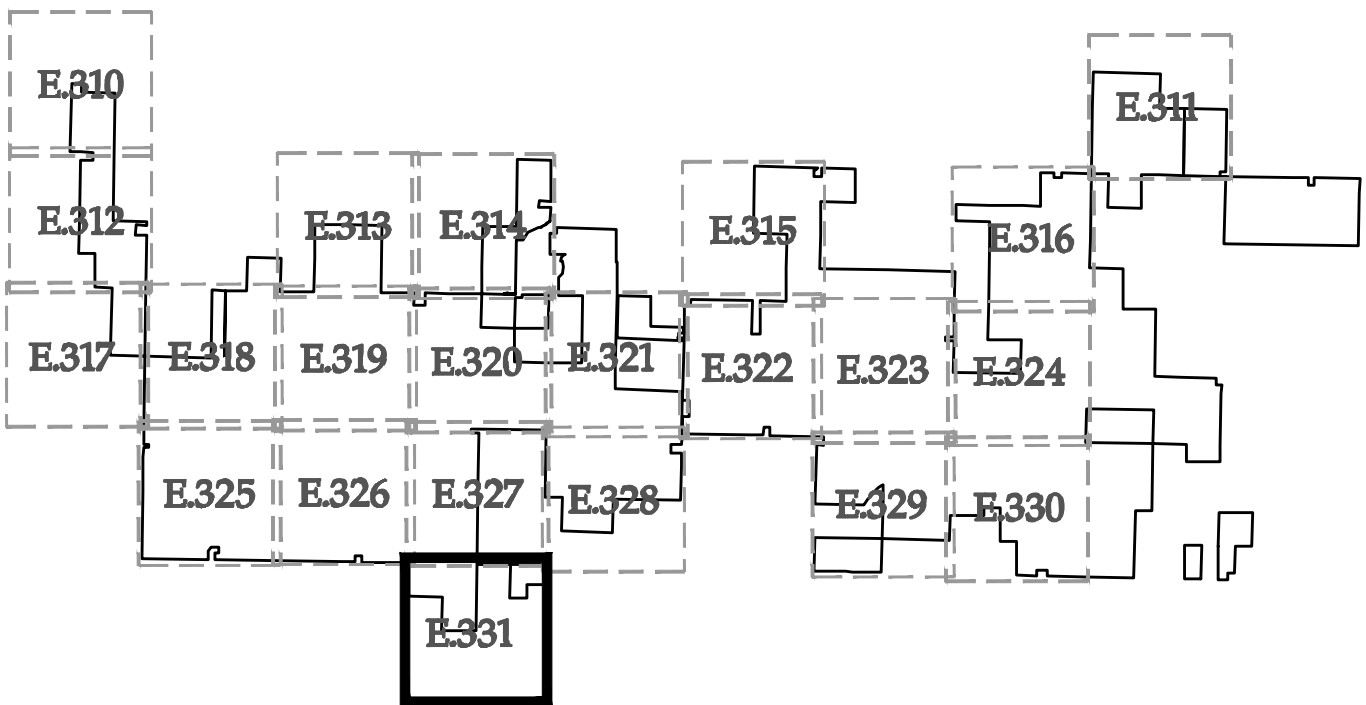
Electrical Site Plan

Issued For Construction

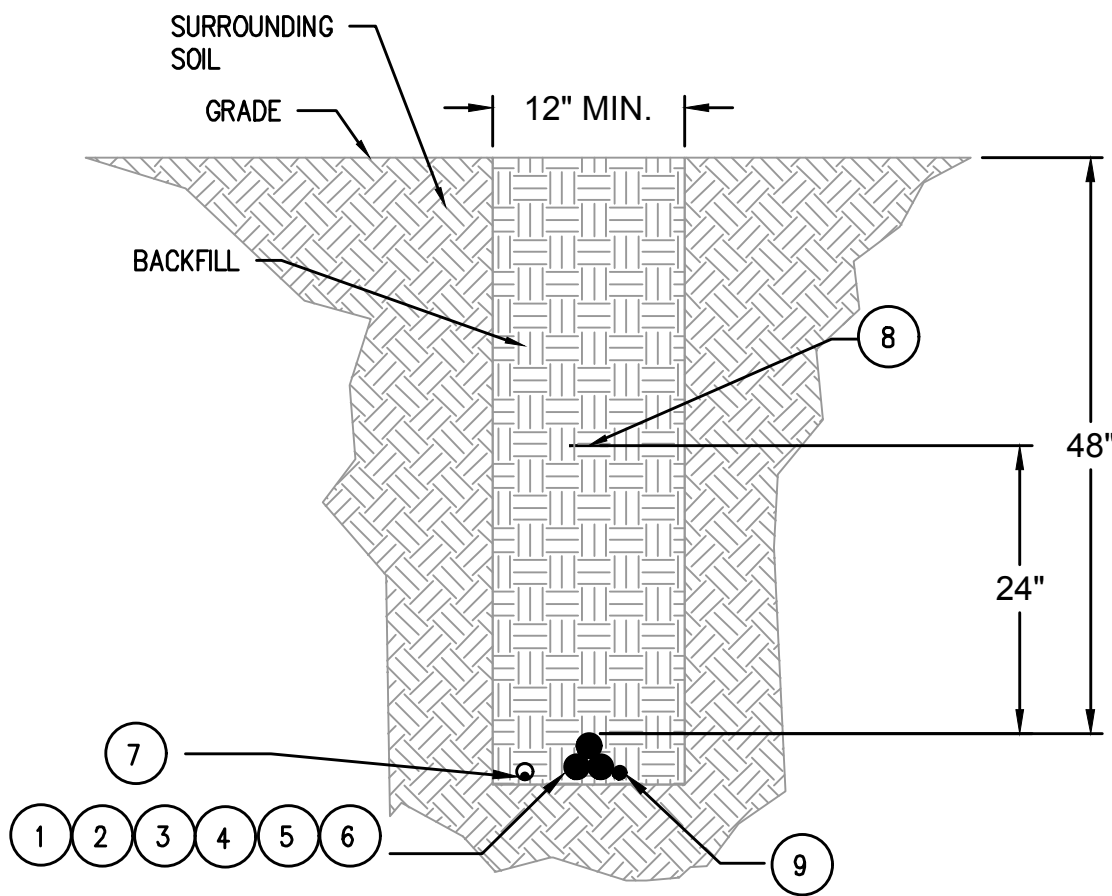
Array Date: 09/14/2017

Sheet: E.331

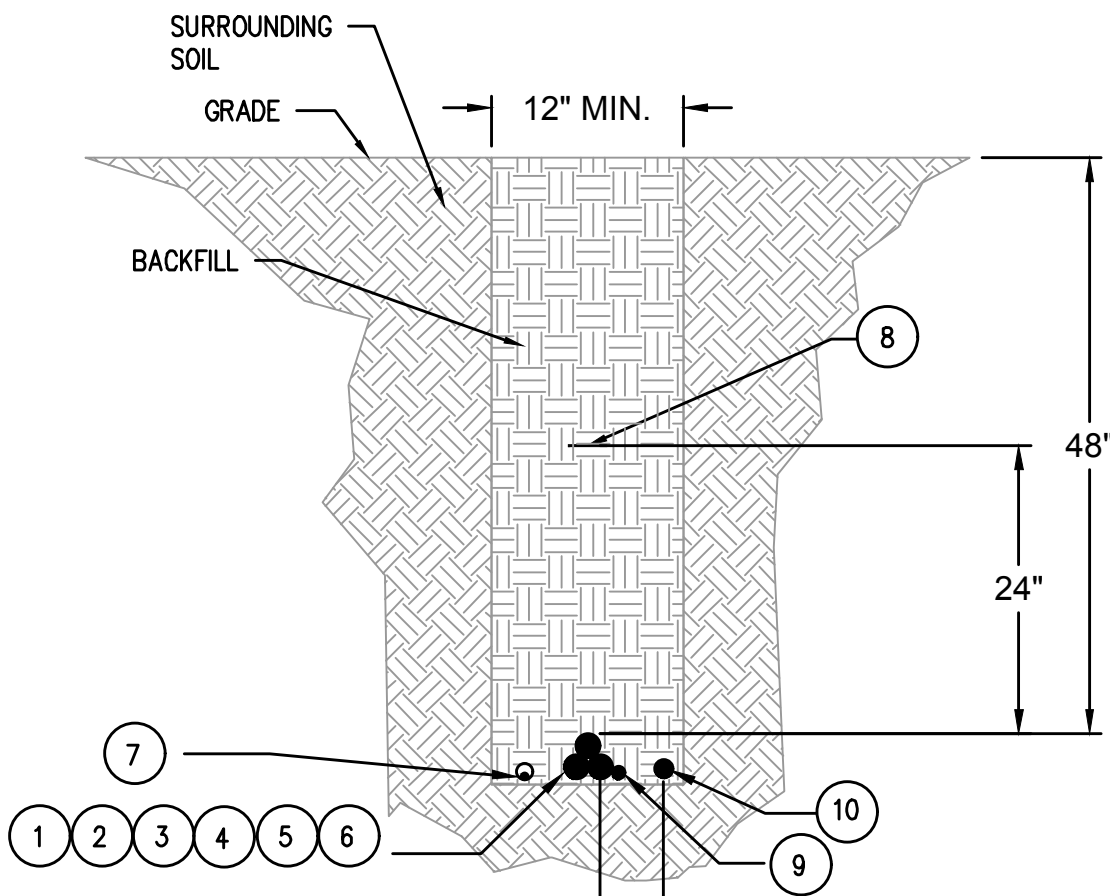
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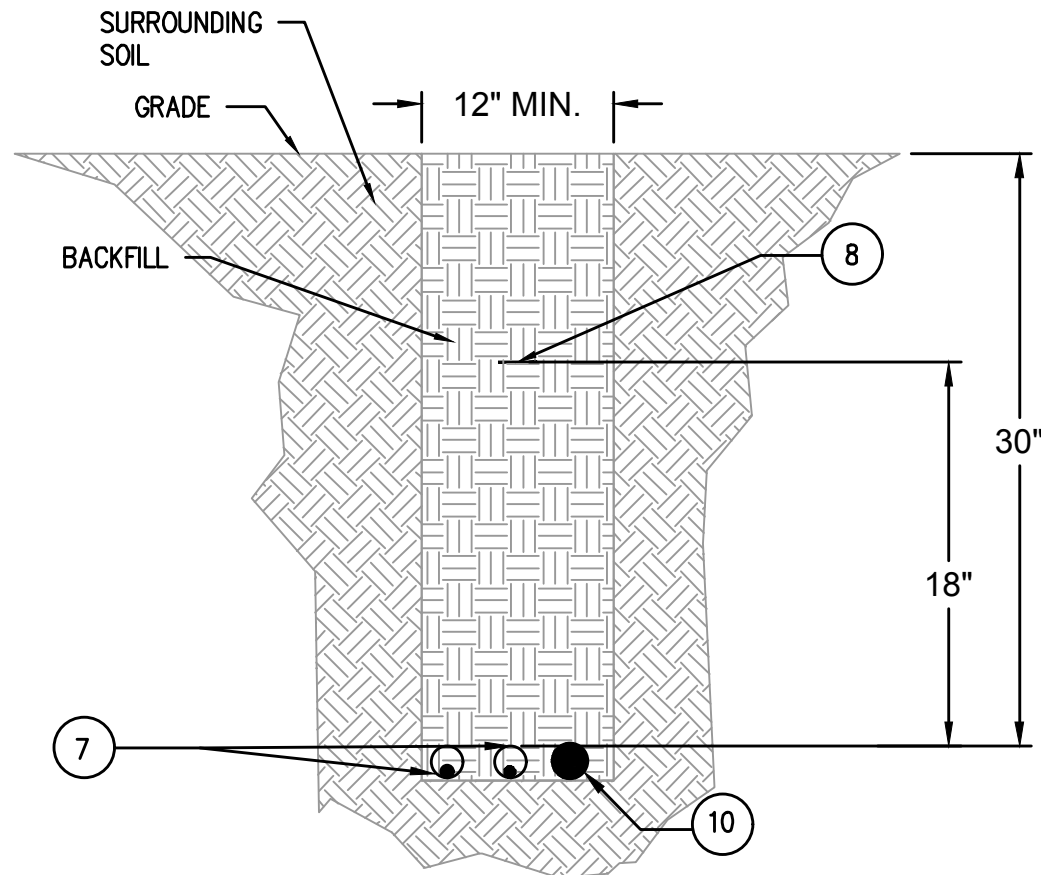
KEY MAP



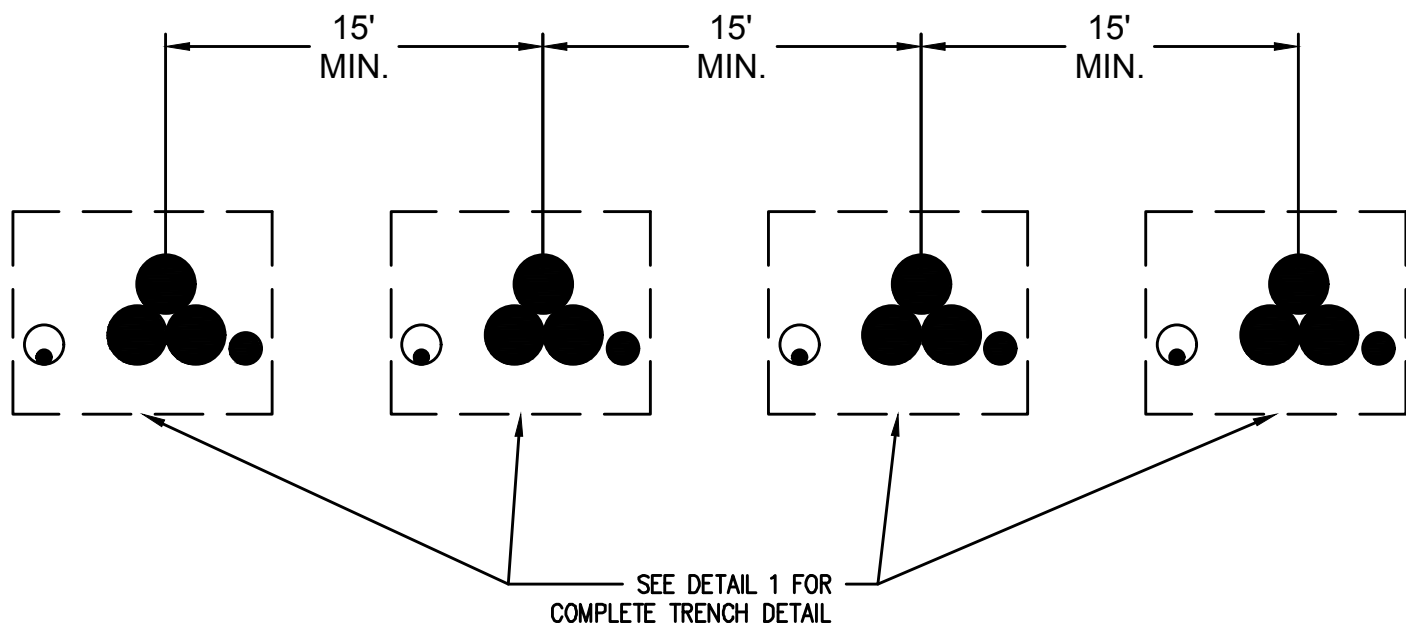
1 Typical MVAC & FO Trench
NTS



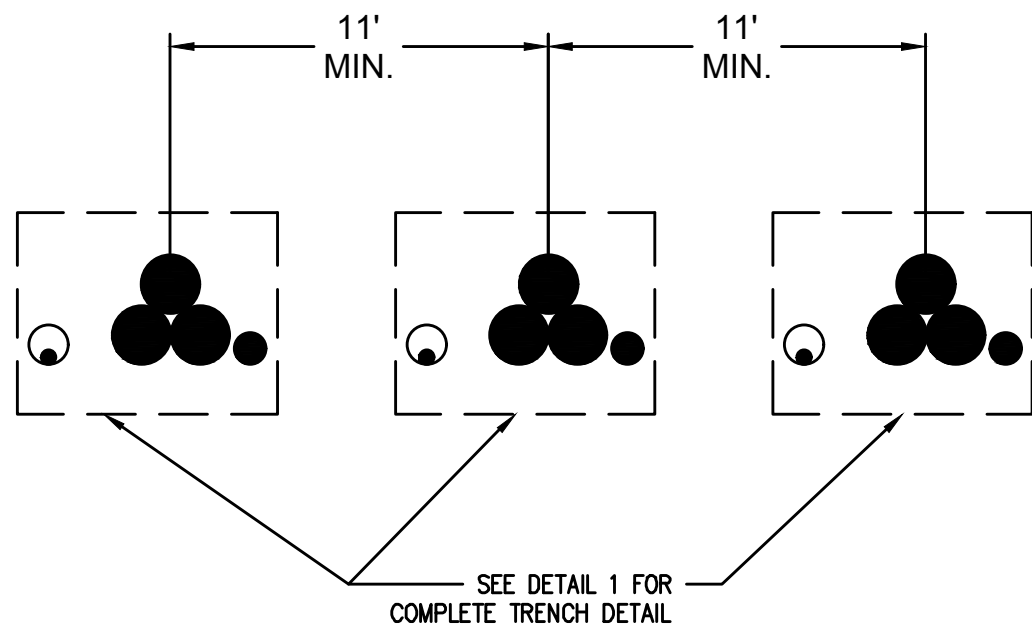
2 MVAC, FO and LVAC Trench
NTS



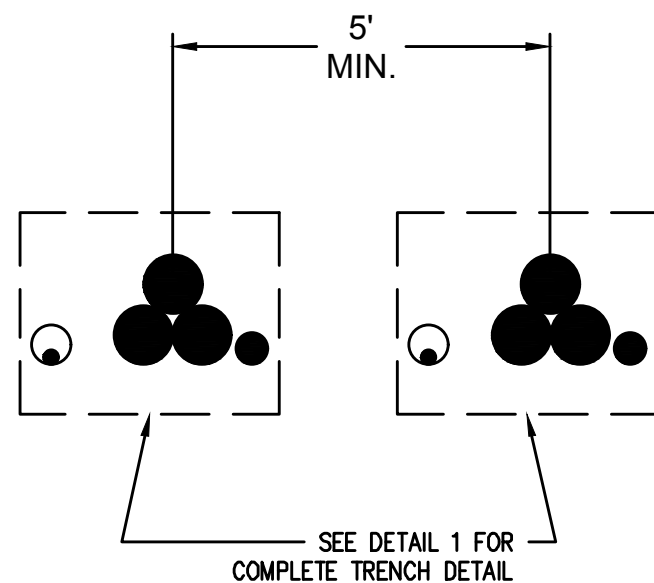
3 FO and LVAC Trench
NTS



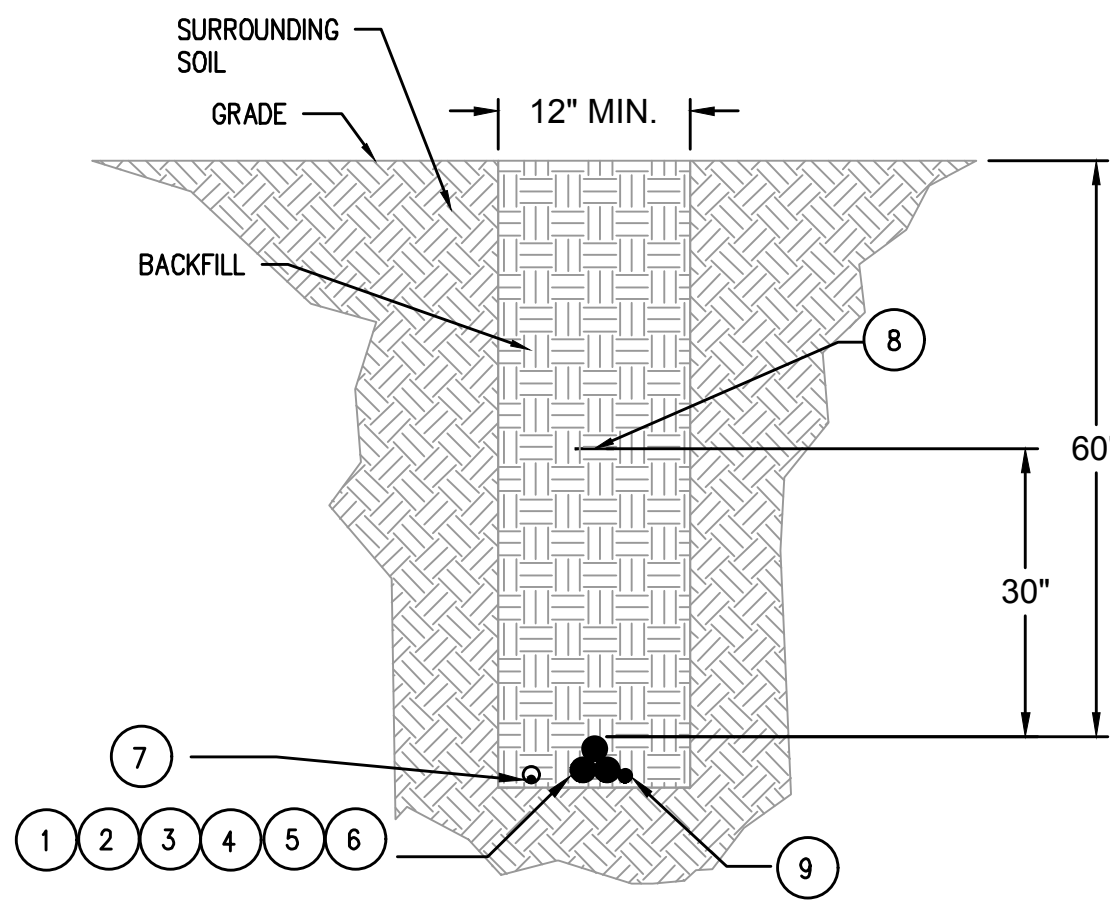
4 Trench Spacing - Four Circuits
NTS



5 Trench Spacing - Three Circuits
NTS



6 Trench Spacing - Two Circuits
NTS



8 Typical MVAC & FO Trench
NTS

MATERIAL LIST					
ITEM	QTY	UNIT	DESCRIPTION		
1	A/R	FT	CABLE, 35 KV MV-90 1/0 AWG AL, 2/3 CN - 11 #14 CU		
2	A/R	FT	CABLE, 35 KV MV-90 4/0 AWG AL, 1/2 CN - 16 #14 CU		
3	A/R	FT	CABLE, 35 KV MV-90 500 KCMIL AL, 1/3 CN - 16 #12 CU		
4	A/R	FT	CABLE, 35 KV MV-90 750 KCMIL AL, 1/6 CN - 19 #14 CU		
5	A/R	FT	CABLE, 35 KV MV-90 1000 KCMIL AL, 1/6 CN - 16 #12 CU		
6	A/R	FT	CABLE, 35 KV MV-90 1250 KCMIL AL, 1/6 CN - 20 #12 CU		
7	A/R	FT	CABLE, 12 COUNT SM (9/125) FIBER OPTIC, IN 1.5" INNERDUCT, NON-ARMORED		
8	A/R	FT	UG UTILITY RED WARNING TAPE		
9	A/R	FT	7#6 COPPER CLAD STEEL, 40% CONDUCTIVITY		
10	A/R	FT	CABLE, AL #4 AWG CONDUCTOR, TRIPLEX URD, 600V		

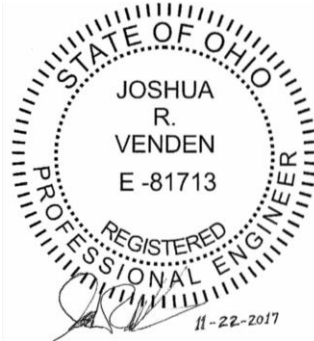
GENERAL NOTES

- EACH CIRCUIT CONSISTS OF 3-1/0 AWG AL, 4/0 AWG AL, 500 KCMIL AL, 750 KCMIL AL, 1000 KCMIL AL, OR 1250 KCMIL AL MEDIUM VOLTAGE CABLES (1 PER PHASE).
- EXCLUDE HEAVY STIFF CLAY, ROCKS, OR OTHER UNDESIRABLE BACKFILL WITHIN 12 INCHES OF CABLES
- POWER CABLES INSTALLED IN TRIPLEX CONFIGURATION.
- COMPACT NATIVE SOIL TO BE 85% STANDARD PROCTOR DENSITY FOR ALL TRENCH WORK EXCEPT FOR THE FOLLOWING, WHICH REQUIRE 90% COMPACTION STANDARD PROCTOR:
MV CABLE SECTIONS: MV2.SUB-JB2/1, MV3.SUB-T23
- NO ENGINEERED BACKFILL REQUIRED.
- WARNING TAPE TO HAVE WHITE TEXT STATING "CAUTION BURIED HIGH VOLTAGE LINE BELOW".

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Westwood Professional Services, Inc.



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Drawn: JMC, JRG

As-Built Drawing:

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Northwest
Ohio Wind
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Paulding County, Ohio

Medium Voltage Trench
Details

Issued For Construction

Array Date: 09/14/2017

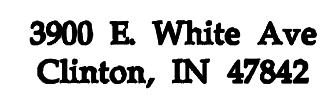
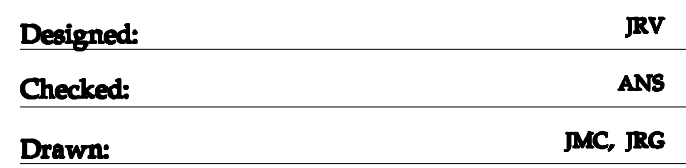
Sheet: E.400

0007186_E400_Trench_Details.dwg



ITEM	QTY	UNIT	DESCRIPTION		
1A	A/R	EA	SPLICE KIT, CABLE, 1/0 AWG AL, 345 MIL, 35 KV		
1B	A/R	EA	SPLICE KIT, CABLE, 4/0 AWG AL, 345 MIL, 35 KV		
1C	A/R	EA	SPLICE KIT, CABLE, 500 KCMIL AL, 345 MIL, 35 KV		
1D	A/R	EA	SPLICE KIT, CABLE, 750 KCMIL AL, 345 MIL, 35 KV		
1E	A/R	EA	SPLICE KIT, CABLE, 1000 KCMIL AL, 345 MIL, 35 KV		
1F	A/R	EA	SPLICE KIT, CABLE, 1250 KCMIL AL, 345 MIL, 35 KV		
2	15	FT	WIRE, 2 AWG, SOLID CU, BARE		
3	1	EA	GROUND ROD, 5/8" X 8", 13 MIL COPPER CLAD		
4	1	EA	COMPRESSION CONNECTOR, CN TO CN		
5	1	EA	COMPRESSION CONNECTOR 2 AWG CU TO 5/8" X 8' GROUND ROD		
6	2	EA	COMPRESSION CONNECTOR, 2 AWG TO 2 AWG CU		
7	1	EA	COMPRESSION CONNECTOR, #2 AWG CU TO 7#6 CCS		
8	1	EA	MARKER BALL		

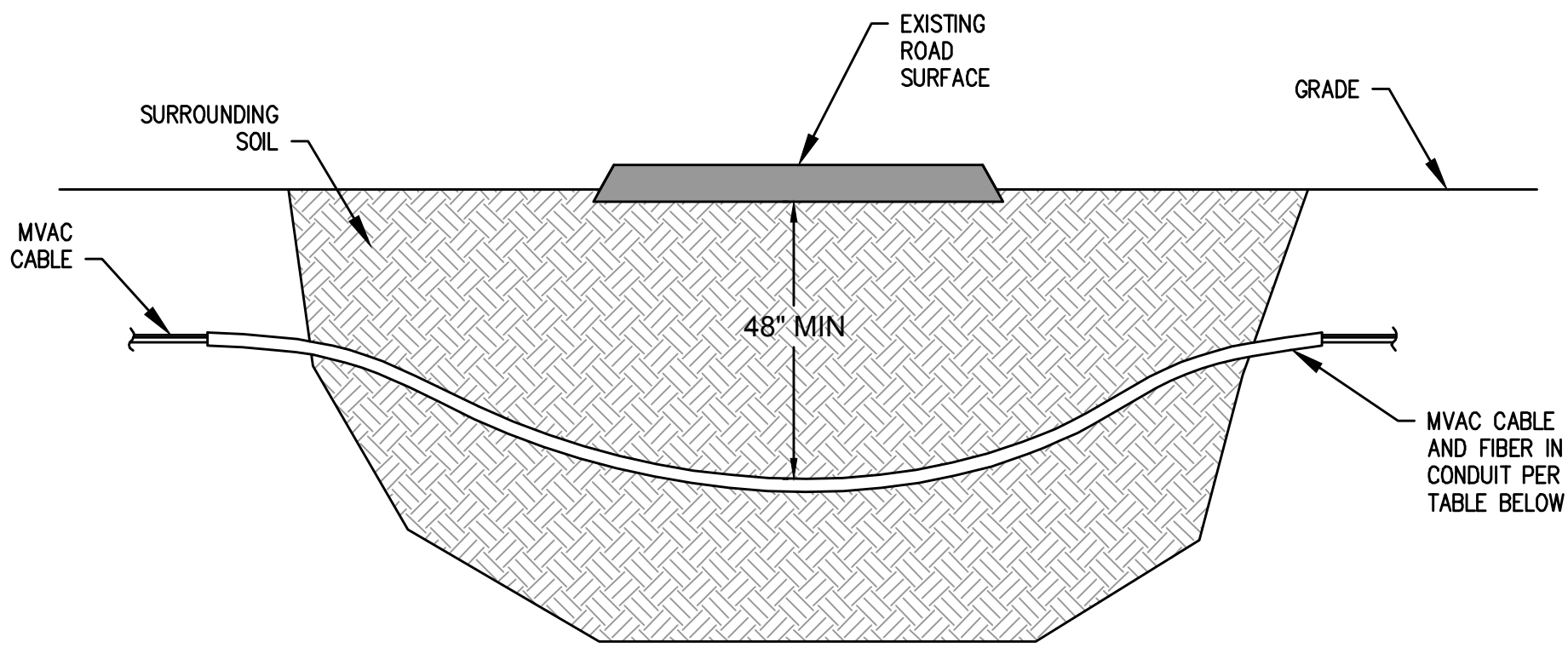
1. SPLICE KIT INCLUDES SPLICE BODY, SPLICE COVER AND COMPRESSION CONNECTOR.
2. PERFORM ALL SPLICES USING MANUFACTURER'S INSTRUCTIONS.
3. PLACE MARKER BALL ABOVE SPLICE AT 30" DEPTH.
4. SPLICE LOCATION TO BE COMPLETED PER GENERAL TRENCH COMPACTION SPEC.



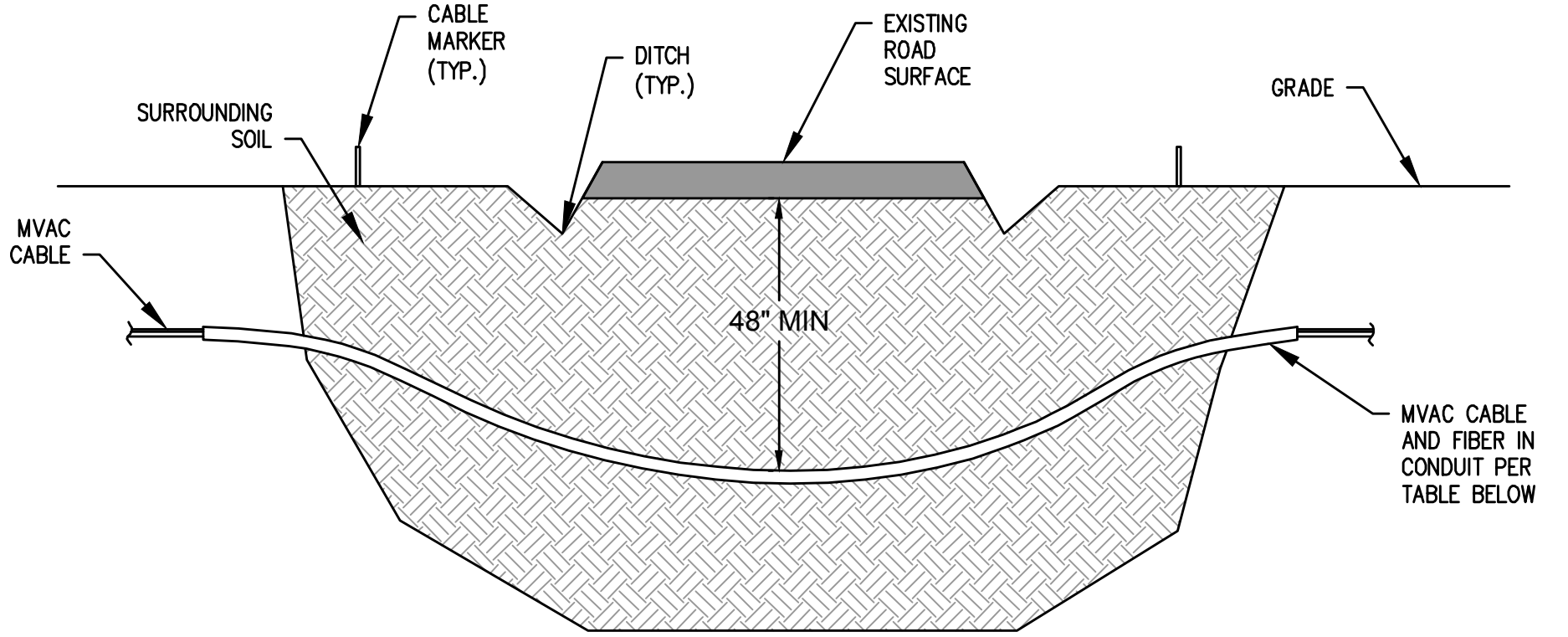
Trishe Wind Ohio, LLC
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Greenwich, CT 06831

Medium Voltage Underground Cable Splice

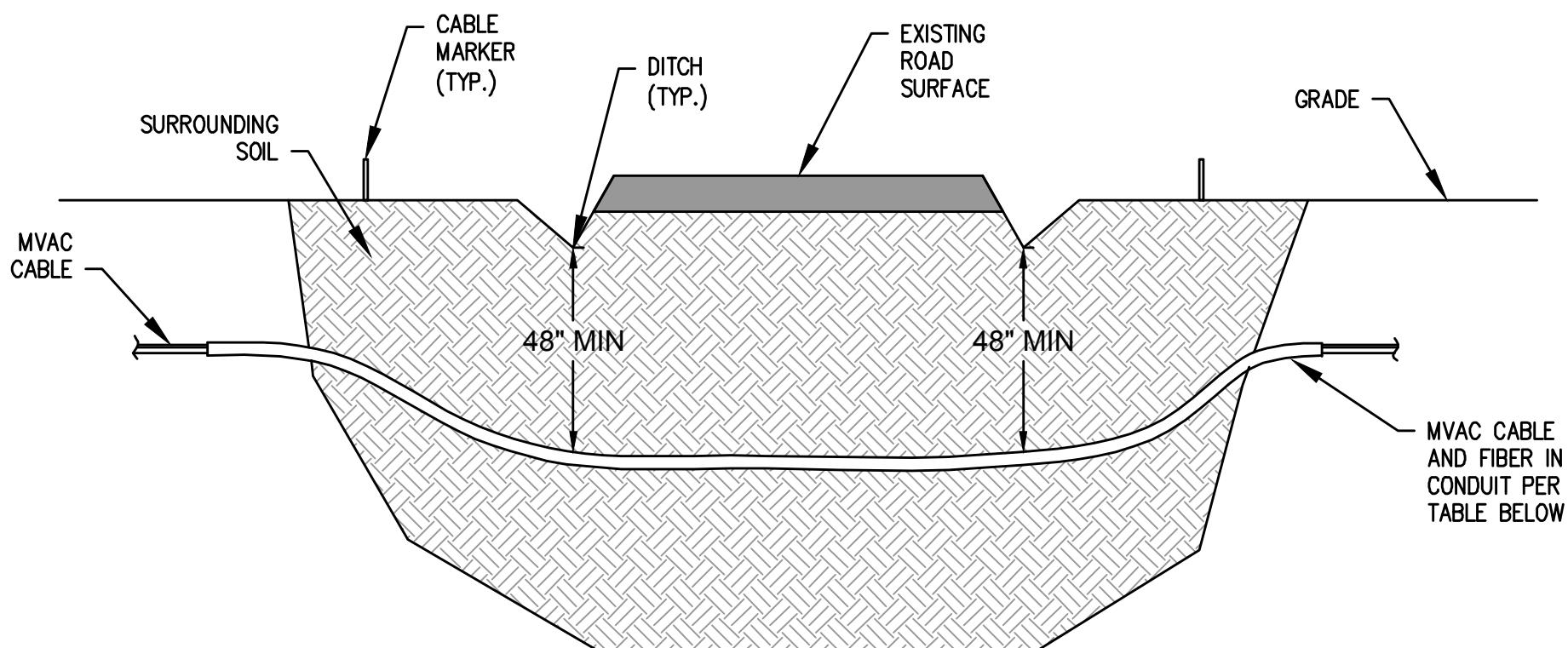
0007186_E400_MV Details and Crossing.dwg



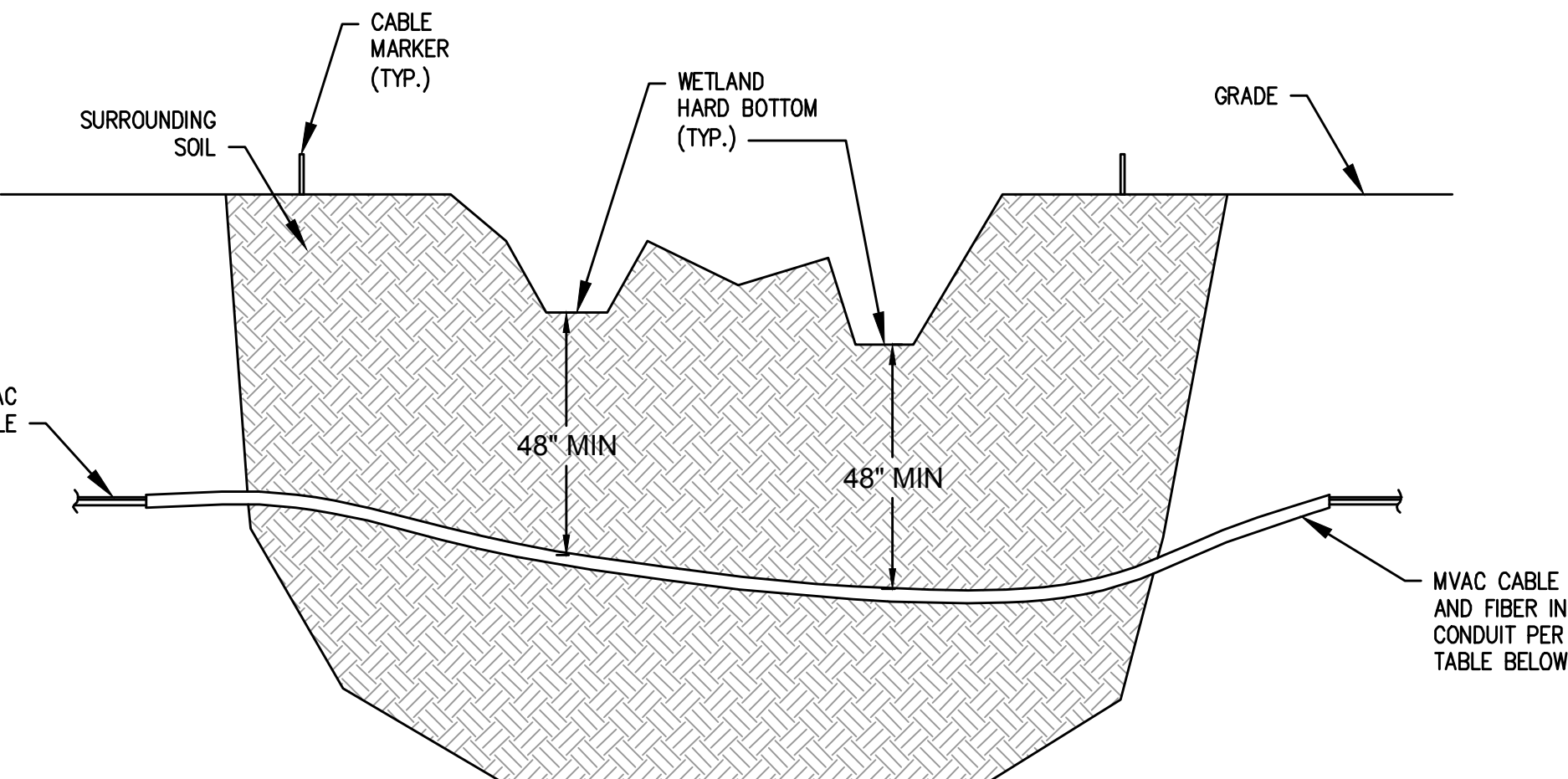
1 Typical MVAC Crossing Access Road Boring Detail NTS



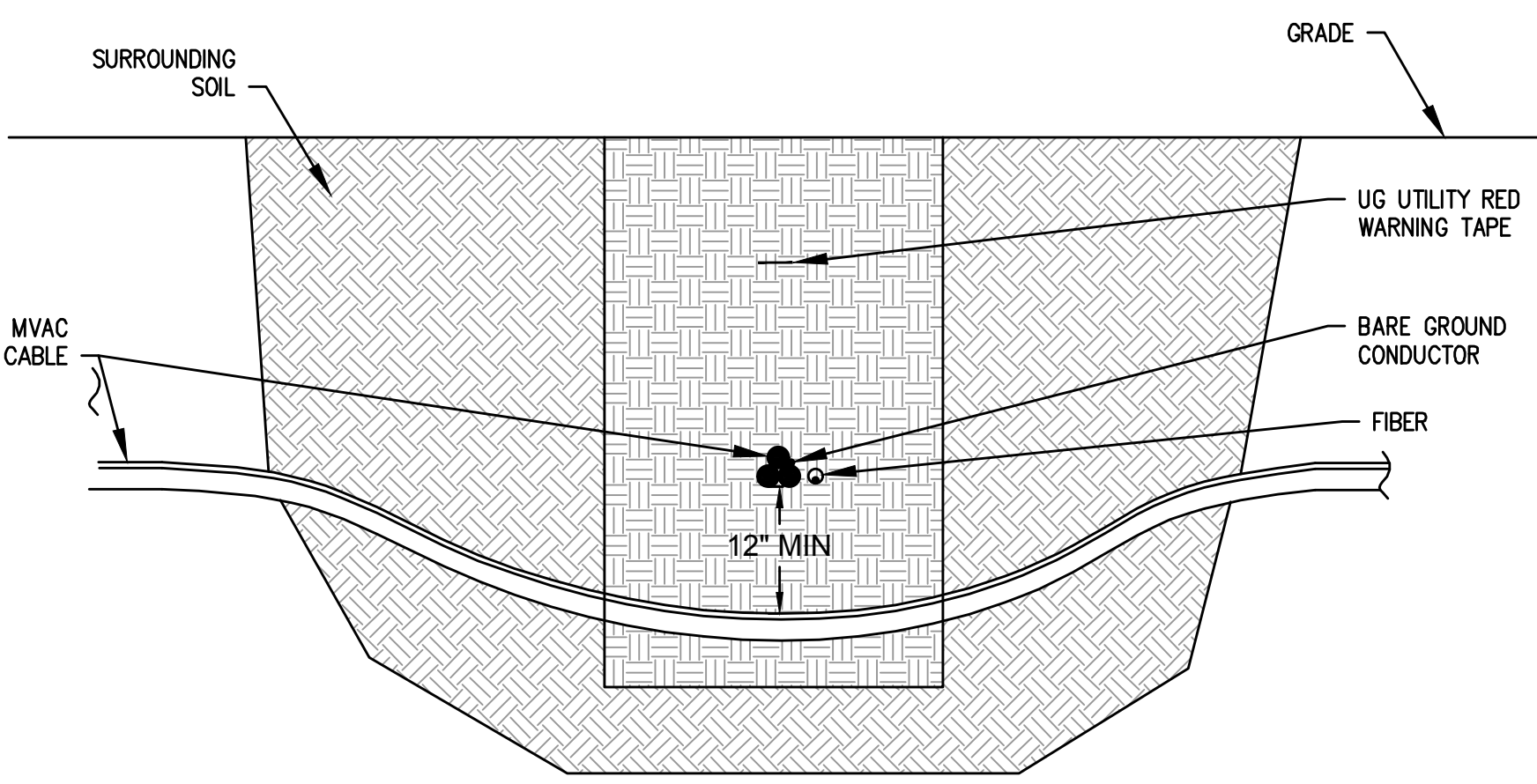
2 Typical MVAC Crossing County Road Boring Detail NTS



3 Typical MVAC Crossing State Highway Boring Detail NTS



4 Typical MVAC Crossing Wetland Boring Detail NTS



5 Typical MVAC Crossing MVAC Trench Detail NTS

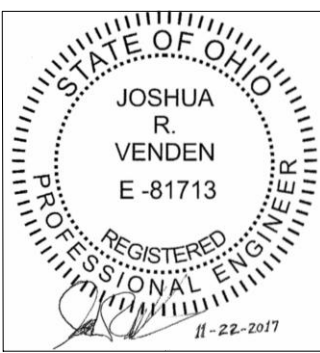
GENERAL NOTES

1. SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.
2. EXISTING PIPELINE LOCATIONS & DEPTHS TO BE DETERMINED BY OTHERS WITH ELECTRONIC MEANS IN ADVANCE OF CONSTRUCTION.
3. INSTALL EROSION CONTROL MEASURES BEFORE LAND DISTURBANCE BEGINS AROUND WETLANDS.
4. CROSS WETLANDS IN AREAS THAT MINIMIZE THE EXTENT AND DEGREE OF DISTURBANCE AND IS AS PERPENDICULAR TO BANKS AS POSSIBLE. FOLLOW STREAM AND WATERWAY CROSSING PERMIT REQUIREMENTS.
5. LOCATE ALL SOIL STOCKPILES OUTSIDE OF EMBANKMENTS OF WATER BODIES, DITCHES OR OTHER CONVEYANCE SYSTEMS, OR AS REQUIRED BY PERMITS.
6. DO NOT STORE EQUIPMENT SOLID WASTE, OR PETROCHEMICAL PRODUCTS BELOW THE ORDINARY HIGH WATER MARK OF ANY DITCH OR STREAM.
7. UPON COMPLETION OF THE WORK, ALL AREAS ON OR ALONG THE BANKS OF STREAMS MUST BE SEEDED TO NATIVE GRASS.
8. FOR BORE LOCATION WITH MULTIPLE CIRCUITS, SEE BORE SCHEDULE E.801 FOR REQUIRED BORE SPACING.

Westwood

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Fax (952) 937-5822 Eden Prairie, MN 55344
Tel/Fax (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.



Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

Revisions	DATE	DESCRIPTION
B	10/03/17	Issued for Procurement - Revised
C	10/19/17	60% plans
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F	11/22/17	Issued for Construction

Prepared for:



3900 E. White Ave
Clinton, IN 47842

Trishe Wind Ohio, LLC
c/o Starwood Energy Group, LLC
5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

Northwest
Ohio Wind
Project

Paulding County, Ohio

Medium Voltage & FO
Crossing Details

Issued For Construction

Array Date: 09/14/2017

Sheet: E.402

0007186_E400_MV Details and Crossing.dwg

CONDUIT TABLE						
MV CABLE SIZE	1/0 AWG	4/0 AWG	500 kCMIL	750 kCMIL	1000 kCMIL	1250 kCMIL
MIN. CONDUIT SIZE	6" HDPE DR17	6" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17

GENERAL NOTES - TRANSCANADA PIPELINE CROSSINGS

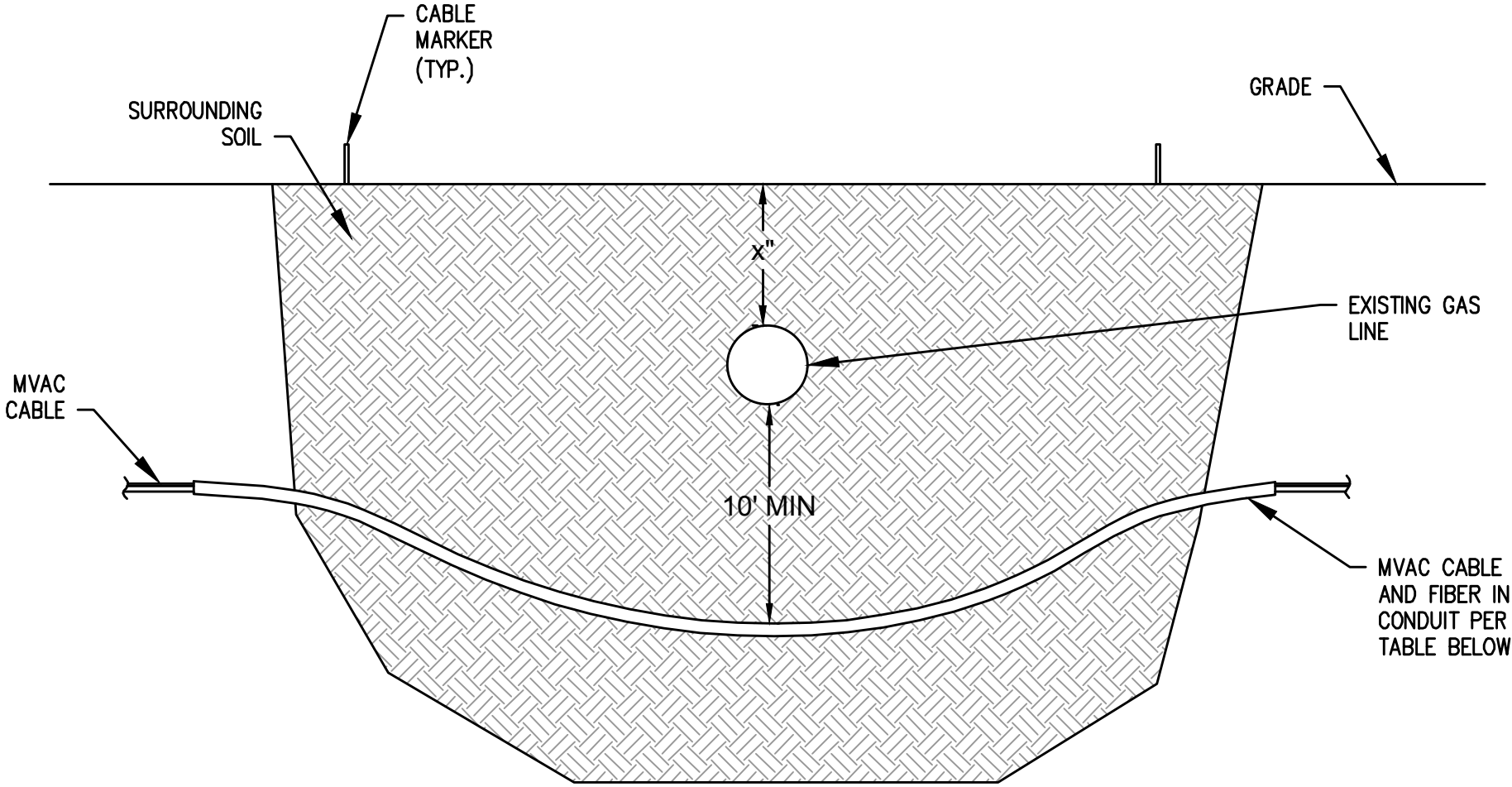
1. THE TOP SIDE OF ALL TRANSCANADA PIPELINES OR BURIED FACILITIES MUST BE EXPOSED BY HAND DIGGING OR HYDROVAC.
2. SIGHT HOLES MUST BE EXCAVATED AT A MIN. OF 5 FEET FROM THE SIDE (NEAREST TO THE DRILL) OF EACH BURIED FACILITY, AND PARALLEL TO THE EXISTING TRANSCANADA BURIED FACILITY.
3. BORE PITS REQUIRING SETUP AND STAGING OF EQUIPMENT SHALL BE OUTSIDE OF TRANSCANADA BURIED FACILITY RIGHT OF WAY.
4. THE NEW CROSSING FACILITY SHOULD MAINTAIN A CONTINUOUS DEPTH OR CONSISTENT PROFILE AND STRAIGHT HORIZONTAL ALIGNMENT ACROSS THE FULL LENGTH OF THE RIGHT OF WAY.
5. CROSSING MUST PASS TRANSCANADA FACILITY WITH A MIN. CLEARANCE OF 8 FEET.
6. CABLE CROSSING SHOULD BE CLEARLY AND PERMANENTLY MARKED ON EACH SIDE OF THE RIGHT OF WAY.
7. NO GROUND DISTURBANCE SHALL BE MADE WITHIN TRANSCANADA RIGHT OF WAY OR WITHIN 25 FEET, MEASURED AT RIGHT ANGLES, EXCEPT IN THE PRESENCE OF TRANSCANADA REPRESENTATIVE. TRANSCANADA WILL ARRANGE FOR A REPRESENTATIVE TO BE ONSITE WHEN WORK IS OCCURRING ON OR NEAR RIGHT OF WAY OR WITHIN 25 FEET OF PIPELINES. AFTER HOURS CALL 800-447-8066.
8. NOTICE OF AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION MUST BE PROVIDED. NORTHWEST OHIO WIND PROJECT MUST CONTACT TRANSCANADA REPRESENTATIVE TODD FLORY 419-438-0208.

GENERAL NOTES - PANHANDLE PIPELINE CROSSINGS

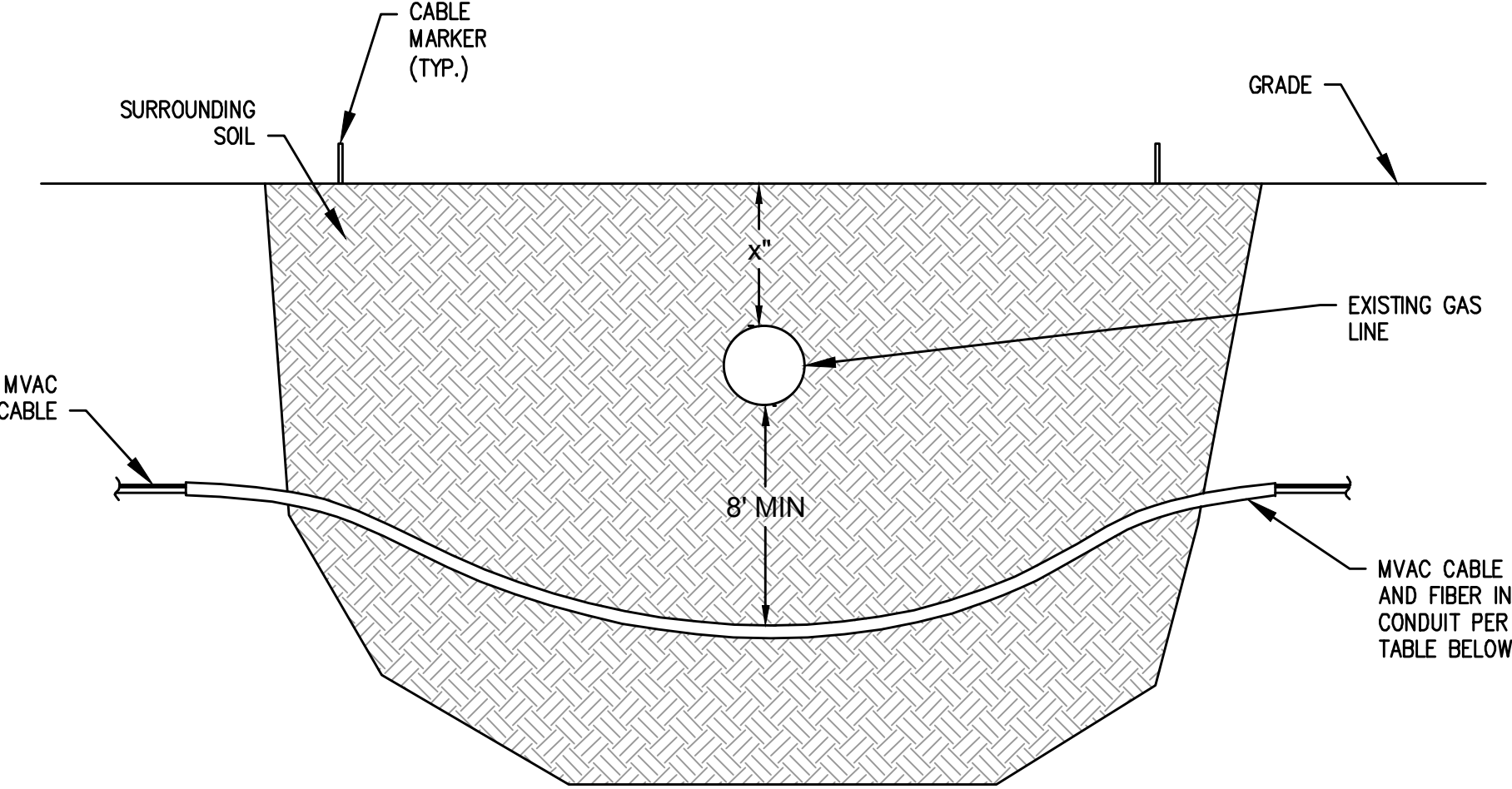
1. UNDERGROUND LINE CROSSINGS MUST CROSS AT OR NEAR 90° TO THE PIPELINE.
2. A MINIMUM OF 10' CLEARANCE SHALL BE MAINTAINED FOR THE WIDTH OF THE PIPELINE RIGHT OF WAY.
3. POTHOLES SHALL BE EXCAVATED ON THE APPROACH SIDE OF THE BORE. THE DEPTH OF THE POTHOLE SHALL BE TO A MINIMUM OF 2' BELOW THE BOTTOM OF THE PIPELINE AND IN THE DIRECT PATH OF THE APPROACHING BORE TOOL TO ALLOW VISUAL CONFIRMATION THAT THE BORE TOOL DOES NOT IMPACT THE PIPELINE.
4. POWER LINE CROSSINGS MUST BE CLEARLY MARKED AND IDENTIFIED ON EACH SIDE OF THE PIPELINE EASEMENT.

GENERAL NOTES - DOMINION PIPELINE CROSSINGS

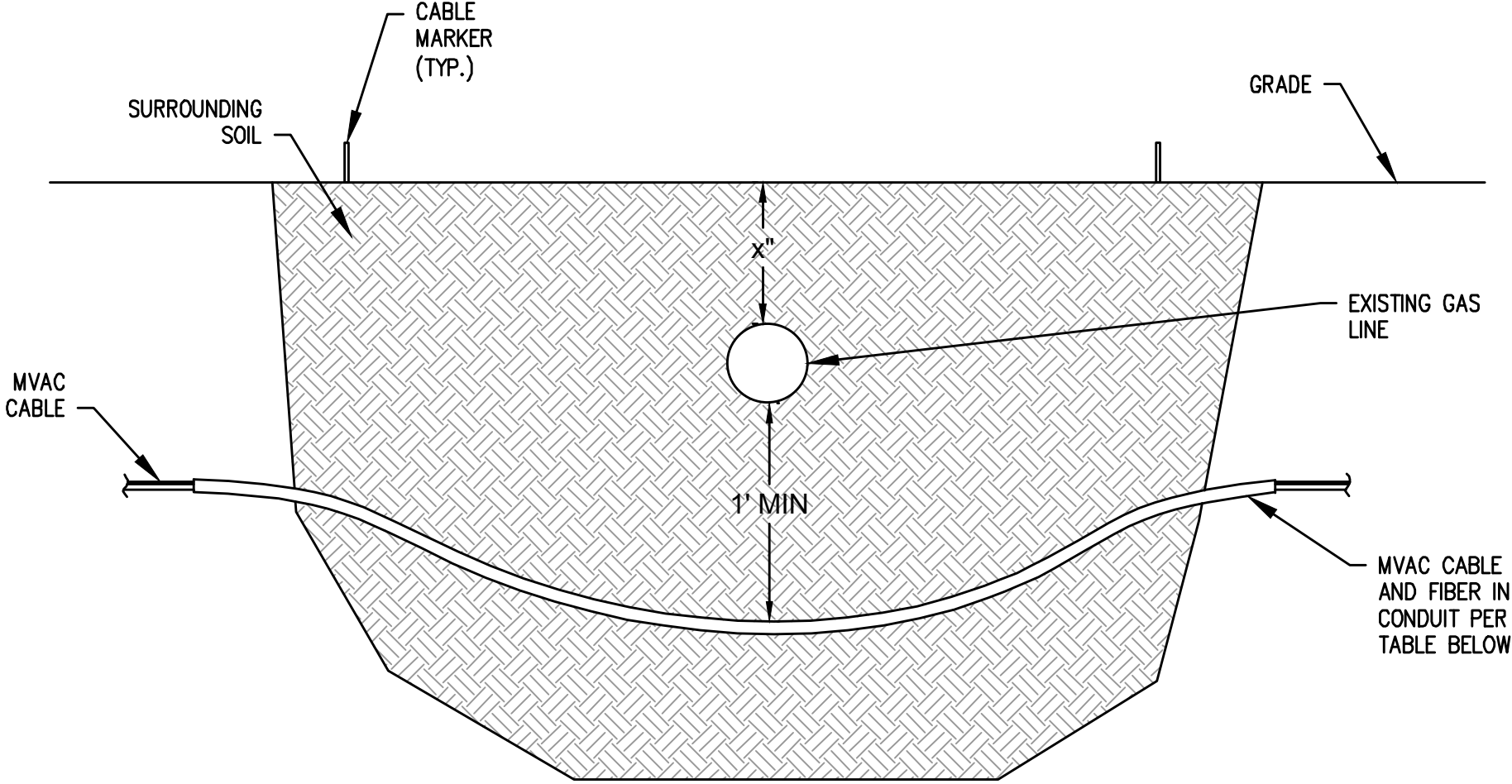
1. ALL BORING MUST MAINTAIN A MIN. OF 1 FOOT CLEARANCE AND POTHOLED.



2 Panhandle MVAC Crossing Gas Pipeline Boring Detail NTS



1 TransCanada MVAC Crossing Gas Pipeline Boring Detail NTS



3 Dominion MVAC Crossing Gas Pipeline Boring Detail NTS

GENERAL NOTES

1. SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION. SEE SHEET E500 FOR MORE INFORMATION.
2. PIPE LINE UTILITY MUST BE CONTACTED AT LEAST 72 HOURS PRIOR TO CONSTRUCTION UNDER THEIR UTILITY.
3. EXISTING PIPELINE LOCATIONS & DEPTHS TO BE DETERMINED BY OTHERS WITH ELECTRONIC MEANS IN ADVANCE OF CONSTRUCTION.
4. INSTALL EROSION CONTROL MEASURES BEFORE LAND DISTURBANCE BEGINS AROUND WETLANDS.
5. LOCATE ALL SOIL STOCKPILES OUTSIDE OF EMBANKMENTS OF WATER BODIES, DITCHES OR OTHER CONVEYANCE SYSTEMS, OR AS REQUIRED BY PERMITS.
6. DO NOT STORE EQUIPMENT SOLID WASTE, OR PETROCHEMICAL PRODUCTS BELOW THE ORDINARY HIGH WATER MARK OF ANY DITCH OR STREAM.
7. UPON COMPLETION OF THE WORK, ALL AREAS ON OR ALONG THE BANKS OF STREAMS MUST BE SEEDED TO NATIVE GRASS.
8. FOR BORE LOCATION WITH MULTIPLE CIRCUITS, SEE BORE SCHEDULE E.801 FOR REQUIRED BORE SPACING.

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Northwest
Ohio Wind
Project

Paulding County, Ohio

Medium Voltage & FO
Crossing Details (2)

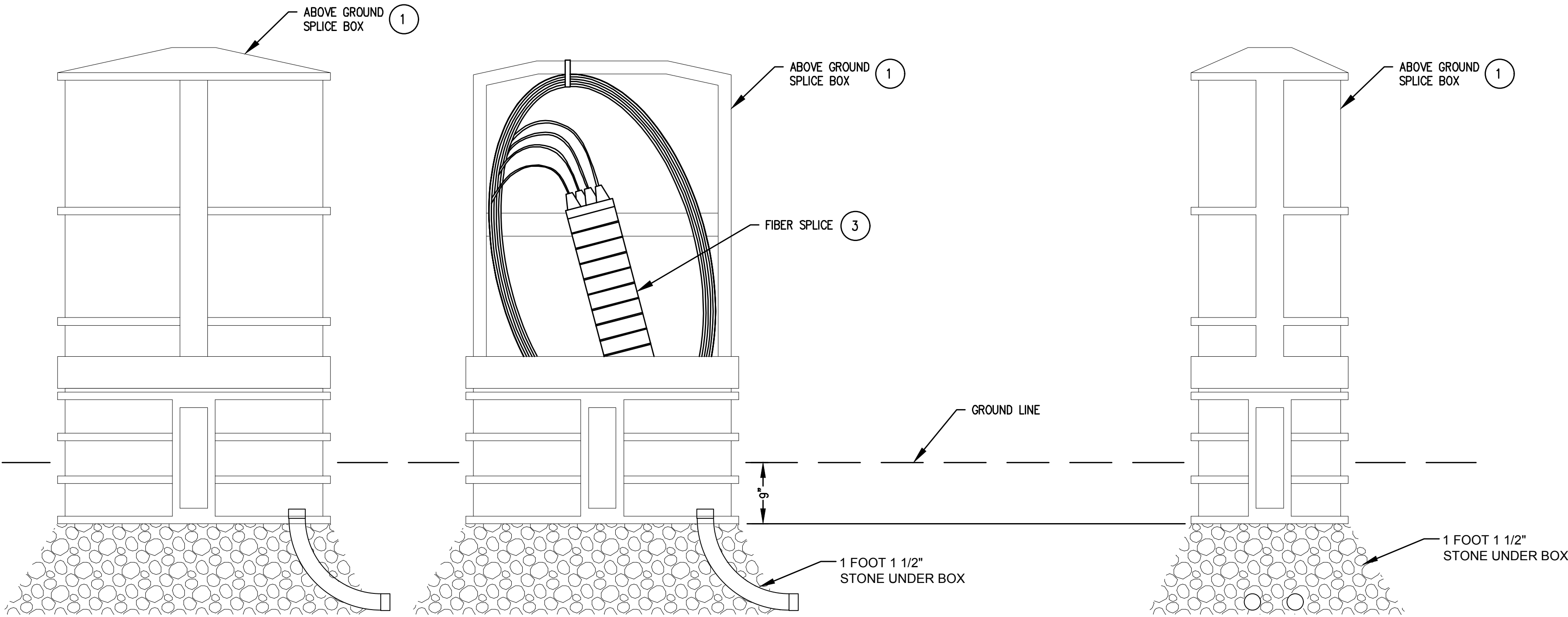
Issued For Construction

Array Date: 09/14/2017

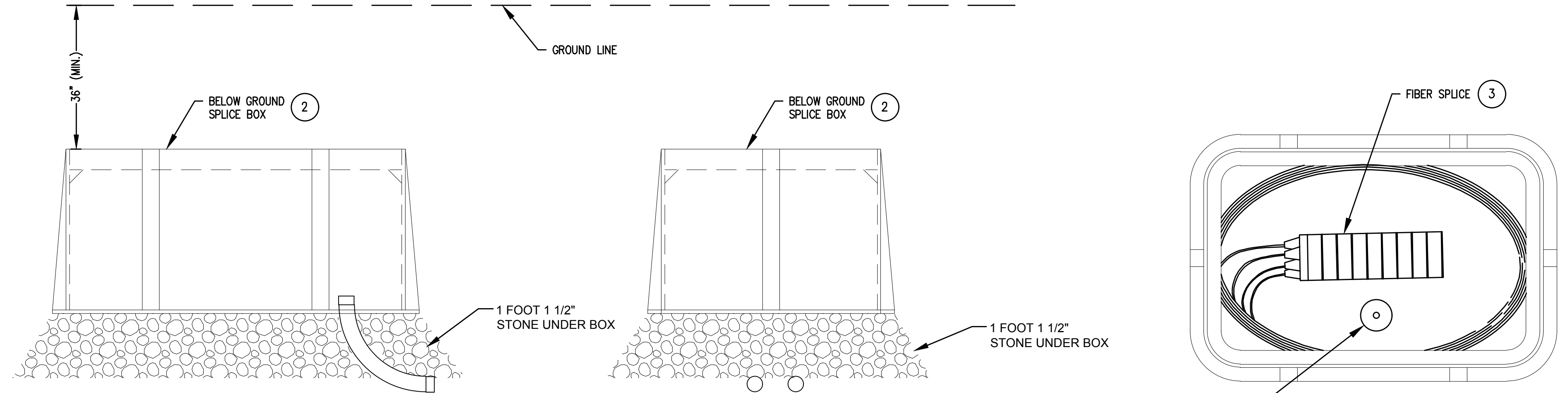
Sheet: E.403

0007186_E400_MV Details and Crossing.dwg

CONDUIT TABLE						
MV CABLE SIZE	1/0 AWG	4/0 AWG	500 kCMIL	750 kCMIL	1000 kCMIL	1250 kCMIL
MIN. CONDUIT SIZE	6" HDPE DR17	6" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17



1 Above Ground Splice Box
NTS



2 Below Ground Splice Box
NTS

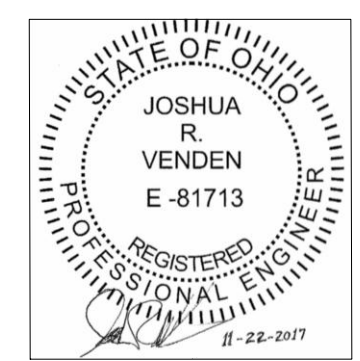
MATERIAL LIST					
ITEM	QTY	UNIT	DESCRIPTION	MFG.	PART #
1	A/R	EA	ABOVE GROUND FIBER OPTIC SPLICE BOX	X	
2	A/R	EA	BELOW GRADE FIBER SPLICE BOX 24"x36"PD BOX	X	
3	A/R	EA	FIBER SPLICE ENCLOSURE WITH 4 PORT END-PLATE KIT	X	
4	A/R	EA	UNDERGROUND UTILITY MARKER BALL LOCATOR	X	

GENERAL NOTES

1. LEAVE EXTRA 100 FEET OF CABLE IN SPLICE BOX.
2. DO NOT EXCEED THE MINIMUM BEND RADIUS OF 6 INCHES UNDER LOAD AND 4 INCHES WITH NO LOAD.
3. SIZE OF GROMMETS AND CLOSURE ACCESSORIES TO MEET CABLE SIZE AND QUANTITY.
4. BRING CABLE INNER DUCT INTO SPLICE BOX 3 INCHES ABOVE GRAVEL FILL.
5. SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.
6. FILL BOTTOM OF BOXES WITH 9 INCHES PEA GRAVEL TO PREVENT RODENT ENTRY.
7. TAPE OVER BURIED LID SCREWS.

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Northwest
Ohio Wind
Project
Paulding County, Ohio

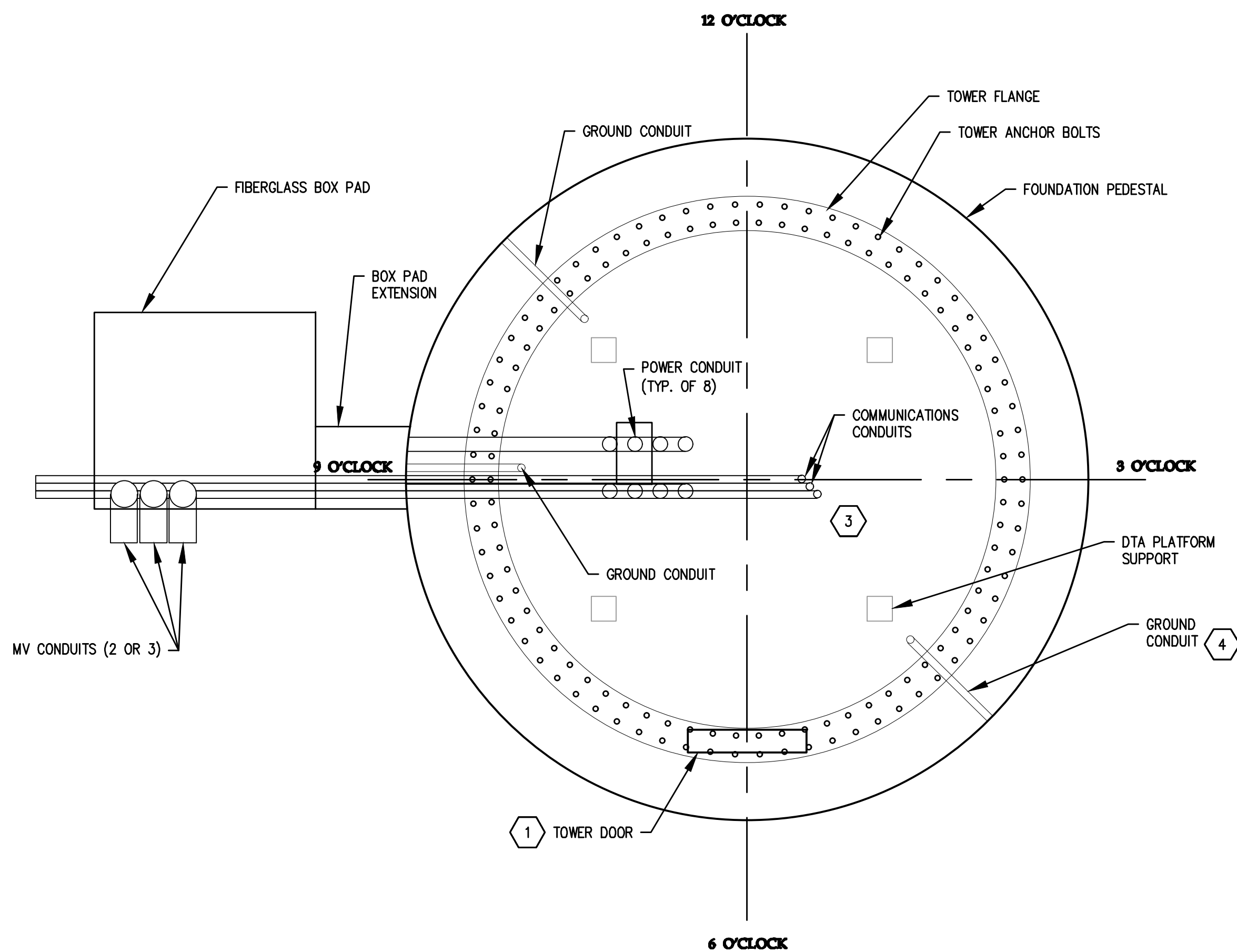
Fiber Splice Box

Issued For Construction

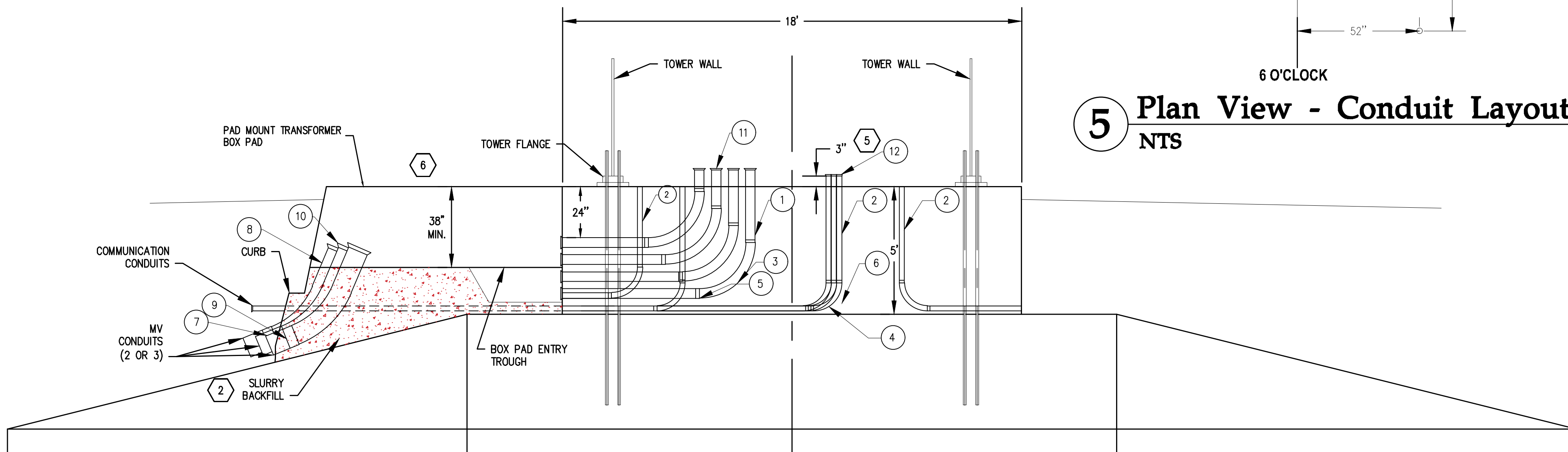
Array Date: 09/14/2017

Sheet: E.404

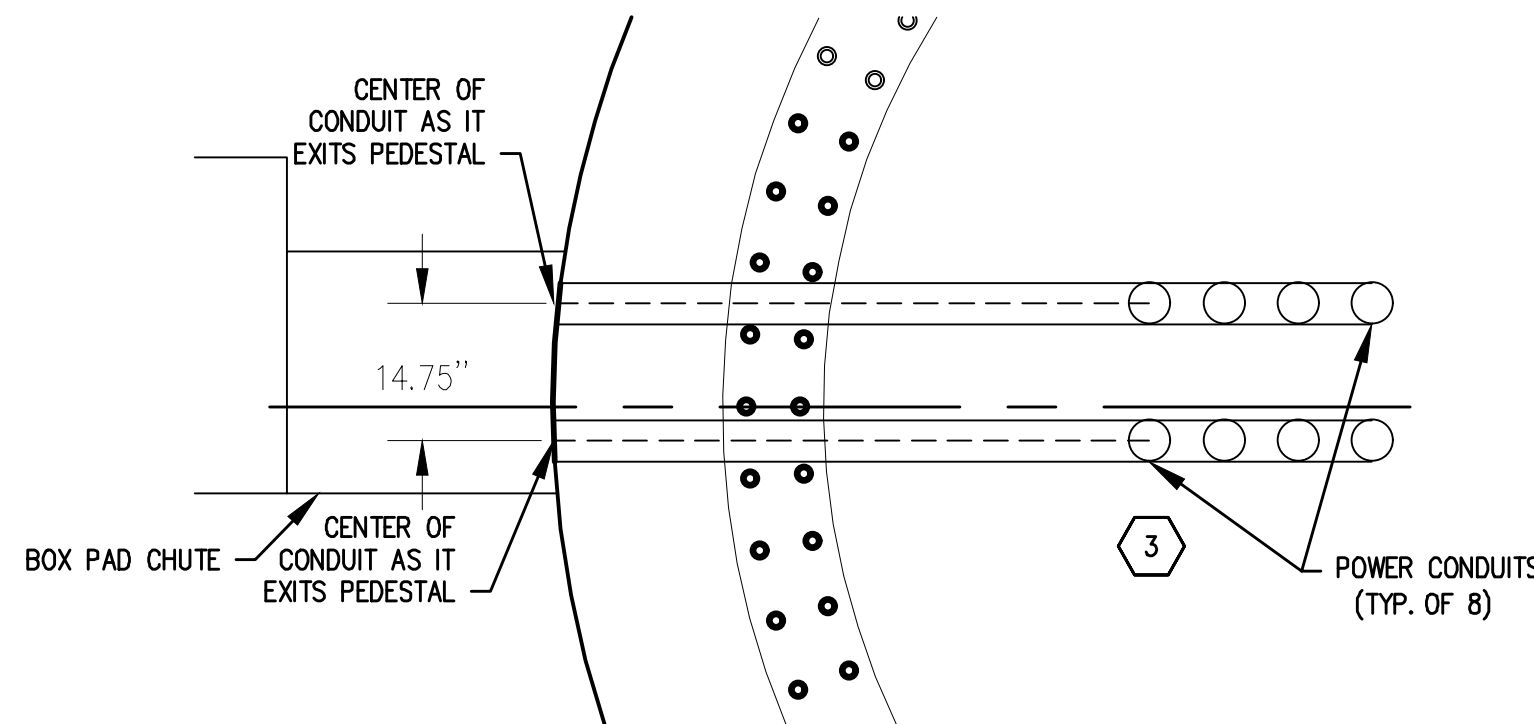
0007186_E400_MV Details and Crossing.dwg



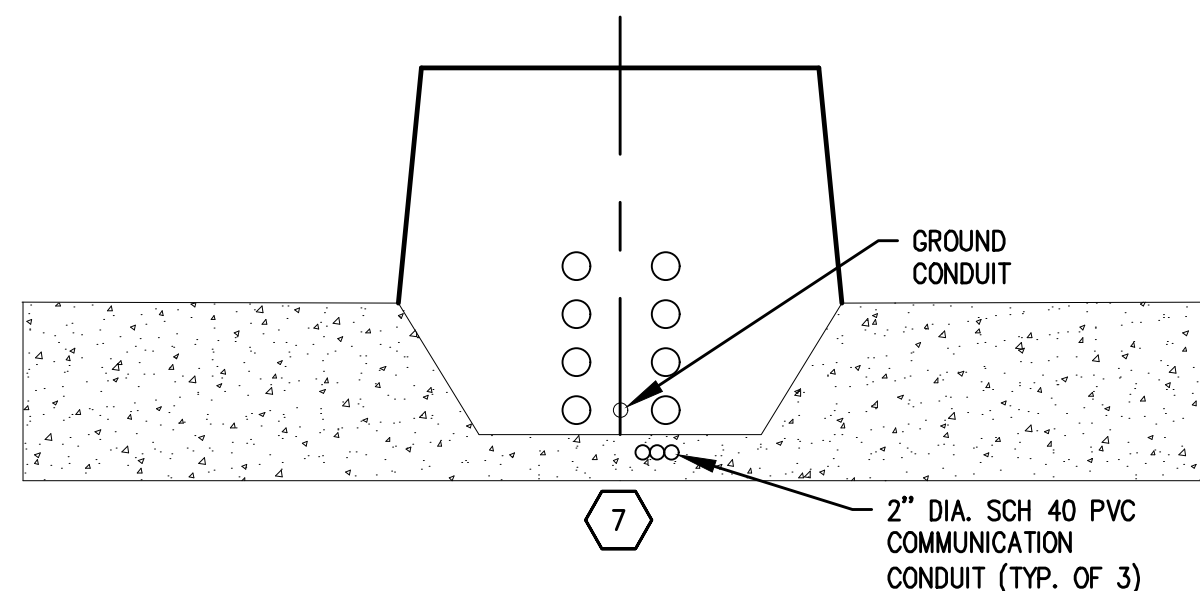
1 Plan View - Turbine Conduits
NTS



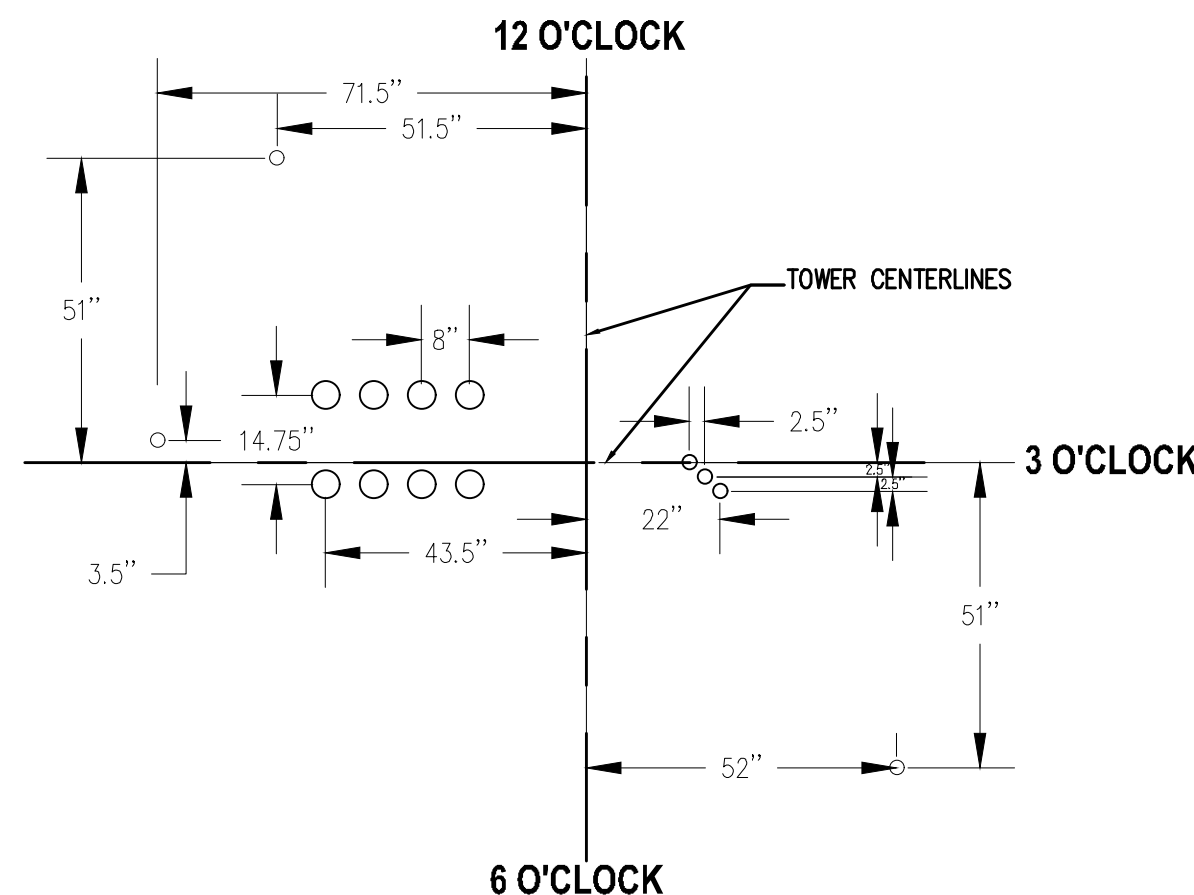
2 Section View - Foundation Elevation
NTS



3 Power Conduit Exit From Pedestal
NTS



4 Power Conduit Exit From Pedestal
NTS



5 Plan View - Conduit Layout
NTS

MATERIAL LIST

ITEM	QTY	UNITS	DESCRIPTION		
1	55	FT	4" PVC CONDUIT SCH. 40		
2	100 OR 75	FT	2" PVC CONDUIT SCH. 40		
3	8	EA	4" PVC CONDUIT SCH. 40, 90 DEGREE SWEEP, 24" RADIUS		
4	5 OR 6	EA	2" PVC CONDUIT SCH. 40, 90 DEGREE SWEEP, 12" RADIUS		
5	16	EA	4" PVC COUPLING		
6	10 OR 12	EA	2" PVC COUPLING		
7	12	FT	8" PVC CONDUIT SCH. 40		
8	3	EA	8" PVC CONDUIT SCH. 40, 45 DEGREE SWEEP, 36" RADIUS		
9	2 OR 3	EA	8" PVC COUPLING		
10	2 OR 3	EA	8" PVC BELL END, SCH. 40		
11	16	EA	4" PVC BELL END, SCH. 40		
12	6	EA	2" PVC BELL END, SCH. 40		

GENERAL NOTES

1. PREVENT CONCRETE FROM ENTERING ALL OPEN CONDUIT ENDS BY INSTALLATION OF CAPS.
2. ALL SPARE CONDUITS SHOULD BE SEALED WITH FLAME RETARDED FOAM AND CAPPED. ALL FLOATING CONDUCTORS IN CONDUIT SHALL BE ENCAPSULATED IN FLAME RETARDANT FOAM TO PREVENT RODENT AND MOISTURE DAMAGE. FOAM SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER.
3. ALL POWER AND CONTROL CONDUIT ENDS TO BE FITTED WITH BELL ENDS.
4. LOW VOLTAGE POWER FROM PAD MOUNT TRANSFORMER TO MET STATION AT WTG-04 ONLY.

KEY NOTES

- 1 CENTER OF TOWER DOOR AT 6 O'CLOCK POSITION (FACING ACCESS ROAD).
- 2 SLURRY BACKFILL - 2000 PSI, 8 INCH SLUMP. FILL TO 2 INCHES ABOVE BOX PAD FLANGE.
- 3 RUN ONE SET PHASE CONDUCTORS A,B,C, AND NEUTRAL IN EACH OF THE EIGHT 4 INCH CONDUITS.
- 4 SEE TURBINE GROUNDING SHEET E.411 FOR GROUNDING INSTRUCTIONS.
- 5 THE CONDUITS SHALL BE TRIMMED TO WITHIN 3 INCH OF THE TOP OF THE CONCRETE SURFACE NO LATER THAN 2 DAYS AFTER THE INSTALLATIONS OF CONCRETE. DEBUR THE ENDS OF THE CONDUIT. SLOPE ALL CONDUIT TOWARDS THE OUTSIDE OF THE FOUNDATION AT APPROXIMATELY A 2% SLOPE.
- 6 THE TRANSFORMER BOX PAD SHALL BE SET SO THAT THE FACE OF THE EXTENSION IS FLUSH WITH THE TOP EDGE OF THE PEDESTAL.
- 7 COMMUNICATION CONDUITS INSTALLED IN SLURRY BACKFILL. TWO COMMUNICATION CONDUITS TYPICALLY REQUIRED. THREE CONDUITS REQUIRED AT TURBINES 07, 15, 22, 25, 28, 33, 34 AND 49.

Westwood

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Designed: JRV

Checked: AMS

Drawn: JMC, JRG

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Greenwich, CT 06831

**Northwest
Ohio Wind
Project**
Paulding County, Ohio

**Below Grade Work GE
2.5-116 Turbines**

Issued For Construction

Array Date: 09/14/2017

Sheet: E.410

0007186_E400_Turbine Conduit and Gnd.dwg



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Checked: AMS

Drawn: JMC, JRG

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Northwest Ohio Wind Project

Paulding County, Ohio

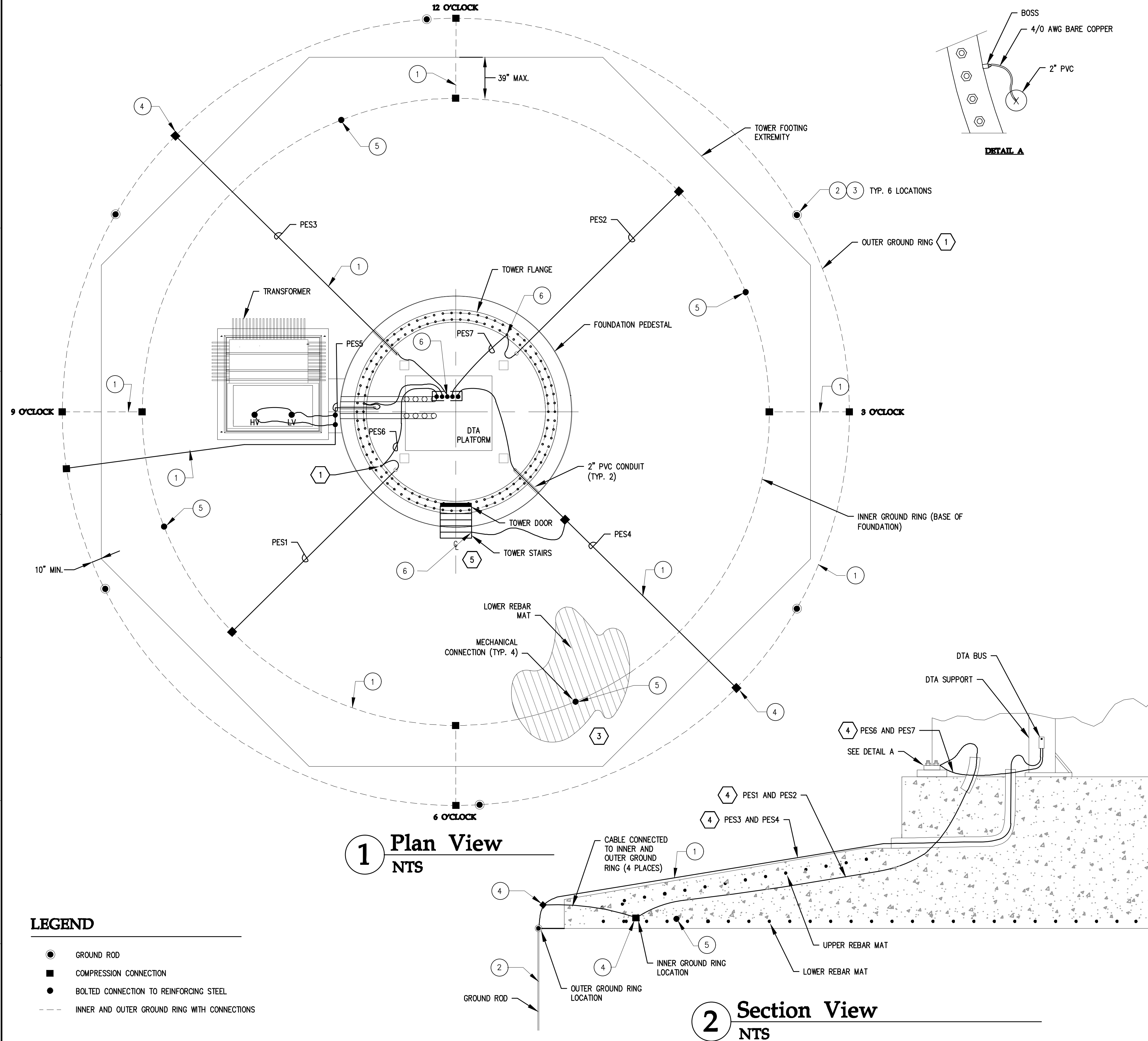
Turbine Grounding -
Spread Foundation GE
2.5-116

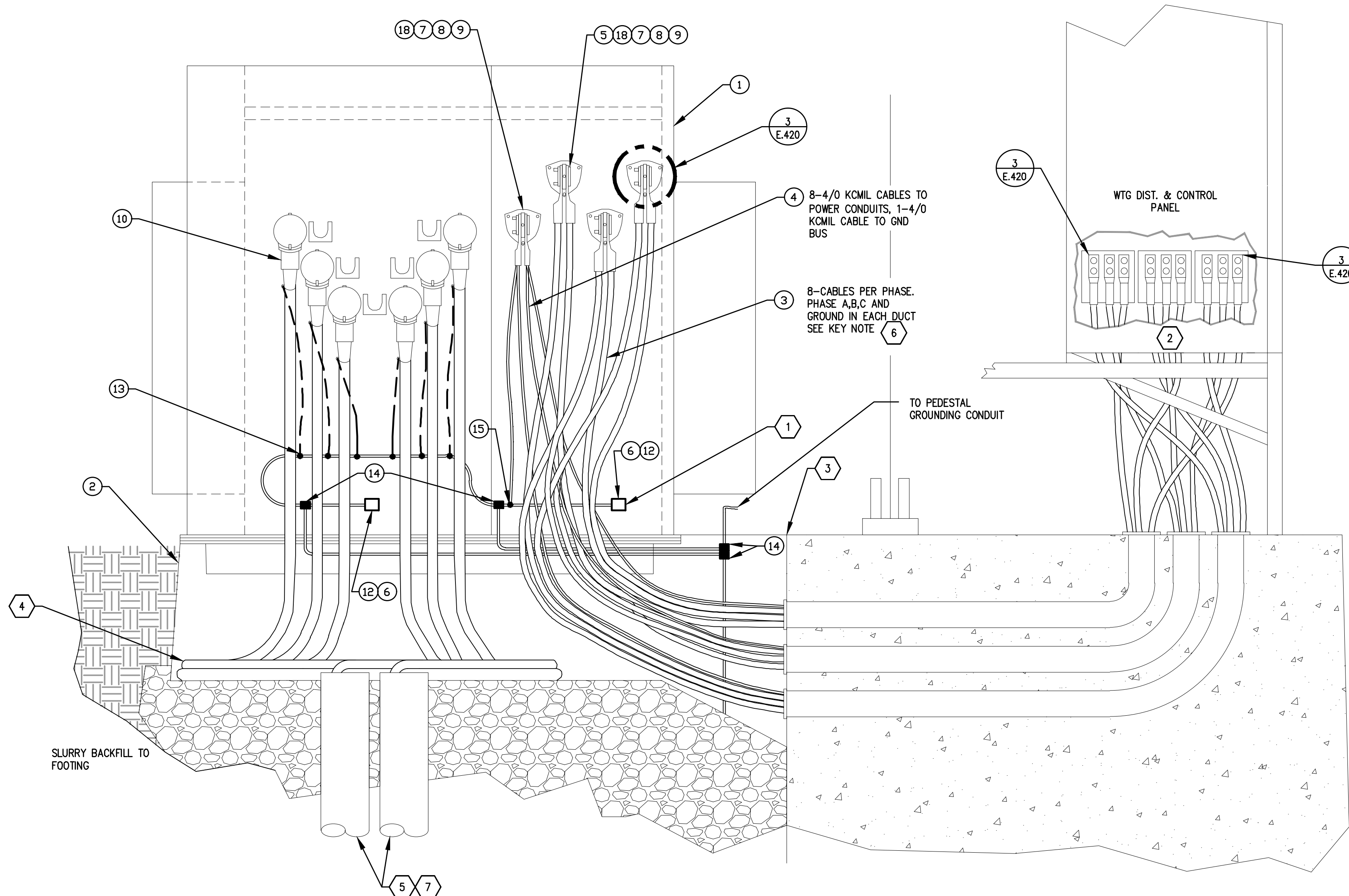
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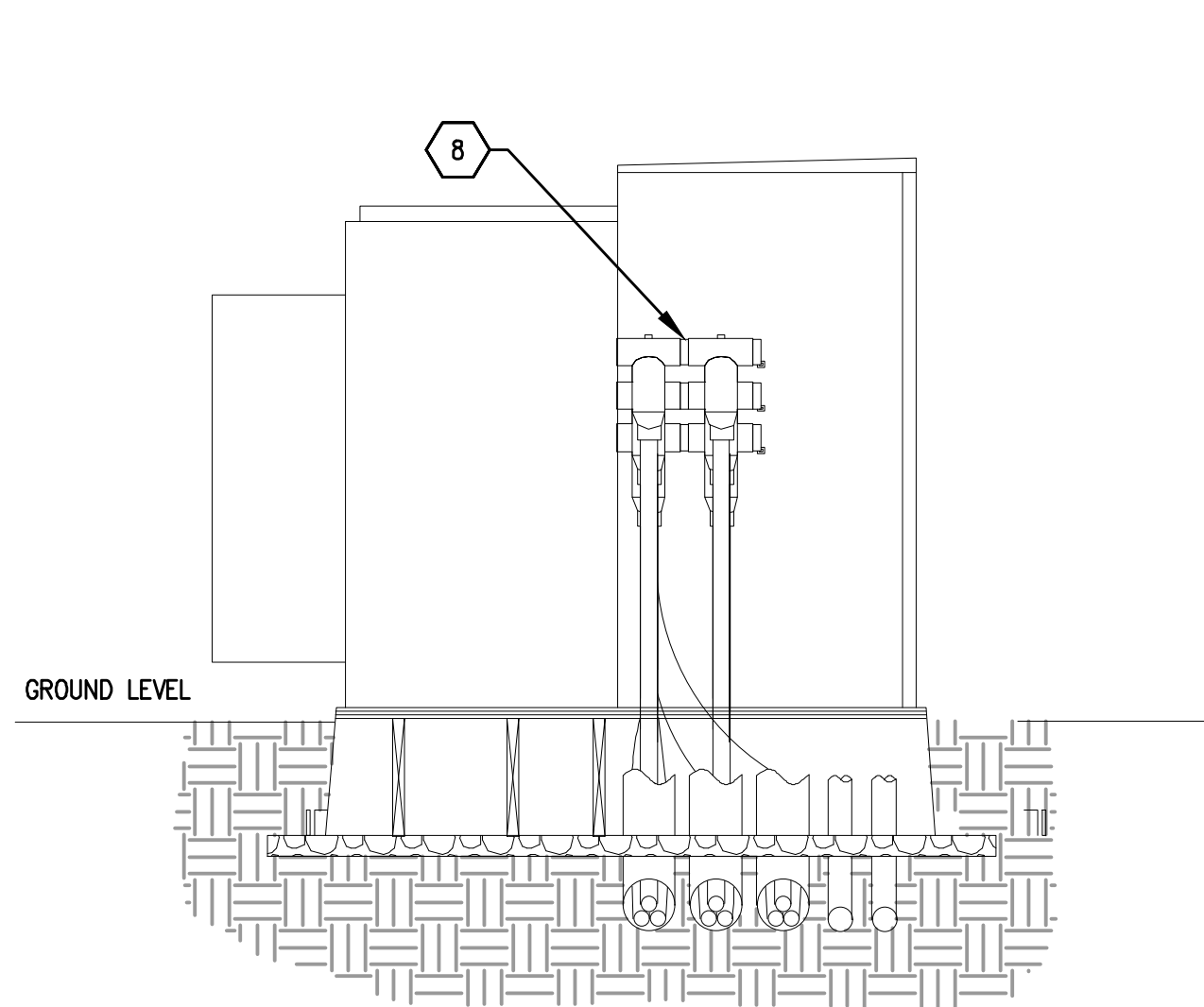
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0007186_E400_Turbine Conduit and Gnd.dwg

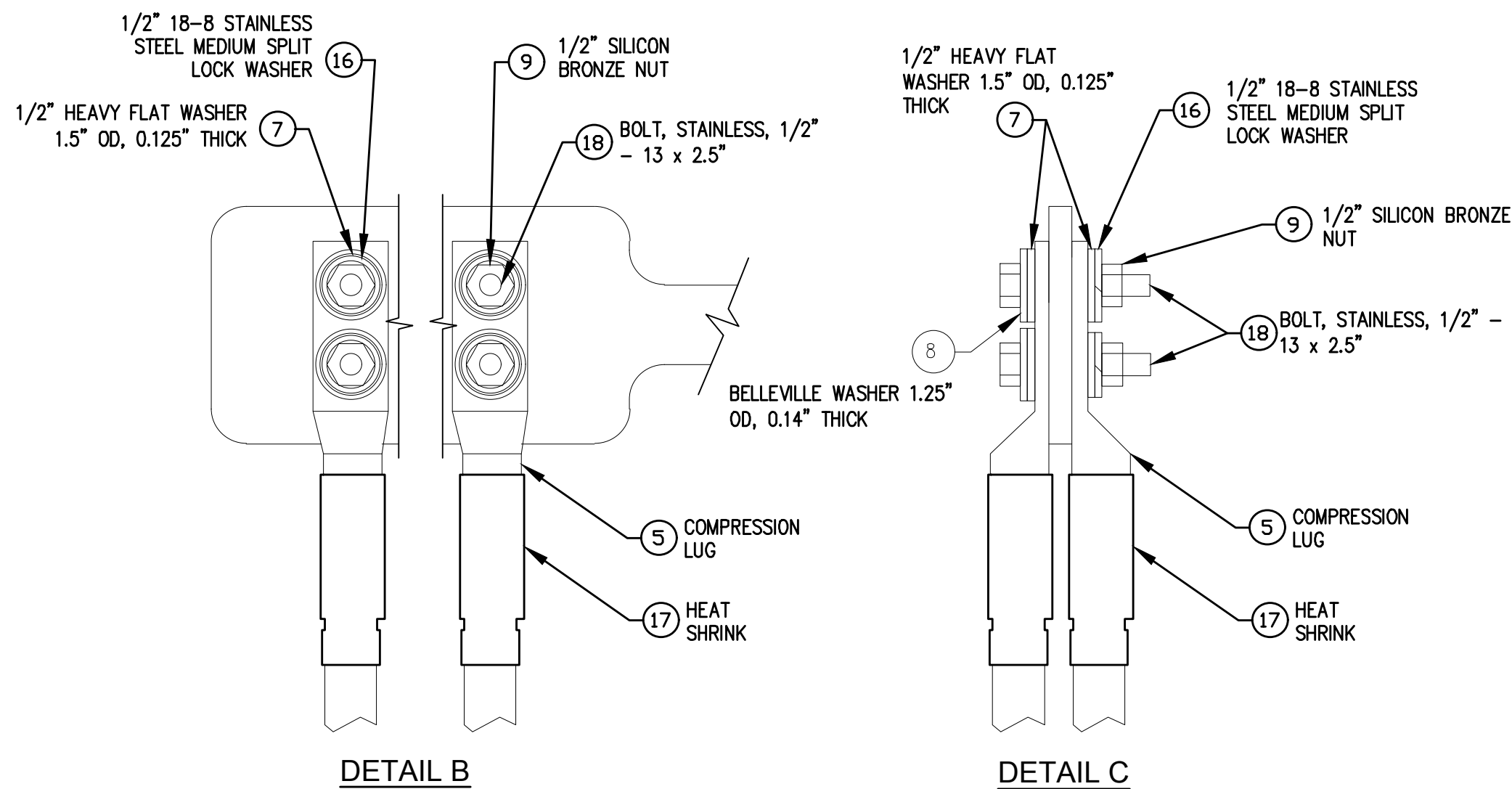




1 Step-Up Transformer - Front View
NTS



2 Step-Up Transformer - Side View
NTS



3 Termination Detail
NTS

MATERIAL LIST

ITEM	QTY	UNIT	DESCRIPTION	MFG.
1	1	EA	PAD MOUNTED TRANSFORMER, 2750kVA	-
2	1	EA	BOX PAD 90 INCH X 69 INCH X 36 INCH	-
3	660	FT	1000 KCMIL AL STR. CABLE, 2 KV, RHW-2	-
4	245	FT	4/0 AWG BARE CU STR. CABLE, S.D.	-
5	64	EA	CONNECTOR, CP, AL, 2H LUG 1000 KCMIL (TURBINE AND TRANSFORMER)	-
6	4	EA	1/2"-13 X 2-1/2" 316 STAINLESS STEEL HEX CAP SCREW	-
7	128	EA	1/2" 18-8 STAINLESS STEEL SMALL OD EXTRA THICK FLAT WASHER	-
8	64	EA	1/2" 18-8 S/S BELLEVILLE WASHER 4700 LBS	-
9	64	EA	1/2-13 HEAVY HEX NUTS, SILICON BRONZE	-
10a	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1250 MCM	-
10b	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1000 MCM	-
10c	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 750 MCM	-
10d	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 500 MCM	-
10e	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 4/0 AWG	-
10f	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1/0 AWG	-
11	.25	EA	CABLE CLEANING KIT, SPECIALIZED PADS CLEAN CABLE INSULATION, COMES W/ 3EA SATURATED PADS/KIT & CASE	-
12	2	EA	CONNECTOR, CP, CU, 2H LUG	-
13	6	EA	CONNECTOR, CP, CU GRD. TAP "C", GROUND TAP "C", HYTAP 2/0 TO #1 AWG CU RUN TO TAP #3-#4 STR CU	-
14	4	EA	CONNECTOR, CP, CU GRD. TAP "C", 7#6 CCS RUN TO 7#6 CCS TAP. CU WIRE/BAR	-
15	1	EA	CONNECTOR, CP, TIN PLATED "C", HYTAP, 2 AWG - 4/0 RUN TO 2 AWG- 4/0 TAP	-
16	64	EA	1/2" 18-8 STAINLESS STEEL MEDIUM SPLIT LOCK WASHER	-
17	A/R	FT	HEAT SHRINK, 1000V	-
18	64	EA	BOLT, STAINLESS STEEL, 1/2" - 13 X 2.5"	-

GENERAL NOTES

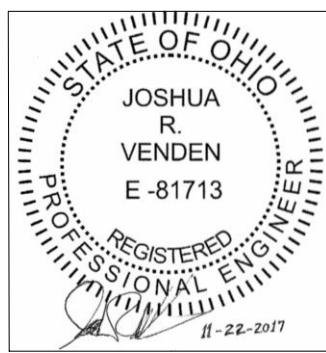
- PREVENT CONCRETE FROM ENTERING ALL OPEN CONDUIT ENDS.
 - ALL SPARE CONDUITS SHOULD BE SEALED WITH FLAME RETARDANT FOAM AND CAPPED. ALL FLOATING CONDUCTORS IN CONDUIT SHALL BE ENCAPSULATED IN FLAME RETARDANT FOAM TO PREVENT RODENT AND MOISTURE DAMAGE. FOAM SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER.
 - MARK EACH CIRCUIT WITH DESTINATION.
 - MARK EACH CABLE
- | PHASE | 34.5 KV | SECONDARY |
|-------|---------|-----------|
| A | RED | BROWN |
| B | WHITE | ORANGE |
| C | BLUE | YELLOW |

KEY NOTES

- BOND 4/0 AWG COPPER GROUND BUS TO TRANSFORMER GROUNDING PAD. CONNECT TO GROUND GRID WITH 4/0 AWG COPPER.
- CONNECT GROUNDING CONDUCTORS TO GROUND BUS IN WTG DIST. PANEL
- TOP OF PEDESTAL AND BOX PADS TO BE AT SAME ELEVATION. CAULK THE JOINT BETWEEN THE BOXPAD AND PEDESTAL.
- SLACK COIL (FOR ONE EXTRA TERMINATION)
- SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.
- ALL TURBINE POWER CABLES SHALL BE EQUAL IN LENGTH.
- EXTEND ELECTRICAL CONDUITS FOR MV CABLE AND GROUNDS INTO NATIVE SOIL BEDDING WITH 45 AND 90 DEG SWEEPS AS REQUIRED.
- ELBOW TO ELBOW (PIGGYBACK) CONNECTOR KIT REQUIRED.

Westwood

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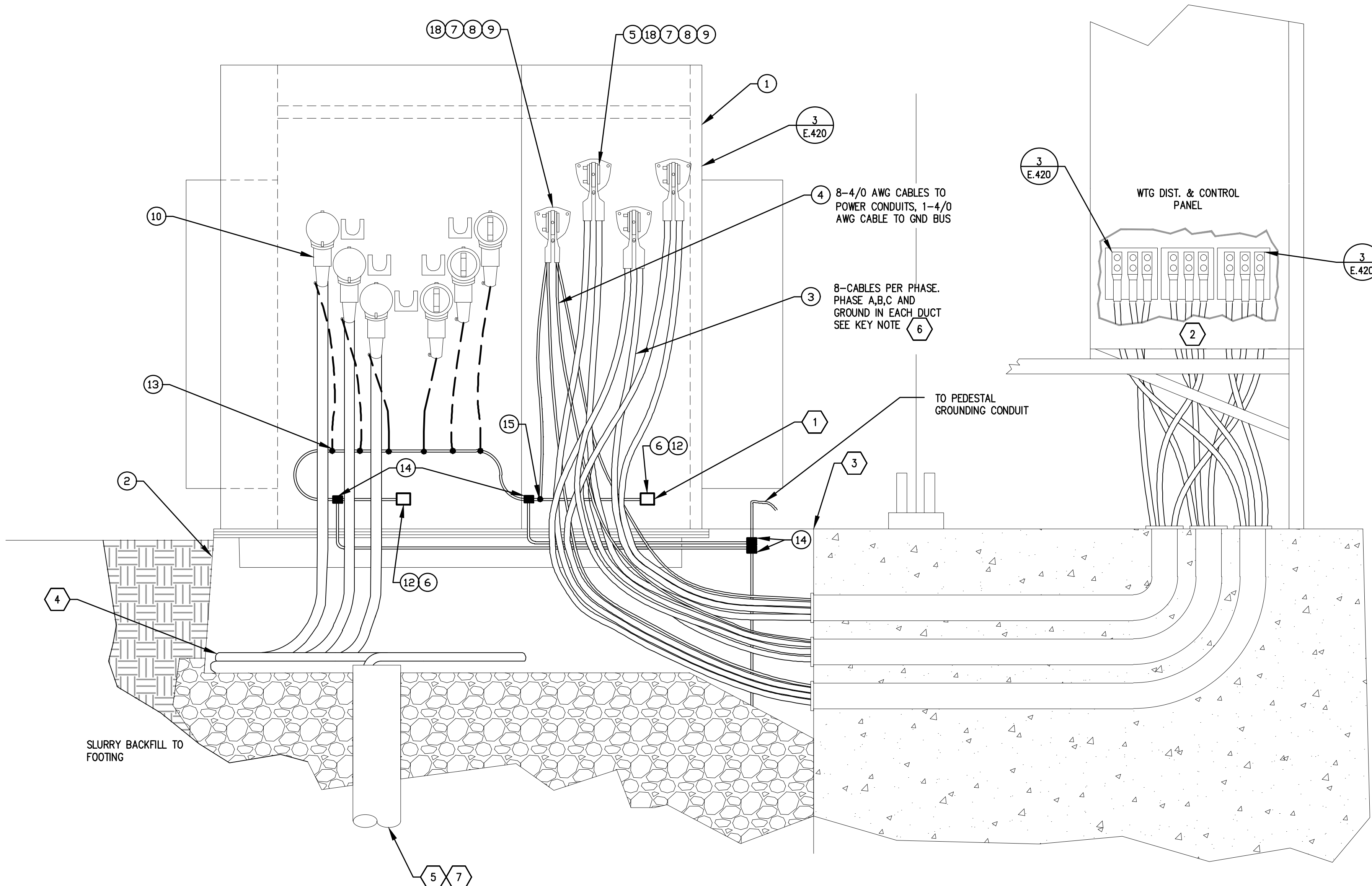
**Padmount Transformer
Feedthrough**

Issued For Construction

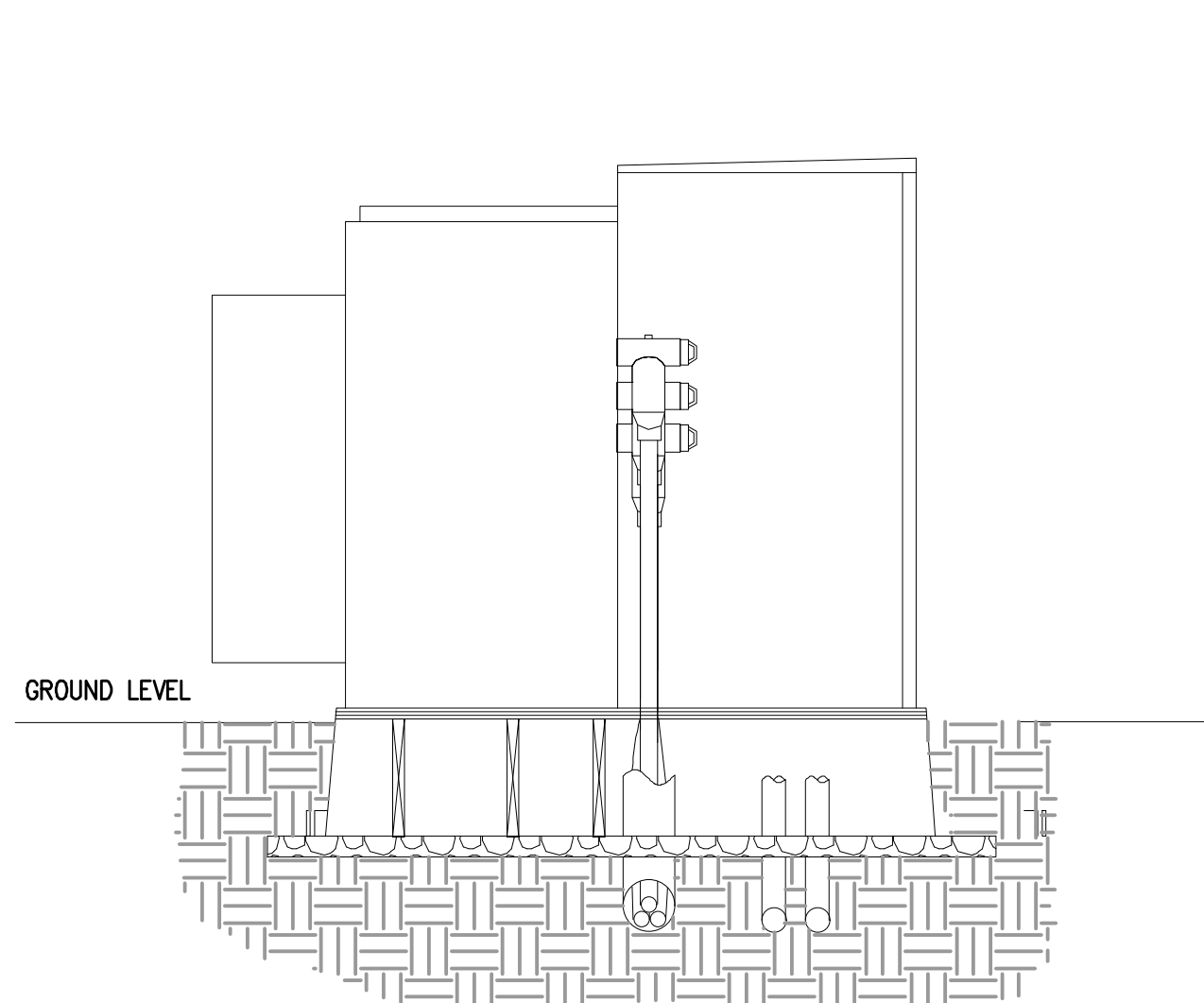
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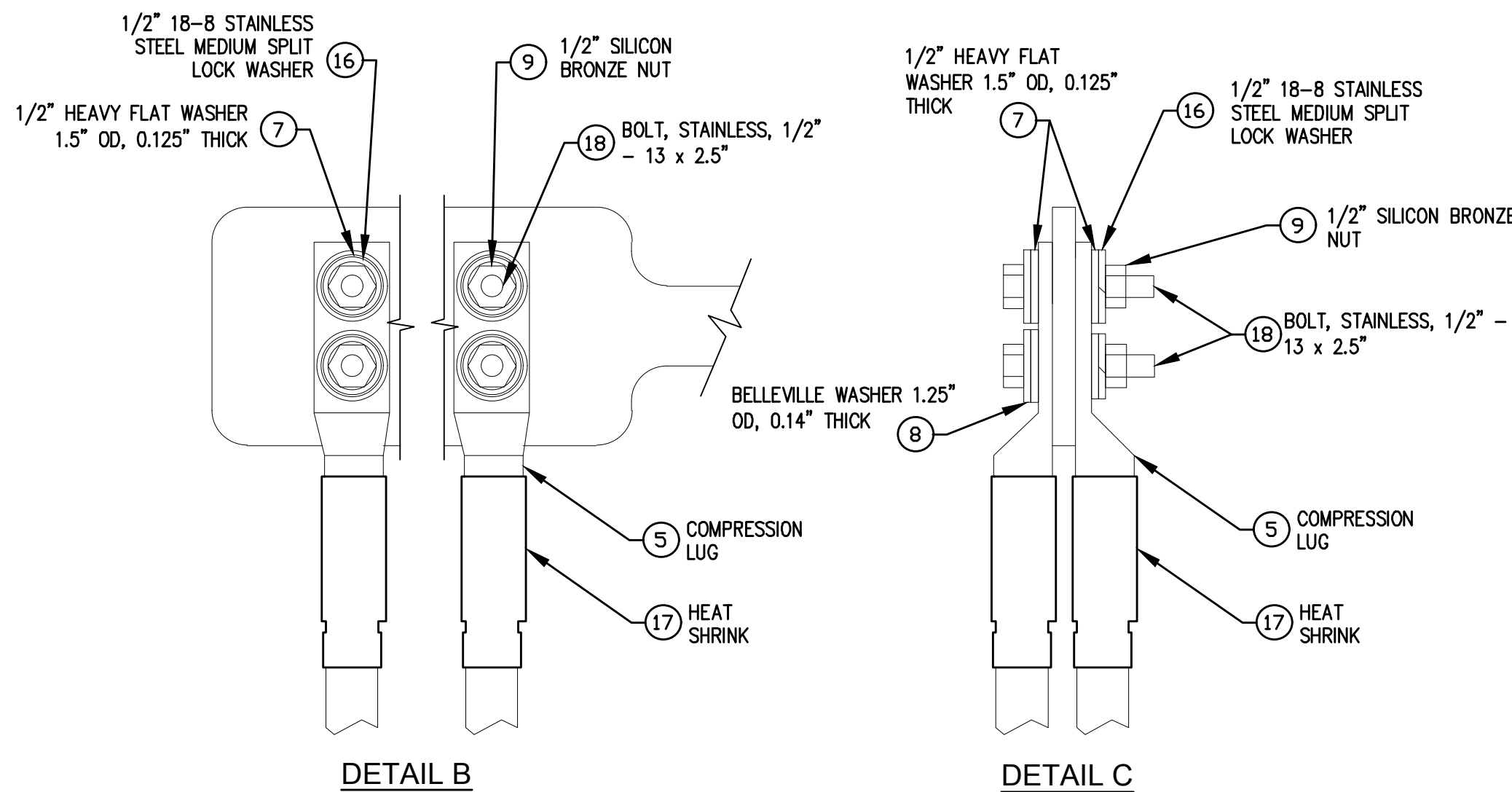
0007186_E400_Padmount Transformer Details.dwg



1 Step-Up Transformer - Front View
NTS



2 Step-Up Transformer - Side View
NTS



3 Termination Detail
NTS

MATERIAL LIST

ITEM	QTY	UNIT	DESCRIPTION	MFG.
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2	1	EA	BOX PAD 90 INCH X 69 INCH X 36 INCH	-
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4	245	FT	4/0 AWG BARE CU STR. CABLE, S.D.	-
5	64	EA	CONNECTOR, CP, AL, 2H LUG 1000 KCMIL (TURBINE AND TRANSFORMER)	-
6	4	EA	1/2"-13 X 2-1/2" 316 STAINLESS STEEL HEX CAP SCREW	-
7	128	EA	1/2" 18-8 STAINLESS STEEL SMALL OD EXTRA THICK FLAT WASHER	-
8	64	EA	1/2" 18-8 S/S BELLEVILLE WASHER 4700 LBS	-
9	64	EA	1/2-13 HEAVY HEX NUTS, SILICON BRONZE	-
10a	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1250 MCM	-
10b	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1000 MCM	-
10c	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 750 MCM	-
10d	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 500 MCM	-
10e	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 4/0 AWG	-
10f	3	EA	600A DEAD BREAK CONNECTOR WITH SEALING KIT, 35 KV 1/0 AWG	-
11	.25	EA	CABLE CLEANING KIT, SPECIALIZED PADS CLEAN CABLE INSULATION, COMES W/ 3EA SATURATED PADS/KIT & CASE	-
12	2	EA	CONNECTOR, CP, CU, 2H LUG	-
13	6	EA	CONNECTOR, CP, CU GRD. TAP "C", GROUND TAP "C", HYTAP 2/0 TO #1 AWG CU RUN TO TAP #8-#4 STR CU	-
14	4	EA	CONNECTOR, CP, CU GRD. TAP "C", 7#6 CCS RUN TO 7#6 CCS TAP, CU WIRE/BAR	-
15	1	EA	CONNECTOR, CP, TIN PLATED "C", HYTAP, 2 AWG - 4/0 RUN TO 2 AWG- 4/0 TAP	-
16	64	EA	1/2" 18-8 STAINLESS STEEL MEDIUM SPLIT LOCK WASHER	-
17	A/R	FT	HEAT SHRINK, 1000V	-
18	64	EA	BOLT, STAINLESS STEEL, 1/2" - 13 X 2.5"	-

GENERAL NOTES

- PREVENT CONCRETE FROM ENTERING ALL OPEN CONDUIT ENDS.
- ALL SPARE CONDUITS SHOULD BE SEALED WITH FLAME RETARDANT FOAM AND CAPPED. ALL FLOATING CONDUCTORS IN CONDUIT SHALL BE ENCAPSULATED IN FLAME RETARDANT FOAM TO PREVENT RODENT AND MOISTURE DAMAGE. FOAM SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER
- MARK EACH CIRCUIT WITH DESTINATION.
- MARK EACH CABLE

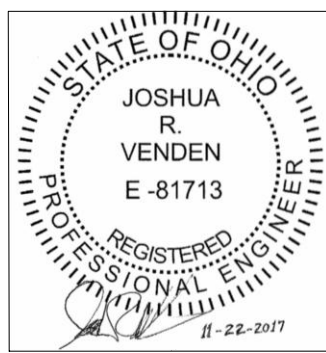
PHASE	34.5 KV	SECONDARY
A	RED	BROWN
B	WHITE	ORANGE
C	BLUE	YELLOW

KEY NOTES

- BOND 4/0 AWG COPPER GROUND BUS TO TRANSFORMER GROUNDING PAD. CONNECT TO GROUND GRID WITH 4/0 AWG COPPER.
- CONNECT GROUNDING CONDUCTORS TO GROUND BUS IN WTG DIST. PANEL
- TOP OF PEDESTAL AND BOX PADS TO BE AT SAME ELEVATION. CAULK THE JOINT BETWEEN THE BOXPAD AND PEDESTAL.
- SLACK COIL (FOR ONE EXTRA TERMINATION)
- SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.
- ALL TURBINE POWER CABLES SHALL BE EQUAL IN LENGTH.
- EXTEND ELECTRICAL CONDUITS FOR MV CABLE AND GROUNDS INTO NATIVE SOIL BEDDING WITH 45 AND 90 DEG SWEEPS AS REQUIRED.
- ELBOW TO ELBOW (PIGGYBACK) CONNECTOR KIT REQUIRED.

Westwood

Phone (952) 937-5150 7699 Anagram Drive
Fax (952) 937-5822 Eden Prairie, MN 55344
Tel/Fax (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.



Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

Revision	DATE	DESCRIPTION
B	10/03/17	Issued for Procurement - Revised
C	10/19/17	60% plans
D	10/30/17	90% plans
E	11/08/17	90% plans
F	11/22/17	Issued for Construction

Prepared for:



3900 E. White Ave
Clinton, IN 47842

Trishe Wind Ohio, LLC
c/o Starwood Energy Group, LLC
5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

**Northwest
Ohio Wind
Project**

Paulding County, Ohio

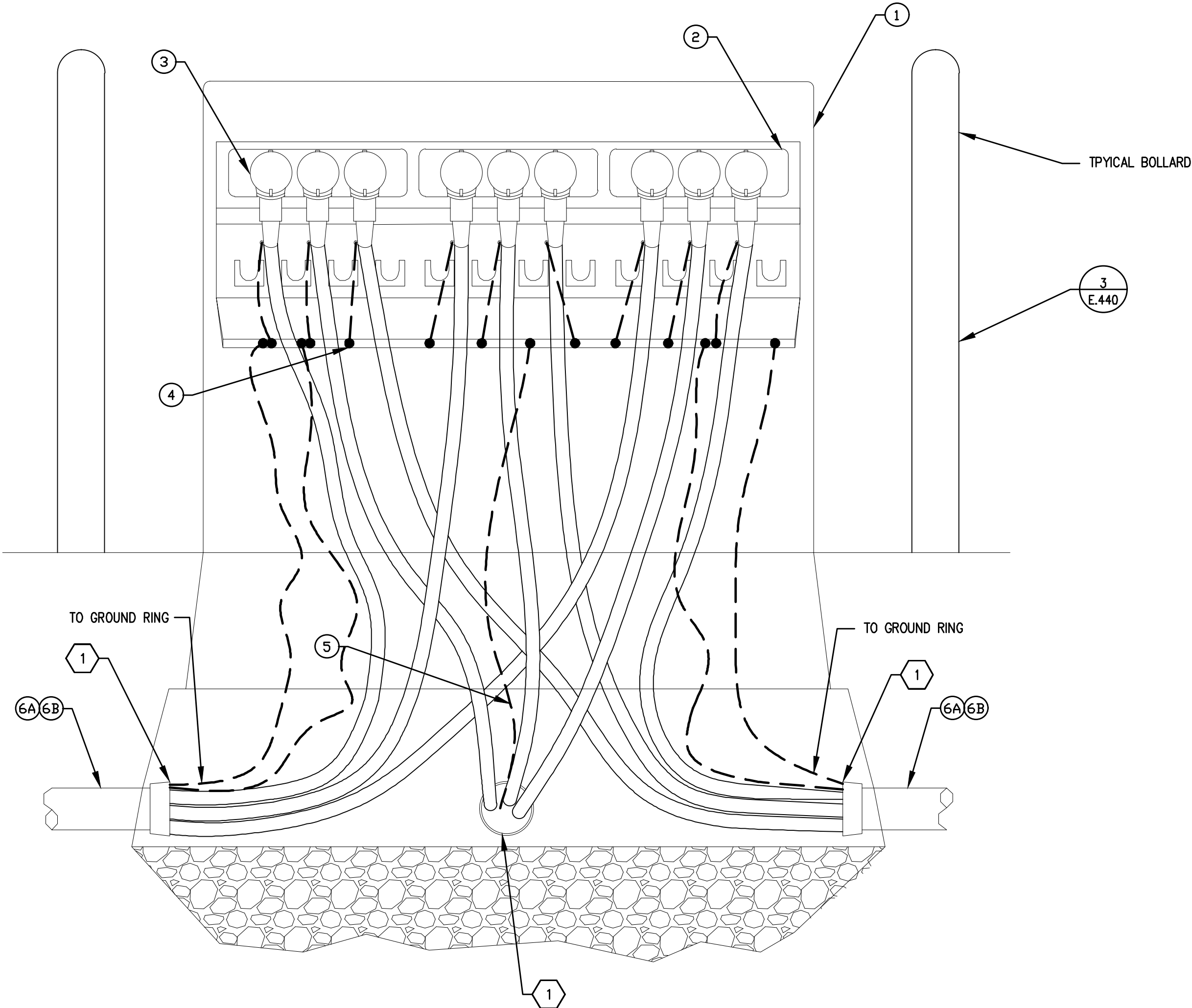
**Padmount Transformer
Terminal**

Issued For Construction

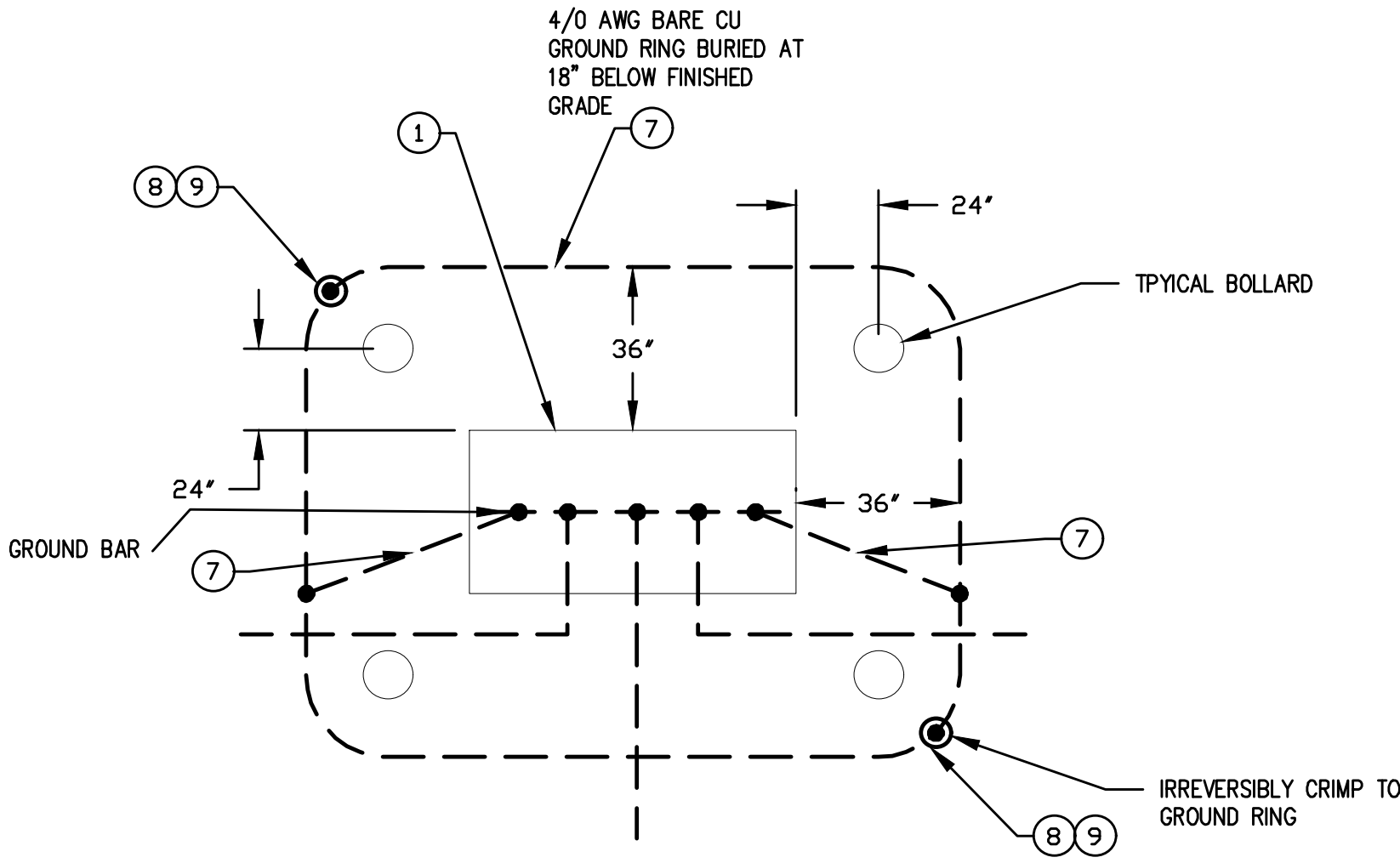
Array Date: 09/14/2017

Sheet: E.421

0007186_E400_Padmount Transformer Details.dwg



1 Sectionalizing Cabinet - Front View
NTS



2 Sectionalizing Cabinet - Grounding Detail
NTS

MATERIAL LIST

ITEM	QTY	UNIT	DESCRIPTION	MFG.	
1	1	EA	3-WAY JUNCTION BOX, 3-WAY 35KV, WITH GROUNDING BAR		
2	3	EA	JUNCTION, 600A, 35KV, W/MOUNTING HARDWARE		
3	9	EA	DEADBREAK ELBOWS, 600A, 40 KA		
4	9	EA	CONNECTOR, CONCENTRICS TO JBOX GROUNDING		
5	3	EA	CONNECTOR, TRENCH GROUND TO JBOX GROUNDING		
6A	3	EA	8" PVC CONDUIT SCH. 40, 10FT LENGTH, BELL END		
6B	3	EA	6" PVC CONDUIT SCH. 40, 10FT LENGTH, BELL END		
7	60 OR 70	FT	4/0 AWG BARE CU STR. CABLE, S.D.		
8	2	EA	GROUND ROD, COPPER CLAD STEEL 3/4" x 10'		
9	2	EA	EXOTHERMIC CONNECTOR 3/4" COPPER CLAD STEEL ROD TO 4/0 AWG BARE CU		

GENERAL NOTES

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 - ALL SPARE CONDUITS SHOULD BE SEALED WITH FLAME RETARDANT FOAM AND CAPPED. ALL FLOATING CONDUCTORS IN CONDUIT SHALL BE ENCAPSULATED IN FLAME RETARDANT FOAM TO PREVENT RODENT AND MOISTURE DAMAGE. FOAM SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER.
 - MARK EACH CIRCUIT WITH DESTINATION.
 - MARK EACH CABLE
- | PHASE | 34.5 KV | SECONDARY |
|-------|---------|-----------|
| A | RED | BROWN |
| B | WHITE | ORANGE |
| C | BLUE | YELLOW |
- BOND MV CABLE CONCENTRIC NEUTRALS TO SECTIONALIZING CABINET GROUND.

KEY NOTES

- SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.

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Fax (952) 937-5822 Eden Prairie, MN 55344
Tel/Fax (888) 937-5150 westwoodps.com
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Designed: JRV

Checked: AMS

Drawn: JMC, JRG

As-Built Drawing:

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Prepared for:



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5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

Northwest
Ohio Wind
Project

Paulding County, Ohio

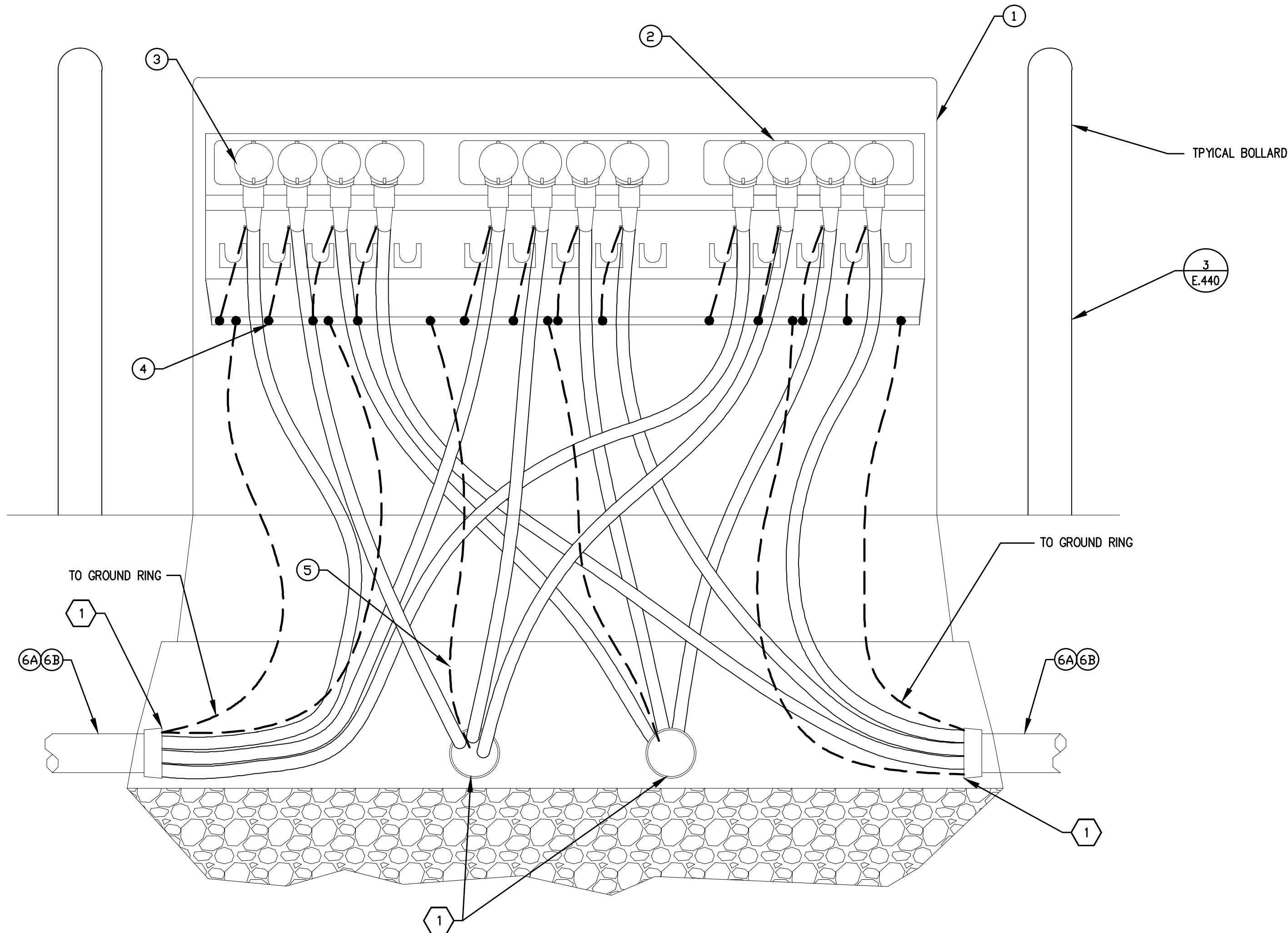
Sectionalizing Cabinet, 3
Way

Issued For Construction

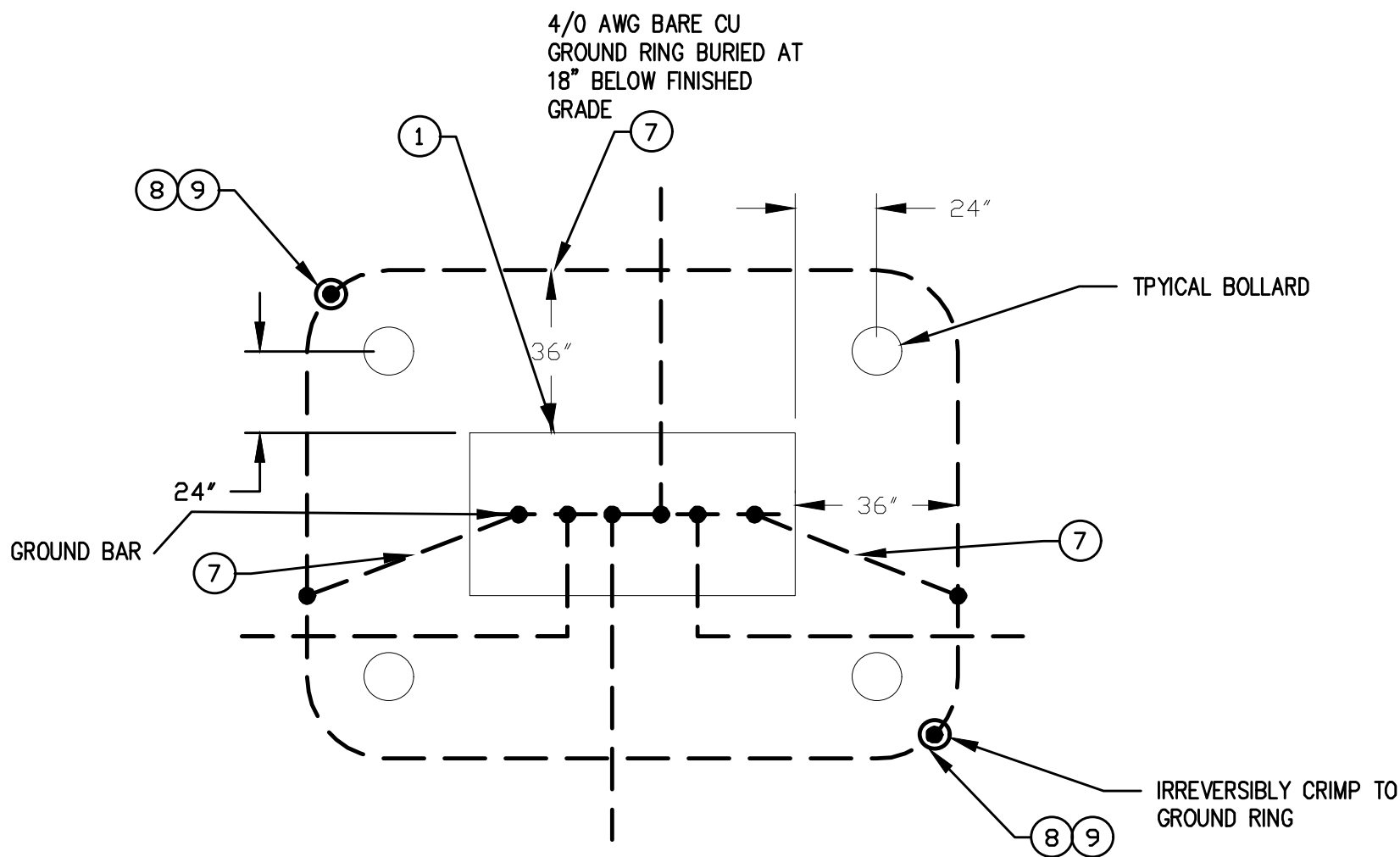
Array Date: 09/14/2017

Sheet: E.422

0007186_E400_Podmount Transformer Details.dwg



1 Sectionalizing Cabinet - Front View
NTS



2 Sectionalizing Cabinet - Grounding Detail
NTS

MATERIAL LIST					
ITEM	QTY	UNIT	DESCRIPTION	MFG.	
1	1	EA	4-WAY JUNCTION BOX, 3-WAY 35KV, WITH GROUNDING BAR		
2	3	EA	JUNCTION, 600A, 35KV, W/MOUNTING HARDWARE		
3	12	EA	DEADBREAK ELBOWS, 600A, 40 KA		
4	9	EA	CONNECTOR, CONCENTRICS TO JBOX GROUNDING		
5	3	EA	CONNECTOR, TRENCH GROUND TO JBOX GROUNDING		
6A	3	EA	8" PVC CONDUIT SCH. 40, 10FT LENGTH, BELL END		
6B	3	EA	6" PVC CONDUIT SCH. 40, 10FT LENGTH, BELL END		
7	60 OR 70	FT	4/0 AWG BARE CU STR. CABLE, S.D.		
8	2	EA	GROUND ROD, COPPER CLAD STEEL 3/4" x 10'		
9	2	EA	EXOTHERMIC CONNECTOR 3/4" COPPER CLAD STEEL ROD TO 4/0 AWG BARE CU		

GENERAL NOTES

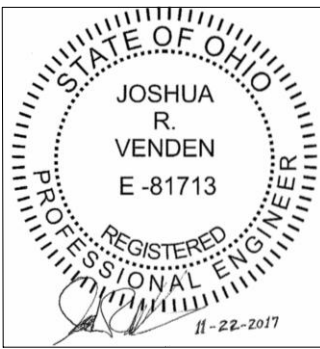
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 - ALL SPARE CONDUITS SHOULD BE SEALED WITH FLAME RETARDANT FOAM AND CAPPED. ALL FLOATING CONDUCTORS IN CONDUIT SHALL BE ENCAPSULATED IN FLAME RETARDANT FOAM TO PREVENT RODENT AND MOISTURE DAMAGE. FOAM SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER. INSTALL PERFORATED 6" SCH. 40 PVC SUMP SURROUNDED BY 6" OF CLEAN UNIFORM 2" WASHED STONE INSIDE OF GEOFABRIC.
 - MARK EACH CIRCUIT WITH DESTINATION.
 - MARK EACH CABLE
- | | | |
|-------|---------|-----------|
| PHASE | 34.5 kV | SECONDARY |
| A | RED | BROWN |
| B | WHITE | ORANGE |
| C | BLUE | YELLOW |

KEY NOTES

- SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.

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Fax (952) 937-5822 Eden Prairie, MN 55344
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Designed: JRV

Checked: AMS

Drawn: JMC, JRG

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Trishe Wind Ohio, LLC
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5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

Northwest
Ohio Wind
Project

Paulding County, Ohio

Sectionalizing Cabinet, 4
Way

Issued For Construction

Array Date: 09/14/2017

Sheet: E.423

0007186_E400_Podmount Transformer Details.dwg



Designed: JRV

Checked: AMS

Drawn: JMC, JRG

As-Built Drawing:

Revision #	DATE	DESCRIPTION
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Prepared for:



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Trishe Wind Ohio, LLC
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5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

Northwest Ohio Wind Project

Paulding County, Ohio

Marker Poles and Bollards

Issued For Construction

Array Date: 09/14/2017

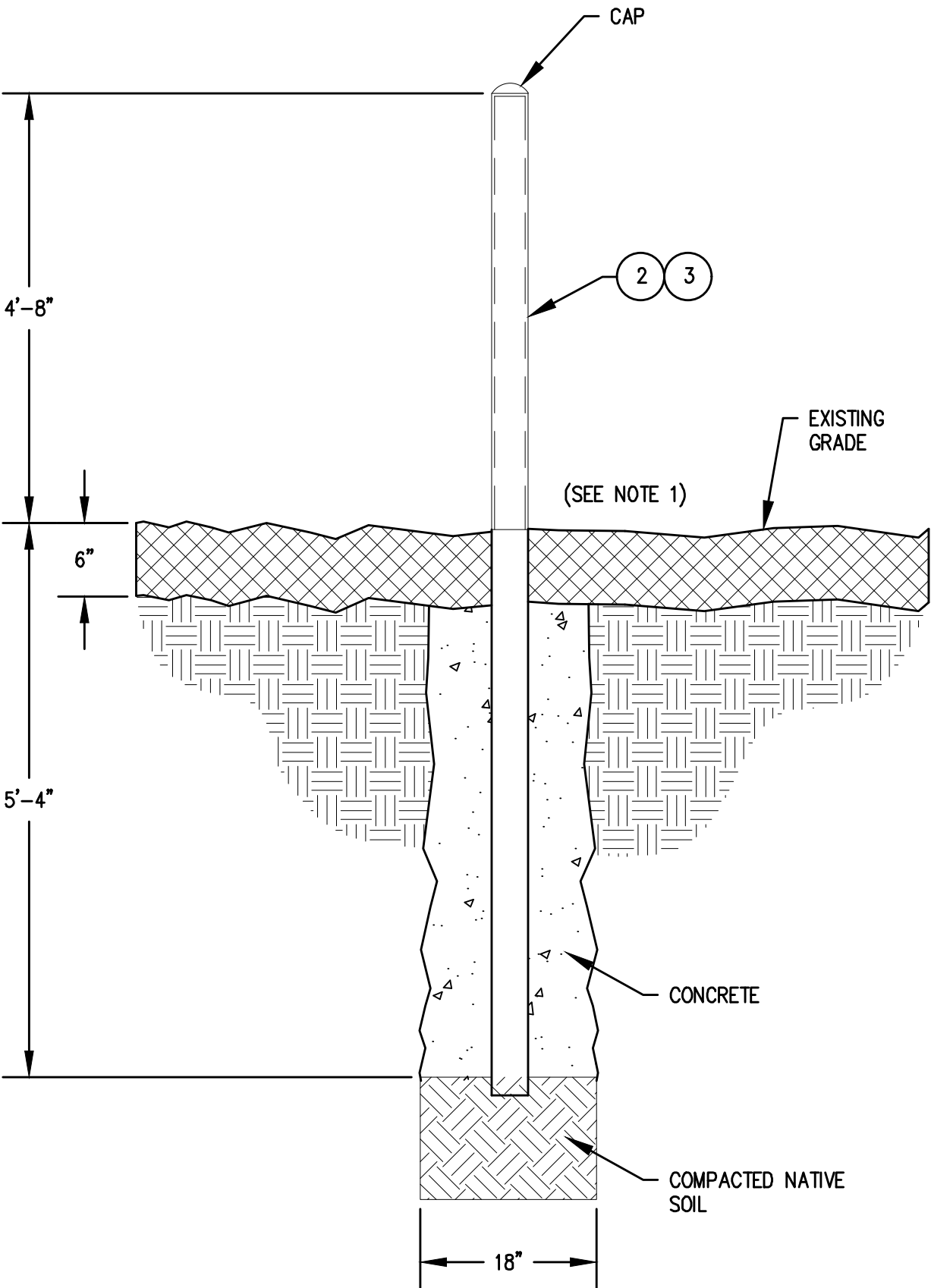
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0007186_E.440_Marker Poles.dwg

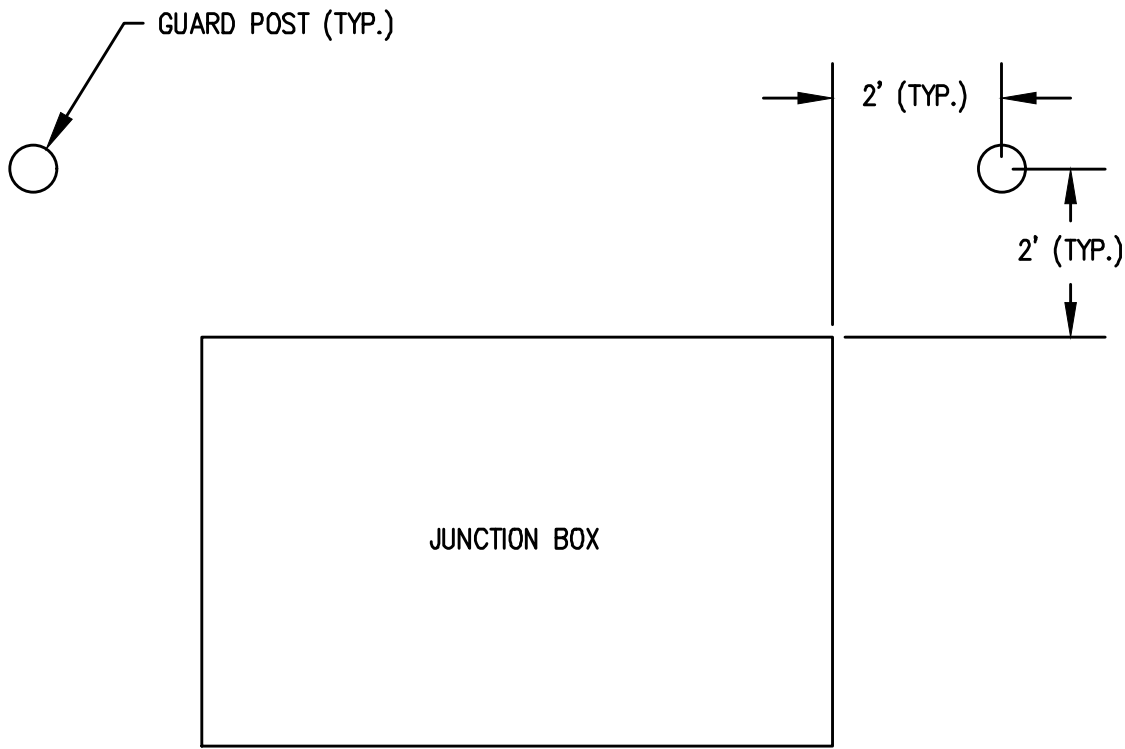
MATERIAL LIST					
ITEM	QTY	UNITS	DESCRIPTION	MFG.	PART #
1	1	FT	UTILITY MARKER POLE, FLAT, RED, 72"		
2	4	EA	PIPE, GALVANIZED RIGID 4" X 10'		
3	4	EA	GUARD, BUMPER POST SLEEVE, SAFETY YELLOW, 4.75" ID, 56" HEIGHT		

GENERAL NOTES

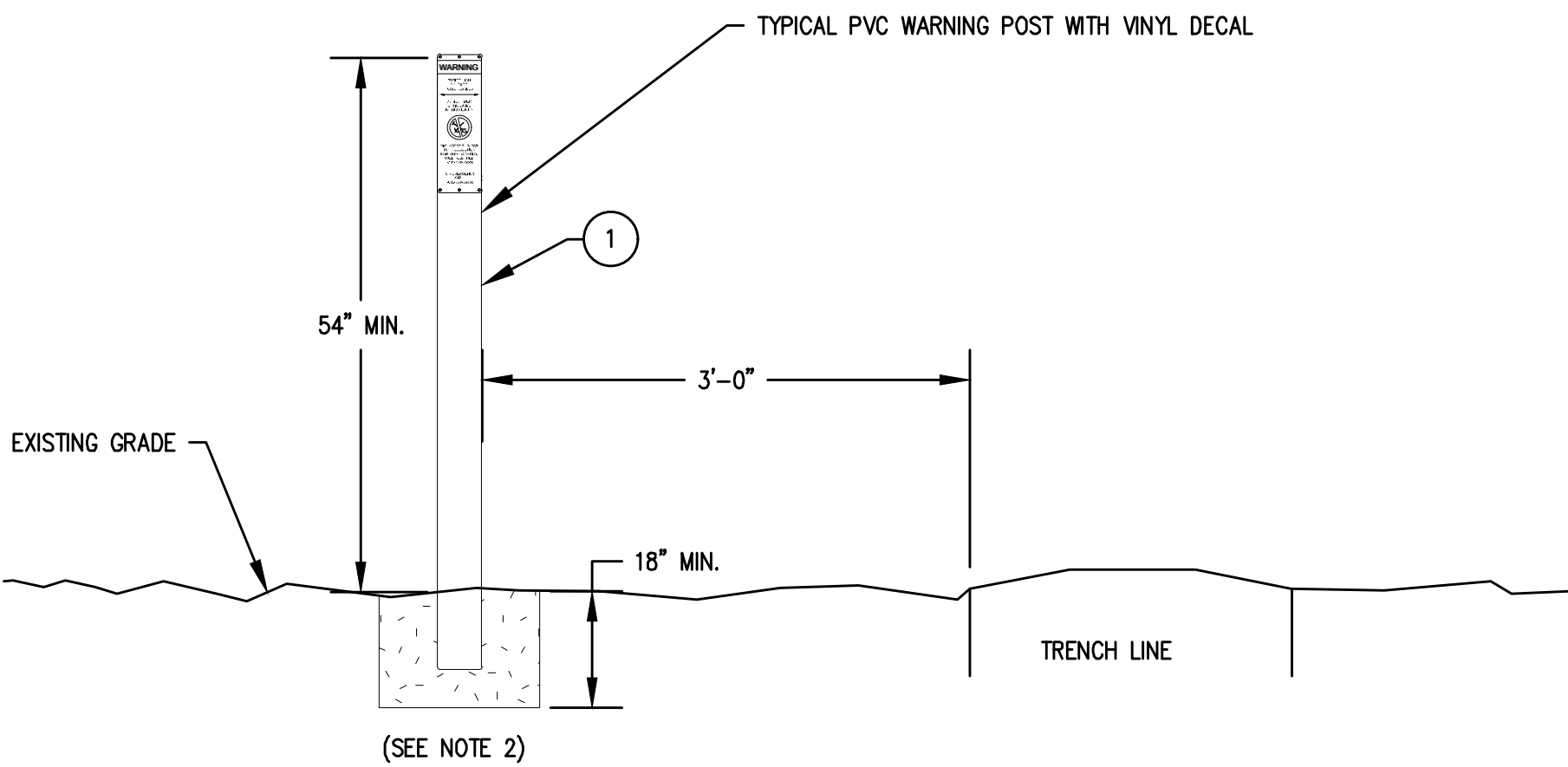
- ROUTE MARKER POLES SHALL BE PLACED ALONG THE COLLECTOR LINES EVERY 1000 FEET UNLESS DIRECTED OTHERWISE BY ELECTRICAL SUPERINTENDENT. THEY SHALL ALSO BE PLACED AT ALL ROUTING ANGLES, ROAD CROSSINGS, UTILITY CROSSINGS, AND CABLE SPLICES. ADDITIONAL MARKERS MAY BE ADDED AS REQUESTED BY THE OWNER.
- COMPACT NATIVE SOIL.
- ADDITIONAL MARKERS CAN BE ADDED DURING CONSTRUCTION AS REQUESTED BY CLIENT.



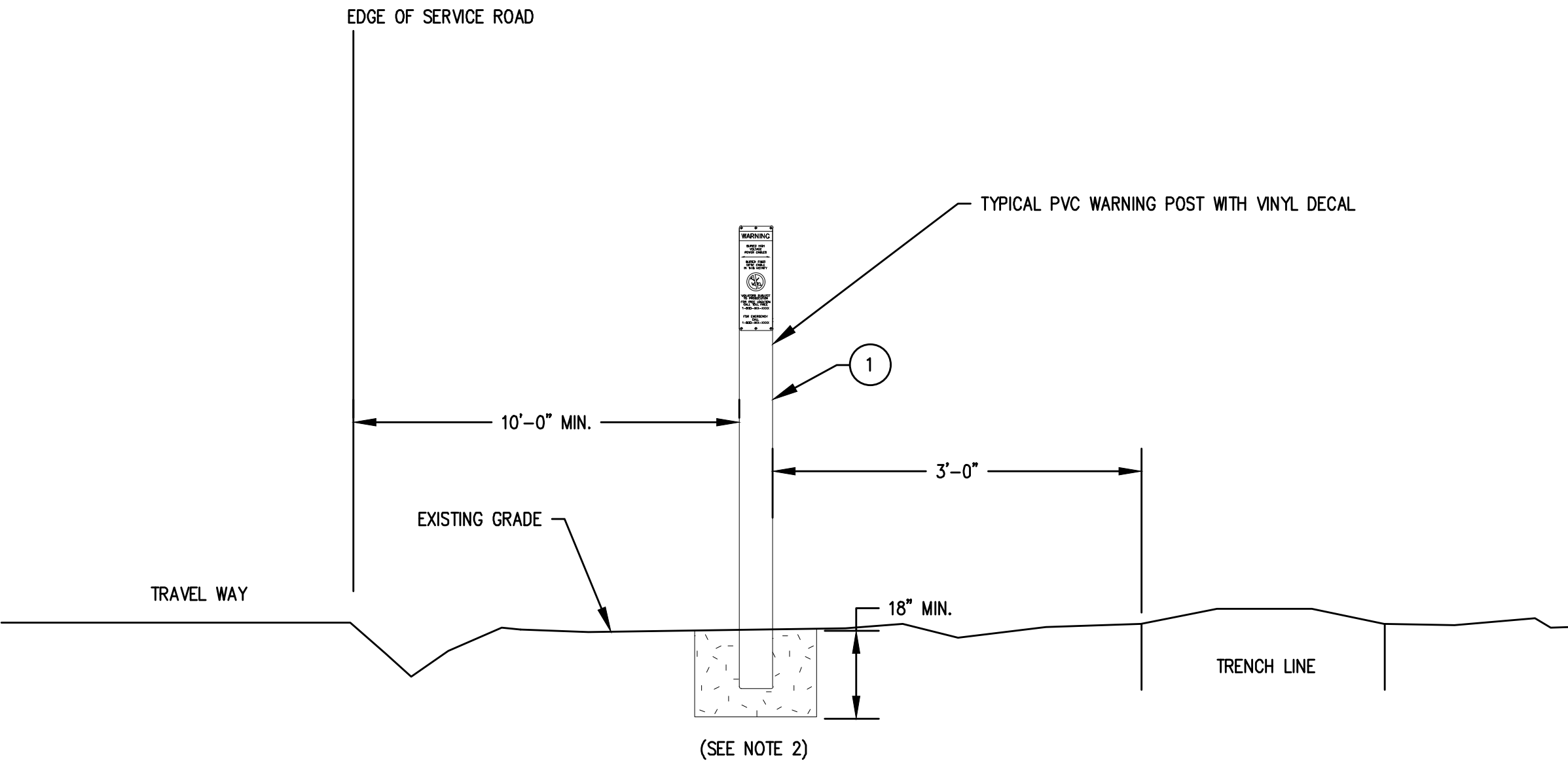
3 Bollard (Guard Post) Detail
No Scale



4 Typical Guard Post Arrangement At Junction Boxes
No Scale



1 Marker Placement Along Trench Line
No Scale



2 Marker Placement Along Roadway
No Scale

MVAC WIRING SCHEDULE													
CONDUCTOR LOCATION CODE	ORIGINATING EQUIPMENT	TERMINATING EQUIPMENT	Rated Vac (kV)	Iac (A)	# OF TURBINES	LENGTH (FT)	CONDUCTOR SIZE	CONDUCTOR MATERIAL	# OF PARALLEL CONDUCTORS	GROUND CONDUCTOR SIZE	GROUND CONDUCTOR MATERIAL	DRAWING REFERENCE	CONDUCTOR SPECIFICS
MV1.SUB-T25	SUB	T25	34.5	489.32	10	4,541	3#1250 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV1.T25-JB1/1	T25	JB1/1	34.5	440.39	9	45	3#1000 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV1.JB1/1-T10	JB1/1	T10	34.5	391.46	8	10,074	3#1000 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV1.T10-09	T10	T09	34.5	342.52	7	2,183	3#750 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV1.T09-08	T09	T08	34.5	293.59	6	3,312	3#500 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/3 Cu CN, Type MV-90
MV1.T08-05	T08	T05	34.5	244.66	5	2,709	3#500 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/3 Cu CN, Type MV-90
MV1.T05-04	T05	T04	34.5	195.73	4	1,991	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV1.T04-03	T04	T03	34.5	146.80	3	1,777	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV1.T03-02	T03	T02	34.5	97.86	2	1,885	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV1.T02-01	T02	T01	34.5	48.93	1	2,229	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV1JB1/1-T24	JB1/1	T24	34.5	48.93	1	1,649	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV2.SUB-JB2/1	SUB	JB2/1	34.5	538.25	11	8,020	3#1250 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV2.JB2/1-T22	JB2/1	T22	34.5	195.73	4	3,033	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV2.T22-29	T22	T29	34.5	48.93	1	4,341	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.T22-21	T22	T21	34.5	97.86	2	1,423	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3), (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.T21-20	T21	T20	34.5	48.93	1	3,535	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3), (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.JB2/1-T17	JB2/1	T17	34.5	342.52	7	2,648	3#750 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV2.T17-15	T17	T15	34.5	293.59	6	4,617	3#500 KCMIL	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/3 Cu CN, Type MV-90
MV2.T15-14	T15	T14	34.5	97.86	2	3,787	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.T14-13	T14	T13	34.5	48.93	1	1,517	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.T15-07	T15	T07	34.5	146.80	3	2,805	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV2.T07-06	T07	T06	34.5	48.93	1	1,391	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV2.T07-16	T07	T16	34.5	48.93	1	3,049	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.200	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.SUB-T23	SUB	T23	34.5	538.25	11	12,253	3#1250 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV3.T23-JB3/1	T23	JB3/1	34.5	489.32	10	2,899	3#1250 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV3.JB3/1-T27	JB3/1	T27	34.5	97.86	2	1,705	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.T27-26	T27	T26	34.5	48.93	1	1,780	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.JB3/1-T28	JB3/1	T28	34.5	391.46	8	45	3#1000 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV3.T28-33	T28	T33	34.5	342.52	7	5,859	3#750 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV3.T33-32	T33	T32	34.5	97.86	2	1,321	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.T32-31	T32	T31	34.5	48.93	1	5,134	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.T33-34	T33	T34	34.5	195.73	4	1,689	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV3.T34-36	T34	T36	34.5	97.86	2	3,323	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.T36-37	T36	T37	34.5	48.93	1	1,307	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV3.T34-39	T34	T39	34.5	48.93	1	5,767	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV4.SUB-T40	SUB	T40	34.5	489.32	10	29,971	3#1250 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV4.T40-46	T40	T46	34.5	440.39	9	2,593	3#1000 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV4.T46-45	T46	T45	34.5	391.46	8	3,766	3#1000 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV4.T45-44	T45	T44	34.5	342.52	7	2,886	3#750 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/6 Cu CN, Type MV-90
MV4.T44-JB4/1	T44	JB4/1	34.5	293.59	6	3,469	3#500 KCMIL	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/3 Cu CN, Type MV-90
MV4.JB4/1-T42	JB4/1	T42	34.5	195.73	4	54	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV4.T42-49	T42	T49	34.5	146.80	3	6,474	3#4/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 1/2 Cu CN, Type MV-90
MV4.T49-48	T49	T48	34.5	48.93	1	1,723	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV4.T49-50	T49	T50	34.5	48.93	1	1,668	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV4.JB4/1-T43	JB4/1	T43	34.5	48.93	1	1,340	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90
MV4.JB4/1-T41	JB4/1	T41	34.5	48.93	1	1,392	3#1/0 AWG	AL	1	7#7	Copper Clad Steel	E.201	35kV, (3) 1/C, 100% Insulation, 2/3 Cu CN, Type MV-90

NOTES

1. DISTANCES SHOWN ARE POINT TO POINT DISTANCES MEASURED IN CAD. THEY DO NOT ACCOUNT FOR VERTICAL LENGTHS. ALL LENGTHS TO BE FIELD VERIFIED.
2. REFER TO MVAC SITE PLANS FOR WIRING ROUTING.

Westwood

Phone (952) 937-5150 7699 Anagram Drive

Fax (952) 937-5822 Eden Prairie, MN 55344

Tel/Fax (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.



Designed: JRV

Checked: ANS

Drawn: JMC, JRG

As-Built Drawing:

Revision #	DATE	DESCRIPTION
B	10/03/17	Issued for Procurement – Revised
C	10/19/17	60% plans
D	10/30/17	90% plans
E	11/08/17	90% plans
F	11/22/17	Issued for Construction

Prepared for:



3900 E. White Ave
Clinton, IN 47842

Trishe Wind Ohio, LLC
c/o Starwood Energy Group, LLC
5 Greenwich Office Park, 2nd Floor
Greenwich, CT 06831

Northwest
Ohio Wind
Project
Paulding County, Ohio

MVAC Wiring Schedule

Issued For Construction

Array Date: 09/14/2017

Sheet: E.800

CONDUIT TABLE						
MV CABLE SIZE	1/0 AWG	4/0 AWG	500 kCMIL	750 kCMIL	1000 kCMIL	1250 kCMIL
MIN. CONDUIT SIZE	6" HDPE DR17	6" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17	8" HDPE DR17

Bore ID	Sheet #	Bore Type	Cable Size	Multi-Ckt Separation (center-center) (ft)	Boring Coordinates (Entry)	Boring Coordinates (Exit)
MV3.T32-T31.1	E.315	WETLAND	1/0 AWG	N/A	N/A	N/A
MV3.T32-T31.2	E.315 & E.322	COUNTY RD	1/0 AWG	N/A	N/A	N/A
MV3.T34-T36.1	E.322 & E.323	COUNTY RD	1/0 AWG	N/A	N/A	N/A
MV3.T34-T39.1	E.329	WETLAND	1/0 AWG	3' (10' ROW)	N/A	N/A
MV3.T34-T39.2	E.323 & E.329	COUNTY RD	1/0 AWG	3' (10' ROW)	N/A	N/A
MV3.T34-T39.3	E.322 & E.323	COUNTY RD	1/0 AWG	3' (10' ROW)	N/A	N/A
MV3.T28-T33.1	E.321 & E.322	STATE HWY, GAS PIPE	750 MCM	23' (30' ROW)	N: 506374.1, E: 1396658.46	N: 506373.7, E: 1396800.07
MV3.T28-T33.2	E.321	WETLAND	750 MCM	3' (10' ROW)	N/A	N/A
MV3.T23-T28.1	E.320 & E.321	COUNTY RD	1250 MCM	3' (10' ROW)	N/A	N/A
MV3.T23-T28.2	E.320	MVAC FDR2	1250 MCM	15' (20' ROW)	N/A	N/A
MV3.SUB-T23.1	E.320	WETLAND	1250 MCM	12' (28' ROW)	N/A	N/A
MV3.SUB-T23.2	E.320 & E.327	COUNTY RD	1250 MCM	18' (40' ROW)	N/A	N/A
MV3.SUB-T23.3	E.327	GAS PIPELINE	1250 MCM	23' (76' ROW)	N/A	N/A
MV3.SUB-T23.4	E.327 & E.331	STATE HWY	1250 MCM	23' (76' ROW)	N: 499623.11, E: 1388531.3	N: 499689.65, E: 1388532.28
MV3.SUB-T23.5	E.327 & E.331	GAS PIPELINE	1250 MCM	23' (76' ROW)	N/A	N/A
MV4.T49-T50.1	E.311	WETLAND	1/0 AWG	N/A	N/A	N/A
MV4.T49-T50.2	E.311	WETLAND	1/0 AWG	N/A	N/A	N/A
MV4.T49-T48.2	E.311	WETLAND	1/0 AWG	N/A	N/A	N/A
MV4.T42-T49.1	E.311 & E.316	COUNTY RD	4/0 AWG	N/A	N/A	N/A
MV4.T42-T49.2	E.316	COUNTY RD	4/0 AWG	N/A	N/A	N/A
MV4.T44-JB4/1.1	E.316 & E.324	COUNTY RD	500 MCM	N/A	N/A	N/A
MV4.T46-T45.1	E.324 & E.330	COUNTY RD	1000 MCM	N/A	N/A	N/A
MV4.T45-T44.1	E.324	WETLAND	750 MCM	N/A	N/A	N/A
MV4.T45-T44.2	E.324	COUNTY RD	750 MCM	N/A	N/A	N/A
MV4.T40-T46.1	E.329 & E.330	COUNTY RD	1000 MCM	N/A	N/A	N/A
MV4.SUB-T40.1	E.329	WETLAND	1250 MCM	3' (10' ROW)	N/A	N/A
MV4.SUB-T40.2	E.323 & E.329	COUNTY RD	1250 MCM	3' (10' ROW)	N/A	N/A
MV4.SUB-T40.3	E.322 & E.323	COUNTY RD	1250 MCM	3' (10' ROW)	N/A	N/A
MV4.SUB-T40.4	E.321 & E.322	STATE HWY	1250 MCM	23' (30' ROW)	N: 506351.1, E: 1396658.46	N: 506350.7, E: 1396800.07
MV4.SUB-T40.5	E.321	WETLAND	1250 MCM	23' (76' ROW)	N/A	N/A
MV4.SUB-T40.6	E.320 & E.321	COUNTY RD	1250 MCM	3' (10' ROW)	N/A	N/A
MV4.SUB-T40.7	E.320	MVAC FDR2	1250 MCM	15' (20' ROW)	N/A	N/A
MV4.SUB-T40.8	E.320	WETLAND	1250 MCM	12' (28' ROW)	N/A	N/A
MV4.SUB-T40.9	E.320 & E.327	COUNTY RD	1250 MCM	18' (40' ROW)	N/A	N/A
MV4.SUB-T40.10	E.327	GAS PIPELINE	1250 MCM	23' (76' ROW)	N/A	N/A
MV4.SUB-T40.11	E.327 & E.331	STATE HWY	1250 MCM	23' (76' ROW)	N: 499623.11, E: 1388554.3	N: 499689.65, E: 1388555.28
MV4.SUB-T40.12	E.327 & E.331	GAS PIPELINE	1250 MCM	23' (76' ROW)	N/A	N/A

	1	2	3	4	5	6	7	8
	©2017 Westwood Professional Services, Inc.							
A								
B								
C								
D								
E								
F								
G								
H								

FIBER OPTIC POWER LOSSES						
	MINIMUM	# of FUSION SPLICES	# of CONNECTORS			
		3	6			
CIRCUIT	CO-LOCATED FIBER CABLE (12-STRAND S1)	ADDITIONAL SPLICES	ADDITIONAL CONNECTORS	FIBER CABLE LENGTH (FT)	FIBER CABLE LENGTH (KM)	POWER LOSS (dB)
1	FO.SUB-T25	0	0	4616	1.407	6.79243488
1	FO.T25-10	0	0	10172	3.100	7.38514896
1	FO.T10-08	2	2	5458	1.664	8.08225944
1	FO.T08-04	2	2	3297	1.005	7.85172396
1	FO.T04-03	2	2	2679	0.817	7.78579572
1	FO.T03-01	2	2	1991	0.607	7.71239988
1	FO.T01-02	0	0	1777	0.542	6.48957036
1	FO.T02-MET.1	2	2	1878	0.572	7.70034504
1	FO.MET.1-05	2	2	2213	0.675	7.73608284
1	FO.T05-09	2	2	5976	1.821	8.13751968
1	FO.T09-24	4	4	13966	4.257	10.18989288
1	FO.SUB-24	0	0	6249	1.905	6.96664332
1	FO.T25-24	2	2	1633	0.498	7.67420844
2	FO.SUB-T22	0	0	11073	3.375	7.48126764
2	FO.T22-29	0	0	4171	1.271	6.74496228
2	FO.T29-20	4	4	9139	2.786	9.67494852
2	FO.T20-21	0	0	3551	1.082	6.67882068
2	FO.T21-15	6	6	11678	3.559	11.14580904
2	FO.T15-13	2	2	5287	1.611	8.06401716
2	FO.T13-14	0	0	1517	0.462	6.46183356
2	FO.T14-07	2	2	6560	1.999	8.1998208
2	FO.T06-16	2	2	4456	1.358	7.97536608
2	FO.T16-SUB	8	8	21264	6.481	13.36844352
3	FO.SUB-T23	0	0	12285	3.744	7.6105638
3	FO.T23-28	0	0	2947	0.898	6.61438596
3	FO.T28-26	2	2	3483	1.062	7.87156644
3	FO.T26-27	0	0	1780	0.543	6.4898904
3	FO.T27-33	2	2	7556	2.303	8.30607408
3	FO.T33-31	2	2	6519	1.987	8.19544692
3	FO.T31-32	0	0	5205	1.586	6.8552694
3	FO.T32-34	2	2	2988	0.911	7.81875984
3	FO.T34-37	2	2	4613	1.406	7.99211484
3	FO.T37-36	0	0	1301	0.397	6.43879068
3	FO.T36-39	2	2	8992	2.741	8.45926656
3	FO.T36-SUB	6	6	28439	8.668	12.93387252
4	FO.SUB-T46	2	2	32486	9.902	10.96560648
4	FO.T46-44	2	2	6878	2.096	8.23374504
4	FO.T44-49	4	4	9987	3.044	9.76541316
4	FO.T49-48	0	0	1717	0.523	6.48316956
4	FO.T48-50	2	2	3378	1.030	7.86036504
4	FO.T50-42	2	2	8132	2.479	8.36752176
4	FO.T42-43	2	2	1379	0.420	7.64711172
4	FO.T43-41	2	2	2735	0.834	7.7917698
4	FO.T41-45	4	4	7753	2.363	9.52709004
4	FO.T45-40	2	2	6578	2.005	8.20174104
4	FO.J40-SUB	0	0	29905	9.115	9.4902654

	(ft)	(KM)	(dB)
Total	337,637	102.91	
Max	32,486	9.90	13.37
Min	1,301	0.40	6.44

GENERAL NOTES

1. SEE FIBER OPTIC POWER LOSSES TABLE BELOW FOR DB LOSSES FOR EACH FIBER LINK. LOSSES CALCULATED AT 0.35 DB PER KM, 0.1 DB PER SPLICE, 0.5 DB PER CONNECTOR, AND INCLUDE 3DB ADDITIONAL MARGIN.

Westwood

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Fiber Optic Cable Schedule

Issued For Construction

Array Date: 09/14/2017

Sheet: E.802

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Commission of Ohio Docketing Information System on

11/29/2017 9:41:06 AM

in

Case No(s). 13-0197-EL-BGN, 16-1687-EL-BGA, 17-1099-EL-BGA

Summary: Notice of Update to September 1, 2017 Filing Regarding Compliance with Condition 6 – Drawings for Final Design Plan (Part 2 of 2) electronically filed by Mr. William V Vorys on behalf of Trishe Wind Ohio, LLC