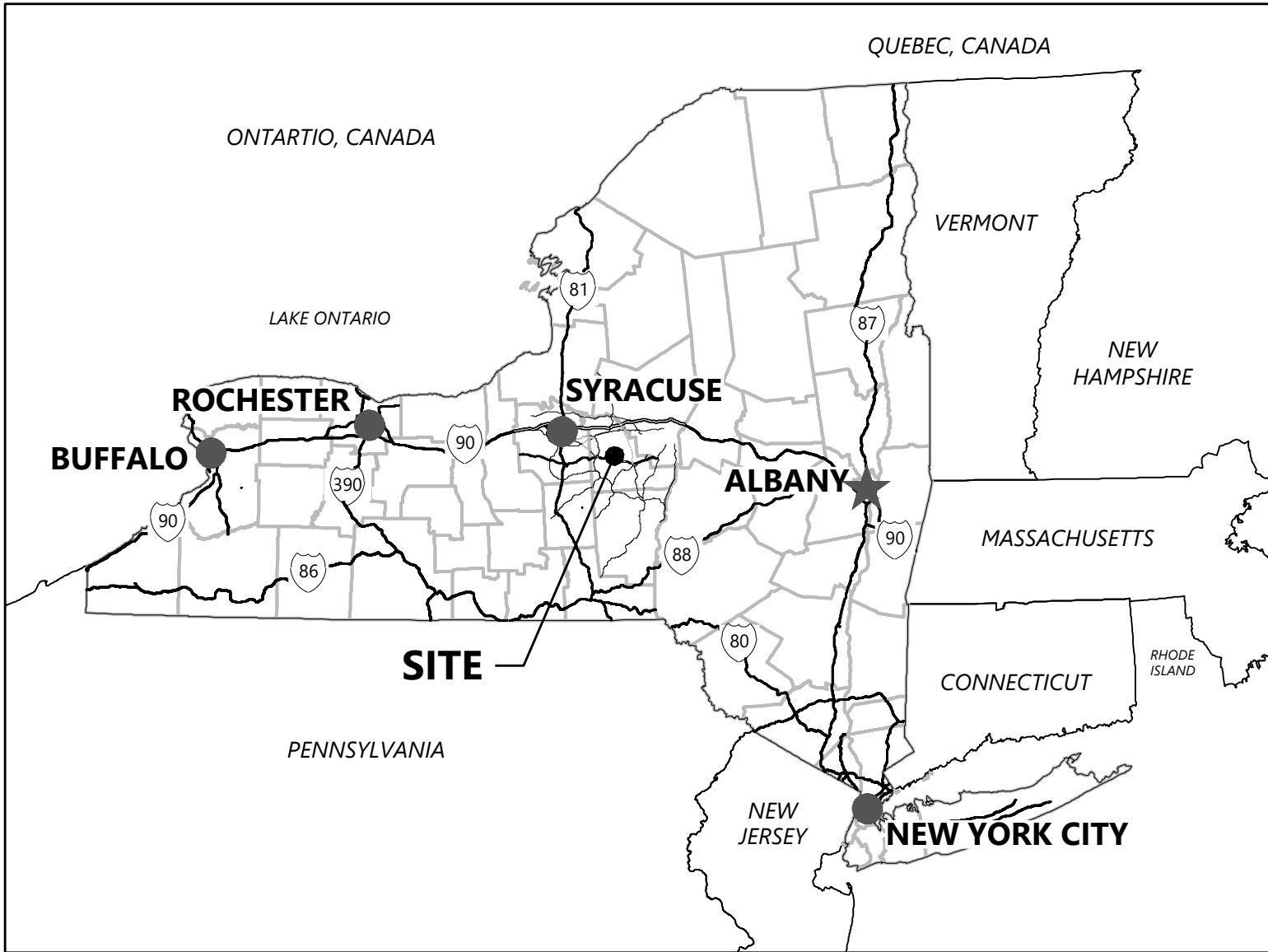


Hoffman Falls Wind Project

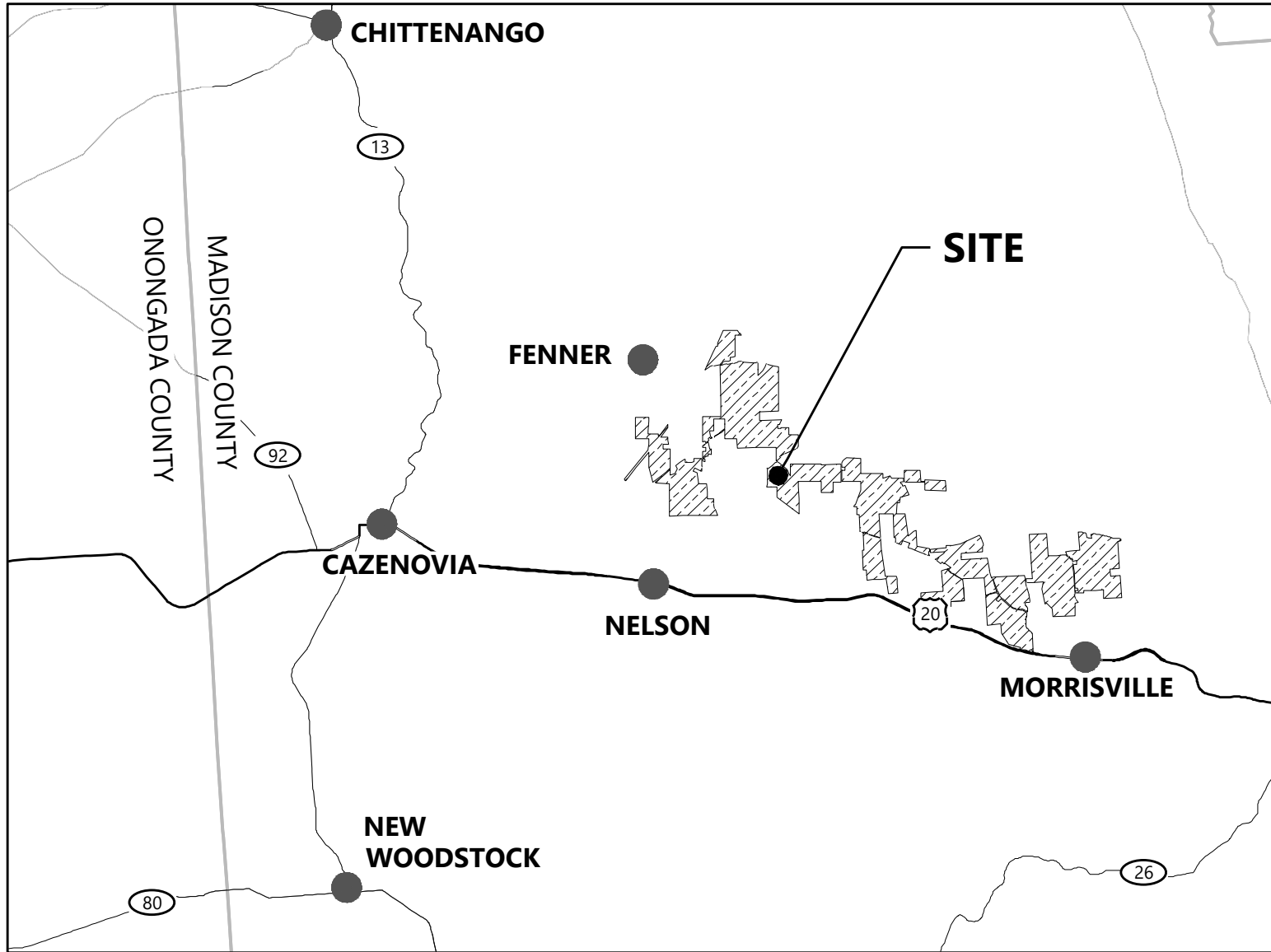
Madison County, New York

Electrical Construction Plans

REGIONAL MAP



VICINITY MAP



| DATA SET INFORMATION | | | |
|---------------------------------|---|---|------------|
| Coordinate System | | New York Central NSRS11 (2011) SPCS US FEET | |
| BASE FILE | FILE NAME / NOTES | PROVIDER | DATE |
| AERIAL IMAGE | 2023-06-13 Aerial Box | WESTWOOD | 6/13/2023 |
| LAND CONTROL | Facility Site Parcels | LIBERTY | 11/29/2023 |
| BOUNDARY SURVEY | 0042618.01V-SURV | WESTWOOD | 12/4/2023 |
| TOPOGRAPHY | 0042618V-DTM - 10m Public Data Placeholder | WESTWOOD | 5/16/2023 |
| TURBINE ARRAY | 2024-08-01 Hoffman Design Revisions | LIBERTY | 8/1/2024 |
| UNDERGROUND COLLECTION | 0042618E-WIRE | WESTWOOD | 12/13/2023 |
| STREAMS/WETLANDS | Delineated Wetland and Stream | EDR | 1/22/2024 |
| ENVIRONMENTALLY SENSITIVE AREAS | 2024-01-19 Hoffman Falls Ecological Data | EDR | 1/19/2024 |
| FEMA INFORMATION | FEMA Mapped Flood Hazard Area | EDR | 12/11/2023 |
| GEOTECHNICAL REPORT | Preliminary Geotechnical Investigation Report | Westwood | 10/3/2023 |
| REPORTS / PLANS | | | |

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Hoffman Falls
Wind Project
Madison County, New York

Cover Sheet

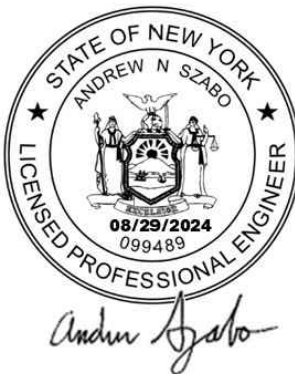
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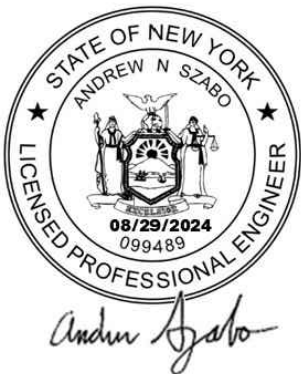
Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | |
|------------|------------|---------------------------------|-----|-----|
| # | DATE | COMMENT | BY | CHK |
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH |
| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH |
| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK |



| Sheet List Table | |
|------------------|----------------------------------|
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| E0001 | Sheet Index |
| E0010 | Electrical Notes |
| E0020 | Symbology & Abbreviations |
| E1000 | Overall MV Site Plan |
| E1300 | MV Circuit Single Line Diagram |
| E1301 | MV Circuit Single Line Diagram |
| E6000 | Overall Communications Site Plan |
| E6200 | Fiber Optic Single Line Diagram |
| E6400 | Met Tower Wiring Diagram |
| E6401 | Fiber Splice Box |
| E7000 | Sectionalizer Cabinet |
| E7001 | Medium Voltage Splice |
| E7002 | Foundation Conduit Details |
| E7003 | Foundation Grounding Details |
| E7600 | Trench Details |
| E7601 | Bore Details |
| E7700 | Crossing Schedule |



PREPARED FOR:

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90 State Street, Suite 700
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Hoffman Falls Wind Project

Madison County, New York

Sheet Index

SECTION 1 - GENERAL PROVISIONS - ELECTRICAL

- A. The work in these design plans shall consist of furnishing labor and materials necessary for the complete installation of power and wind systems shown on the drawings. All work shall be complete and left in operating condition at completion of Contract.
- B. Include minor items that are obviously and reasonably necessary to complete the installation and usually included in similar work. Such items include bolts, nuts, anchors, brackets, sleeves, and minor offsets in conduit, junction boxes, etc. because of unforeseen obstructions.
- C. Some equipment and materials provided under other design plans may require composite work crews because of trade jurisdiction. It is the Contractor's or Subcontractor's responsibility to review all Contract Documents to determine where these composite crews are required.
- D. All temporary and permanent permits and licenses required in these design plans work shall be the responsibility of the Contractor bidding that work.
- E. Installation shall meet or exceed current applicable codes, ordinances and regulations in effect at the site. If a Contractor or Subcontractor observes that the Contract Documents are at variance with governing codes and regulations, he shall promptly notify the Engineer in writing, who will respond to such variances in writing. If the Contractor performs work knowing it is not compliant with applicable codes, and does not notify the Engineer, the Contractor shall assume full responsibility and bear all costs attributable to correcting the non-complying work.
- F. The reference to Codes and Standards shall not permit a lower grade of construction where Contract Documents call for workmanship and/or materials in excess of those references.
- G. Where the terms "provide" or "shall be" are used in the drawings, they shall be taken to mean "The Contractor shall furnish and install".
- H. If equipment or materials other than those specified in the design of this project are proposed to be used on this project, the Contractor and supplier shall check it for dimensional differences, electrical requirements and any other potential variances. This comparison shall be made for manufacturers specified as well as those proposed prior to requesting approval. The Contractor shall be responsible for any extra costs incurred as a result of substitutions, including those of other contractors, such as might be due to (but not limited to) different electrical, mechanical and architectural requirements.
- I. Shop Drawings:
1. Carefully examine all shop drawings noting capacity, arrangement and physical dimensions and mark the drawings as being reviewed and approved prior to submitting to the Engineer. Where catalog data is submitted which includes items which do not apply to this project, those items shall be clearly marked out or relevant items clearly noted. Any deviations from the documents shall be so noted by the Contractor or equipment supplier. The intent and requirements of the drawings and specifications shall be adhered to at all times and are not waived or superseded in any way by the shop drawing submittal or review.
 2. Submit a minimum (1) electronic copy of shop drawings for review and approval. Contractor shall retain a final approved copy for incorporation in the Operation and Maintenance Manuals.
 3. If returned shop drawings are marked "NO EXCEPTIONS TAKEN", no additional submittal is required. If the shop drawing is marked "MAKE CORRECTIONS NOTED", the changes noted on the shop drawings are to be incorporated, with no further resubmittal required. If marked "REVISE AND RESUBMIT", changes noted on the shop drawings are to be made and the drawings resubmitted for review. If marked "REJECTED", the equipment submitted is unacceptable and different equipment or materials need to be submitted.
- J. No asbestos or PCB containing materials of any type shall be used on this Project except in cases where acceptable substitutions have not been found for asbestos materials as in high temperature applications.
- K. Consult the Contract Drawings and Specifications of all other design plans and other trades for correlating information and layout work so that it will not interfere with other trades. Verify all dimensions and conditions. If conflicts occur such that resolution is not possible by the affected trades on the job, the Engineer shall be notified and a resolution will be worked out.
- L. Electrical equipment enclosures (switchboards, panelboards, transformers, relay cabinets, systems racks/cabinets, etc.) shall be vacuumed and wiped clean prior to energizing and again at substantial completion.
- M. Install material and equipment in accordance with Manufacturers' recommendations, instructions, and current N.E.C.A. standards.
- N. Install equipment and materials to provide required access for servicing and maintenance. Coordinate final equipment location with required access panels and doors. Allow ample space for removal of all parts that require replacement or servicing.
- O. Record Drawings: As work progresses, in a neat and legible manner, record all changes or deviations from the contract drawings. Submit Record Drawings to Engineer for review at completion of Work. The Record Drawings will become part of the Operation and Maintenance Manual package submitted to the Owner after the completion of the project.

SECTION 2 - BASIC MATERIALS AND METHODS

- A. All materials shall be new, as specified or approved, and in original packaging. Catalog numbers specified shall be verified with vendors prior to ordering material.
- B. All materials shall be listed by a NRTL (i.e. UL, ETL, etc.) and have an associated label unless special fabrication of material is required. Special fabricated material shall be fabricated using listed components and procedures.
- C. Where the word "provide" is used, it shall require the contractor to furnish and install material complete to a workable system.
- D. All work shall be tested in accordance with industry accepted standards. Before testing, a thorough visual inspection shall be made to detect connection problems, damaged components, poor workmanship, inappropriate overcurrent protection, debris, etc. Testing apparatus shall be certified or demonstrated to be accurate within reasonable limits. Competent personnel familiar with the test equipment shall perform all tests. If testing procedures employed are not satisfactory to the Engineer, outside testing will be done at the Contractor's expense.
- E. Contractor to identify all electrical equipment with engraved 1/4" white letters on black Norplex-Micarta plates unless noted otherwise noted. Inscriptions shall indicate the name, voltage, phase, wires, feeder size, feeder source and location of source, and the device number.
- F. All low voltage cables shall be bundled and labeled as to their function within terminal cabinets, wireways and cable trays.
- G. Branch circuitry shall match circuit numbers as shown on the drawings and as scheduled. Any required deviation shall be indicated on the as-built drawings.
- H. All opening into equipment shall be sealed with galvanized steel plates or screens to prevent entry of insects and rodents.

SECTION 3 - CONDUIT

- A. Conduit:
1. Conduit Size: As indicated on drawings.
 2. All PVC shall be Schedule 40 where not specifically noted otherwise on drawings.
 3. PVC conduit used above grade shall be UV resistant.
 4. HDPE - As indicated on the drawings. Minimum wall thickness shall be SDR 13.5 unless otherwise noted on drawings.
- B. Installation:
1. Conduit bend radius shall not violate the minimum bending radius of cable.
 2. When non-metallic conduit requires field bending, utilize a hot-bending appliance. Use of torches to bend conduit is unacceptable.
 3. Suitable end caps shall be used during installation of conduit.
 4. Accurate record of all conduit routing shall be documented.
 5. Store and protect products in accordance with manufacturers' instructions, with seals and labels intact and legible.
 6. The interior joint surface shall be smooth to prevent damage to the cables.
 7. Contractor shall seal around all conduits with duct sealant or as required on the drawings.
 8. When cable is pulled into ducts, suitable pulling lubricant shall be used.
 9. All underground raceways shall have proper granular soil around then so as to prevent damage to the raceway.

SECTION 4 - WIRING AND CABLE

- A. Approved direct burial cable assembly shall be used only where approved.
- B. Use suitable wire pulling lubricant for wiring of 4 AWG and larger.
- C. Neatly trim and lace wiring inside boxes, equipment, and panelboards.
- D. Clean conductor surfaces before installing lugs and connectors.
- E. For aluminum wiring, apply an oxide inhibitor as recommended by the vendor.
- F. Make taps and terminations to carry full ampacity of conductors with no perceptible temperature rise.

- G. Identification
1. Control wiring shall be marked at both ends as to its function.
 2. Spare conductors shall be identified as such.

SECTION 5 - MEDIUM VOLTAGE CABLES

- I. MV Cables for the system shall be MV-105 Listed single conductor, insulated, shielded and jacketed medium voltage type power cable with 100% insulation level, 105° C. continuous operation rating, 140° C. emergency rating, 250° C. short circuit rating. Allowable neutral temperature during short circuit shall be 350° C.
- J. Concentric neutral cables shall have XLPE jackets, as identified in these plans.
- K. Cable shall have ASTM B-609 aluminum conductors with Class B stranding in accordance with ASTM B-231, moisture blocked strands, an extruded semi-conducting shield layer (40 mil min.) over the conductor for stress control, direct-burial RHW-2, XLPE insulation and a concentric copper neutral.
- L. Cables shall be Manufactured by Okonite, Prysmian, Southwire, General Cable, WTEC, or approved equal.
- M. Cable terminations shall be Manufactured by 3M, Raychem/Tyco, Eaton/Cooper, Richards, or approved equal. Non-load break cable terminations shall be for aluminum cable and shall be IEEE 386 compliant.
- N. Complete installation shall be per National Electrical Code Articles 310 and 328. Do not exceed manufacturer's published maximum pulling tension or sidewall pressure. Provide sufficient slack in cable, ground and drain wires to permit elbow connectors to be moved to their respective parking stands.
- O. All cables shall be labeled at each end at an accessible location for viewing. Label shall indicate circuit, phase, and destination/origination. Labels shall be color coded by phase (black, red, blue) with the circuit and destination/origination written in black letters and secured with a minimum of (2) UV-resistant zip ties.
- P. Splices and terminations shall be made by an experienced journeyman who has been trained by the manufacturer in the proper installation of their product. No splices shall be allowed unless specifically noted.
- Q. Arrange phases at termination points, A-B-C from left to right or top to bottom as viewed from the front unless otherwise noted.
- R. Test all cables according to IEEE Standard 400. Each power cable over 1000V shall be given a continuity and a direct current high potential test or VLF test after installation and after terminations having been made, but before connections have been made to busses or apparatus. All single conductor cables shall be tested between conductors and ground with metallic shield and the other two conductors grounded to the same ground. Each conductor shall be successively tested in the same manner. Direct current voltages shall be applied with negative polarity to the cable conductor.
- S. In addition to any testing specified herein, perform testing consistent with the requirements of the applicable codes, NETA Acceptance Testing criteria, and the manufacturers' current quality assurance program.
- T. Direct burial wiring to meet spacing requirements as identified in these plans.
- U. 100% of existing and new MV collection underground segments shall be VLF testing for all segments.

SECTION 6 - LOW VOLTAGE BOXES

- A. Pull and junction boxes shall be code gauge steel, gasketed, painted, galvanized steel, PVC, or fiberglass. Covers shall be secured with screws.
- B. Outlet boxes shall be cast malleable iron with threaded hubs or PVC and be of high conductive metal to maintain maximum electric continuity.
- C. All outlets shall be equipped with outlet boxes approved for the use.
- D. Covers or plates for boxes shall conform substantially to the outlet of the boxes with no projecting edges or corners.
- E. Conduit fittings ("LB", "C", "T") or types approved for the location may be employed as required to facilitate pulling in conductors.
- F. Provide pull and junction boxes to facilitate pulling or splicing of conductors.
- G. Mount boxes to allow for maximum flexibility.
- H. Install grounding bushings with bonding conductor on all metallic feeder conduits entering box. Ground bushings and bonding conductors are not required on branch circuit conduits.

SECTION 7 - MEDIUM VOLTAGE SECTIONALIZING CABINETS

- A. Sectionalizing cabinets shall be designed for burial with the junction modules or bushings mounted above the ground line. Pedestals shall be in complete conformance with ANSI C57.12.28, Pad-mounted Equipment Enclosure Integrity Standard.
- B. Sectionalizing cabinets shall be Manufactured by Nordic, Cooper, Hubbell, G&W, Power Design Inc., Highline, Federal Pacific, Hoffman, S&C, or approved equal.
- C. Enclosure shall be 3/16" nominal thickness fire resistant, laminate, fiberglass, with munsell green gel coat finish. Enclosure access doors shall utilize stainless steel hinges and shall have provisions for padlocking. Doors shall have provisions for securing in the open position.
- D. Provide junction panels with wells to accommodate the size and quantity of load break or non-load break elbows indicated on drawings.
- E. Provide ground bar in unit for bonding of ground conductors and concentric neutrals.
- F. Provide fiberglass ground sleeve extending 36" below cabinet installed on a 6" clean gravel base to allow drainage.
- G. The parking stand operates together with the stand-off bushing to allow for parking of energized or grounded MV cable.

SECTION 8 - DISCONNECT SWITCHES

- A. All disconnect switches shall be NEMA heavy duty Type H.D., horsepower rated, and U.L. listed. Disconnects shall be Eaton, GE, Square D, or Siemens.
- B. Provide auxiliary disconnect contacts for control circuits when supplied from an independent source.
- C. Switch Interior - All switches shall have switch blades which are fully visible in the off position when the door is open. Switches shall be of dead-front construction with permanently attached arc suppressors hinged or otherwise attached to permit easy access to line-side lugs without removal of the arc suppressor. Lugs shall be UL listed for copper and/or aluminum cables and front removable. All current carrying parts shall be plated by electrolytic processes.
- D. Switch Mechanism - Switches shall have a quick-make and quick-break operating handle and mechanism which shall be an integral part of the box, not the cover. Switches shall have a dual cover interlock to prevent unauthorized opening of the switch door in the ON position or closing of the switch mechanism with the door open. Switches shall provisions for locking the switch in both the ON and the OFF positions by padlock.
- E. Enclosures shall be NEMA 3R enclosures otherwise specified. Raintight covers shall be securable in the open position. Enclosures shall be code gauge (UL 98) galvanized steel (NEMA 3R). They shall be treated with a rust-inhibiting phosphate and finished in gray baked enamel.
- F. Install disconnect switches in an accessible location as convenient as possible to equipment served.
- G. Switches shall be rated for the voltage and system type they are used for.

SECTION 9 - GROUNDING

- A. Provide complete grounding systems as described herein and as shown on the drawings.
- B. All grounding components shall be listed for the purpose they are installed for. Components shall be Manufactured by AMPACT, Burndy, CADWELD, ITT Blackburn, IlSCO, Lyncole, or approved equivalent.
- C. Ground rods shall be 5/8 inch diameter by 10 feet long copper clad steel. Connecting cables shall be #3/0 AWG stranded, copper or as indicated on drawings.
- D. All metallic conduits, supports, cabinets, non-current carrying parts of equipment, and metallic structures shall be

- solidly grounded to form a continuous permanent and effective grounded system.
- E. All wireways, metal enclosures, cable trays and similar parts of the electrical installation described herein shall be grounded.
- F. Low voltage neutrals shall be bonded to the grounding system only at the point of establishing utility service and when establishing a separately derived system such as at the secondary side of transformers or at inverters. MV cable concentric neutrals shall be bonded to the grounding system at all terminations and splice locations.
- G. Ground Rods:
1. Copper-clad steel
 2. 3/4-inch diameter, or as indicated on Drawings.
 3. Length, 10 feet or as indicated on Drawings.
- H. Mechanical Connectors to be used for connections with concrete encasement unless otherwise indicated on drawings

I. WTG Grounding Wire

1. Stranded Copper
2. Size as indicated on Drawings

J. Trench Ground Wire

1. Copperclad Steel (40% Conductivity)
2. Size as indicated on Drawings

- K. Verify that final backfill, and compaction has been completed before driving ground rods.

- L. Install products in accordance with manufacturer's instructions.

- M. Provide bonding to meet regulatory requirements

- N. Bare grounding conductors shall be laid slack approximately 18 inches below grade or as otherwise specified in drawings.

- O. Ground rods should as much as practical be located as shown on the grounding plan. Each ground rod should be driven in undisturbed earth.

- P. Grounding requirements must meet turbine manufacturer's requirements as well as the requirements in the bid and design documents.

- Q. After all grounding connections are made, but before connecting the power cables trench ground, resistance readings for the completed foundation ground shall be recorded using the Fall of Potential method. Results shall be conveyed to the Engineer.

- R. Refer to MET tower supplier for grounding details.

- S. Ground rods shall be equal to their length and shall be laid out in a triangular pattern.

- T. All grounding electrode connections shall be exothermic type or irreversible crimp type unless otherwise indicated.

- U. Bolted connections to ground bus bars shall be made using a (2) eyelet irreversible crimp connector on the ground conductor. Where two holes are not available on the ground bus bar, a single eyelet irreversible crimp connector can be used.

- V. All transformers shall be bonded to the grounding electrode system as well as building steel.

- W. Bond all cable tray and equipment racks to ground with a minimum #6 AWG ground conductor.

- X. The true resistance to earth of the turbine grounding system shall be tested by the fall of potential method and compared to manufacturer requirements.

- Y. Grounding/earthing design per turbine manufacturer documentation .

SECTION 10 - CABLE TERMINATIONS AND SPLICES

A. Cable Splices:

1. Cold shrink splices shall be designed to meet or exceed IEEE 404 and ANSI C119.
2. All manufacturer's recommendations and installation procedures shall be explicitly followed.
3. The contractor shall be proficient with all requirements of the manufacturers splice installation procedures.
4. Cable splicing shall be completed under weather conditions suitable for this type of work.
5. The cable circuits shall be grounded at each splice location per installation drawings.
6. No splices shall be allowed unless specifically noted or approved by Owner.
7. Splicing of two different cable sizes is not allowed.
8. Arrange phases at termination points, A-B-C from left to right or top to bottom as viewed from the front unless otherwise noted.
9. Marker balls and GPS locations at all splices shall also be provided.
10. All concentric shield wires shall be bonded and grounded at each splice
11. Ensure splice has a watertight seal.
12. A protective tent must be erected around the splicing location.
13. If the temperature at the splicing location is below 40°F a heat source shall be located at the splicing location to heat the protective tent to 45°F

B. Dead Break Elbow, Cable Connector, Accessories, 600 Amp:

1. At each termination there shall be enough cable for two additional terminations. This shall be accomplished through S-loop outside the equipment or service loops within a vault.
2. Non-load break cable terminations shall be for aluminum cable and shall be IEEE 386 compliant.
3. Install cable and accessories in accordance with manufacturer's instructions.
4. Ground concentric neutrals and drain wires at each termination.
5. Cable shall be always handled properly to avoid damage, and not be dragged across the ground or sharp projections.
6. The ends of the cable shall be sealed at all times against moisture with suitable end caps.
7. Complete installation shall be per National Electrical Code Articles 310 and 328. Do not exceed manufacturer's published maximum pulling tension or sidewall pressure.
8. Provide sufficient slack in cable, ground and drain wires to permit elbow connectors to be moved to their respective parking stands.
9. Avoid excessive bending of the cable. The ends of the cable shall be sealed at all times against moisture with suitable end caps. Where it is necessary to cut the cable, the ends shall be terminated or sealed immediately after the cutting operation.
10. Heating equipment and/or enclosures will be used to maintain the cable, tools and installation materials at a temperature recommended by the manufacturer at all exposed locations, until each particular phase of installation is complete.
11. Inspect cable for proper connections as shown on drawings.
12. Inspect shield ground terminals for proper installation.

C. Directional Fault Indicators:

1. Fault indicators shall be installed on the elbow per manufacturer's instructions. Care shall be taken to route the concentric neutral wires in the proper manner so as to avoid cancellation effects. (i.e. wires shall pass through the fault indicator either not at all, or in both directions).
2. Install fault indicators in the locations shown on the drawings.

D. Compression Lugs:

1. For connection of cable to padmounted transformers and low voltage connections at wind turbine (if applicable).
2. Suitable for use with aluminum conductors.
3. Install per manufacturer's recommendations.

SECTION 12 - SURGE ARRESTERS

A. Surge Arresters:

1. 600 A, dead break with IEEE Std 386 interface.
2. For use on 34.5 kV RMS line-to-line system.
3. MCOV rating as indicated on drawings.

B. Installation:

1. Accordance with manufacturer's instructions.
2. Install per manufacturers recommendations, owner's scope of work, and as shown on the drawings.
3. Arrester ground wires shall be bonded to local ground wire in equipment.

SECTION 13 - FIBER OPTIC CABLE

A. Fiber Optic Cable:

1. The fiber optic cable shall be single mode, 9/125 micron cable with 12 strands.
2. Single jacket, loose tube with water blocking material to be placed in an underground duct application.
3. Fiber to be installed in 1.25" HDPE innerduct per the drawings.

B. Fiber Optic Cable Termination sand Splice Enclosures:

1. Terminations shall be completed with either an approved fiber optic pigtail kit or with approved mechanical connectors and an approved fanout kit.
2. Splice enclosure shall be mechanical sealed thermoplastic units.

- C. The fiber hand holes shall be a precast polymer concrete for underground construction.

D. Fiber Optical Cable Installation:

1. Installation shall be done in a professional manner in accordance with the Drawings and Specifications.
2. All material shall be stored so as to be protected from deteriorating effects of the elements.
3. All fiber optic cable testing shall be performed with an Optical Time Domain Reflectometer (OTDR) in both directions. Testing shall be completed on each fiber optic cable and strand, from termination to termination.
4. All manufacturer's recommendations and installation procedures shall be explicitly followed.
5. Cable shall be installed with proper observance of cable's minimum bending radius during installation , and permanent , per the manufacturer.
6. The contractor shall be proficient with all requirements of the installation procedures.
7. Patch Panel Labeling: If the cable manufacturer has not color coded the individual strands then the strands shall be labeled with sequential numbers
8. Every cable shall be labeled on both ends.
9. The label on the cable shall be placed as close to the end of the cable where the sheathing has been stripped away. It shall be placed in a location easily viewable after the cable has been installed.
10. Additional labeling shall be used as required to enable fast and reliable assembly and maintenance of network. Any additional labeling shall be standardized throughout the project, recorded, and documented.

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Hoffman Falls
Wind Project

Madison County, New York

Electrical Notes

ISSUE FOR PERMIT

DATE: 8/29/2024

SHEET: E0010

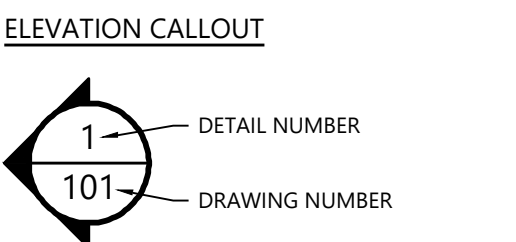
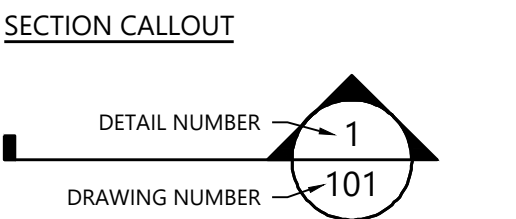
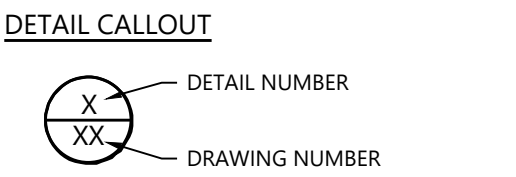
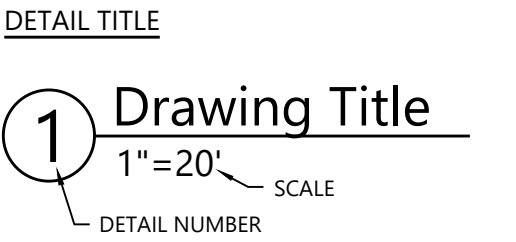
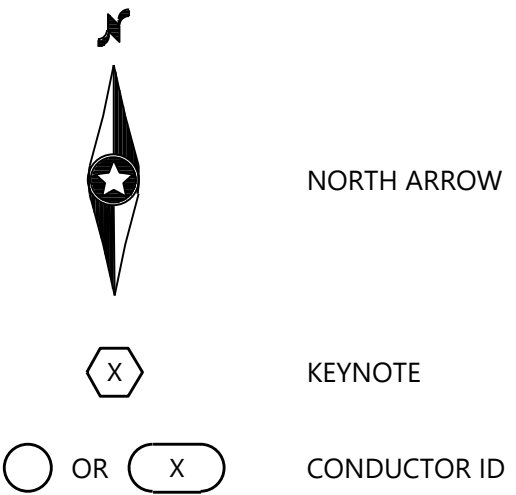
REV:

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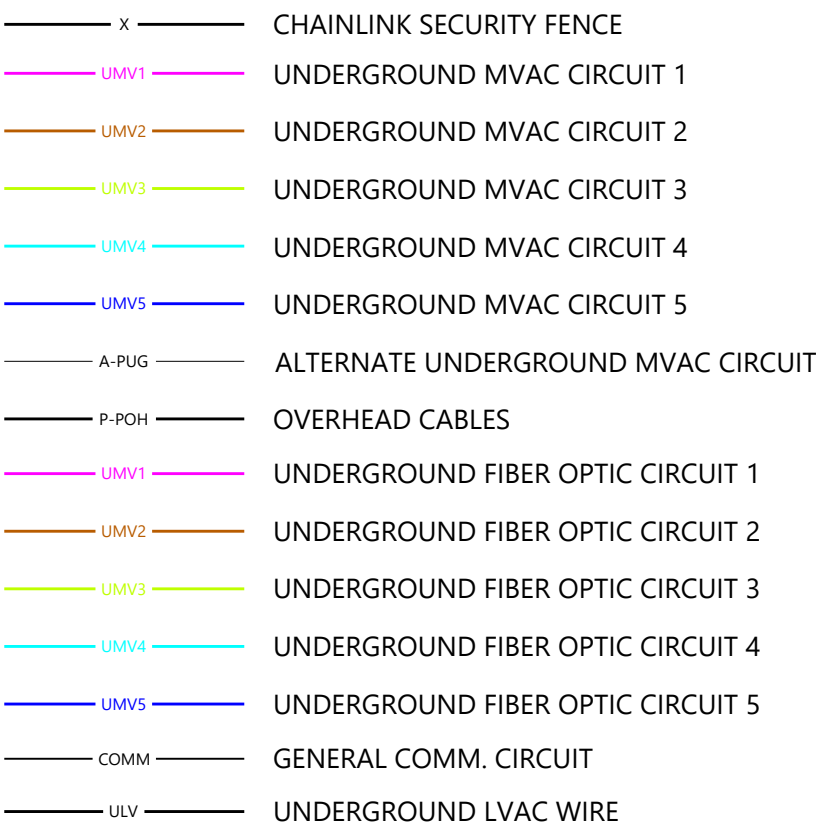
ABBREVEATIONS:

| | | | | | |
|---------|---------------------------------------|--------|-------------------------------|-------|------------------------------------|
| A, AMP | AMPERAGE | ELEC | ELECTRIC/ELECTRICAL | PLS | POLE - STEEL |
| A/E | ARCHITECT/ENGINEER | EMT | ELECTRICAL METAL TUBING | PLW | POLE - WOOD |
| AAT | AMBIENT AIR TEMPERATURE SENSOR | ENGR | ENGINEER | PNL | PANEL |
| ABAN | ABANDON | EOP | EDGE OF PAVEMENT | PROP | PROPERTY/PROPOSED |
| ABC | AGGREGATE BASE COURSE | EQ | EQUAL | PVC | POLYVINYL CHLORIDE |
| AC | ALTERNATING CURRENT | EQUIP | EQUIPMENT | PVMT | PAVEMENT |
| ACC | ASPHALTIC CONCRETE PAVEMENT | EST | ESTIMATE | PWR | POWER |
| ADDL | ADDITIONAL | EXC | EXCAVATION | QTY | QUANTITY |
| ADJ | ADJUSTABLE/ADJACENT | EXIST | EXISTING | R | RADIUS |
| AFCI | ARC FAULT CIRCUIT INTERRUPTER | F | FUSE | R&R | REMOVE AND REPLACE |
| AFF | ABOVE FINISH FLOOR | FBO | FURNISHED BY OTHERS | R&S | REMOVE AND SALVAGE |
| AFG | ABOVE FINISH GRADE | FG | FINISHED GRADE | RCB | RECOMBINER BOX |
| AGGR | AGGREGATE | FLR | FLOOR | RCPT | RECEPTACLE |
| AIC | AMPS INTERRUPTING CAPACITY | FLUOR | FLUORESCENT | RCT | REACTOR |
| AL | ALUMINUM | FOC | FACE OF CONCRETE/CURB | REF | REFERENCE |
| ALIG | ALIGNMENT | FT | FEET/FOOT | REL | RELAY |
| ALT | ALTERNATE | FUT | FUTURE | REQD | REQUIRED |
| ANE | ANEMOMETER | GEN | GENERAL | RET | RETAINING |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE | GFI | GROUND FAULT INTERRUPTER | REV | REVISION |
| APRX | APPROXIMATE | GND | GROUND CONDUCTOR | RGH | ROUGH |
| APVD | APPROVED | GR | GRADE | RM | ROOM |
| ARCH | ARCHITECTURAL | GSW | GANG-OPERATED SWITCH | RMT | REVENUE METER |
| ASSY | ASSEMBLY | GVL | GRAVEL | RTU | RTU |
| ATS | AUTOMATIC TRANSFER SWITCH | HORIZ | HORIZONTAL | SA | SURGE ARRESTOR |
| AUTO | AUTOMATIC | HP | HORSE POWER | SAN | SANITARY |
| AUX | AUXILIARY | HPY | HORIZONTAL PYRANOMETER | SC | SEPARABLE CONNECTOR |
| AWG | AMERICAN WIRE GAUGE | HT | HEIGHT | SCHED | SCHEDULE |
| BAT | BATTERY | HZ | HERTZ | SD | STORM DRAIN |
| BITUM | BITUMINOUS | I, INV | INVERTER | SEC | SECTIONALIZER |
| BKR | BREAKER | ID | INSIDE DIAMETER | SHT | SHEET |
| BL | BASE LINE | IE | INVERT ELEVATION | SL | SLOPE |
| BLDG | BUILDING | IMC | INTERMEDIATE METALLIC CONDUIT | SOG | SLAB ON GRADE |
| BMP | BEST MANAGEMENT PRACTICE | IN | INCH | SPD | SURGE PROTECTOR DEVICE |
| BOC | BACK OF CURB | INS | INSULATOR | SPEC | SPECIFICATION |
| BRD | BOARD | INV | INVERT | SQ | SQUARE |
| BUS | BUS CONDUCTOR | JB | JUNCTION BOX (J-BOX) | SQ FT | SQUARE FEET |
| C | CONDUIT | JBM | JUNCTION BOX - MEDIUM VOLTAGE | STA | STATION |
| C&G | CURB AND GUTTER | JMP | JUMPER CONDUCTOR | STD | STANDARD |
| CAB | CABINET | KO | KNOCKOUT | STL | STRUCTURAL STEEL |
| CB, CBK | CIRCUIT BREAKER | KV | KILOVOLT | SW | SWITCH |
| CBL | CABLE | KVA | KILOVOLT AMPERE | SWBD | SWITCHBOARD |
| CCB | CONCRETE BLOCK | KVAR | KILOVOLT AMPERE REACTIVE | SWF | SWITCH - FUSED |
| CCTV | CLOSED CIRCUIT TELEVISION | KW | KILOWATT | SWG | MEDIUM VOLTAGE SWITCHGEAR |
| CE | CONCRETE EDGE | KWH | KILOWATT HOUR | SY | SQUARE YARD |
| CF | CUBIC FOOT/FEET | LAR | LIGHTNING ARRESTOR | SYS | SYSTEM |
| CHGR | BATTERY CHARGER | LATL | LATERAL | T&B | TOP AND BOTTOM |
| CIP | CAST-IN-PLACE | LBS | POUNDS | TB | TAP BOX |
| CL | CENTERLINE | LP | LOWPOINT | TC | TRACKER CONTROLLER |
| CLM | CELLULAR MODEM | LT | LIGHT | TEL | TELEPHONE |
| CLR | CLEAR, CLEARANCE | LTG | LIGHTING | TFH | TRANSFORMER - MAIN STEP-UP |
| CMB | COMBINER BOX | LV | LOW VOLTAGE | TFM | TRANSFORMER - INVERTER STEP-UP |
| CMP | CORRUGATED METAL PIPE | MA | MILLIAMPERE | TFS | TRANSFORMER - STATION SERVICE |
| CMT | CHECK METER | MATL | MATERIAL | THS | THERMAL SENSOR |
| CMU | CONCRETE MASONRY UNIT | MAX | MAXIMUM | TM | TRACKER MOTOR |
| CNT | CONDUIT | MBR | MAIN BREAKER | TOB | TOP OF BERM |
| CO | CLEANOUT | MCB | MAIN CIRCUIT BREAKER | TOC | TOP OF CURB |
| CONC | CONCRETE | MCC | MOTOR CONTROL CENTER | TOPO | TOPOGRAPHY |
| CONN | CONNECTION | MET | METERING STATION | TOS | TOP OF SLAB/TOE OF SLOPE |
| CONST | CONSTRUCTION | MFR | MANUFACTURER | TT | TORQUE TUBE |
| CONTR | CONTRACTOR | MIN | MINIMUM | TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| CPC | CAPACITOR BANK | MLO | MAIN LUGS ONLY | TYP | TYPICAL |
| CT | CURRENT TRANSFORMER | MON | MONUMENT | UCT | UNDERGROUND CABLE TERMINATION |
| CTR | CENTER | MPNL | METER PANEL | UG | UNDERGROUND |
| CTRL | CONTROL | MTD | MOUNTED | UNO | UNLESS NOTED OTHERWISE |
| CU | COPPER | MTR | METER | UPS | UNINTERRUPTIBLE POWER SUPPLY |
| DAM | DATA ACQUISITION MODULE | NA | NOT APPLICABLE | UTIL | UTILITY |
| DAS | DATA ACQUISITION SYSTEM | NC | NORMALLY CLOSED | V | VOLT |
| DC | DIRECT CURRENT | NDS | NIGHTTIME DISCONNECT SWITCH | VA | VOLT AMPERE |
| DCA | DISCONNECT - AC | NO | NORMALLY OPEN | VT | VOLTAGE TRANSFORMER |
| DCD | DISCONNECT - DC | NTS | NOT TO SCALE | W | WATT |
| DCF | DISCONNECT - FUSED | OC | ON CENTER | W/ | WITH |
| DCH | DISCONNECT - HIGH VOLTAGE | OHC | OVERHEAD CONDUCTOR | W/O | WITHOUT |
| DCM | DISCONNECT - MEDIUM VOLTAGE | PAP | PLANE OF ARRAY PYRANOMETER | WP | WEATHERPROOF |
| DCI | COMBINER INPUT AT INVERTER | PB | PUSHBUTTON | WS | WEATHER STATION |
| DEMO | DEMOLITION | PCC | PORTLAND CONCRETE PAVEMENT | WSS | WIND STOW SWITCHES |
| DIA | DIAMETER | PEN | ROOF PENETRATION | WTG | WIND TURBINE GENERATOR |
| DISC | DISCONNECT | PF | POWER FACTOR | WVA | WEATHER VANE |
| DTL | DETAIL | PH,Φ | PHASE | XFMR | TRANSFORMER |
| DWG | DRAWING | PIL | SUPPORT PILE | XSECT | CROSS SECTION |
| EA | EACH | PL | PROPERTY LINE | | |
| EL | ELEVATION | PLC | PROGRAMMABLE LOGIC CONTROLLER | | |

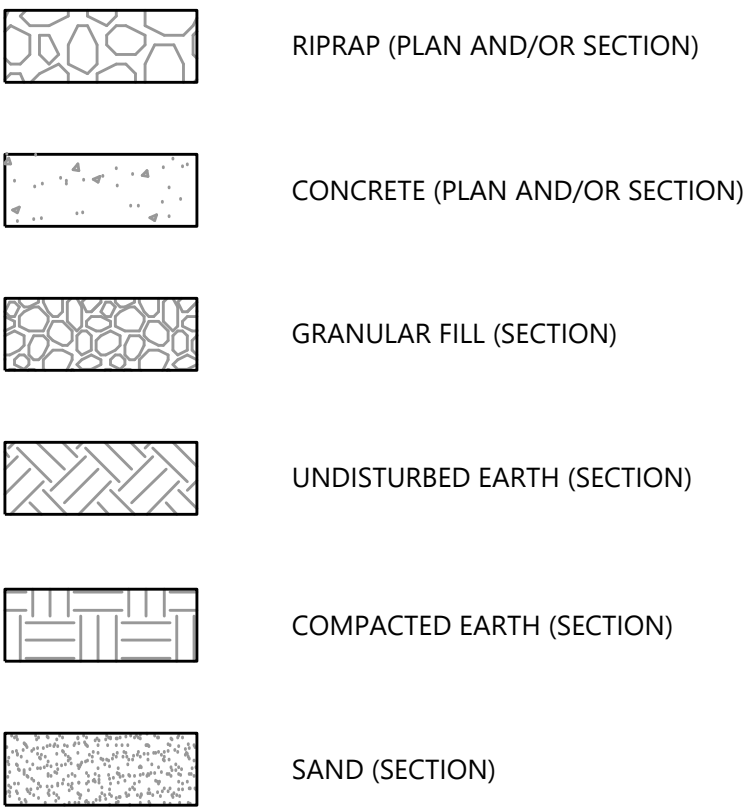
GENERAL SYMBOLOGY:



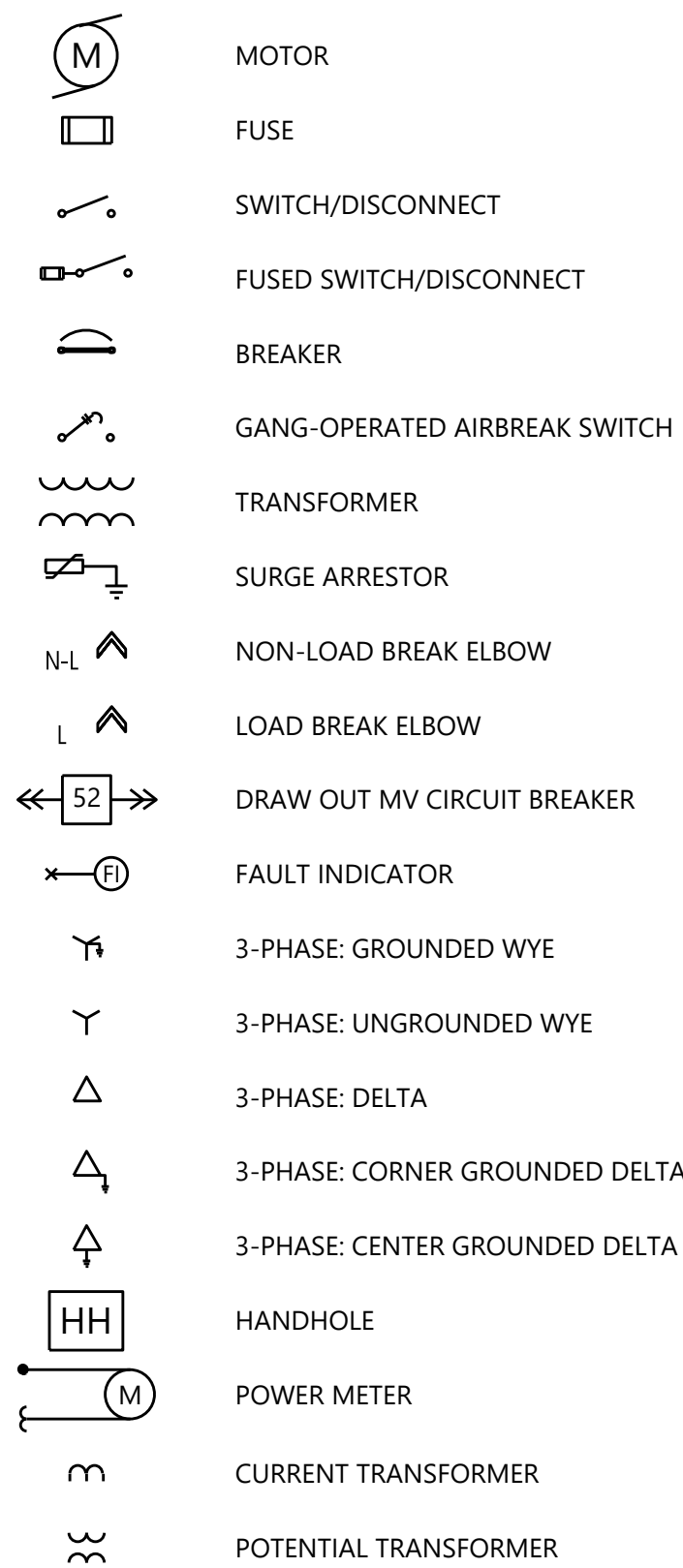
PLAN LINE SYMBOLOGY:



MATERIALS IN PLAN/SECTION:

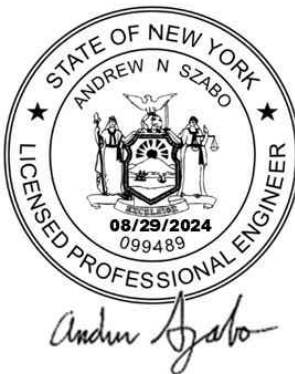


ELECTRICAL SYMBOLOGY:



NOTES:

1. THIS IS A STANDARD SYMBOLOGY AND ABBREVIATION SHEET. ALL SYMBOLS AND ABBREVIATIONS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SYMBOLS AND ABBREVIATIONS, SHOWN ON THIS PLAN, APPLY TO THIS ENTIRE SET OF PLANS.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.



PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| | | | | |
|------------|------------|---------------------------------|-----|-----|
| REVISIONS: | | | | |
| # | DATE | COMMENT | BY | CHK |
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH |
| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH |
| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK |

Hoffman Falls
Wind Project

Madison County, New York

Symbology &
Abbreviations

ISSUE FOR PERMIT

DATE: 8/29/2024

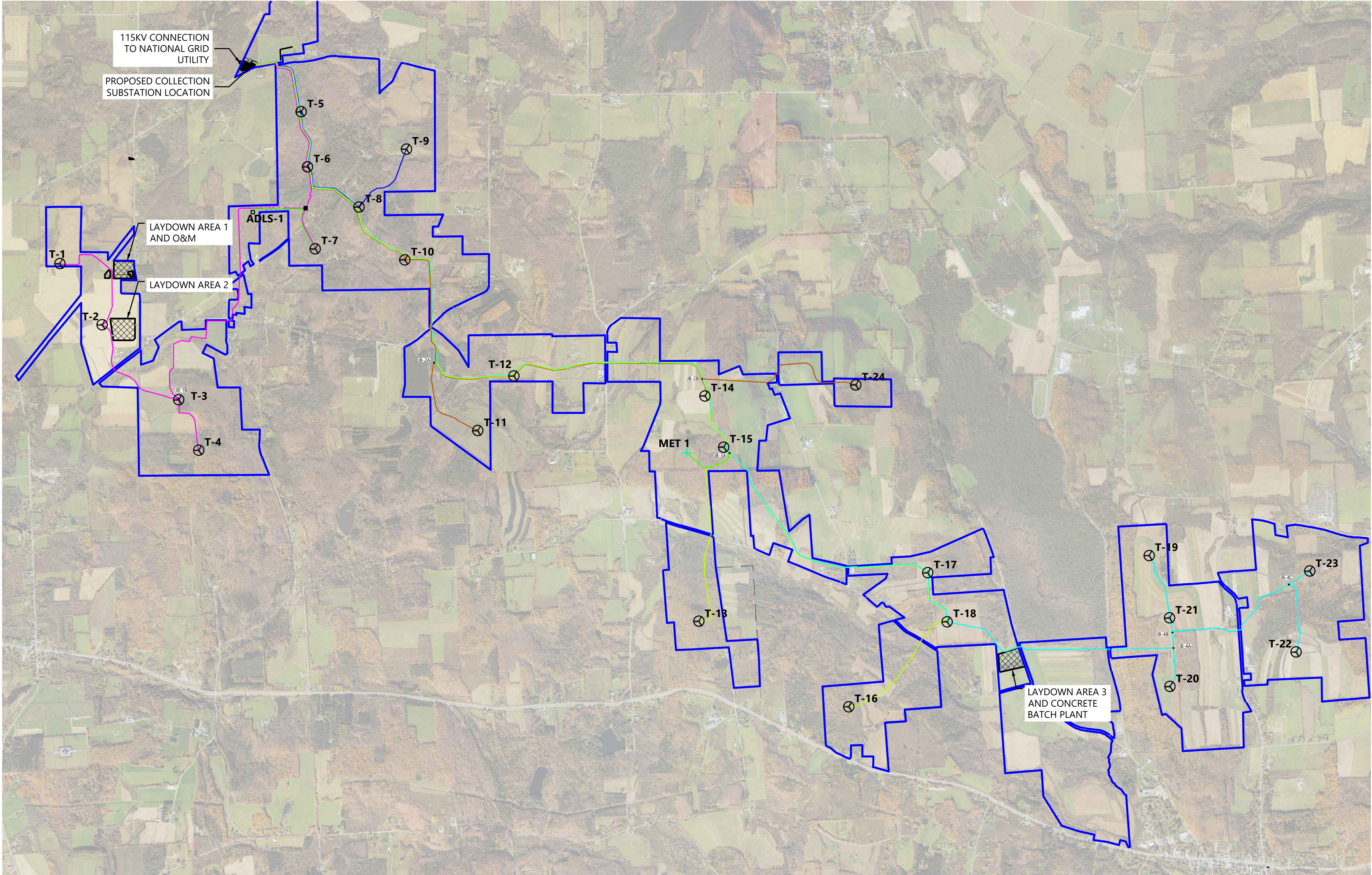
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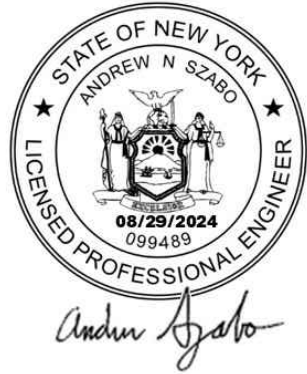
| EQUIPMENT LABELING KEY | | | |
|------------------------|---------------------------------------|---------------|--|
| PART | TYPICAL NAMING | RANGE | EXAMPLE |
| MV CIRCUIT | MV(FEEDER ID) | | MV1 |
| | FEEDER ID | 1, 2, 3, 4, 5 | |
| TURBINE | T-(TURBINE NUMBER) | | T-01 |
| | TURBINE NUMBER | 01-24 | |
| MV JUNCTION BOX | JB(FEEDER ID)-(BOX NUMBER) | | JB-1A |
| | FEEDER ID | 1, 2, 3, 4, 5 | |
| | BOX NUMBER | A-X | |
| MV CABLE SPLICE | SP(FEEDER ID)-(BOX NUMBER) | | SP1-2 |
| | FEEDER ID | 1, 2, 3, 4, 5 | |
| | BOX NUMBER | 1-X | |
| MV CABLE | (FEEDER ID).MV.(SOURCE)-(DESTINATION) | | 1.MV.SUB-T-01 1.MV.JB1A-T-07 1.MV.SP1-1-T-01 1.MV.T-01-T-02 |
| | FEEDER ID | 1, 2, 3, 4 | |
| | SOURCE-DESTINATION - EXAMPLE | SUB-T-01 | |
| | SOURCE-DESTINATION - EXAMPLE | JB1A-T-07 | |
| | SOURCE-DESTINATION - EXAMPLE | SP.1-T-01 | |
| | SOURCE-DESTINATION - EXAMPLE | T-01-T-02 | |

| EQUIPMENT LABELING KEY | | | |
|------------------------|------------------------------|---------------|---------|
| AUX PANELBOARD | PNL.(TURBINE NUMBER) | | PNL.01 |
| | TURBINE NUMBER | 01-24 | |
| FO PATCH PANEL | FOPP-(TURBINE NUMBER) | | FOPP-01 |
| | TURBINE NUMBER | 01-24 | |
| FO CABLE SPLICE | FOSP(FEEDER ID)-(BOX NUMBER) | | FOSP1-1 |
| | FEEDER ID | 1, 2, 3, 4, 5 | |
| | BOX NUMBER | 1-X | |
| FIBER CABLE | FO(FEEDER ID) | | FO1 |
| | FEEDER ID | 1, 2, 3, 4, 5 | |
| MET TOWER | MET-(MET TOWER NUMBER) | | MET-1 |
| | MET TOWER NUMBER | 1-X | |
| BORE LABEL | DB(FEEDER ID)-(BORE NUMBER) | | DB1-1 |
| | BORE NUMBER | 1-X | |



LEGEND:

- T-# WIND TURBINE
- MET-# MET TOWER LOCATION
- ADLS-#X ADLS TOWER
- CHAINLINK SECURITY FENCE
- UNDERGROUND MVAC CIRCUIT 1
- UNDERGROUND MVAC CIRCUIT 2
- UNDERGROUND MVAC CIRCUIT 3
- UNDERGROUND MVAC CIRCUIT 4
- UNDERGROUND MVAC CIRCUIT 5
- UNDERGROUND POWER CABLES
- OVERHEAD POWER LINE
- UNDERGROUND LVAC CIRCUIT
- PROPOSED ACCESS ROAD
- OVERALL PROJECT BOUNDARY
- ROAD RIGHT-OF-WAY LINES
- PROPOSED LAYDOWN YARD

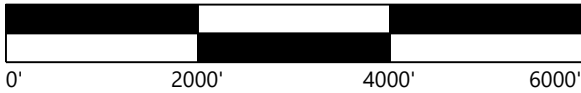


PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | |
|------------|------------|---------------------------------|-----|-----|
| # | DATE | COMMENT | BY | CHK |
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH |
| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH |
| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK |



Hoffman Falls
Wind Project

Madison County, New York

Overall MV Site Plan

ISSUE FOR PERMIT

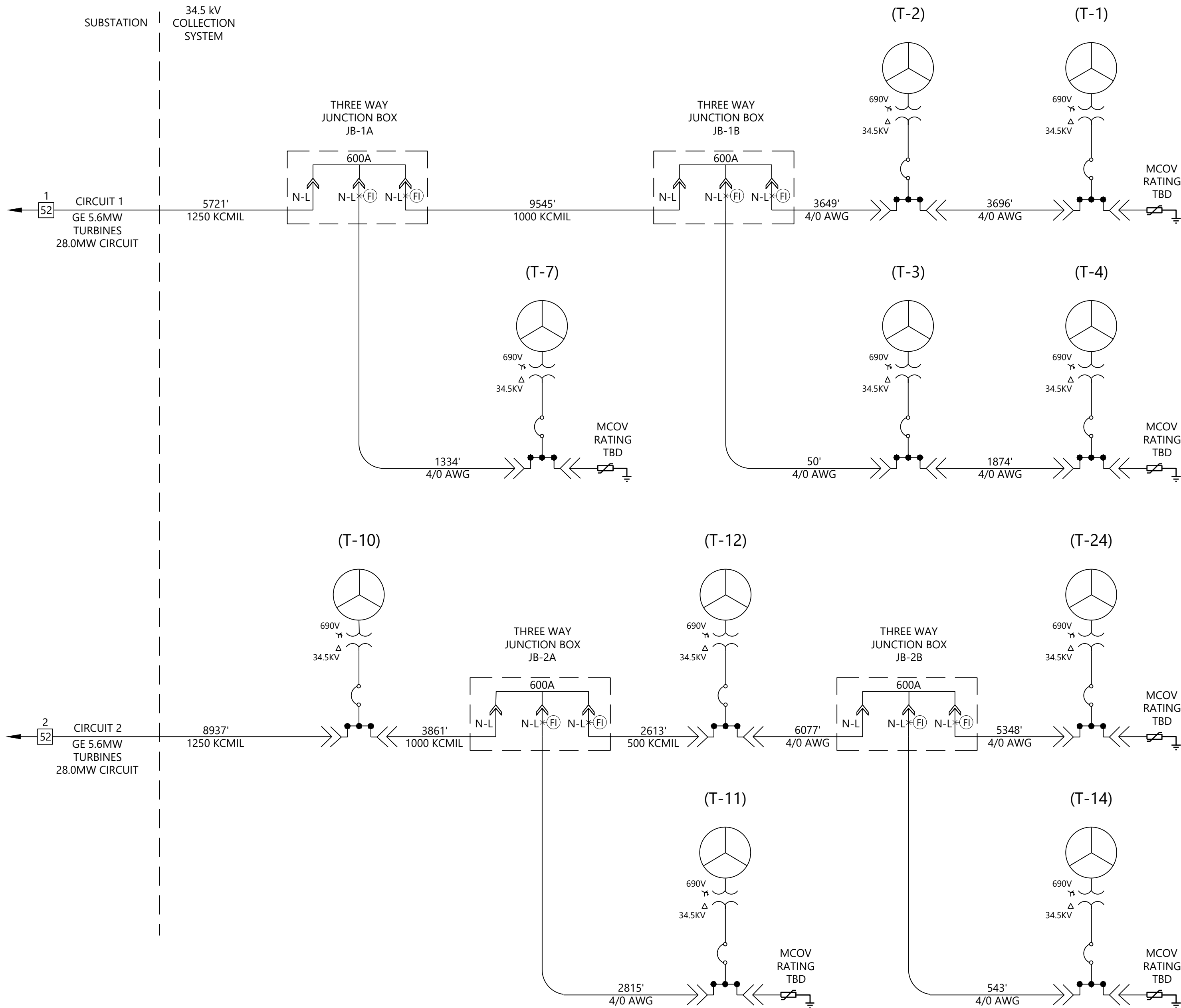
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| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| | E1100 | E1101 | | | | | | | |
| E1102 | E1103 | E1104 | E1105 | E1106 | | | | | |
| | E1107 | E1108 | | E1109 | E1110 | E1111 | E1112 | | |
| | | | | E1113 | E1114 | E1115 | E1116 | | |

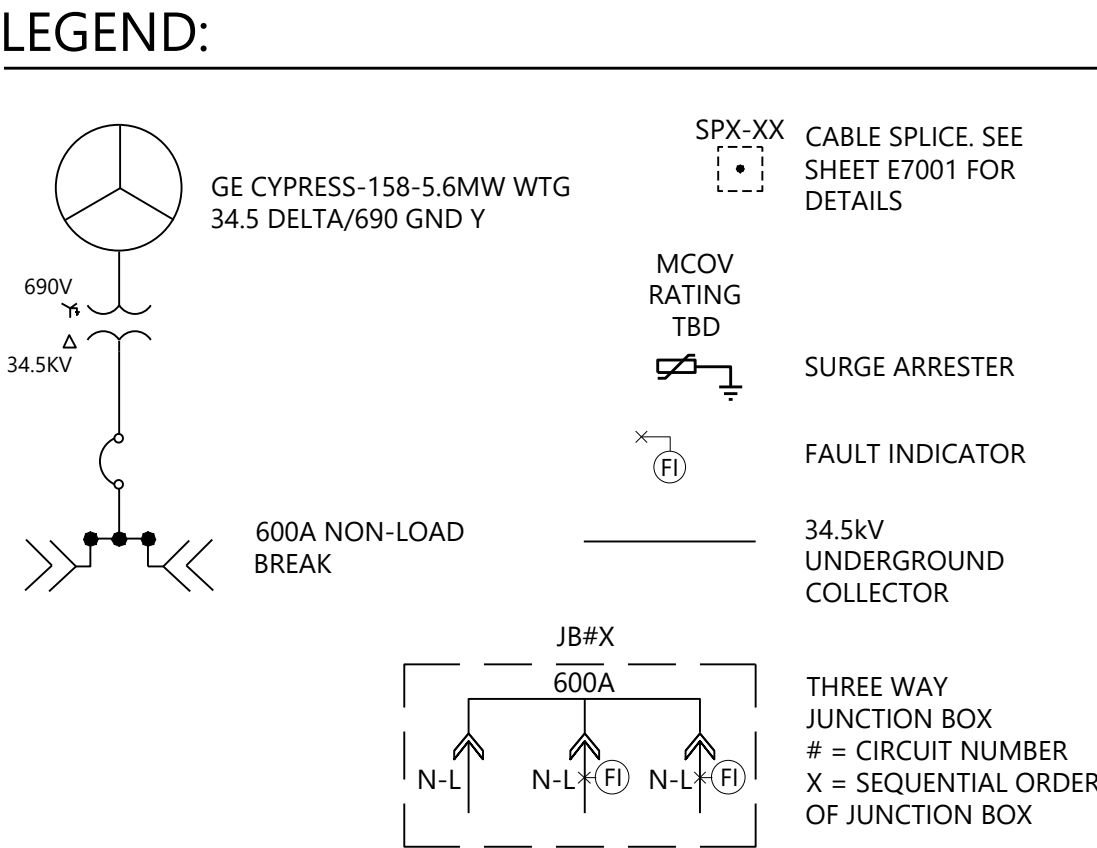
KEY MAP



1 Circuits 1 and 2
NTS

| MVAC WIRING SCHEDULE | | | | | | | | | | | | | |
|----------------------|-------------------------|-----------------------|-----------------------|----------------|---------|-------------|----------------|--------------------|------------------------|----------------|-----------------------|---------------------------|---|
| CIRCUIT | CONDUCTOR LOCATION CODE | ORIGINATING EQUIPMENT | TERMINATING EQUIPMENT | RATED Vac (kV) | Iac (A) | LENGTH (FT) | CONDUCTOR SIZE | CONDUCTOR MATERIAL | # OF PARALLEL CIRCUITS | VOLTAGE DROP % | GROUND CONDUCTOR SIZE | GROUND CONDUCTOR MATERIAL | CONDUCTOR SPECIFICS |
| 1 | MV1.SUB-JB-1A | SUB | JB-1A | 34.5 | 520.64 | 5,721 | 1250 | AL | 1 | 0.3480% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 18#16 CN, XLPE |
| | MV1.JB-1A-JB-1B | JB-1A | JB-1B | 34.5 | 416.51 | 9,545 | 1000 | AL | 1 | 0.5520% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 15#16 CN, XLPE |
| | MV1.JB-1B-T-3 | JB-1B | T-3 | 34.5 | 208.26 | 50 | 4/0 | AL | 1 | 0.0094% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV1.T-3-T-4 | T-3 | T-4 | 34.5 | 104.13 | 1,874 | 4/0 | AL | 1 | 0.1114% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV1.JB-1B-T-2 | JB-1B | T-2 | 34.5 | 208.26 | 3,649 | 4/0 | AL | 1 | 0.4305% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV1.T-2-T-1 | T-2 | T-1 | 34.5 | 104.13 | 3,696 | 4/0 | AL | 1 | 0.2180% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV1.JB-1A-T-7 | JB-1A | T-7 | 34.5 | 104.13 | 1,334 | 4/0 | AL | 1 | 0.0798% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| 2 | MV2.SUB-T-10 | SUB | T-10 | 34.5 | 520.64 | 8,937 | 1250 | AL | 1 | 0.5426% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 18#16 CN, XLPE |
| | MV2.T-10-JB-2A | T-10 | JB-2A | 34.5 | 416.51 | 3,861 | 1000 | AL | 1 | 0.2243% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 15#16 CN, XLPE |
| | MV2.JB-2A-T-12 | JB-2A | T-12 | 34.5 | 312.38 | 2,613 | 500 | AL | 1 | 0.2094% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 9#16 CN, XLPE |
| | MV2.T-12-JB-2B | T-12 | JB-2B | 34.5 | 208.26 | 6,077 | 4/0 | AL | 1 | 0.7145% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV2.JB-2B-T-24 | JB-2B | T-24 | 34.5 | 104.13 | 5,348 | 4/0 | AL | 1 | 0.3146% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV2.JB-2B-T-14 | JB-2B | T-14 | 34.5 | 104.13 | 543 | 4/0 | AL | 1 | 0.0335% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |
| | MV2.JB-2A-T-11 | JB-2A | T-11 | 34.5 | 104.13 | 2,815 | 4/0 | AL | 1 | 0.1664% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE |

- NOTES:
- WIND TURBINE GENERATORS DESIGNED AND ASSEMBLED BY OTHERS AND SHOWN FOR REFERENCE ONLY. WESTWOOD PROFESSIONAL SERVICES NOT RESPONSIBLE FOR WIND TURBINE GENERATOR DESIGN CONFORMING TO NEC OR ANY OTHER APPLICABLE LOCAL, STATE OR NATIONAL RECOGNIZED CODES OR REGULATIONS.
 - PROVIDE EXTERNAL SURGE ARRESTERS AT END-OF-LINE SWITCHGEAR BUSHINGS.
 - INSTALL ALL EQUIPMENT AND WIRING IN ACCORDANCE WITH THE NEC AND NESC.
 - ABOVE-GRADE JUNCTION BOXES OR DIRECT BURIED SPLICES TO BE INSTALLED AS NECESSARY WHERE RUN LENGTHS EXCEED AVAILABLE REEL LENGTHS.
 - DISTANCES SHOWN REFLECT LINEAR 2D DISTANCES BETWEEN TURBINES. TERMINATION LENGTH OF 50' SHOULD BE ADDED AT EACH END. CONTRACTOR SHALL PROVIDE ADDITIONAL LENGTH FOR ELEVATION CHANGE AND WASTE.
 - PRELIMINARY CABLE SIZING BASED ON ASSUMED SOIL RESISTIVITY OF 220 C-CM/W, CORRESPONDING TO AN ASSUMED NATIVE BACKFILL AT 85% COMPACTION. FINAL CABLE SIZING TO BE DETERMINED AFTER SITE SPECIFIC SOIL THERMAL RESISTIVITY DATA IS OBTAINED.
 - GROUND CONDUCTOR TO BE RUN WITH ALL MV CABLES, SIZING PENDING FUTURE STUDIES.
 - CONCENTRIC NEUTRALS SHALL BE BONDED TO GROUND AT ALL TERMINATIONS AND AT SPLICE LOCATIONS.
 - THE REPRESENTATION OF CABLE CONNECTION AND CIRCUIT BREAKER AT WIND TUBINE IS CONCEPTUAL PENDING FINAL SELECTION OF SWITCHGEAR STYLE.



Westwood
Surveying & Engineering

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
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Westwood Surveying and Engineering, P.C.

PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

REVISIONS:

| # | DATE | COMMENT | BY | CHK | APR |
|---|------------|---------------------------------|-----|-----|-----|
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH | DNS |
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| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK | DNS |

**Hoffman Falls
Wind Project**

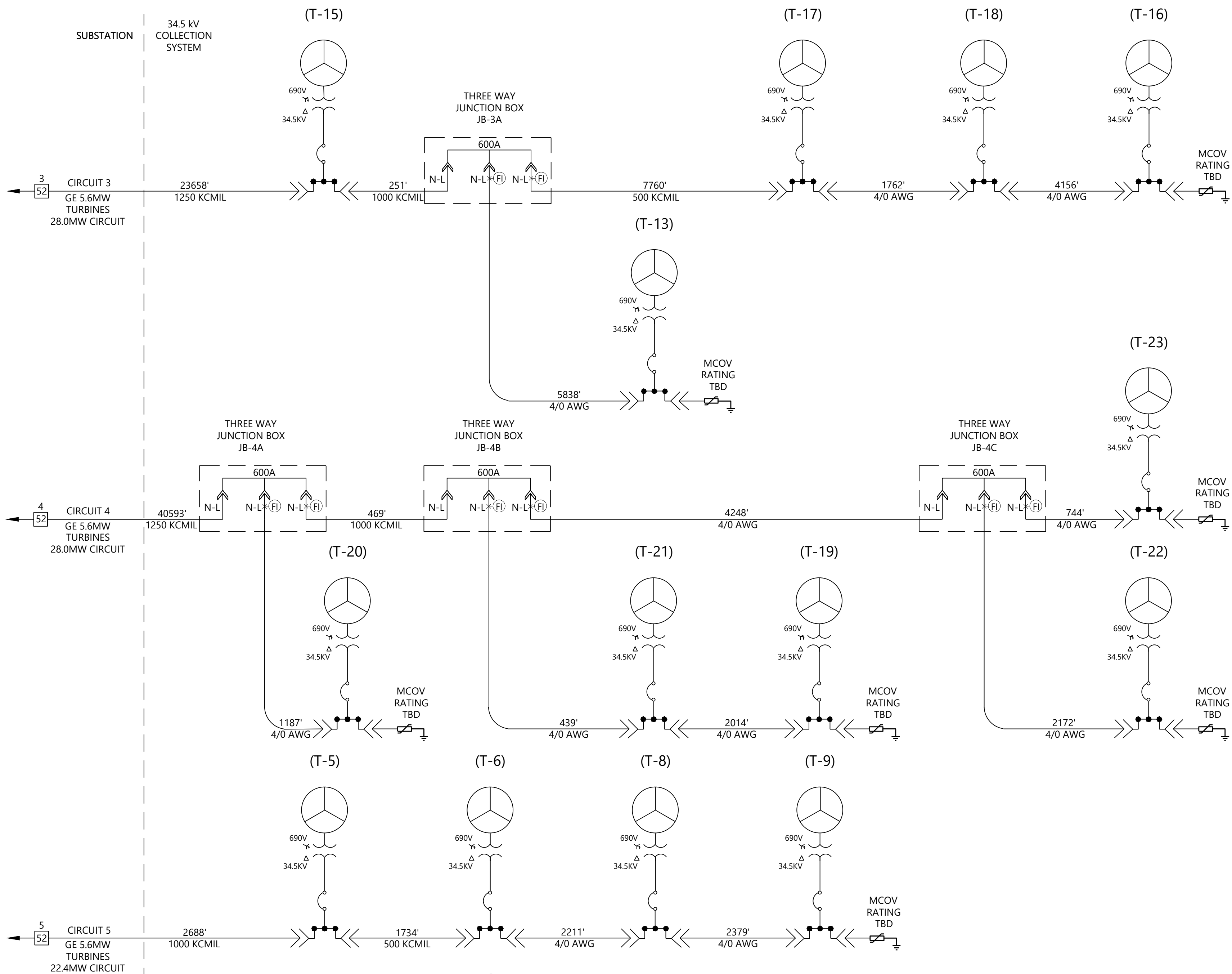
Madison County, New York

MV Circuit Single Line
Diagram

ISSUE FOR PERMIT

DATE: 8/29/2024 REV: C

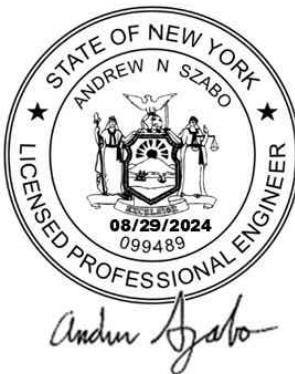
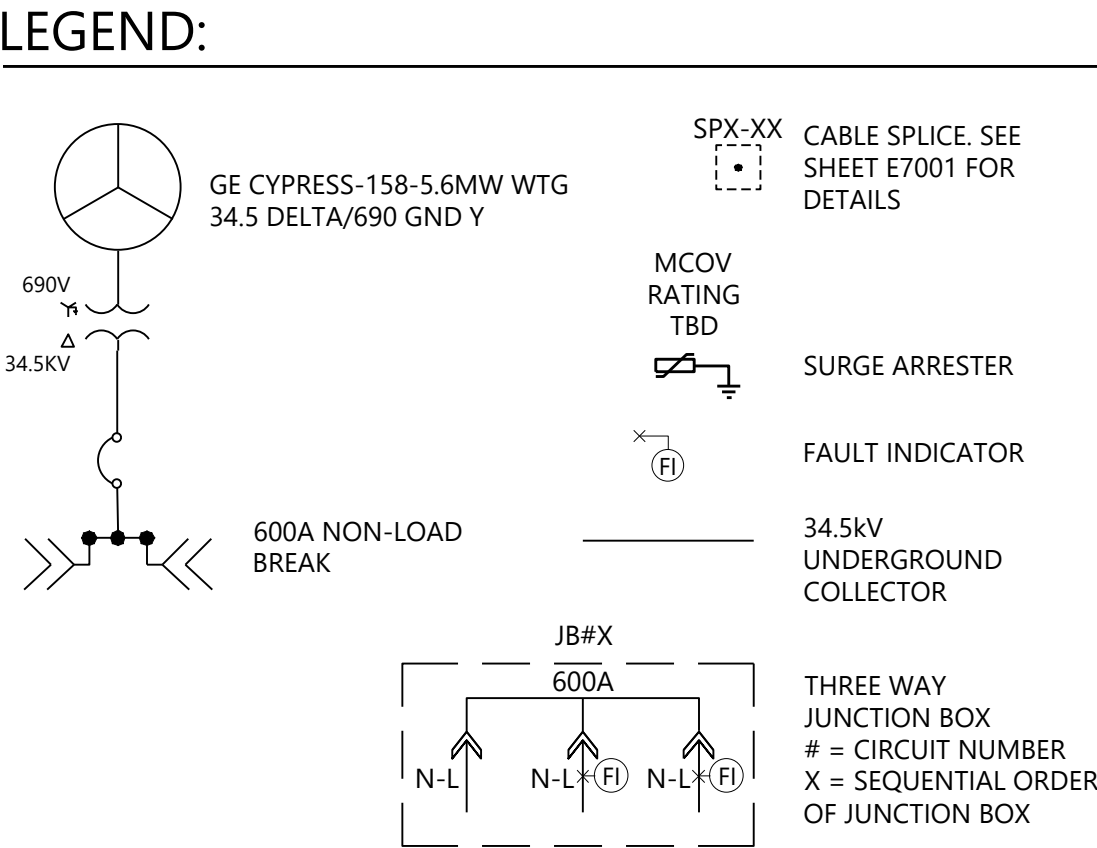
SHEET: E1300



1 Circuits 3, 4, and 5
NTS

| MVAC WIRING SCHEDULE | | | | | | | | | | | | | | |
|----------------------|-------------------------|-----------------------|-----------------------|----------------|---------|-------------|----------------|--------------------|------------------------|----------------|-----------------------|---------------------------|---|--|
| CIRCUIT | CONDUCTOR LOCATION CODE | ORIGINATING EQUIPMENT | TERMINATING EQUIPMENT | RATED Vac (kV) | Iac (A) | LENGTH (FT) | CONDUCTOR SIZE | CONDUCTOR MATERIAL | # OF PARALLEL CIRCUITS | VOLTAGE DROP % | GROUND CONDUCTOR SIZE | GROUND CONDUCTOR MATERIAL | CONDUCTOR SPECIFICS | |
| 3 | MV3.SUB-T-15 | SUB | T-15 | 34.5 | 520.64 | 23,658 | 1250 | AL | 1 | 1.4334% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 18#16 CN, XLPE | |
| | MV3.T-15-JB-3A | T-15 | JB-3A | 34.5 | 416.51 | 251 | 1000 | AL | 1 | 0.0162% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 15#16 CN, XLPE | |
| | MV3.JB-3A-T-17 | JB-3A | T-17 | 34.5 | 312.38 | 7,760 | 500 | AL | 1 | 0.6171% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 9#16 CN, XLPE | |
| | MV3.T-17-T-18 | T-17 | T-18 | 34.5 | 208.26 | 1,762 | 4/0 | AL | 1 | 0.2097% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV3.T-18-T-16 | T-18 | T-16 | 34.5 | 104.13 | 4,156 | 4/0 | AL | 1 | 0.2449% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| 4 | MV3.JB-3A-T-13 | JB-3A | T-13 | 34.5 | 104.13 | 5,838 | 4/0 | AL | 1 | 0.3433% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.SUB-JB-4A | SUB | JB-4A | 34.5 | 520.64 | 40,593 | 1250 | AL | 1 | 2.4581% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 18#16 CN, XLPE | |
| | MV4.JB-4A-T-20 | JB-4A | T-20 | 34.5 | 104.13 | 1,187 | 4/0 | AL | 1 | 0.0712% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.JB-4A-JB-4B | JB-4A | JB-4B | 34.5 | 416.51 | 469 | 1000 | AL | 1 | 0.0288% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 15#16 CN, XLPE | |
| | MV4.JB-4B-T-21 | JB-4B | T-21 | 34.5 | 208.26 | 439 | 4/0 | AL | 1 | 0.0549% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.T-21-T-19 | T-21 | T-19 | 34.5 | 104.13 | 2,014 | 4/0 | AL | 1 | 0.1196% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.JB-4B-JB-4C | JB-4B | JB-4C | 34.5 | 208.26 | 4,248 | 4/0 | AL | 1 | 0.5005% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.JB-4C-T-22 | JB-4C | T-22 | 34.5 | 104.13 | 2,172 | 4/0 | AL | 1 | 0.1288% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV4.JB-4C-T-23 | JB-4C | T-23 | 34.5 | 104.13 | 744 | 4/0 | AL | 1 | 0.0453% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV5.SUB-T-5 | SUB | T-5 | 34.5 | 416.51 | 2,688 | 1000 | AL | 1 | 0.1567% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| 5 | MV5.T-5-T-6 | T-5 | T-6 | 34.5 | 312.38 | 1,734 | 500 | AL | 1 | 0.1398% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 15#16 CN, XLPE | |
| | MV5.T-6-T-8 | T-6 | T-8 | 34.5 | 208.26 | 2,211 | 4/0 | AL | 1 | 0.2622% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | MV5.T-8-T-9 | T-8 | T-9 | 34.5 | 104.13 | 2,379 | 4/0 | AL | 1 | 0.1409% | 1-#1/0 | Cu | 35KV, 1/C, Triplex, 100 % Insulation, Type MV-105, 11#16 CN, XLPE | |
| | | | | | | | | | | | | | | |

- NOTES:
- WIND TURBINE GENERATORS DESIGNED AND ASSEMBLED BY OTHERS AND SHOWN FOR REFERENCE ONLY. WESTWOOD PROFESSIONAL SERVICES NOT RESPONSIBLE FOR WIND TURBINE GENERATOR DESIGN CONFORMING TO NEC OR ANY OTHER APPLICABLE LOCAL, STATE OR NATIONAL RECOGNIZED CODES OR REGULATIONS.
 - PROVIDE EXTERNAL SURGE ARRESTERS AT END-OF-LINE SWITCHGEAR BUSHINGS.
 - INSTALL ALL EQUIPMENT AND WIRING IN ACCORDANCE WITH THE NEC AND NESC.
 - ABOVE-GRADE JUNCTION BOXES OR DIRECT BURIED SPLICES TO BE INSTALLED AS NECESSARY WHERE RUN LENGTHS EXCEED AVAILABLE REEL LENGTHS.
 - DISTANCES SHOWN REFLECT LINEAR 2D DISTANCES BETWEEN TURBINES. TERMINATION LENGTH OF 50' SHOULD BE ADDED AT EACH END. CONTRACTOR SHALL PROVIDE ADDITIONAL LENGTH FOR ELEVATION CHANGE AND WASTE. CABLE SIZING BASED ON SOIL RESISTIVITY OF 120 C-CM/W, CORRESPONDING TO AN ASSUMED NATIVE BACKFILL AT 90% COMPACTION.
 - GROUND CONDUCTOR TO BE RUN WITH ALL MV CABLES, SIZING PENDING FUTURE STUDIES.
 - CONCENTRIC NEUTRALS SHALL BE BONDED TO GROUND AT ALL TERMINATIONS AND AT SPLICE LOCATIONS.
 - TWO HORIZONTAL EARTHING ELECTRODES/TRENCH GROUNDS (CONNECTED TO THE MAIN EARTH BONDING BAR) ARE TO BE RUN IN DIFFERENT DIRECTIONS WITH A MINIMUM ANGULAR SEPARATION OF 90° AND TO A MINIMUM DISTANCE OF 263 FEET.



PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | |
|------------|------------|---------------------------------|-----|-----|
| # | DATE | COMMENT | BY | CHK |
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH |
| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH |
| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK |

Hoffman Falls
Wind Project

Madison County, New York

MV Circuit Single Line
Diagram

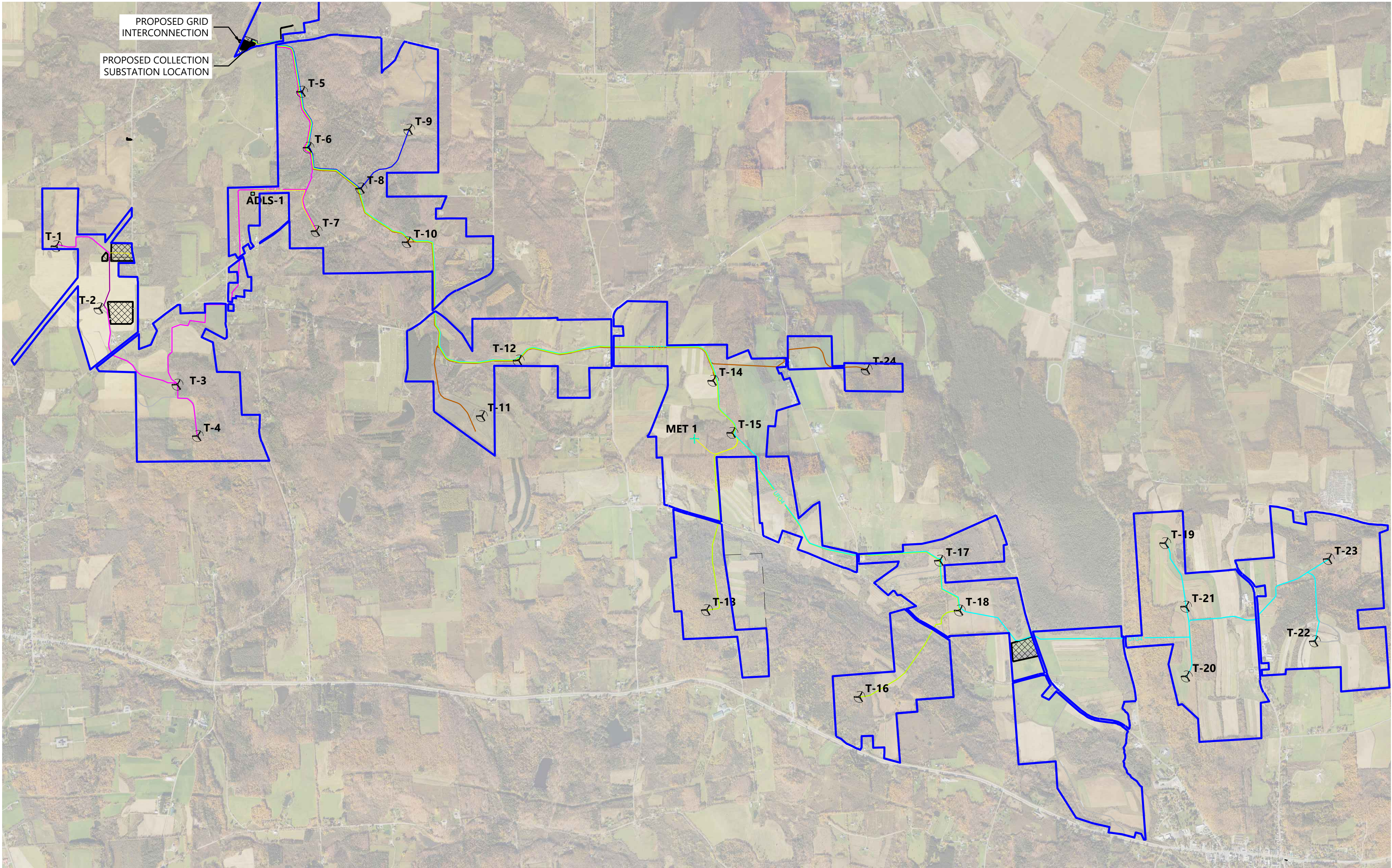
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DATE: 8/29/2024


SHEET: E1301

REV:


C




LEGEND:

**T-#**


WIND TURBINE

**MET-#**


MET TOWER LOCATION




ADLS TOWER




CHAINLINK SECURITY FENCE




UNDERGROUND FIBER OPTIC CIRCUIT 1




UNDERGROUND FIBER OPTIC CIRCUIT 2




UNDERGROUND FIBER OPTIC CIRCUIT 3




UNDERGROUND FIBER OPTIC CIRCUIT 4




UNDERGROUND FIBER OPTIC CIRCUIT 5



AUXILIARY FIBER OPTIC CIRCUIT



PROPOSED ACCESS ROAD



OVERALL PROJECT BOUNDARY


Westwood
Surveying & Engineering

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300

Fax (952) 937-5822 Minnetonka, MN 55343

Toll Free (888) 937-5150 www.pc.com

Westwood Surveying and Engineering, P.C.





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90 State Street, Suite 700
Albany, NY 12207

REVISIONS:

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Madison County, New York

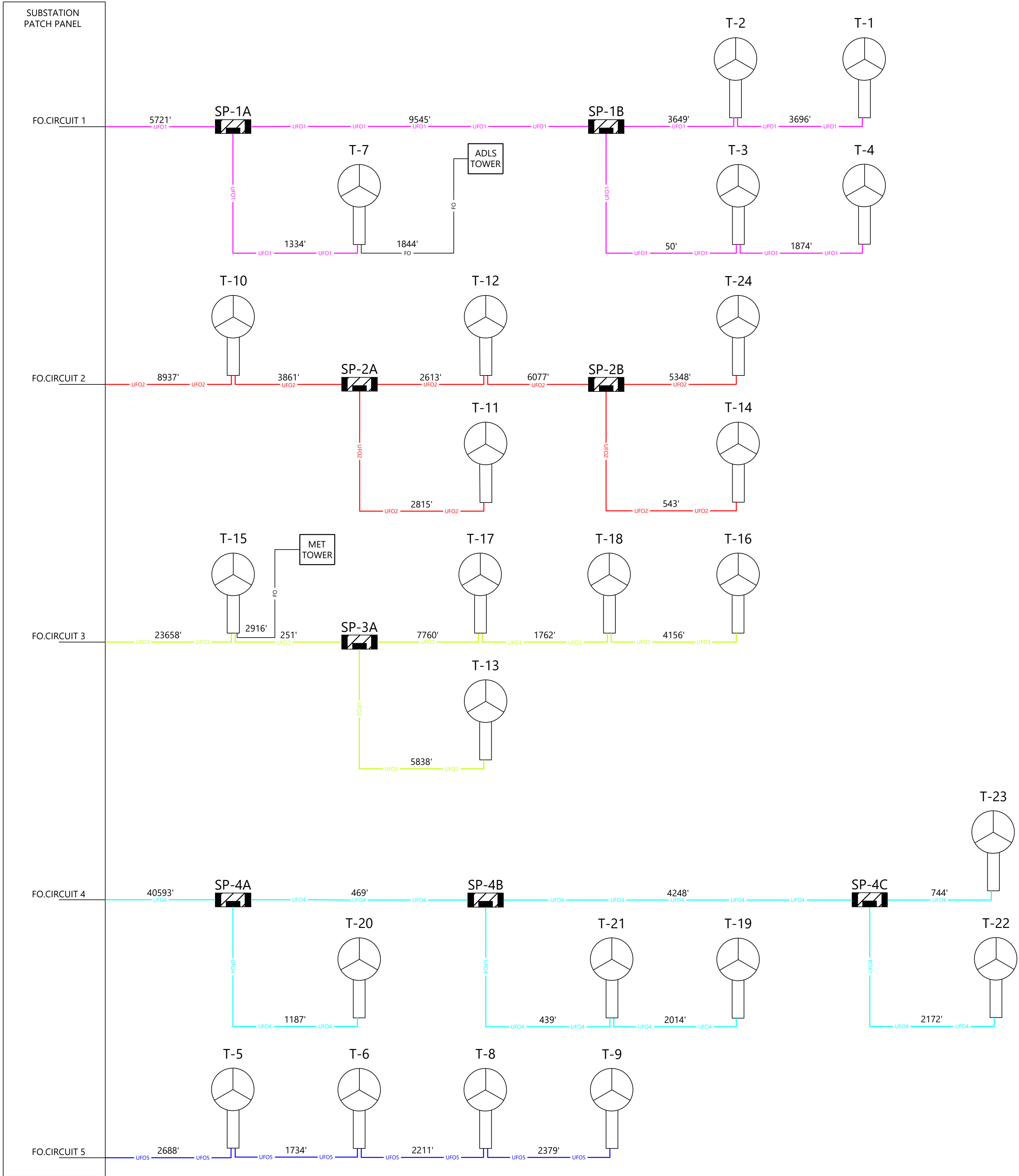
Overall
Communications Site
Plan

ISSUE FOR PERMIT

DATE: 8/29/2024

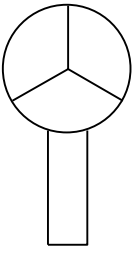
REV: C

SHEET: E6000




- NOTES:
1. FIBER HANDHOLE LOCATED ADJACENT TO JUNCTION BOX.
 2. ROUTE FIBER OPTIC CABLE IN SAME TRENCH AS MVAC WIRING WHERE AVAILABLE FOR COMMUNICATIONS AND MONITORING SITE PLANS E1000 THROUGH E1116 FOR ROUTING
 3. FIBER OPTIC COMMUNICATION CABLE TO BE 9/125 UM SINGLE MODE, 12-STRAND.


LEGEND:




GE CYPRESS-158-5.6 MW WTG




UNDERGROUND FIBER OPTIC CIRCUIT 1




UNDERGROUND FIBER OPTIC CIRCUIT 2




UNDERGROUND FIBER OPTIC CIRCUIT 3



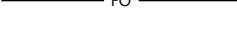
UNDERGROUND FIBER OPTIC CIRCUIT 4




UNDERGROUND FIBER OPTIC CIRCUIT 5



UNDERGROUND FIBER OPTIC CIRCUIT 6



MET/ADLS UNDERGROUND FIBER OPTIC CABLE



FIBER OPTIC SPLICE BOX



PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | BY | CHK | APR |
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| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | | SMK | SMK | DNS |

Hoffman Falls Wind Project

Madison County, New York

Fiber Optic Single Line
Diagram

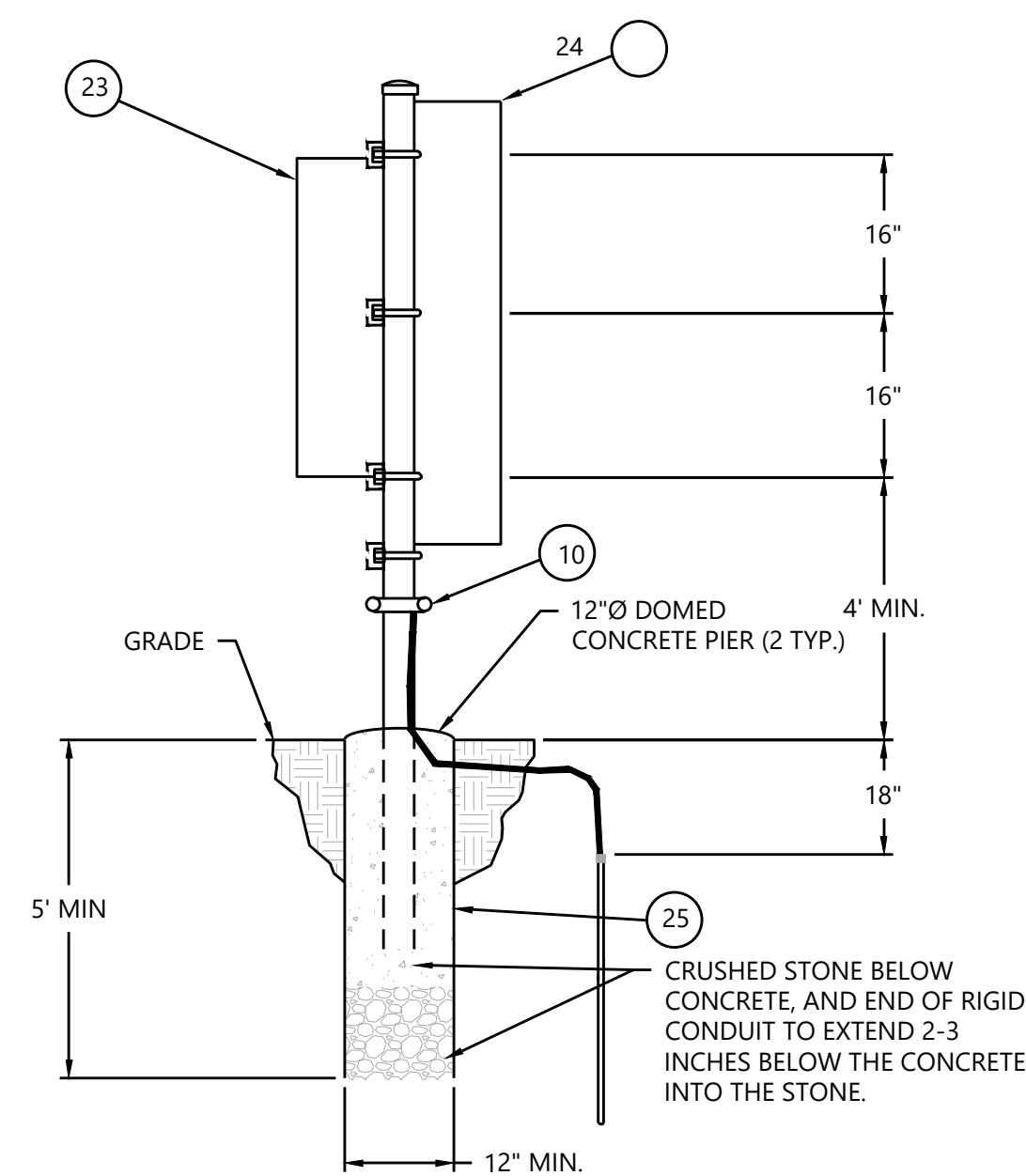
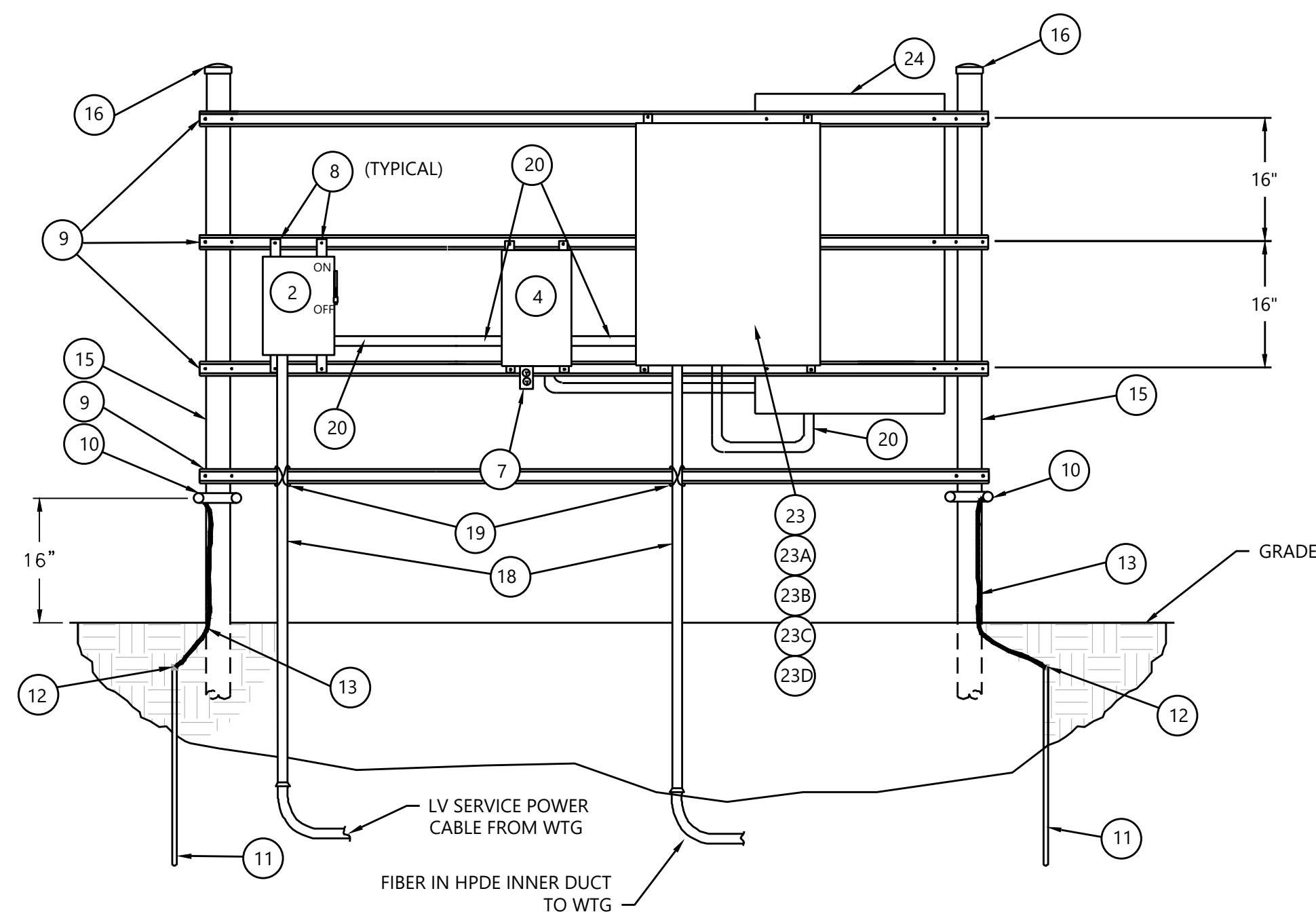
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DATE: 8/29/2024

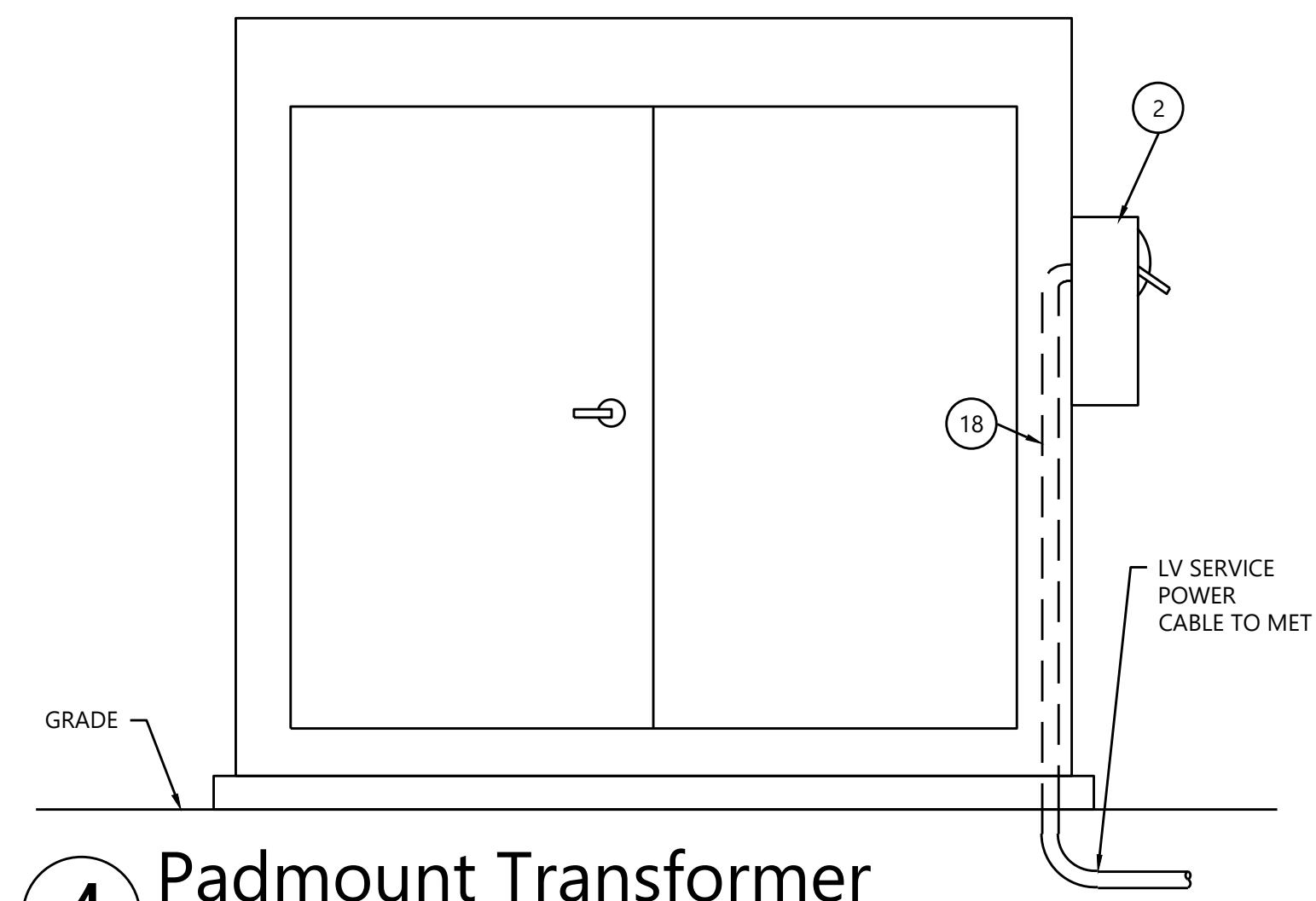
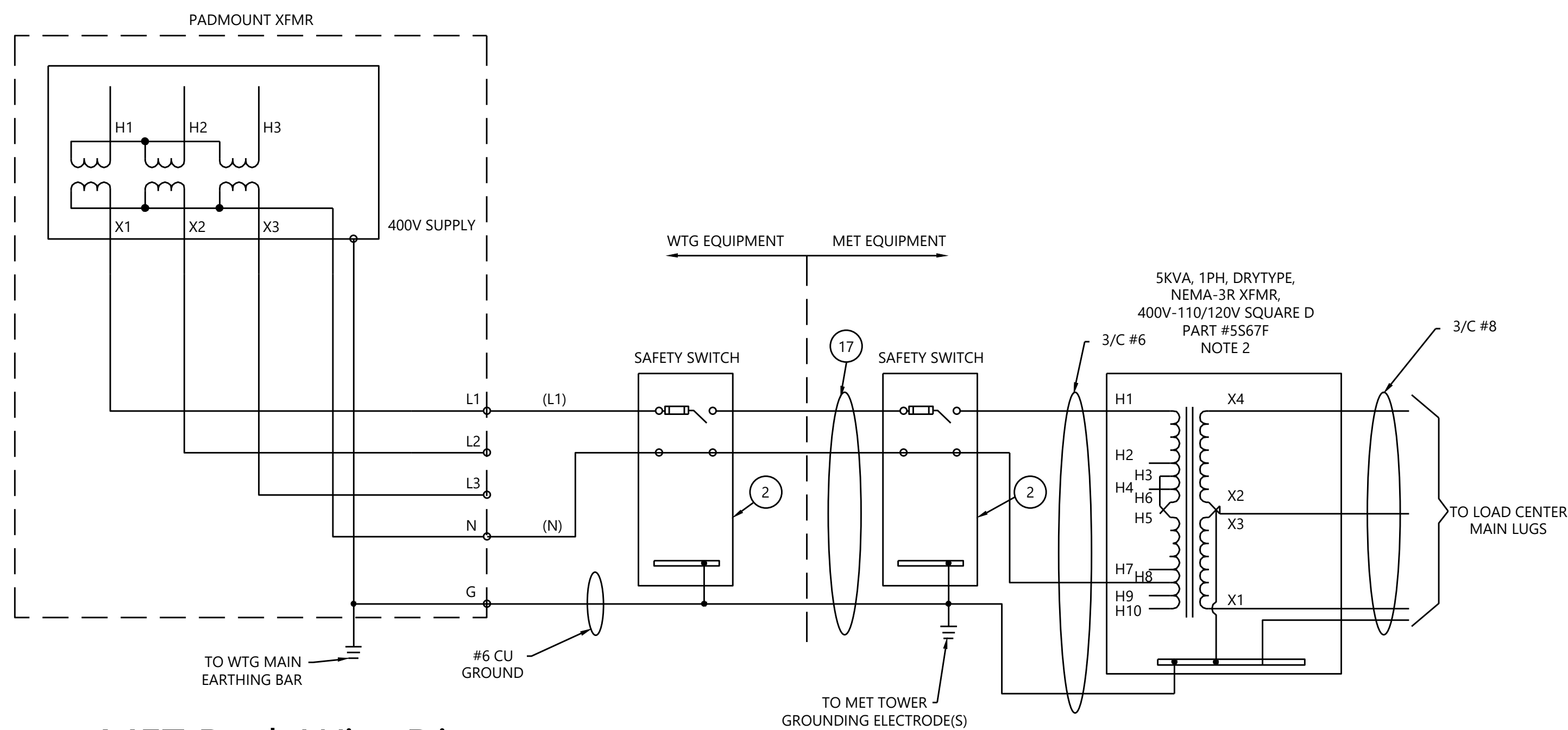
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C



| MATERIALS LIST | | | | | |
|----------------|------|-----|--|-----------|-------------|
| ITEM | QTY | UOM | DESCRIPTION | MANF. | PART# |
| 1 | 1 | EA | 5KVA TRANSFORMER 400V-110/220V 1 PHASE | SQUARE D | 5S67F |
| 2 | 2 | EA | SAFETY SWITCH , 600V, 30A 1-POLE, FUSIBLE, HEAVY DUTY, 200 KA | SQUARE D | DD221NRB |
| 3 | 1 | EA | FRS-R-15 AT MET SAFETY SWITCH | BUSSMAN | FRS-R-15 |
| 4 | 1 | EA | 120/240V AC LOADCENTER 70A W/SUBPANEL, 4SP, NEMA 3R ENCLOSURE | SQUARE D | QO612100RB |
| 5 | 4 | EA | MINIATURE CIRCUIT BREAKER STANDARD, 20A, 1-POLE, 120/240 VAC, 10KA | SQUARE D | QO120 |
| 6 | 1 | EA | SURGE ARRESTOR | SQUARE D | SDSA1175 |
| 7 | 1 | EA | WEATHER PROOF GFCI RECEPTACLE, DUPLEX 20A WITH IN USE COVER | - | |
| 8 | 8 | FT | ENCLOSURE MOUNTING, 4 BRKT KIT FOR STRUT SYSTEM | - | |
| 9 | 4 | EA | 1-5/8" x 1-5/8", 12 GAUGE, SLOTTED, 20' | - | |
| 10 | 2 | EA | BRONZE, TINNED POST CLAMP, 3 IN., #2 STR. SOL | - | |
| 11 | 2 | EA | GROUND ROD, COPPPER CLAD STEEL 3/4"X10' | ERICO | 613400UPC |
| 12 | 2 | EA | COMPRESSION CONNECTOR, 3/4" CCS ROD TO #2 AWG BARE COPPER | BURNDY | YCHC34TC2 |
| 13 | 20 | FT | CONDUCTOR, #2 CU BARE 19 STR S.D. | - | |
| 14 | 20 | FT | CONDUCTOR, #12 AWG CU, XHHW-2 | - | |
| 15 | 2 | EA | PIPE, GALVANIZED STEEL, 3", 10 FT LONG | - | |
| 16 | 2 | EA | STEEL PIPE CAP, RIGID, 3" THREADED | - | |
| 17 | 1050 | FT | CABLE, CU 3/C #6 AWG, 600V | - | |
| 18 | 10 | FT | CONDUIT, 2" SCH 80 PVC | CARLON | A53CA12 |
| 19 | A/R | EA | CONDUIT CLAMP, 2" SCH 80 PVC | - | |
| 20 | 10 | FT | CONDUIT, 3/4" LIQUID TIGHT | - | |
| 21 | 50 | FT | CONDUCTOR, #10 AWG CU, CABLE TRAY RATED | - | |
| 22 | 2 | EA | NEUTRAL "DUMMY" FUSE | BUSSMAN | NTS-R-60 |
| 23 | 1 | EA | FIBER OPTIC ENCLOSURE, NEMA 3R | - | |
| 23A | 1 | EA | PATCH PANEL | CORNING | WCH-029 |
| 23B | 2 | EA | CONNECTOR PANELS | CORNING | CCH-CP12-59 |
| 23C | 1 | EA | SPLICE TRAY | CORNING | M67-110 |
| 23D | 1 | EA | PATCH CORD | SM DUPLEX | SC-SC |
| 24 | 1 | EA | DATA LOGGER (BY OTHERS) | - | |
| 25 | A/R | EA | CONCRETE, MINIMUM 2000 PSI | - | |
| 26 | 6 | EA | ONE-HOLE LUGS FOR #6 WIRE | BURNY | Y1MRTC |



NOTES:

1. EQUIPMENT MAY BE LOCATED ON THE MET TOWER BEHIND THE MET TOWER RACK AND USE ABOVE GRADE CONDUIT TO MAKE CONNECTIONS AS OPPOSED TO THE BELOW GRADE CONDUIT SHOWN. CONTRACTOR TO DETERMINE BEST SOLUTION ON THE LOCATION.
2. PER MANUFACTURER DOCUMENTATION CONNECTIONS ARE REQUIRED BETWEEN TERMINALS H3 TO H6 AND X2 TO X3 FOR PROPER OPERATION AS SHOWN BELOW.
3. ENSURE ALL ENCLOSURES ONLY HAVE ONE GROUND CONNECTION AND ARE PROPERLY GROUNDED PER THE NEC.



PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

REVISIONS:

| # | DATE | COMMENT | BY | CHK | APR |
|---|------------|---------------------------------|-----|-----|-----|
| A | 09/08/2023 | 30% ELECTRICAL DESGN | JON | GVH | DNS |
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| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK | DNS |

Hoffman Falls Wind Project

Madison County, New York

Met Tower Wiring Diagram

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DATE: 8/29/2024

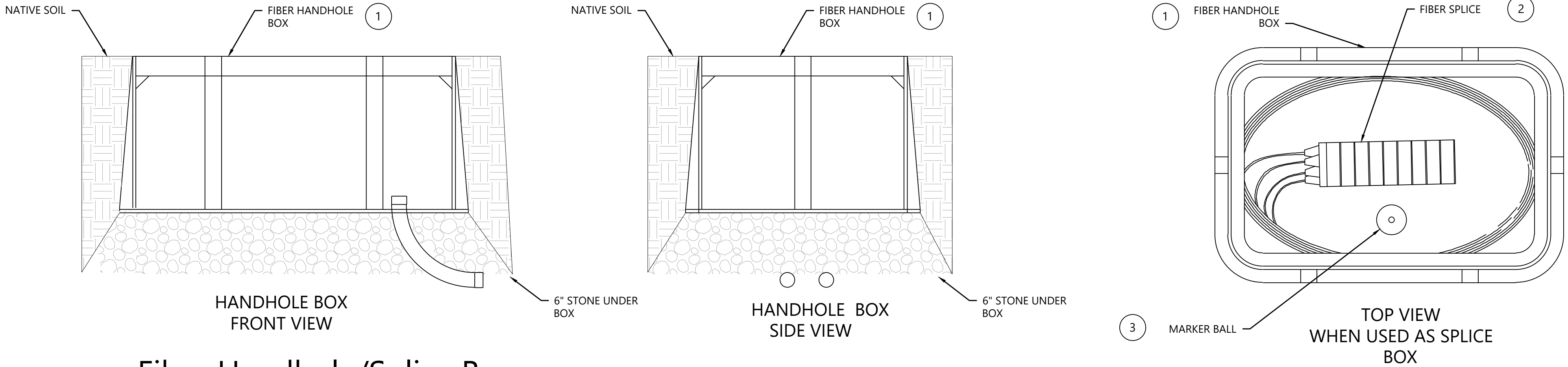
SHEET: E6400

FV.

C

- NOTES:
1. DETAIL 1, HANDHOLE/SPLICE BOX MAY BE USED AS HANDHOLE OR SPLICE BOX. HANDHOLES TO BE USED ADJACENT TO 3-WAY MEDIUM VOLTAGE SECTIONALIZERS.
 2. PROVIDE 50 FEET TAILS OF FIBER FOR EACH CABLE WHEN USED AS SPLICE BOX.
 3. DO NOT EXCEED THE MINIMUM BEND RADIUS OF 6 INCHES UNDER LOAD AND 4 INCHES WITH NO LOAD.
 4. SIZE OF GROMMETS AND CLOSURE ACCESSORIES TO MEET CABLE SIZE AND QUANTITY.
 5. BRING CABLE INNER DUCT INTO SPLICE BOX 3 INCHES ABOVE GRAVEL FILL.
 6. SEAL ALL CONDUITS WITH FOAM AFTER CABLE INSTALLATION.
 7. FILL BOTTOM OF BOXES WITH 9 INCHES PEA GRAVEL TO PREVENT RODENT ENTRY.
 8. OWNER APPROVAL REQUIRED AT ANY SPLICE LOCATION

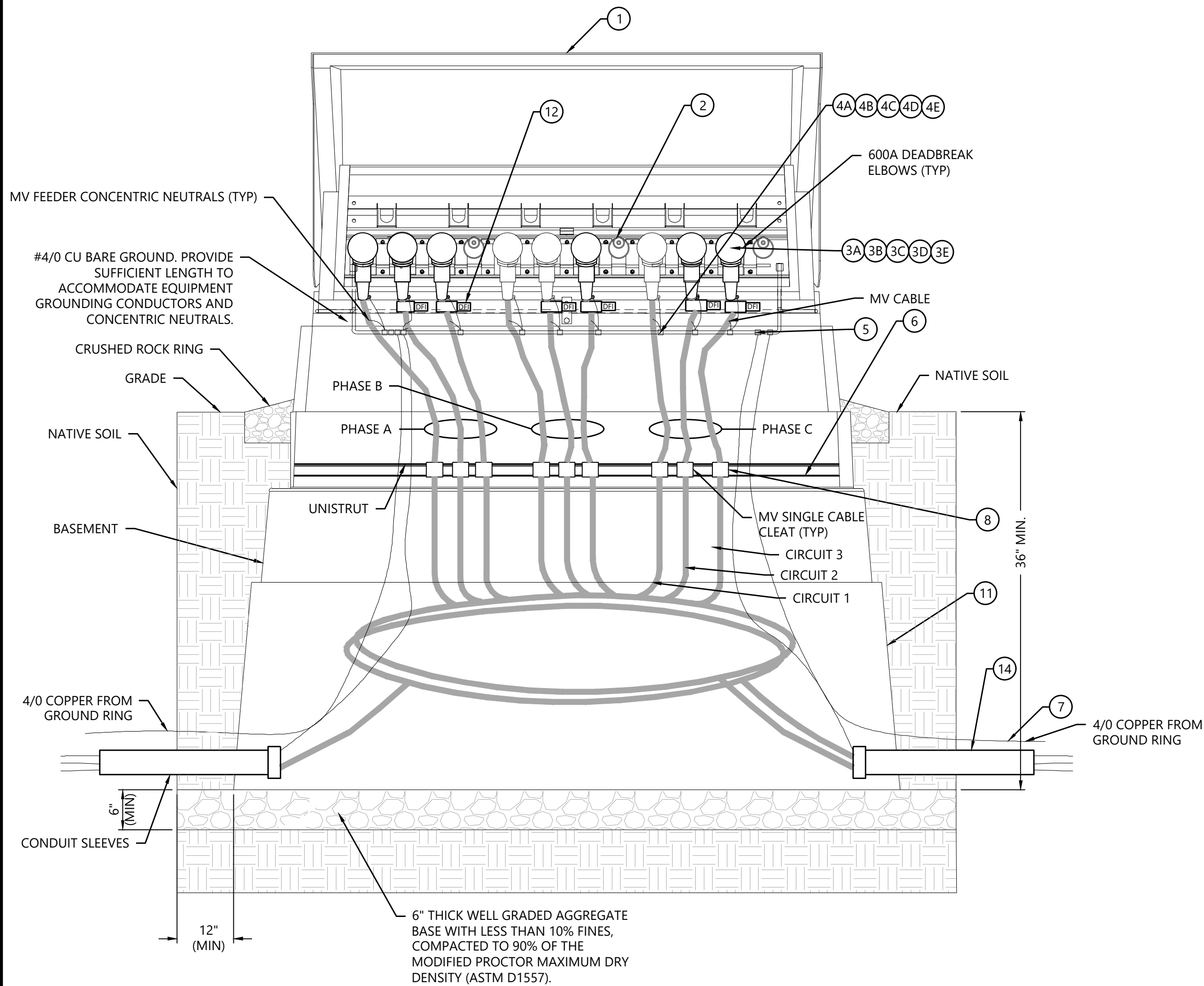
| MATERIALS LIST | | | | | |
|----------------|-----|-----|--|----------------------|------------|
| ITEM | QTY | UOM | DESCRIPTION | MANF. | PART# |
| 1 | A/R | EA | ECLOSURE BOX, POLYMER SPLICE BOX 13"x 24" x 18" STRAIGHT WALL OPEN BOTTOM | HUBBEL BY QUAZITE | PG1324BA18 |
| 2 | 1 | EA | 12 FIBER SPLICE ENCLOSURE, WITH 4 PORT END PLATE KIT | FIBERTRONICS | HTB-F01-12 |
| 3 | 1 | EA | EMS MARKER BALL | 3M | 1401-XR |



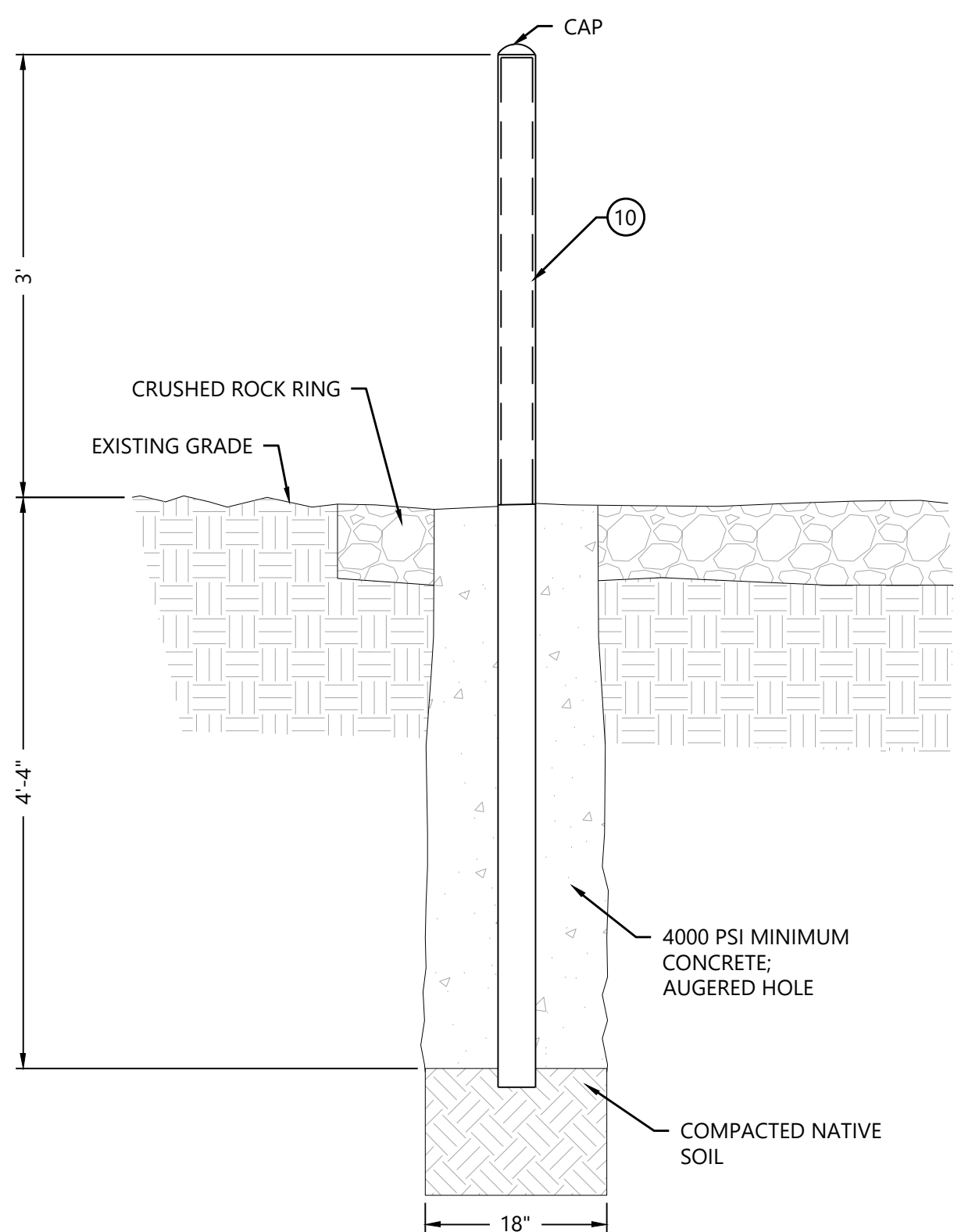
1 Fiber Handhole/Splice Box
NTS

Hoffman Falls
Wind Project
Madison County, New York

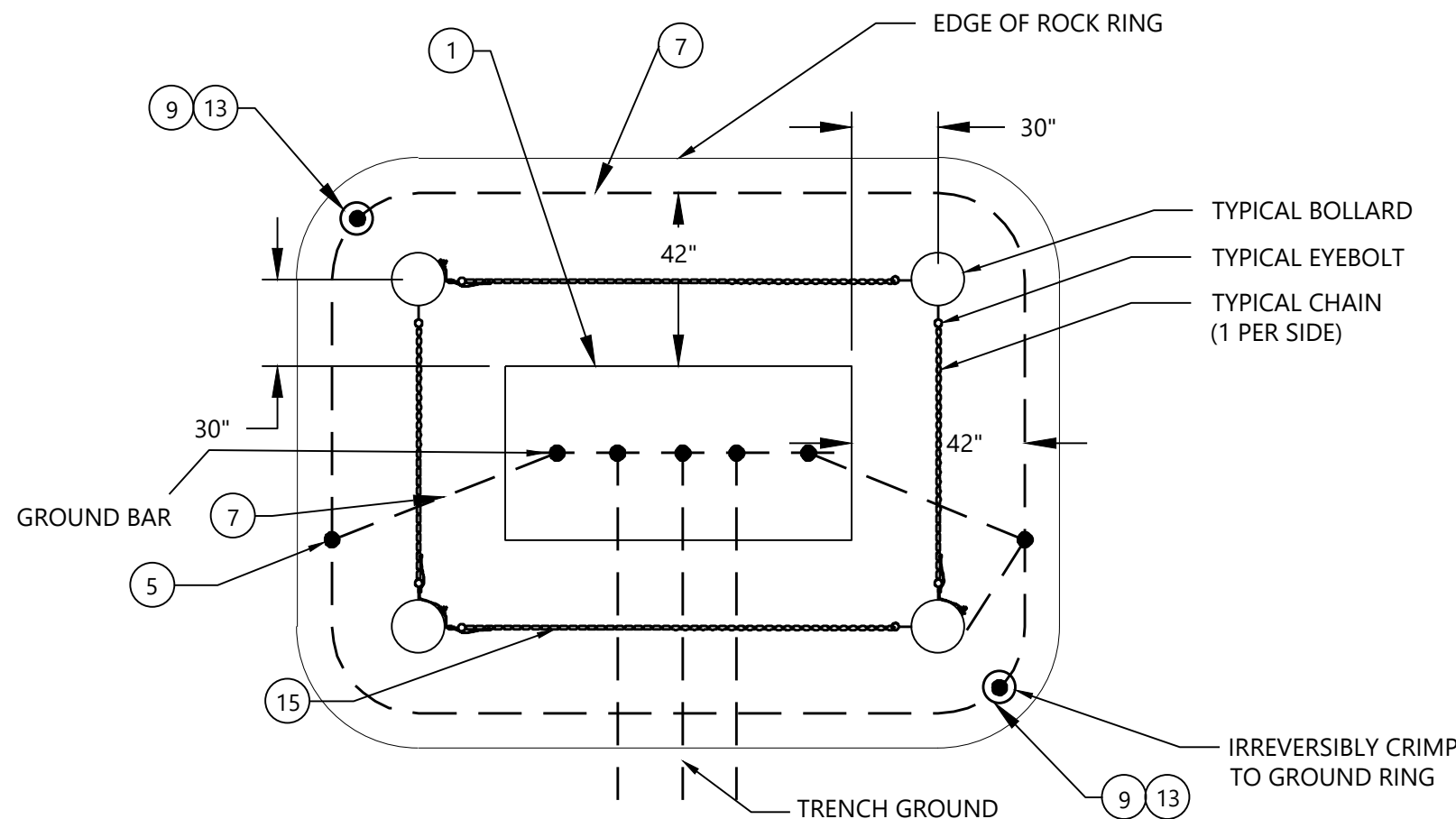
Fiber Splice Box



1 3-Way Junction Box Detail
NTS



3 Bollard (Guard Post) Detail
NTS



2 Grounding & Bollard Detail
NTS

| MATERIALS LIST | | | | | |
|----------------|-----------|-----|---|-------------------|------------------|
| ITEM | 3-WAY QTY | UOM | DESCRIPTION | MANUF. (OR EQUAL) | PART# (OR EQUAL) |
| 1 | 1 | EA | SECTIONALIZING CABINET, 3-WAY, 34.5 KV, WITH GROUNDING BAR | HUBBELL | P3783259MDM0512 |
| 2 | 3 | EA | JUNCTION, 600A, 34.5 KV, W/MOUNTING HARDWARE | HUBBELL | 635J3U |
| 3A | A/R | EA | DEADBREAK ELBOWS, 600A, 34.5 KV, 1250 KCMIL | HUBBELL | 635TBTUU4TJ |
| 3B | A/R | EA | DEADBREAK ELBOWS, 600A, 34.5 KV, 1000 KCMIL | HUBBELL | 635TBTU4TJ |
| 3C | A/R | EA | DEADBREAK ELBOWS, 600A, 34.5 KV, 750 KCMIL | HUBBELL | 635TBTNU3TJ |
| 3D | A/R | EA | DEADBREAK ELBOWS, 600A, 34.5 KV, 500 KCMIL | HUBBELL | 635TBTNU3TJ |
| 3E | A/R | EA | DEADBREAK ELBOWS, 600A, 34.5 KV, 4/0 AWG | HUBBELL | 635TBTKU1TJ |
| 4A | A/R | EA | CONNECTOR, COMPRESSION, CONC. WIRE FLAT STRAP TO SECTIONALIZER GROUNDING - 1250 KCMIL | BURNDY | YGHC26C26CN |
| 4B | A/R | EA | CONNECTOR, COMPRESSION, CONC. WIRE FLAT STRAP TO SECTIONALIZER GROUNDING - 1000 KCMIL | BURNDY | YGHC26C26CN |
| 4C | A/R | EA | CONNECTOR, COMPRESSION, CONC. WIRE FLAT STRAP TO SECTIONALIZER GROUNDING - 750 KCMIL | BURNDY | YGHC26C26CN |
| 4D | A/R | EA | CONNECTOR, COMPRESSION, CONC. WIRE FLAT STRAP TO SECTIONALIZER GROUNDING - 500 KCMIL | BURNDY | YGHC26C26CN |
| 4E | A/R | EA | CONNECTOR, COMPRESSION, CONC. WIRE FLAT STRAP TO SECTIONALIZER GROUNDING - 4/0 AEG | BURNDY | YGHC26C26CN |
| 5 | 7 | EA | CONNECTOR, COMPRESSION, TRENCH GND (7#8 CCS) TO SECTIONALIZER GROUNDING | BURNDY | YGHC29C29 |
| 6 | A/R | EA | UNISTRUT, 1-5/8" | UNISTRUT | P1000 |
| 7 | 75 | FT | CONDUCTOR, BARE COPPER STR, 4/0 AWG | ALANWIRE | |
| 8 | A/R | EA | CABLE CLAMPS | | |
| 9 | 2 | EA | CONNECTOR, COMPRESSION, 3/4" COPPER CLAD GROUND ROD TO 4/0 AWG CU | BURNDY | YGHC29C34 |
| 10 | 4 | EA | 4" X 88" BOLLARDS ARE CONCRETE FILLED WITH STEEL REINFORCING. INCLUDES YELLOW POLYETHYLENE PLASTIC SLEEVE | CONCAST | 8005Y-4F |
| 11 | 4 | EA | SECTIONALIZING CABINET GROUND SLEEVE, 36" | HUBBELL | E0A4896503 |
| 12 | 6 | EA | DIRECTIONAL FAULT INDICATOR | SEL | 3TPR31200IRW |
| 13 | 2 | EA | GROUND ROD COPPER CLAD STEEL 3/4" X 10' | CARLON | 59618-010 |
| 14 | A/R | EA | 8" ADS SINGLE WALL PIPE ONE PER CIRCUIT | ADS | |
| 15 | 120 - 180 | FT | SAFETY CHAIN - PLASTIC TO GO BETWEEN BOLLARDS | CONCAST | 8007 |

- NOTES:
- JUNCTION BOX GROUND RING TO BE 4/0 AWG BARE CU, 18" DEEP AND 42" AWAY FROM ENCLOSURE. PROVIDE (2) TWO GROUND RODS, INSTALL ON OPPOSITE CORNERS OF GROUND RING.
 - CONTRACTOR SHALL SELECT PROPER CABLE BRACKET AND T-BODY SIZE BASED ON CABLE SIZE.
 - ALL CABLES MUST HAVE SUFFICIENT LENGTH TO ENSURE TWO FUTURE TERMINATIONS.
 - WARNING LABEL TO BE SET ON THE FRONT OF CABINET.
 - BOLLARDS ARE TO BE PLACED AT APPROXIMATELY 30 INCHES FROM ALL FOUR EDGES OF JUNCTION BOX.
 - CONDUIT POSITIONING WITHIN BASEMENT TO BE ADJUSTED BY CONTRACTOR AS NEEDED TO SATISFY MINIMUM CONDUCTOR BENDING REQUIREMENTS. IN NO CASE SHALL THE BENDING RADIUS OF THE MEDIUM VOLTAGE CABLE BE LESS THAN 12 TIMES THE CABLE DIAMETER.
 - BOND CONCENTRIC NEUTRAL AND DRAIN WIRE FROM EACH TERMINATION TO GROUND BUS. BOND TRENCH GROUND TO GROUND BUS.
 - REMOVE ALL BURRS AND ROUGH EDGES FROM END OF CONDUITS PRIOR TO PULLING CABLE.
 - CRUSHED ROCK RING LAYER TO BE APPLIED AT SURFACE FOR VEGETATION MANAGEMENT.
 - FIBER HAND HOLE MAY BE INSTALLED WITH TOP AT GRADE, ADJACENT TO JUNCTION BOX. IN SUCH CASES, GROUND RING AND BOLLARD PLACEMENT SHALL BE ADJUSTED AS NECESSARY TO ENCOMPASS HANDHOLE.
 - JUNCTION BOX SHALL NOT BE PLACED DIRECTLY OVER MAIN TRENCH LINE. PLACEMENT SHALL BE OFFSET FROM MAIN TRENCH LINE BY MINIMUM FIVE FEET.
 - FOR 500 KCMIL OR SMALLER CABLE, ESTABLISH SLACK VIA COIL IN THE JUNCTION BOX. FOR CABLE SIZES OVER 500 KCMIL, ESTABLISH SLACK VIA AN S-CURVE.
 - LATCH OF JUNCTION BOX MUST BE AT LEAST 6" ABOVE ROCK.
 - TWO GROUND CLAMPS PER GROUNDED BOLLARD. SPACE AS NEEDED.
 - RUN #2 TINNED COPPER DOWN BOLLARD AND TIE INTO GROUND RING.
 - CABLE CLAMPS FOR USE ON CABLES 500KCMIL AND LARGER.



PREPARED FOR:

Hoffman Falls Wind LLC

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Albany, NY 12207

| REVISIONS: | | | | |
|------------|------------|---------------------------------|-----|-----|
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Hoffman Falls Wind Project

Madison County, New York

Sectionalizer Cabinet

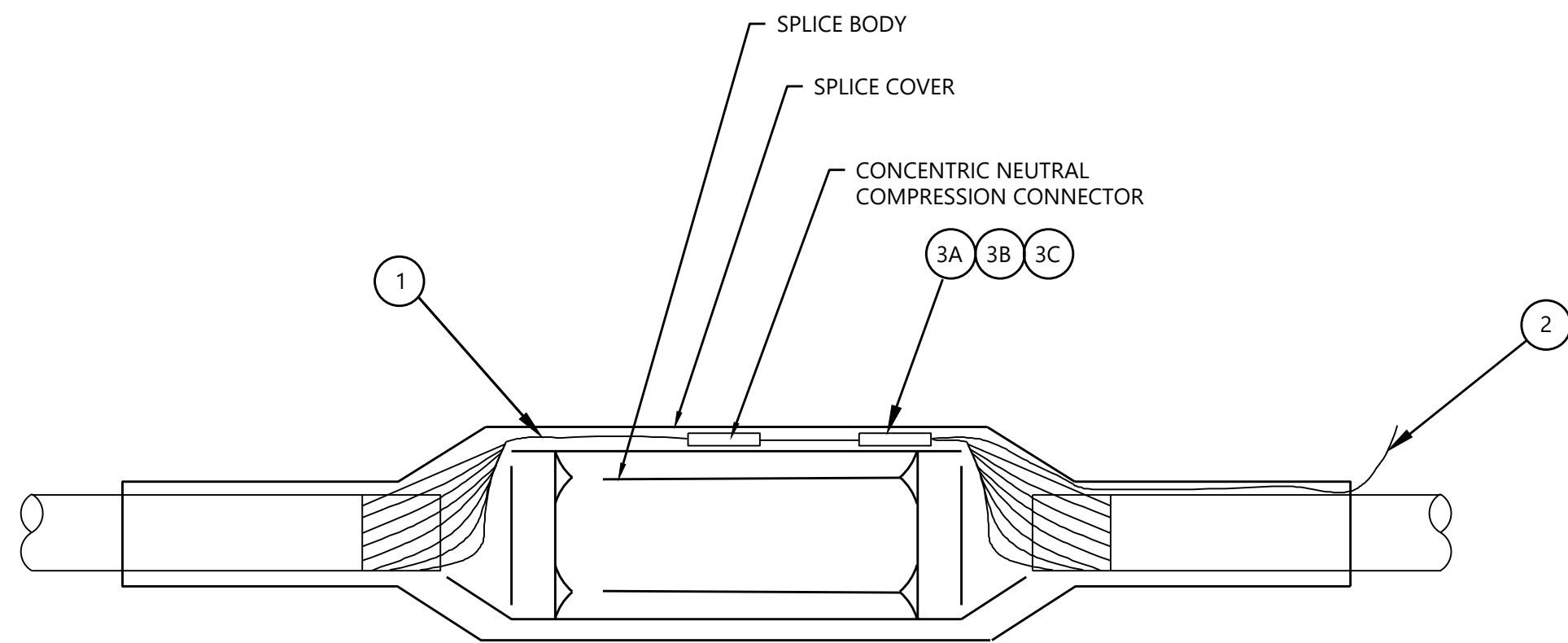
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DATE: 8/29/2024

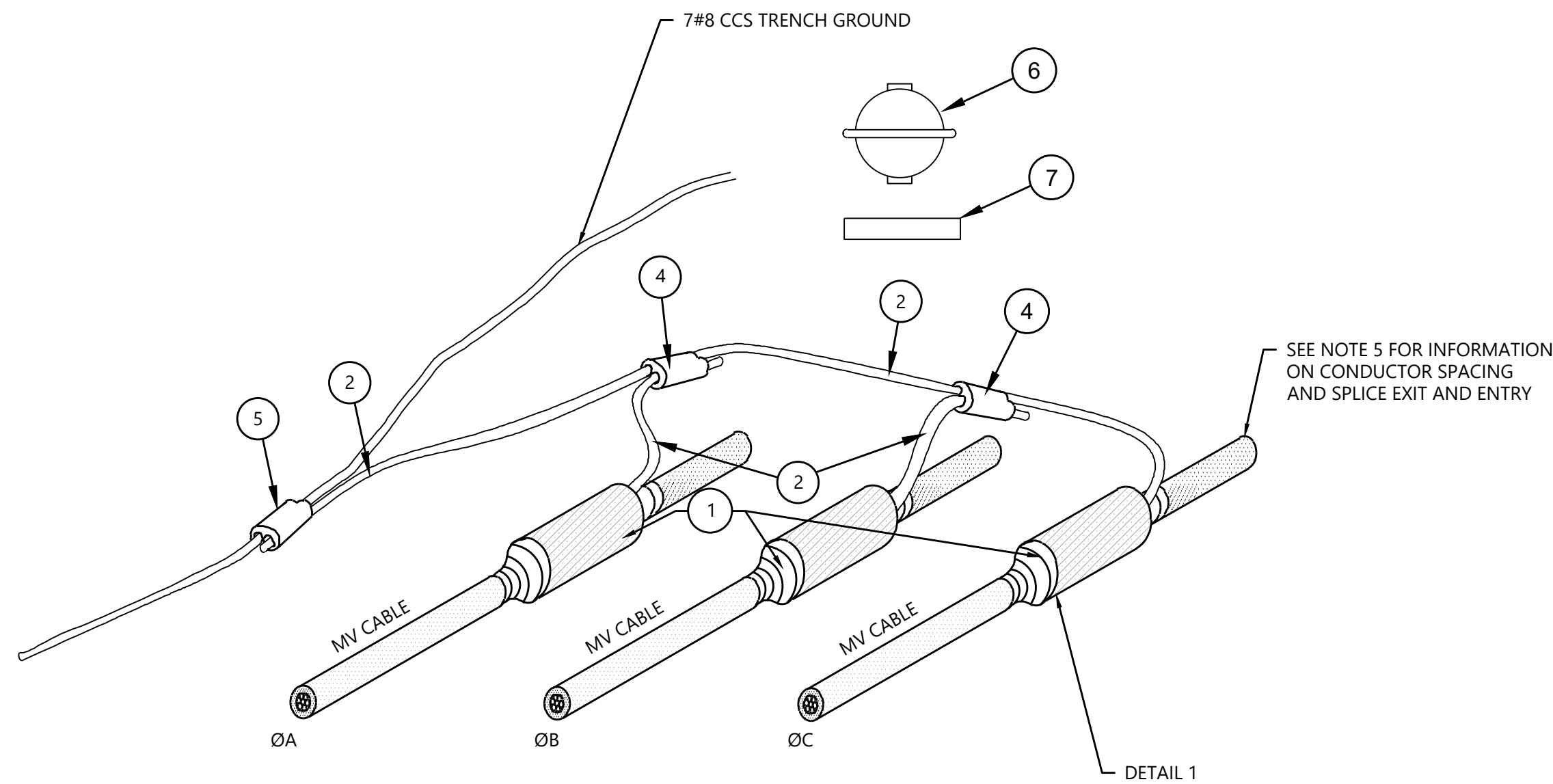
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REV:

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1 Splice Detail
NTS



2 Splice Arrangement Detail
NTS

- NOTES:
1. SPLICE KIT INCLUDES SPLICE BODY, SPLICE COVER AND COMPRESSION CONNECTOR.
 2. PERFORM ALL SPLICES USING MANUFACTURER'S INSTRUCTIONS.
 3. PLACE LOCATABLE MARKER BALL ABOVE SPLICE AT 24" DEPTH.
 4. SPLICE LOCATION TO BE COMPACTED PER GENERAL TRENCH COMPACTION SPEC.
 5. CABLES TO BE LAID FLAT WITH 9" SEPARATION AT SPLICE. CABLE SLACK TO BE CREATED IN S CURVES ON BOTH SIDES OF SPLICE BEFORE RETURNING CABLE TO TREFOIL ARRANGEMENT.
 6. FIBER OPTIC INNER DUCT SHALL BE PLACED ADJACENT TO SPLICE.
 7. ALL SPLICES SHALL BE GPS LOCATED AND BALL-MARKER IDS TO BE PROVIDED FOR EACH LOCATION FOR INCLUSION IN RECORD DRAWINGS.
 8. REFERENCE VENDORS AND PART NUMBERS ARE SHOWN. EQUIVALENT PARTS FROM OTHER VENDORS MAY BE SUBMITTED FOR APPROVAL.

| ITEM | QTY | UOM | DESCRIPTION | MANUF. OR EQUAL | PART # |
|------|-----|-----|---|-----------------|----------------|
| 1A | 3 | EA | SPLICE KIT, CABLE, 1/0 AWG, 35 KV | TE CONNECTIVITY | CSJ-SR-3513M5 |
| 1B | 3 | EA | SPLICE KIT, CABLE, 4/0 AWG, 35 KV | TE CONNECTIVITY | CSJ-SR-3513M5 |
| 1C | 3 | EA | SPLICE KIT, CABLE, 500 KCMIL, 35 KV | TE CONNECTIVITY | CSJ-SR-3514M8 |
| 1D | 3 | EA | SPLICE KIT, CABLE, 750 KCMIL, 35 KV | TE CONNECTIVITY | CSJ-SR-3514M8 |
| 1E | 3 | EA | SPLICE KIT, CABLE, 1000 KCMIL, 35 KV | TE CONNECTIVITY | CSJ-SR-3514M9 |
| 1F | 3 | EA | SPLICE KIT, CABLE, 1250 KCMIL, 35 KV | TE CONNECTIVITY | CSJ-SR-3514M10 |
| 2 | 20 | FT | CONDUCTOR, 2 AWG, SOLID, CU, BARE | SOUTHWIRE | |
| 3A | 3 | EA | COMPRESSION CONNECTOR, CN TO CN - 1250 KCMIL | BURNDY | YGHC26C26CN |
| 3B | 3 | EA | COMPRESSION CONNECTOR, CN TO CN - 1000 KCMIL | BURNDY | YGHC26C26CN |
| 3C | 3 | EA | COMPRESSION CONNECTOR, CN TO CN - 750 KCMIL | BURNDY | YGHC26C26CN |
| 3D | 3 | EA | COMPRESSION CONNECTOR, CN TO CN - 500 KCMIL | BURNDY | YGHC26C26CN |
| 3E | 3 | EA | COMPRESSION CONNECTOR, CN TO CN - 4/0 AWG | BURNDY | YGHC26C26CN |
| 4 | 2 | EA | COMPRESSION CONNECTOR, #2 AWG CU TO #2 AWG CU | BURNDY | YGHC2C2CN |
| 5 | 1 | EA | COMPRESSION CONNECTOR, #2 AWG CU TO 7#8 CCS | BURNDY | YGHC29C26 |
| 6 | 1 | EA | EMS MARKER BALL | 3M | 1401-XR |

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STATE OF NEW YORK

ANDREW N SZABO

08/29/2024

798489

LICENSED PROFESSIONAL ENGINEER

Andrew Szabo

PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| | | | | |
|------------|------------|---------------------------------|-----|---------|
| REVISIONS: | | | | |
| # | DATE | COMMENT | BY | CHK APR |
| A | 09/08/2023 | 30% ELECTRICAL DESIGN | JON | GVH DNS |
| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH DNS |
| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK DNS |
| | | | | |
| | | | | |

Hoffman Falls Wind Project

Madison County, New York

Medium Voltage Splice

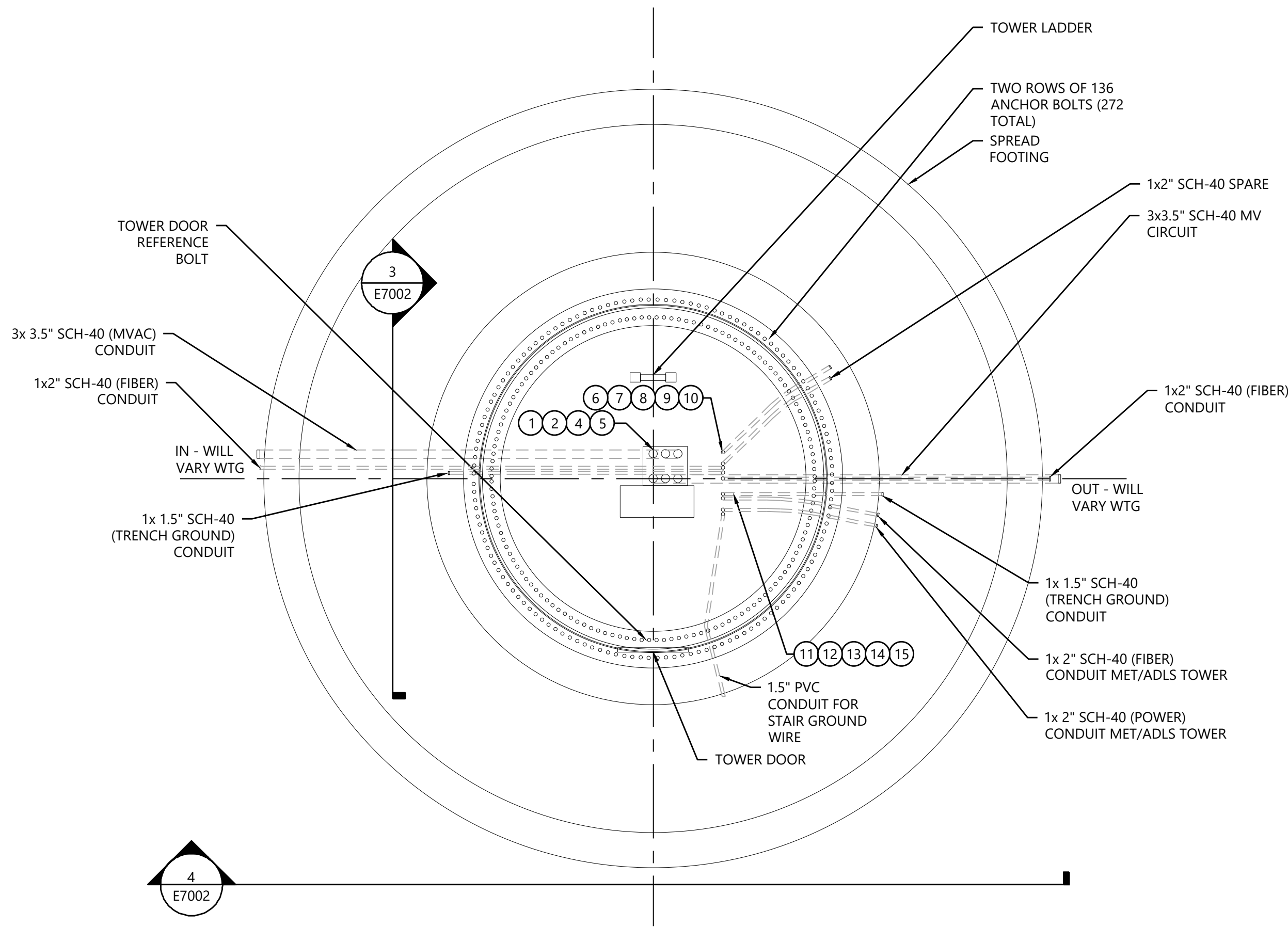
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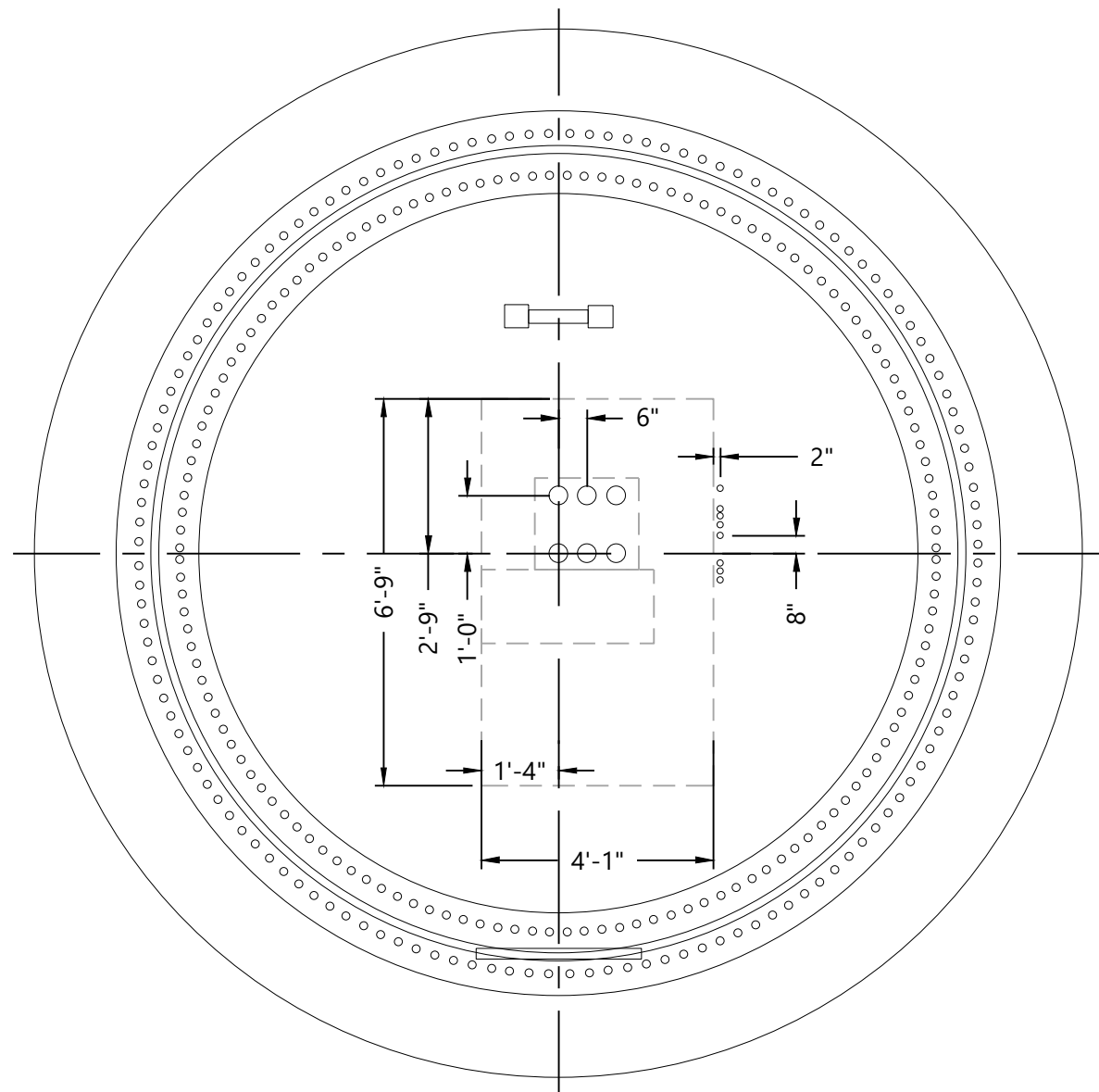
SHEET: E7001

REV:

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1 Tower Foundation- Top Conduit View
NTS

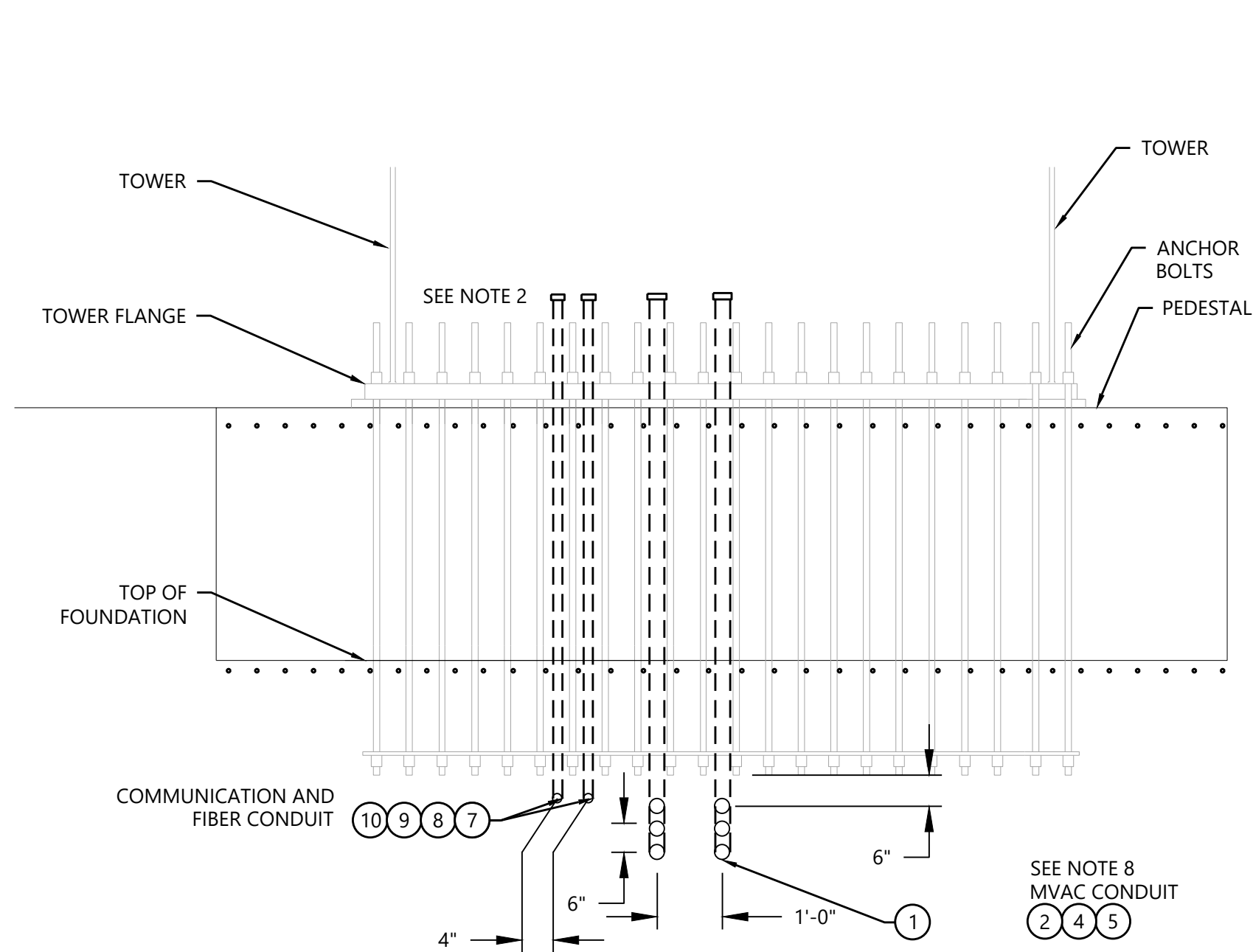


2 Turbine Conduit Entry Detail
NTS

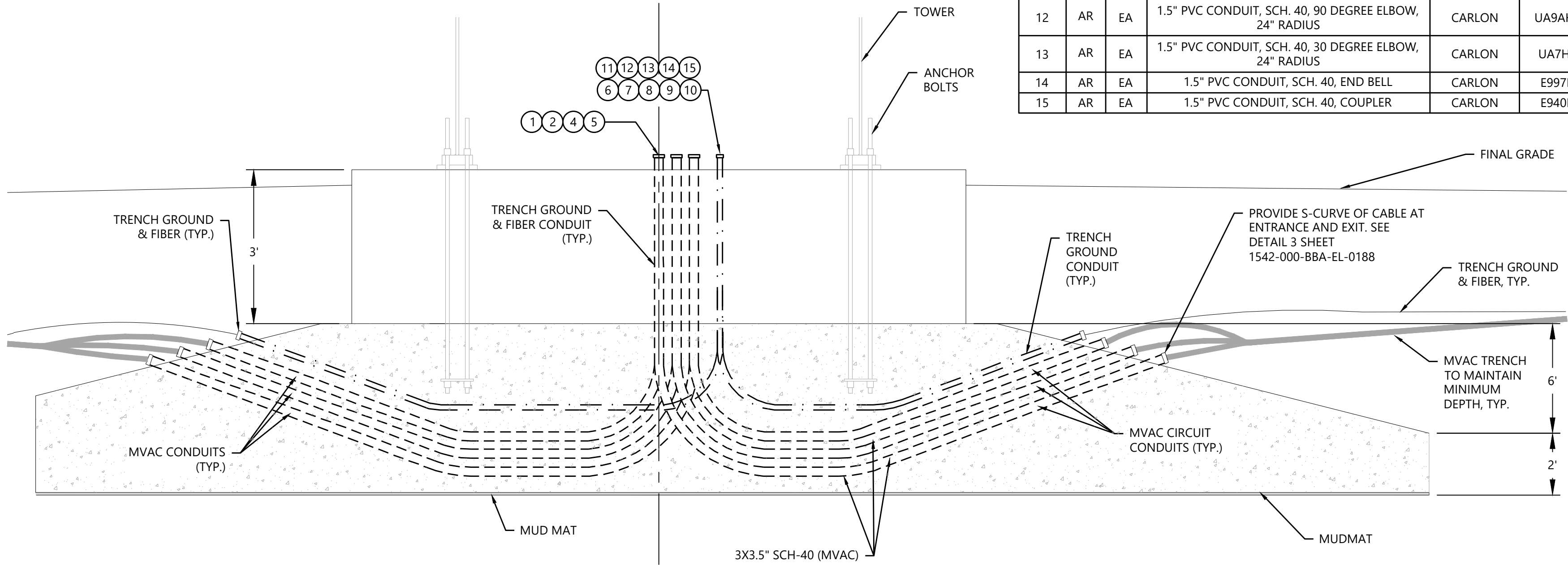
NOTES:

1. PEDESTAL DESIGN IS SHOWN FOR PERMIT REFERENCE ONLY AND WILL BE UPDATED ONCE TURBINE FOUNDATIONS HAVE BEEN DESIGNED BY OTHERS.
2. REFER TO TURBINE MANUFACTURER INSTALLATION MANUAL FOR ADDITIONAL DETAILS.
3. CONDUITS TO BE FIELD ROUTED THROUGH REBAR INTO CONDUIT INSTALLED AREA. CONDUITS SHALL EXTEND 6" ABOVE THE PEDESTAL FLOOR, AND WILL BE FINISHED WITH BELL-ENDS TO ENSURE CABLES ARE NOT DAMAGED DURING THE PULL.
4. CONTRACTOR SHALL USE A SEALANT TO SEAL CONDUIT. CAP CONDUIT DURING CONSTRUCTION.
5. REBAR SHALL NOT BE PLACED BETWEEN POWER CONDUITS. SEE FOUNDATION DESIGN DRAWINGS FOR STRUCTURAL DETAILS RELATED TO CONDUIT PENETRATION.
6. EXACT LOCATION OF CONDUIT STUB-OUTS INSIDE THE TOWER SHALL BE COORDINATED WITH TURBINE VENDOR TO MATCH PLACEMENT OF SWITCHGEAR, GROUNDING BAR, AND FIBER TERMINAL LOCATION.
7. CONTRACTOR SHALL OBSERVE CABLE BENDING RADIUS REQUIREMENTS.
8. CONDUITS FOR CABLES CLOSEST TO SUBSTATION MUST BE INSTALLED CLOSEST TO THE SWITCHGEAR BUSHINGS.
9. CONTRACTOR TO VERIFY CABLE PHASE SEQUENCE IN RELATION TO SWITCHGEAR PHASE SEQUENCE BEFORE INSTALLATION INTO CONDUIT. DIRECTION OF CONDUIT ENTRANCE AND EXIT IS REPRESENTATIVE. CONTRACTOR MAY ADJUST POSITION OF CONDUITS AS DICTATED BY MEDIUM VOLTAGE CABLE TRENCHING PLAN.
11. MET TOWER FIBER CONDUIT AND MET TOWER POWER CONDUIT REQUIRED AT T-15 AND T-7. ADD MATERIALS ACCORDINGLY.
12. SEE DETAIL 3 FOR CABLES ENTERING AND LEAVING THE FOUNDATION.
13. SEE FOUNDATION DRAWINGS FOR FOUNDATION INFORMATION AND DIMENSIONS.
14. REFERENCE VENDORS AND PART #S ARE SHOWN. EQUIVALENT PARTS FROM OTHER VENDORS MAY BE SUBMITTED FOR APPROVAL

| MATERIALS LIST | | | | | |
|----------------|-----|-----|---|--------------------|-----------|
| ITEM | QTY | UOM | DESCRIPTION | MANUF. OR EQUAL | PART # |
| 1 | AR | EA | 3.5" PVC CONDUIT, SCH. 40, W. END BELL, 10 FT | CARLON | 49014-010 |
| 2 | AR | EA | 3.5" PVC CONDUIT, SCH. 40, 90 DEGREE ELBOW, 48" RADIUS | CARLON | UA9HM |
| 3 | AR | EA | 3.5" PVC CONDUIT, SCH. 40, 30 DEGREE ELBOW, 48" RADIUS | CARLON | UA6HM |
| 4 | AR | EA | 3.5" PVC CONDUIT, SCH. 40, END BELL | CARLON | E997M |
| 5 | AR | EA | 3.5" PVC CONDUIT, SCH. 40, COUPLER | CARLON | E940M |
| 6 | AR | EA | 2" PVC CONDUIT, SCH. 40, W. END BELL, 10 FT | CARLON | 49011-010 |
| 7 | AR | EA | 2" PVC CONDUIT, SCH. 40, 90 DEGREE ELBOW, 24" RADIUS | CARLON | UA9JB |
| 8 | AR | EA | 2" PVC CONDUIT, SCH. 40, 30 DEGREE ELBOW, 24" RADIUS | CARLON | UA7JB |
| 9 | AR | EA | 2" PVC CONDUIT, SCH. 40, END BELL | CARLON | E997J |
| 10 | AR | EA | 2" PVC CONDUIT, SCH. 40, COUPLER | CARLON | E940J |
| 11 | AR | EA | 1.5" PVC CONDUIT, SCH. 40, W. END BELL, 10 FT | CARLON | 49010-010 |
| 12 | AR | EA | 1.5" PVC CONDUIT, SCH. 40, 90 DEGREE ELBOW, 24" RADIUS | CARLON | UA9AHB |
| 13 | AR | EA | 1.5" PVC CONDUIT, SCH. 40, 30 DEGREE ELBOW, 24" RADIUS | CARLON | UA7HB |
| 14 | AR | EA | 1.5" PVC CONDUIT, SCH. 40, END BELL | CARLON | E997H |
| 15 | AR | EA | 1.5" PVC CONDUIT, SCH. 40, COUPLER | CARLON | E940H |



3 Pedestal Conduit Section View
NTS



4 Tower Foundation - Side Conduit View
NTS



PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | |
|------------|------------|---------------------------------|-----|-----|
| # | DATE | COMMENT | BY | CHK |
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| C | 8/29/2024 | REVISED 60% - PER UPDATED ARRAY | SMK | SMK |

Hoffman Falls
Wind Project

Madison County, New York

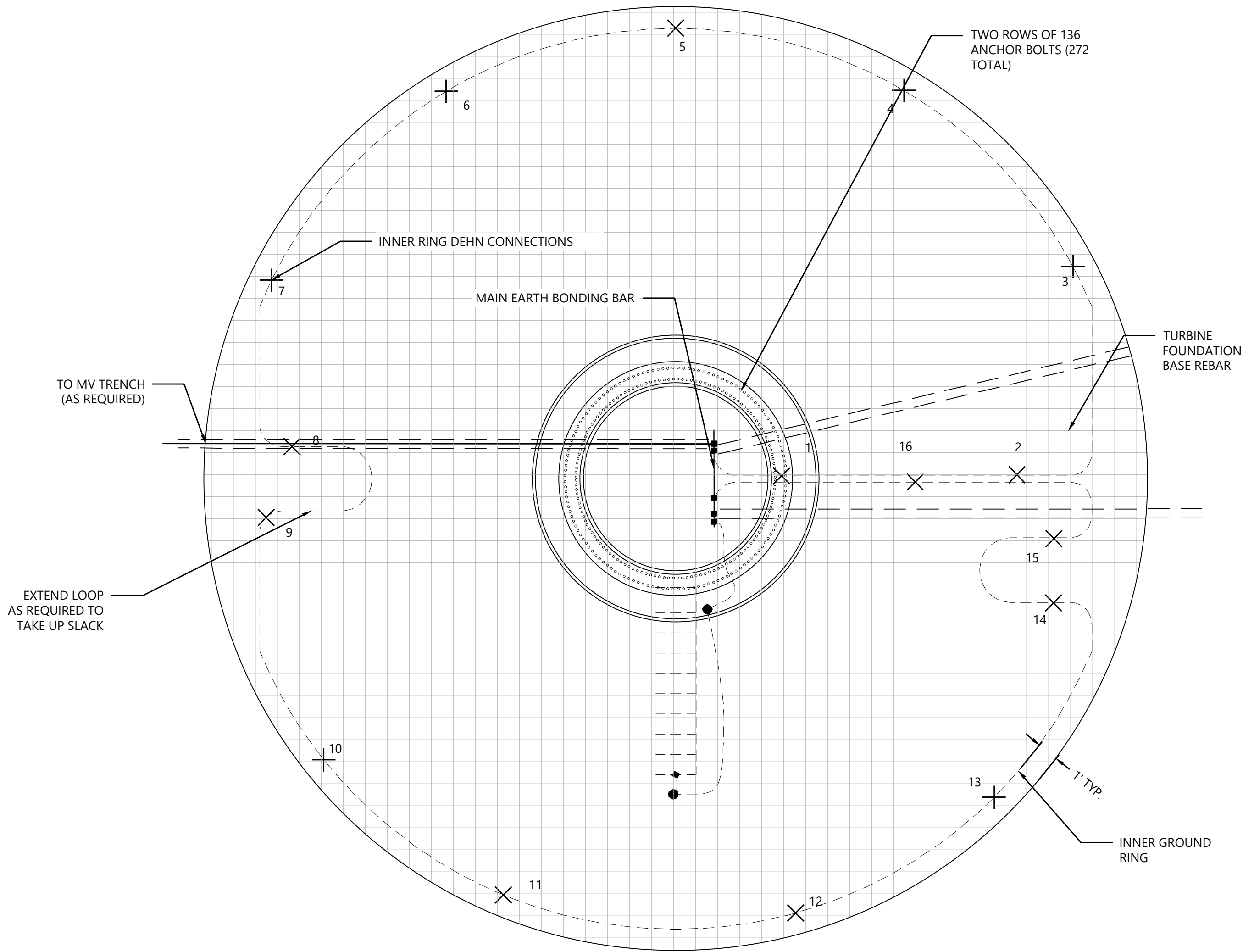
Foundation Conduit
Details

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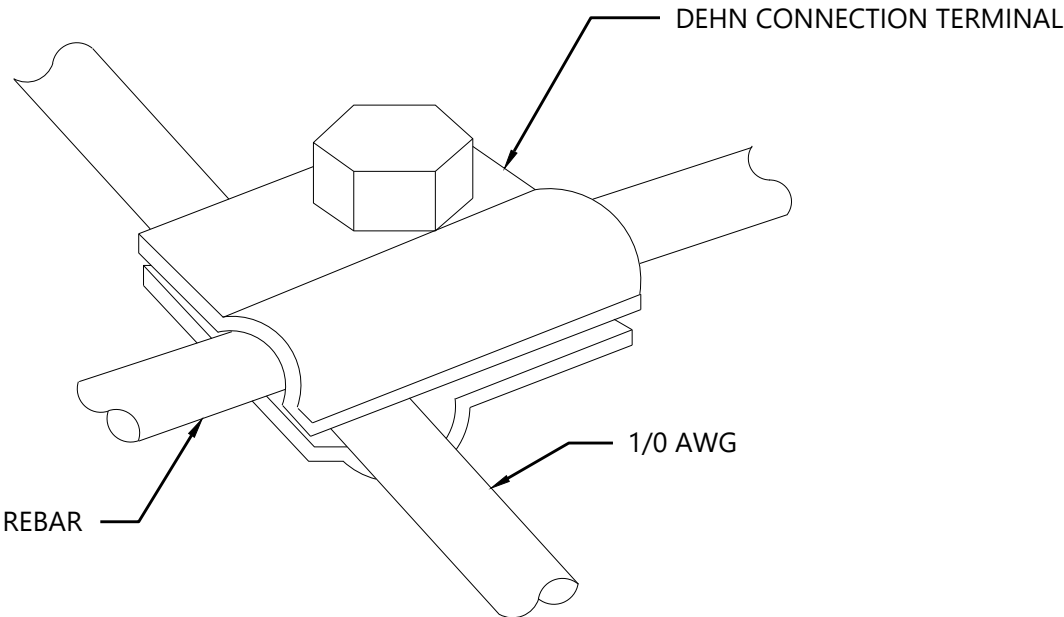


| MATERIALS LIST | | | | | |
|----------------|-----|-----|---------------------------------------|---------------|----------|
| ITEM | QTY | UOM | DESCRIPTION | MAN. OR EQUAL | PART # |
| 1 | A/R | FT | CONDUCTOR, 1/0 AWG, STR, CU, BARE | | |
| 2 | A/R | EA | COMPRESSION CONNECTOR, 1/0 AWG TO 1/0 | BURNDY | YGH2626 |
| 3 | A/R | EA | DEHN CONNECTION TERMINAL | DEHN | |
| 4 | A/R | EA | LUG, 1-HOLE, 1/0 AWG | BURNDY | YA25TC38 |

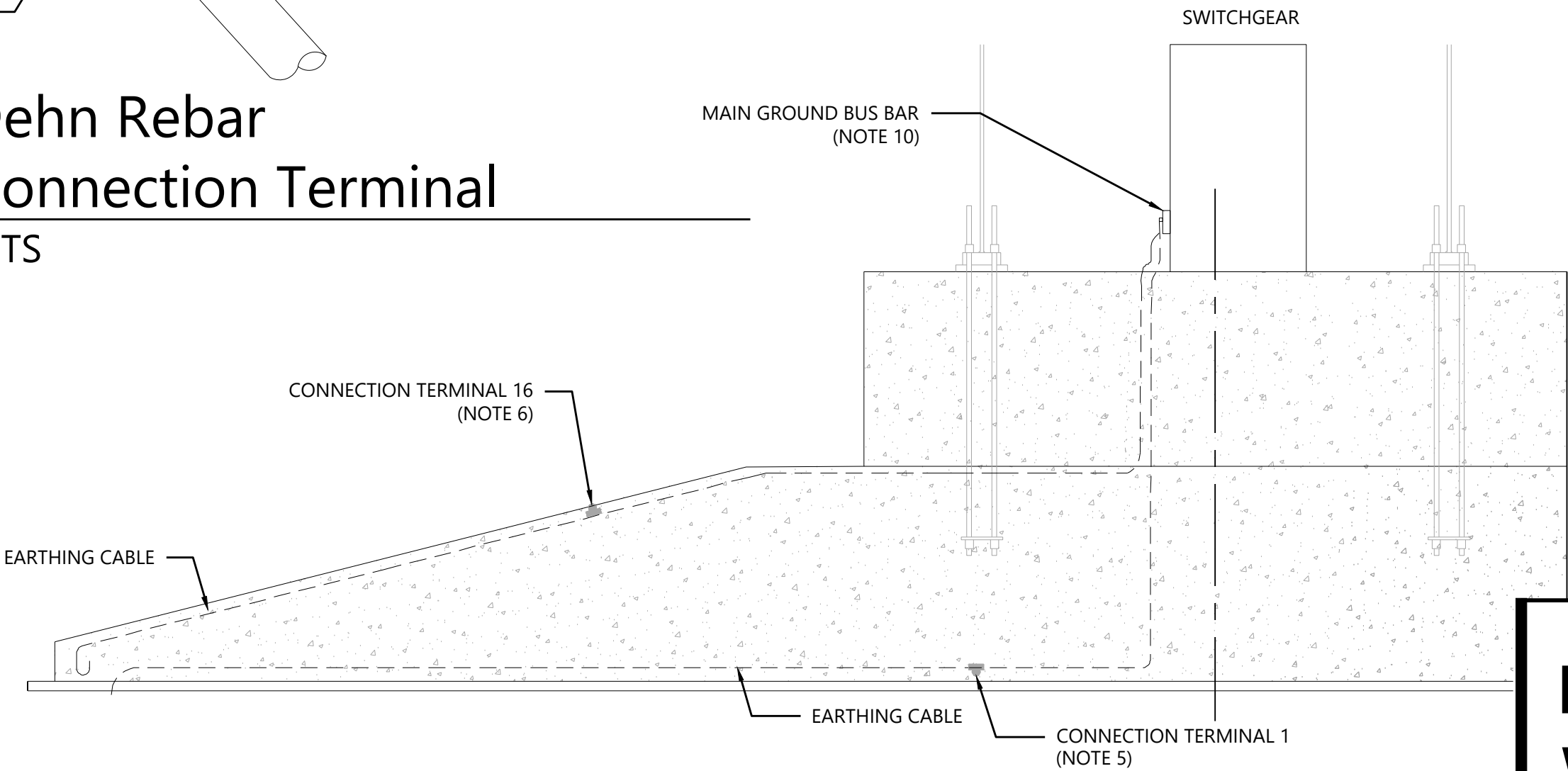
| LUG MATERIALS LIST | | | | |
|--------------------|-----|-----|--------------------|--|
| ITEM | QTY | UOM | DESCRIPTION | |
| 1 | A/R | EA | M10 NUT | |
| 2 | A/R | EA | M10 BOLT | |
| 3 | A/R | EA | SPRING WASHER | |
| 4 | A/R | EA | FENDER WASHER | |
| 5 | A/R | EA | 1 HOLE, 1/0 CU LUG | |

- NOTES:
- PEDESTAL DESIGN IS SHOWN FOR PERMIT REFERENCE ONLY AND WILL BE UPDATED ONCE TURBINE FOUNDATIONS HAVE BEEN DESIGNED BY OTHERS.
 - GROUND CONDUCTOR WITHIN THE FOUNDATION SHALL BE INSTALLED ALONG THE INNER SIDE OF THE EDGE OF THE REINFORCEMENT STEEL AND SHALL BE BONDED TO THE REBAR CAGE WITH GROUND CLAMPS AT THE 16 LOCATIONS IDENTIFIED, AT ALL OTHER LOCATIONS, GROUND CONDUCTOR SHALL BE SECURED TO THE REAR CAGE WITH STEEL WIRE TIES AT EVERY CROSSING, WHICH SHALL NOT EXCEED SIX INCHES.
 - REBAR GROUND CLAMPS SHALL BE LISTED FOR EMBEDMENT IN CONCRETE.
 - THE CONNECTION TERMINALS ARE MARKED AND NUMBERED 1 TO 16, STARTED AT ONE END, INSTALL THE CONNECTION TERMINAL EVERY 16.5 FEET ALONG THE GROUNDING CONDUCTOR. INSTALL THE CONNECTION TERMINALS NUMBERED 1 TO 15 FIRST. CONNECTION TERMINAL NUMBER 16 MUST BE INSTALLED ALONG THE UPPER LAYER OF THE REINFORCEMENT STEEL.
 - ANY EXCESS GROUNDING SHALL NOT BE CUT OFF, IT MUST BE DISTRIBUTED INSIDE THE STEEL REINFORCEMENT SHOWN IN THE DRAWING AS SLACK AND TIED TO ALL STEEL REINFORCEMENT CROSSINGS.
 - TWO TRENCH GROUND CONDUCTORS SHALL ENTER THE TURBINE, BOTH TERMINATED ONTO MAIN GROUNDING BAR. GROUNDING CONDUCTORS FROM DOWN-TOWER CABLE NOT SHOWN FOR CLARITY. GROUNDS TO BE CONNECTED TO THE MAIN GROUNDING BUS BAR PER WORK INSTRUCTIONS.
 - IF 90 DEGREES OR GREATER SEPARATION OF INCOMING AND OUTGOING MV/TRENCH GROUND CONDUITS CANNOT BE MAINTAINED, A SEPARATE 80 M 7/7 CU EARTHING WIRE EXITING AT MINIMUM 90 DEGREES FROM ONE OF THE MV TRENCH GROUNDS MUST BE INSTALLED AND CONNECTED TO MAIN EARTHING BAR. THIS ADDITIONAL EARTHING WIRE ALSO REQUIRED FOR END OF LINE TURBINES.
 - MAIN GROUND BAR TO BE LOCATED AT BASE FRAME OF SWITCHGEAR, PER TURBINE DOCUMENTS.
 - GROUND CONDUCTOR WITHIN TOWER BASEMENT SHALL BE BONDED TO BOTH THE MAIN GROUND BUS BAR (AT SWITCHGEAR BASE) AND TRENCH GROUND CONDUCTOR(S), AS SHOWN.
 - GROUND LOOP RESISTANCE TO REMOTE EARTH TO BE MEASURED USING A THREE POINT "FALL OF POTENTIAL" METHOD AT EACH WIND TURBINE LOCATION PRIOR TO INTERCONNECTION OF EARTHING SYSTEM BETWEEN WIND TURBINES. NOTIFY OWNER IF RESULTS ARE MORE THAN FIVE OHMS.
 - ALL FOUNDATION EARTHING MATERIALS ARE PROVIDED BY TURBINE MANUFACTURER, WITH THE EXCEPTION OF THE COMPRESSION FITTINGS.
 - SEE FINAL FOUNDATION DRAWINGS FOR FOUNDATION INFORMATION AND DIMENSIONS.
 - ALL GROUND CONDUCTORS SHALL BE EQUIPPED WITH A HEAT SHRINK SLEEVE WHERE THEY EMERGE FROM CONCRETE.
 - REFERENCE VENDORS AND PART #'S ARE SHOWN. EQUIVALENT PARTS FROM OTHER VENDORS MAY BE SUBMITTED FOR APPROVAL.

- LEGEND:
- ✕ CONNECTION TERMINALS (16X PER FOUNDATION)
 - COMPRESSION LINE CONNECTIONS
 - COMPRESSION LUG CONNECTIONS

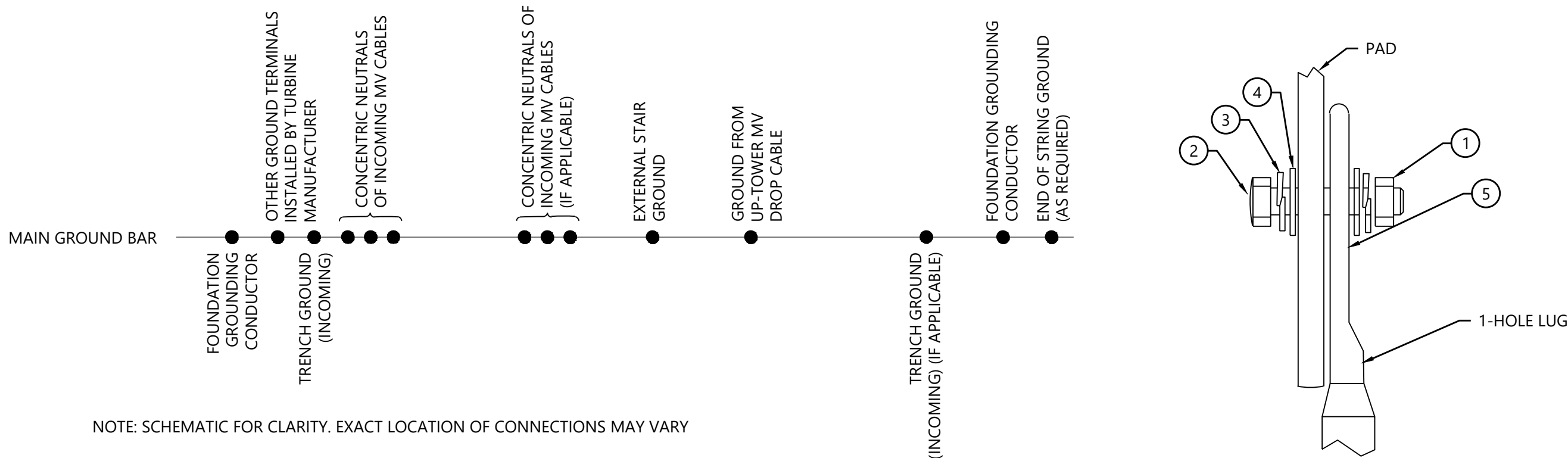


Dehn Rebar Connection Terminal
NTS

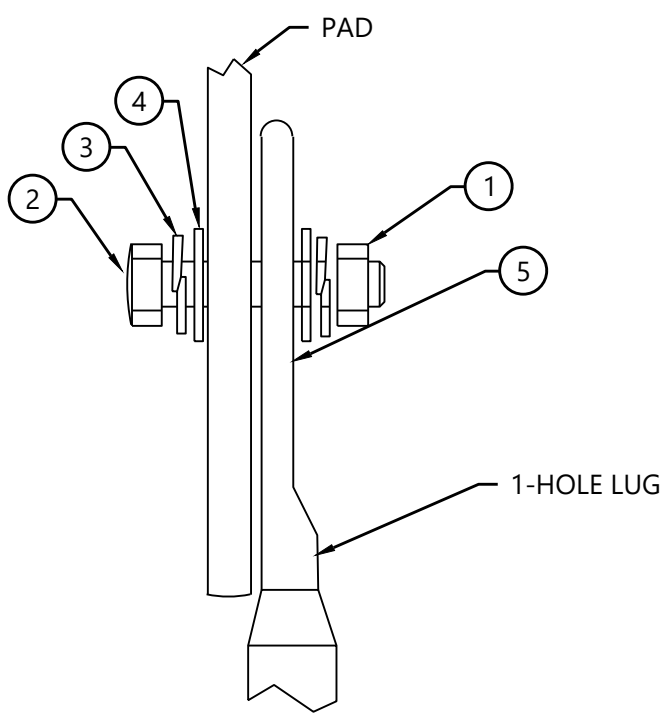


Foundation Section View
NTS

Foundation With Ground Conductor Installed
NTS



Main Ground Bar Connections
NTS



Main Ground Lug Detail
NTS

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ANDREW R SZABO

01/29/2024

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Andrew Szabo

PREPARED FOR:

Hoffman Falls Wind LLC

90 State Street, Suite 700
Albany, NY 12207

| REVISIONS: | | | | |
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Hoffman Falls
Wind Project

Madison County, New York

Foundation Grounding
Details

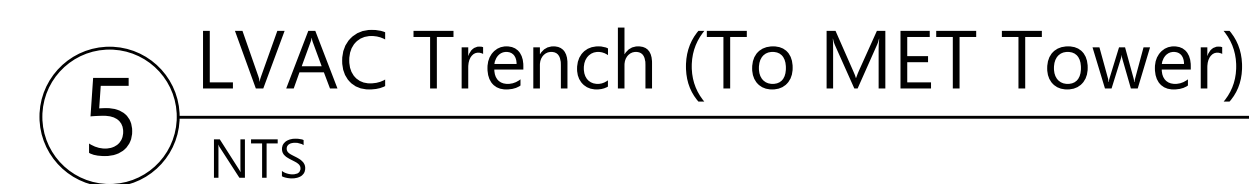
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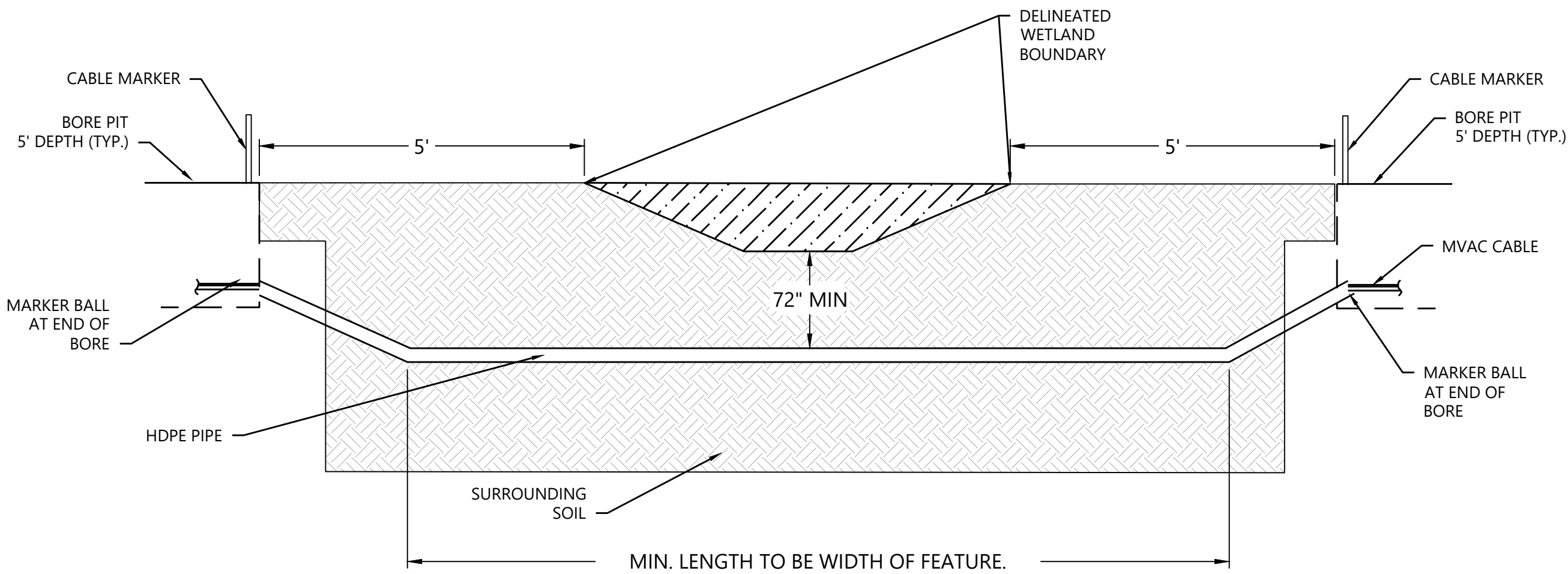
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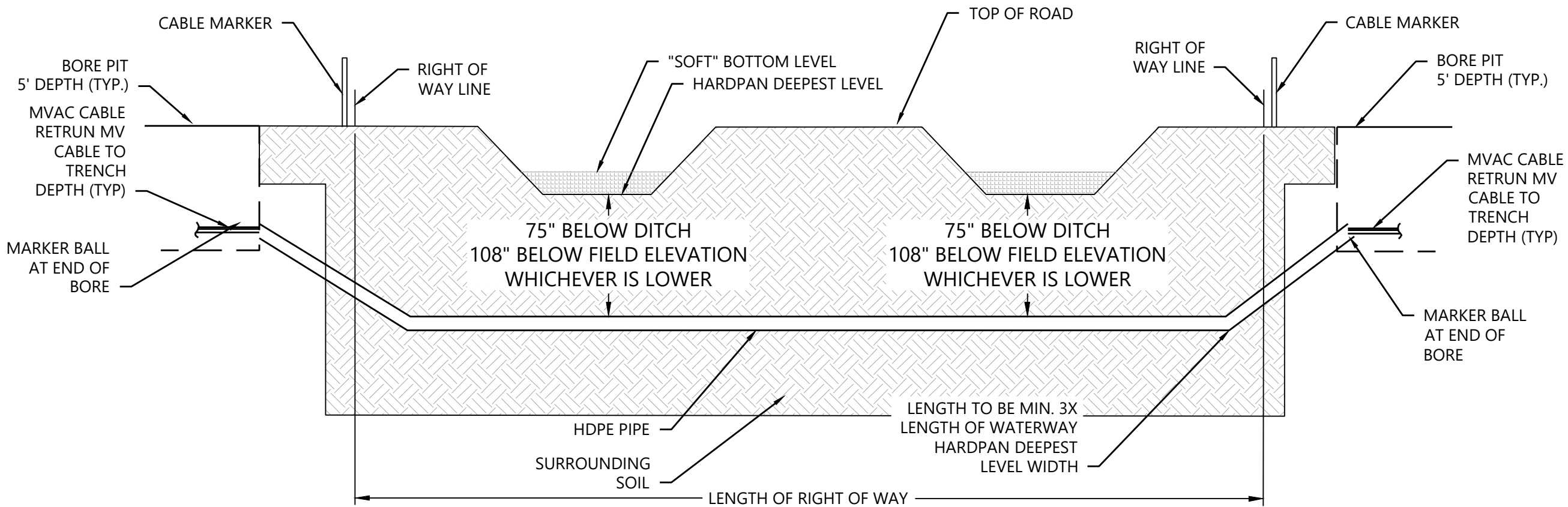


1 IF VISUAL INSPECTION INDICATES THAT NO GRAVEL LARGER THAN 3/8 INCH IS PRESENT AT THE LEVEL OF THE BOTTOM OF THE CABLE, CONSTRUCTION ITEM 4.b.1 IS NOT REQUIRED.

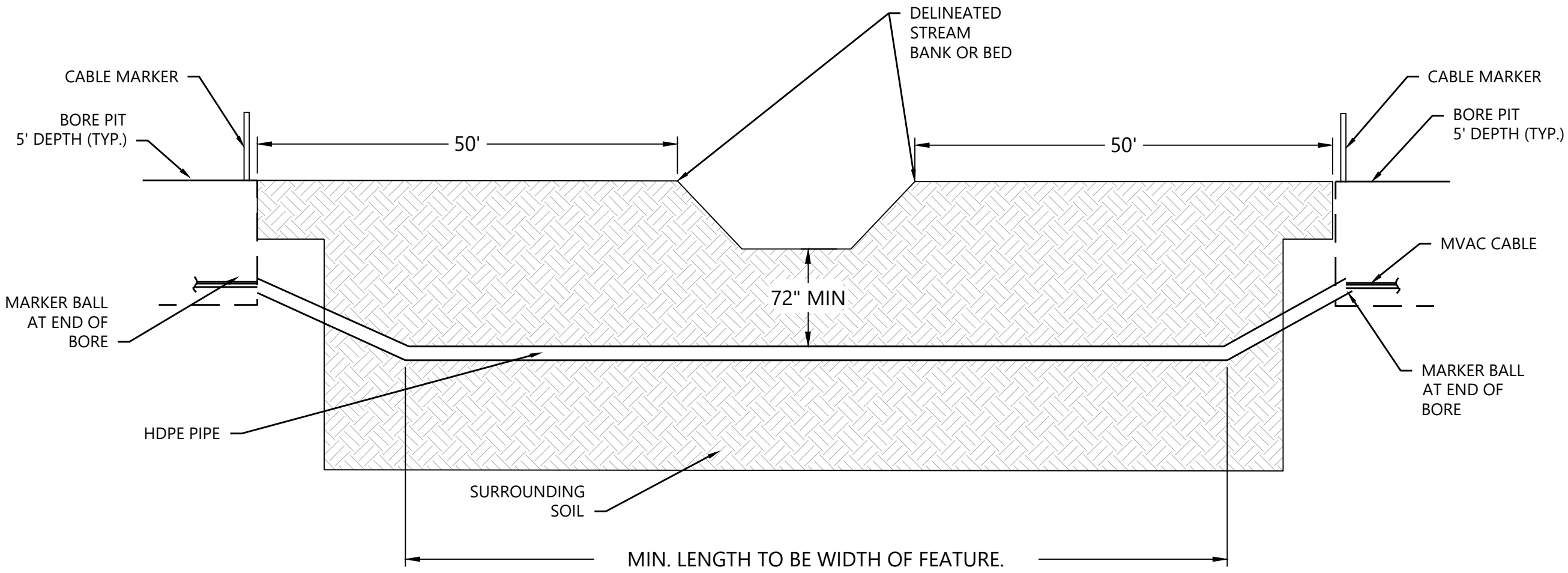
| | Location | Required Test | ASTM Standard | Frequency | Specified Criteria |
|--------|------------------------------|---|---------------|---|--|
| Trench | Trench Backfill and Bedding | Moisture Density Test (Nuclear Density) | ASTM D-2922 | 1 test per every 500 LF of trench with 18" of cover over cables/conduit and on each subsequent compacted 12" thick lift | 90% of maximum dry density, -2% to +5% of optimum moisture content |
| | | Standard Proctor | ASTM D-698 | 1 per major soil type | |
| | Trench Bedding (import only) | Standard Proctor | ASTM D-698 | 1 per major soil type | Submit results to Westwood for approval |
| | | Sieve Analysis with Hydrometer | ASTM D-422 | 1 per major soil type | |
| | | Thermal Resistivity Dryout Curve | ASTM D-5334 | 1 per major soil type | |



1 Typical MVAC Crossing - Wetland Bore Section View
NTS



2 Road Crossing Detail Bore Section View
NTS



3 Typical MVAC Crossing - Stream Bore Section View
NTS

- NOTES:
1. CABLE MARKERS TO BE PLACED AT TOP OF SLOPES.
 2. DEPTH OF BORE TO BE 72" MINIMUM BELOW WETLAND OR STREAM, OR BELOW HARDPAN BOTTOM OF ROAD SHOULDER.
 3. CENTER-TO-CENTER SPACING OF PARALLEL BORES TO BE 10' MINIMUM AT A MAXIMUM DEPTH OF 11'.
 4. BORE LENGTH TO BE ENTIRE RIGHT-OF-WAY OR BOUNDARY OF FEATURE.
 5. SLOPE OF BORE INTO AND OUT OF HORIZONTAL SECTION TO BE 1:3 SLOPE MINIMUM.
 6. SEE E7700 FOR SITE BORE SCHEDULE.

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REVISIONS:

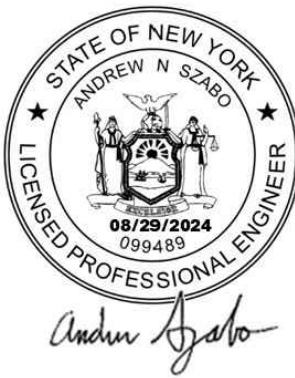
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| B | 01/26/2024 | 60% ELECTRICAL DESIGN | JON | GVH | DNS |

Hoffman Falls
Wind Project
Madison County, New York

Bore Details

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| | | | |
|------------|------------|-----------------------|-------------|
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Hoffman Falls
Wind Project

Madison County, New York

Crossing Schedule

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DATE: 8/29/2024

SHEET: E7700

REV:

C

NOTES:

1. CROSSED FEATURE LENGTH COLUMN REPRESENTS POINT-TO-POINT DISTANCE OF FEATURES SHOWN ON MVAC SITE PLAN DRAWINGS THAT ARE CROSSED BY A BORE.
2. BORE LENGTH COLUMN REPRESENTS THE HORIZONTAL LENGTH OF THE BORE SHOWN IN THE MVAC SITE PLAN DRAWINGS, NOT INCLUDING THE 20" BORE PITS ON EITHER SIDE OF THE BORE.

| Hoffman Falls Wind - Crossing Schedule | | | | | | | | | |
|--|---------|------------------|----------------------------|-------------------------|------------|-----------------------------|------------------|--|--|
| Crossing ID | Circuit | Bore Type | Crossing Conduit Size (in) | Conductor Location Code | Cable Size | Crossed Feature Length (ft) | Bore Length (ft) | Boring Coordinates (Substation Side of Bore) [Northing, Easting] | Boring Coordinates (Non-Substation Side of Bore) [Northing, Easting] |
| DB1-1 | UMV-1 | Road Crossing | 8 | F1.MV-SUB-JB-1A | 1250 KCMIL | 66 | 72 | 1043499.1721, 1043499.1721 | 1043511.8353, 1081385.291 |
| DB1-2 | UMV-1 | Road Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 116 | 221 | 1042394.8283, 1075197.8514 | 1042365.6172, 1074978.4847 |
| DB1-3 | UMV-1 | Wetland Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 563 | 616 | 1042359.9177, 1074935.6834 | 1042339.032, 1074320.1479 |
| DB1-4 | UMV-1 | Wetland Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 89 | 160 | 1042268.477, 1074216.5127 | 1042163.5659, 1074095.9726 |
| DB1-5 | UMV-1 | Road Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 61 | 66 | 1042126.2115, 1073815.9138 | 1042115.8101, 1073750.5989 |
| DB1-6 | UMV-1 | Road Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 67 | 66 | 1042041.6174, 1073739.0074 | 1041976.0811, 1073739.1579 |
| DB1-7 | UMV-1 | Wetland Crossing | 8 | F1.MV-JB-1A-JB-1B | 1000 KCMIL | 11 | 112 | 1040910.639, 1073227.897 | 1040864.9563, 1073125.629 |
| DB1-8 | UMV-1 | Wetland Crossing | 6 | F1.MV-JB-1B-T-2 | 4/0 AWG | 103 | 368 | 1039038.5923, 1072092.2885 | 1038696.5121, 1072227.16 |
| DB1-9 | UMV-1 | Road Crossing | 6 | F1.MV-JB-1B-T-2 | 4/0 AWG | 65 | 67 | 1038646.5736, 1072259.4253 | 1038615.4417, 1072319.1651 |
| DB2-1 | UMV-2 | Road Crossing | 8 | F2.MV-SUB-T-10 | 1250 KCMIL | 66 | 73 | 1043469.6019, 1081450.7986 | 1043482.446, 1081378.9886 |
| DB2-2 | UMV-2 | Wetland Crossing | 8 | F2.MV-T-10-JB-2A | 1000 KCMIL | 10 | 57 | 1047579.6692, 1075575.4698 | 1047636.248, 1075575.3212 |
| DB2-3 | UMV-2 | Road Crossing | 8 | F2.MV-T-10-JB-2A | 1000 KCMIL | 82 | 117 | 1048060.1392, 1073613.3316 | 1048061.2779, 1073495.8644 |
| DB2-4 | UMV-2 | Wetland Crossing | 8 | F2.MV-T-10-JB-2A | 1000 KCMIL | 8 | 131 | 1048100.8369, 1073422.3361 | 1048102.2024, 1073291.4702 |
| DB2-5 | UMV-2 | Wetland Crossing | 8 | F2.MV-JB-2A-T-12 | 500 KCMIL | 180 | 208 | 1048573.0753, 1072047.108 | 1048776.3172, 1072004.5697 |
| DB2-6 | UMV-2 | Wetland Crossing | 8 | F2.MV-JB-2A-T-12 | 500 KCMIL | 332 | 371 | 1049482.061, 1072023.0703 | 1049848.406, 1072083.0613 |
| DB2-7 | UMV-2 | Wetland Crossing | 6 | F2.MV-T-12-JB-2B | 4/0 AWG | 5 | 105 | 1053097.7465, 1072477.183 | 1053202.6997, 1072478.0796 |
| DB2-8 | UMV-2 | Road Crossing | 6 | F2.MV-T-12-JB-2B | 4/0 AWG | 75 | 76 | 1053301.4993, 1072479.5913 | 1053377.7764, 1072479.7522 |
| DB2-9 | UMV-2 | Wetland Crossing | 6 | F2.MV-T-12-JB-2B | 4/0 AWG | 14 | 133 | 1053484.5043, 1072479.4326 | 1053617.7675, 1072479.0649 |
| DB2-10 | UMV-2 | Wetland Crossing | 6 | F2.MV-T-12-JB-2B | 4/0 AWG | 10 | 114 | 1053947.814, 1072478.036 | 1054061.6678, 1072477.6968 |
| DB2-11 | UMV-2 | Road Crossing | 6 | F2.MV-JB-2B-T-24 | 4/0 AWG | 50 | 69 | 1058429.412, 1072150.324 | 1058498.2517, 1072150.8615 |
| DB3-1 | UMV-3 | Road Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 66 | 73 | 1043479.4749, 1081452.3974 | 1043492.3545, 1081380.6258 |
| DB3-2 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 10 | 57 | 1047579.7086, 1075590.4697 | 1047636.288, 1075590.5556 |
| DB3-3 | UMV-3 | Road Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 64 | 117 | 1048070.0968, 1073613.6775 | 1048071.274, 1073496.2117 |
| DB3-4 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 113 | 131 | 1048115.7514, 1073422.5315 | 1048117.6069, 1073291.672 |
| DB3-5 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 196 | 207 | 1048576.1478, 1072061.7902 | 1048779.0835, 1072019.316 |
| DB3-6 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 338 | 371 | 1049479.6803, 1072037.6492 | 1049845.8715, 1072097.8445 |
| DB3-7 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 5 | 105 | 1053097.7822, 1072492.1831 | 1053202.7705, 1072493.0826 |
| DB3-8 | UMV-3 | Road Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 75 | 76 | 1053301.3906, 1072494.4712 | 1053377.8206, 1072494.7474 |
| DB3-9 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 14 | 133 | 1053484.5485, 1072494.4277 | 1053617.5513, 1072494.027 |
| DB3-10 | UMV-3 | Wetland Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 10 | 114 | 1053947.5996, 72492.8686 | 1054061.4518, 1072492.6395 |
| DB3-11 | UMV-3 | Road Crossing | 8 | F3.MV-SUB-T-15 | 1250 KCMIL | 152 | 325 | 1060387.9129, 1066362.986 | 1060799.3823, 1066390.3601 |
| DB3-12 | UMV-3 | Wetland Crossing | 6 | F3.MV-T-18-T-16 | 4/0 AWG | 296 | 362 | 1062772.0063, 1064237.2664 | 1062597.637, 1063920.446 |
| DB3-13 | UMV-3 | Wetland Crossing | 6 | F3.MV-JB-3A-T-13 | 4/0 AWG | 533 | 708 | 1056467.3199, 1067401.4492 | 1056273.9004, 1066719.9865 |
| DB4-1 | UMV-4 | Road Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 66 | 72 | 1043489.316, 1081454.1766 | 1043502.0381, 1081383.19 |
| DB4-2 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 10 | 57 | 1047579.748, 1075605.4697 | 1047636.3268, 1075605.3211 |
| DB4-3 | UMV-4 | Road Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 64 | 117 | 1048080.1335, 1073614.0262 | 1048081.2684, 1073496.5589 |
| DB4-4 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 113 | 131 | 1048130.8343, 1073422.7291 | 1048132.5708, 1073291.4702 |
| DB4-5 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 200 | 208 | 1048579.2207, 1072076.4719 | 1048782.4629, 1072033.9334 |
| DB4-6 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 340 | 371 | 1049477.3103, 1072052.2098 | 1049843.4121, 1072112.643 |
| DB4-7 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 5 | 105 | 1053097.8406, 1072507.1462 | 1053202.9494, 1072508.0874 |
| DB4-8 | UMV-4 | Road Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 75 | 76 | 1053301.3775, 1072509.4736 | 1053377.8075, 1072509.7475 |
| DB4-9 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 14 | 133 | 1053484.5928, 1072509.4275 | 1053617.5955, 1072508.9926 |
| DB4-10 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 10 | 114 | 1053947.3775, 1072508.0375 | 1054061.234, 1072507.7053 |
| DB4-11 | UMV-4 | Road Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 137 | 325 | 1060387.2614, 1066377.9758 | 1060798.7308, 1066405.3499 |
| DB4-12 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 5 | 100 | 1064943.5353, 1064144.8469 | 1065005.2605, 1064066.1703 |
| DB4-13 | UMV-4 | Road Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 65 | 66 | 1065643.5658, 1063992.2533 | 1065706.2598, 1064012.9265 |
| DB4-14 | UMV-4 | Wetland Crossing | 8 | F4.MV-SUB-JB-4A | 1250 KCMIL | 1121 | 1900 | 1067223.3789, 1063926.1759 | 1069123.3812, 1063948.6408 |
| DB4-15 | UMV-4 | Road Crossing | 6 | F4.MV-JB-4B-JB-4C | 4/0 AWG | 66 | 68 | 1072224.0563, 1064510.1194 | 1072291.5853, 1064514.5445 |
| DB5-1 | UMV-5 | Road Crossing | 8 | F5.MV-SUB-T-5 | 1000 KCMIL | 66 | 72 | 1043499.1721, 1081455.8655 | 1043511.8353, 1081385.291 |