

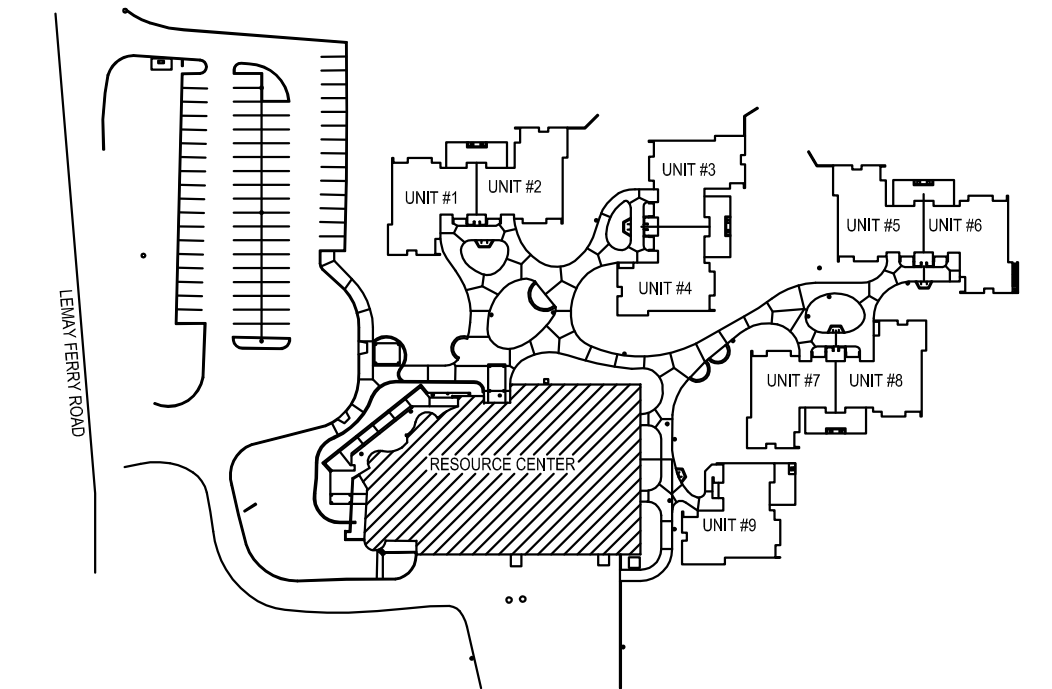
# Generator Replacement

## Saint Louis County Habilitation Center

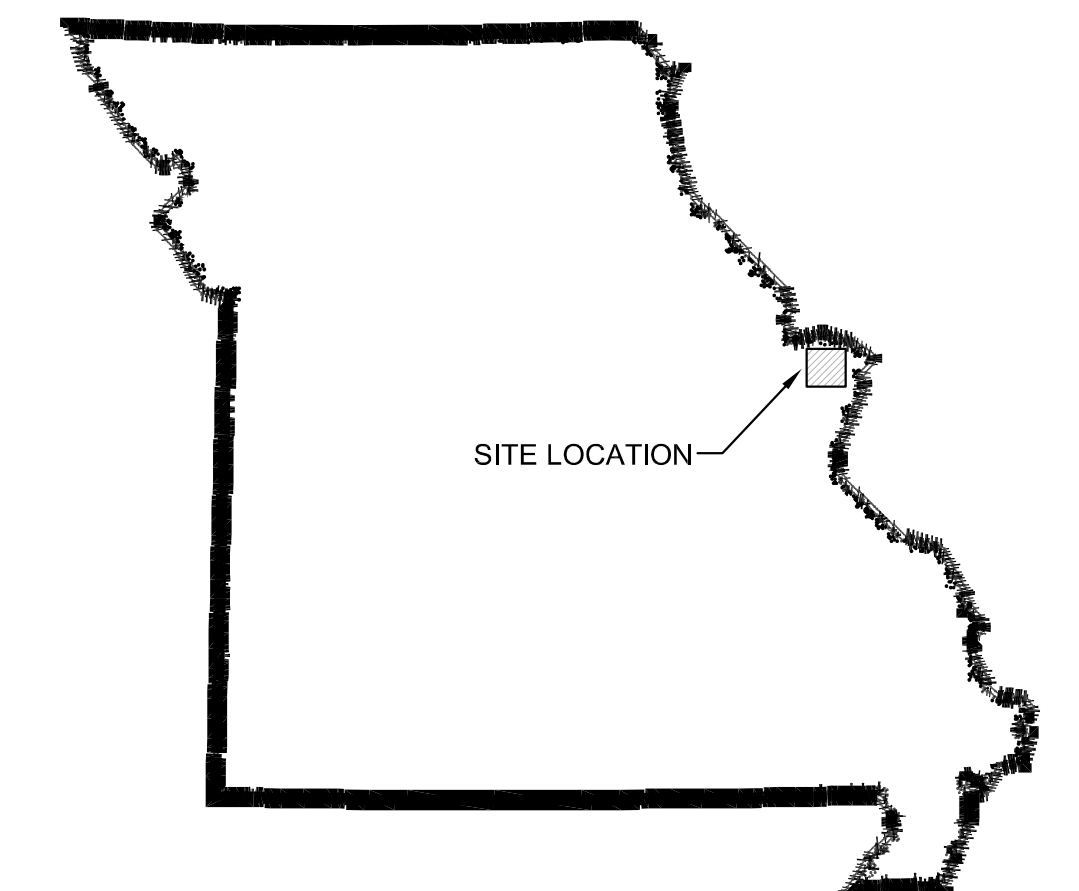
2312 Lemay Ferry Road St. Louis, MO 63125



AREA LOCATION PLAN



AREA SITE PLAN



STATE LOCATION PLAN

OWNER: STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR  
DEPARTMENT OF  
MENTAL HEALTH

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

**WES**  
WEBB  
ENGINEERING  
SERVICES INC.  
  
**CONSULTING  
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St. Louis, Missouri 63104  
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DESIGNER: Webb Engineering Services, Inc.

PROJECT NUMBER: M-2328-01

SITE NUMBER: 3626  
FACILITY NUMBER: 47630

SHEET NUMBER:

**G0.1**

1 OF 4 SHEETS  
DECEMBER 04, 2024



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**DEPARTMENT OF  
MENTAL HEALTH**

## PROJECT LOCATION

FACILITY # 47630

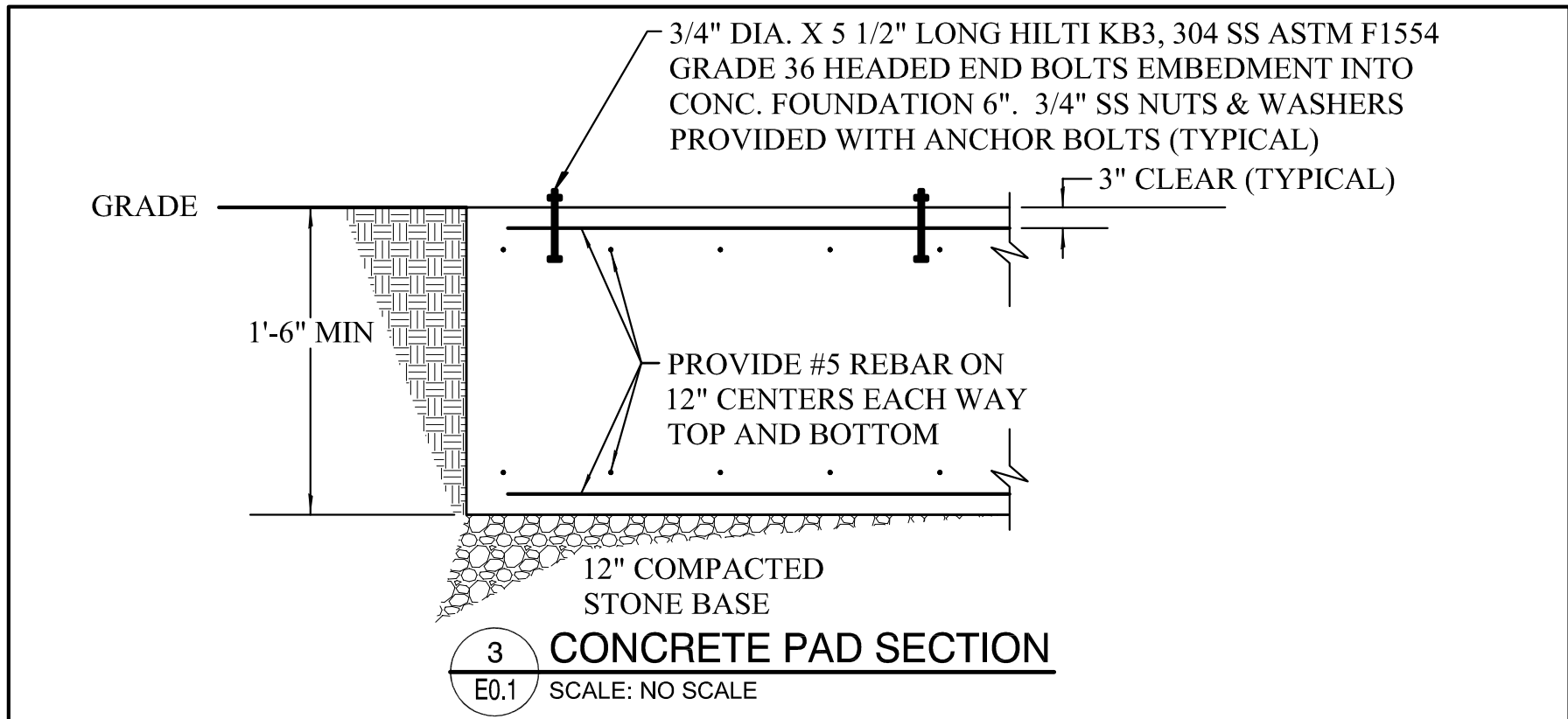
ISSUE DATE: 12/04/2024

SHEET TITLE:

SHEET NUMBER

# E0.1

2 OF 4 SHEETS  
12/04/2024



1. CONCRETE MATERIALS AND CONSTRUCTION SHALL ADHERE TO THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY, CI 318 ACCORDING TO PROJECT BUILDING CODES.
2. CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ACI 301-10
3. CONCRETE 28-DAY COMPRESSIVE STRENGTH AND DENSITY SHALL BE AS FOLLOWS:
  - a. STRENGTH      3000 PSI
  - b. DENSITY        145 PCF
4. REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.
5. ALL REINFORCING SHALL BE DETAILED, FABRICATED, SUPPORTED AND PLACED IN ACCORDANCE WITH THE "ACI DETAILING MANUAL" AND CRSIS' "MANUAL OF STANDARD PRACTICE", LATEST EDITIONS.
6. PROVIDE CONCRETE COVER PER ACI, SECTION 7.7 WITH A MINIMUM OF 3"
7. WHERE NEW CONCRETE IS CAST AGAINST HARDENED CONCRETE, JOIN SURFACES WITH DOWELS THAT ARE MINIMUM #5 SPACED ON A GRID OF 12" O.C. EACH WAY WITH EMBEDMENT OF 8" SET WITH AN APPROVED INJECTABLE ADHESIVE. MAINTAIN 4" EDGE DISTANCE UNO.
8. PROVIDE ¾" CHAMFERS AT ALL EDGES THAT ARE EXPOSED TO VIEW.
9. CONCRETE FINISH SHALL CONFORM TO ACI 301.
10. SEE SHEET E1.0 FOR EQUIPMENT PAD LOCATION.
11. WHEN REBAR IS NOT INDICATED, PAD SHALL BE REINFORCED WITH 6X6 W2.9XW2.9 WELDED WIRE FABRIC.
12. INSTALL ANCHORS AND DOWELS WITH HILTI OR EQUAL TYPE AND PLACEMENT PER MANUFACTURER RECOMMENDATION.
13. PROVIDE PAD SHOP DRAWINGS SHOWING SEISMICALLY APPROVED ANCHORING PLACED PER MANUFACTURER INSTRUCTION.
14. FINAL DIMENSIONS TO BE DETERMINED BY APPROVED EQUIPMENT DRAWINGS.
15. COORDINATE REBAR PLACEMENT TO MISS CONDUIT AND ANCHOR BOLTS.























1. WORK SHALL COMPLY WITH THE LATEST LOCALLY ADOPTED CODES INCLUDING BUT NOT LIMITED TO THE 2015 IBC, 2014 NEC, 2015 IFC, 2015 IECC, GUIDELINES OF THE DEPARTMENT OF JUSTICE AMERICANS WITH DISABILITIES ACT (ADA), NFPA 72, 90a and 101 LIFE SAFETY CODE AND LOCAL AND STATE SEISMIC CODES AND ORDINANCES.
2. MINIMUM WIRE SIZE SHALL BE #12 AWG COPPER U.N.O. CONDUIT SHALL BE 3/4" MINIMUM EMT IN DRY AREAS, GRS IN DAMP OR WET AREAS AND SCHEDULE 80 PVC OR HDPE OUTSIDE OR UNDERGROUND AREAS UNO. IN PUBLIC AREAS, ALL WIRING TO BE CONCEALED WHEREVER POSSIBLE WITHIN WALLS AND ABOVE CEILINGS. WHERE CONDUIT IS IMPRACTICAL TO CONCEAL, PROVIDE WIRING IN CONDUIT, OR LOW PROFILE METAL SURFACE MOUNTED RACEWAY FOR 12 OR 24 VOLT APPLICATIONS, AND PAINT TO MATCH SURROUNDING SURFACES. USE OF FLEXIBLE CABLE IS PERMITTED FROM JUNCTION BOX TO DEVICE OR MOTOR IN ACCESSIBLE AREAS IN ACCORDANCE WITH STATE AND LOCAL CODES AND ORDINANCES PROVIDED THAT A GREEN GROUND WIRE IS PROVIDED AND LENGTHS OF FLEXIBLE CABLE DO NOT EXCEED 25'-0".
3. PROVIDE SEPARATE, INSULATED GROUNDING CONDUCTORS WITH PHASE CONDUCTORS FROM THE ELECTRICAL SOURCE. DO NOT UTILIZE THE CONDUIT AS THE GROUNDING CONDUCTOR.
4. COORDINATE WITH THE GENERATOR PROVIDER FOR REQUIREMENTS ON ALL WORK CONCERNING THE INSTALLATION. PROVIDE POWER AND FIRE ALARM CONDUITS, CABLES, CONDUCTORS, CONNECTIONS AND PROGRAMING TO GENERATOR FLAME DETECTOR AND EXISTING FACP AND SEAL EXTERIOR PENETRATIONS.
5. NO CIRCUIT BREAKER PROVIDED OR UTILIZED IN THIS PROJECT IS TO BE LOADED BEYOND 80% AMPACITY UNLESS CIRCUIT BREAKER IS STATED TO BE 100% RATED.
6. PLACEMENT OF ELECTRICAL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. COORDINATE FINAL PLACEMENT WITH OWNER AND EQUIPMENT PROVIDERS PRIOR TO ROUGH IN. ALSO SEE MANUFACTURERS INSTRUCTIONS FOR REQUIREMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF EXISTING GENERATOR SYSTEM PER PLANS AND SPECIFICATIONS INCLUDING ALL REQUIRED MATERIALS, NEW EQUIPMENT PROVISION, CONNECTIONS, SHUT-DOWN ASSEMBLIES AND FIRE ALARM PROGRAMMING AND COORDINATION WITH AMEREN, OWNER AND GENERATOR MANUFACTURER FOR A COMPLETE, FUNCTIONING AND CODE COMPLIANT INSTALLATION.

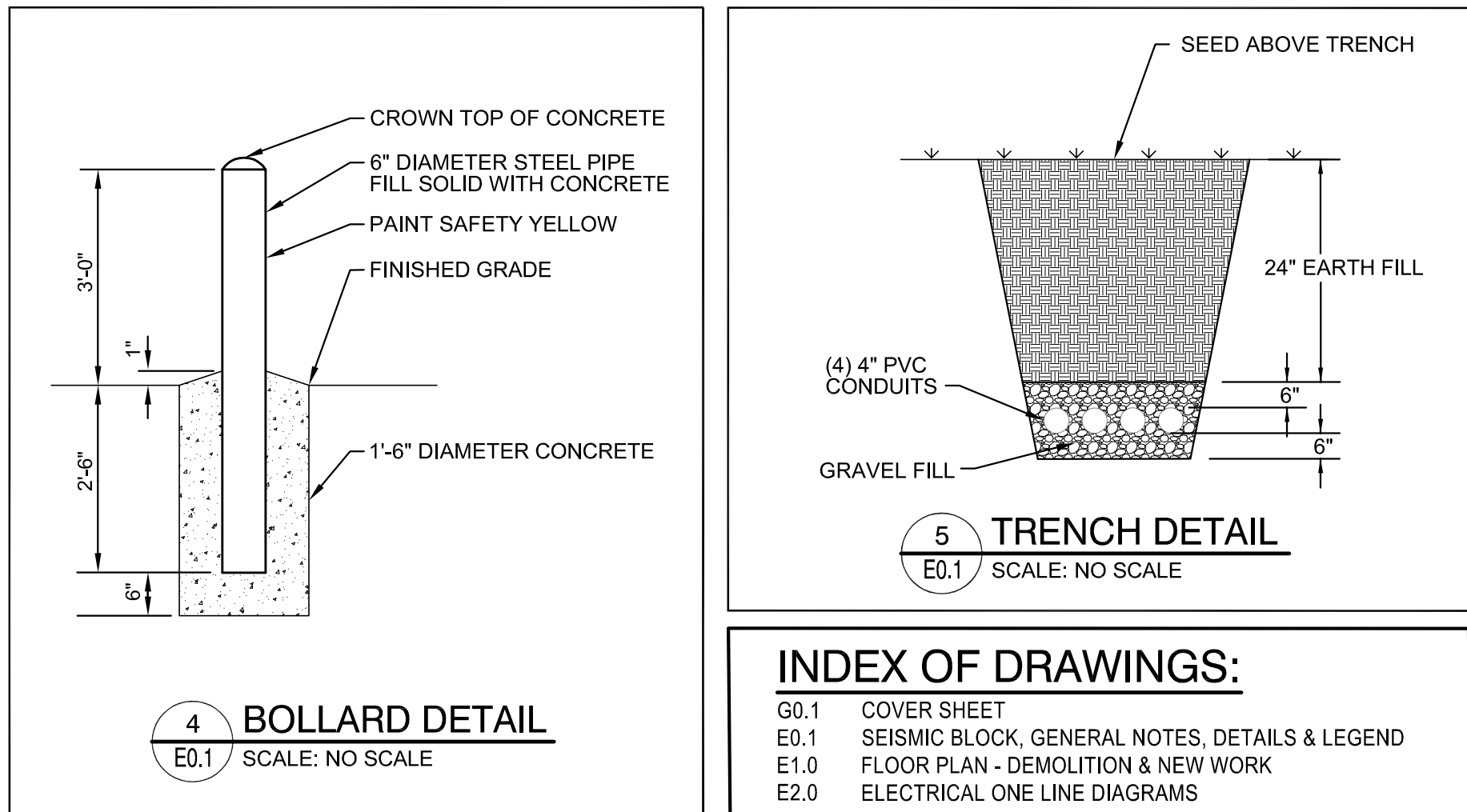
OCCUPANCY CATEGORY (III)	EARTHQUAKE LOAD RESISTANCE						SIESMIC DESIGN CATEGORY (D)
LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	ANCHORAGE TO FLOORS, ROOFS, ETC.		SWAY BRACING		LOCATION OF PROFESSIONALLY SEALED ANCHORAGE AND SWAY BRACING DETAILS		COMMENTS
	NOT PROVIDED FOR PROJECT	PROVIDED FOR PROJECT	NOT PROVIDED FOR PROJECT	PROVIDED FOR PROJECT	DRAWING No. OR SPEC SECTION	SHOP * DRAWINGS	
FIRE PROTECTION, DETECTION & ALARM EQUIPMENT & SYSTEM COMPONENTS:							
FIRE ALARM WIRING		X	X				NEW FIRE ALARM GENERATOR WIRING TO BE IN 1 1/4" OR LESS C.
EMERGENCY OR STANDBY EQUIPMENT AND SYSTEM COMPONENTS:							
EMERGENCY GENERATOR		X		X		X	NEW GENERATOR TO BE ANCHORED TO PAD PER SHOP DRAWINGS
MANUAL TRANSFER SWITCH DOCKING STATION		X		X		X	DOCKING STATION TO BE ANCHORED TO PAD AND WALL MOUNTED
AUTOMATIC TRANSFER SWITCH		X		X		X	NEW ATS TO BE FURNISHED WITHIN ETR ATS WALL MOUNTED ENCL.
CONDUIT AND WIRING		X		X		X	NEW CONDUITS TO BE WALL AND STRUCTURE MOUNTED
OTHER GENERAL EQUIPMENT & SYSTEM COMPONENTS:							
LIGHTING FIXTURES		X		X	E001		SEE LAY-IN FIXTURE MOUNTING DETAIL, THIS SHEET
CIRCUITS AND CONDUIT		X		X		X	SWAY BRACING NOT REQ'D FOR 1 1/4" OR SMALLER C.

\* IT IS THE BASIC INTENT OF THIS CODE BLOCK TO DECLARE WHETHER OR NOT ANCHORAGE AND SWAY BRACING IS BEING PROVIDED ON THE PROJECT. IF SO, TO DECLARE WHETHER OR NOT THE DETAILS ARE SHOWN ON THE PLANS OR WILL BE SHOWN ON A SUBSEQUENT SUBMISSION. IF SEISMIC RESTRAINT OF A COMPONENT IS NOT REQUIRED BY CODE THIS SHOULD BE STATED IN COMMENTS. IF SEISMIC RESTRAINT, WHICH IS NOT REQUIRED BY CODE, IS BEING PROVIDED DUE TO OWNER/DESIGNER REQUIREMENTS THIS SHOULD ALSO BE STATED IN THE COMMENTS.

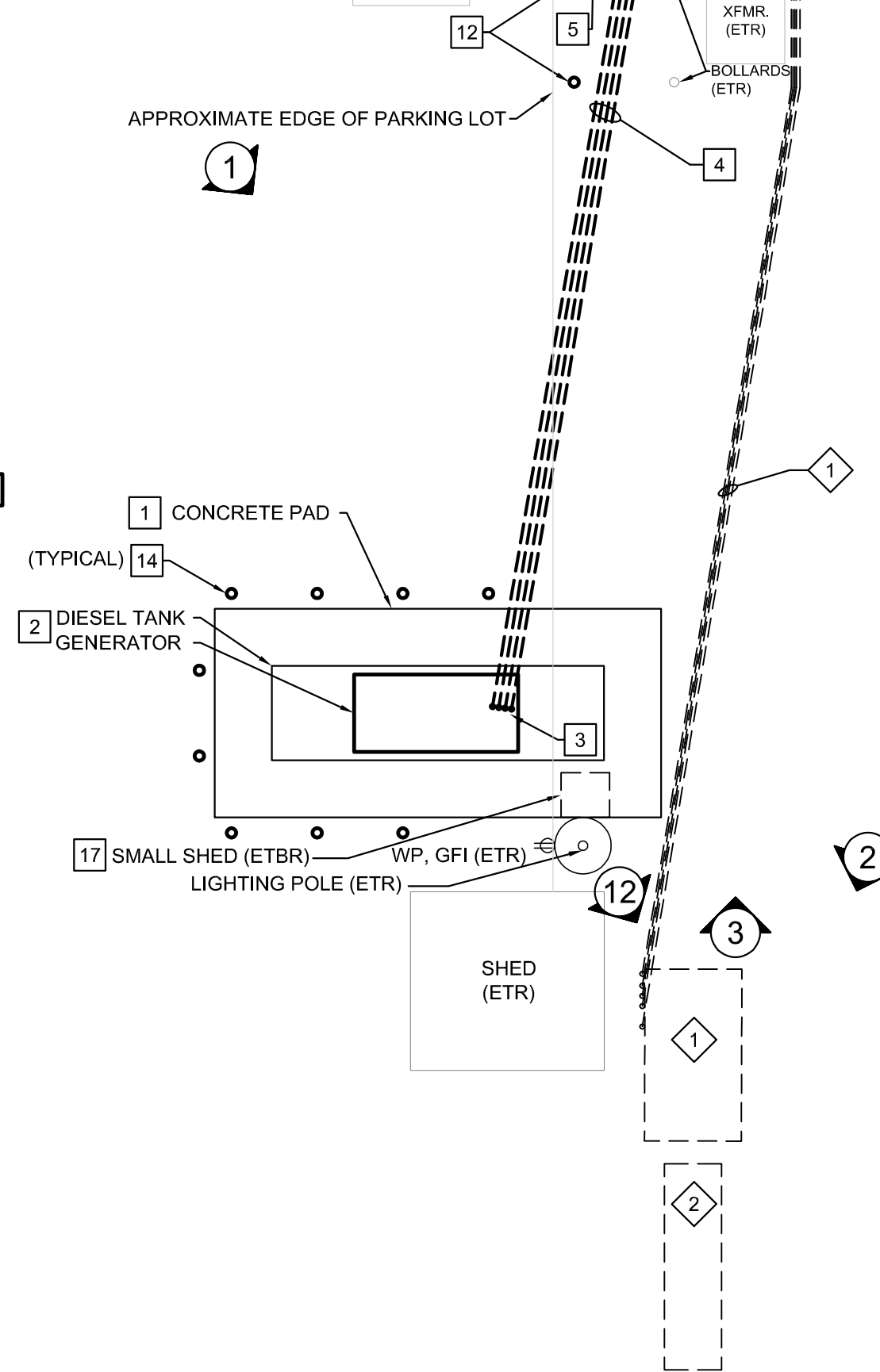
\* PLANS SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER ALONG WITH A SEPARATE PERMIT APPLICATION NEED TO BE SUBMITTED TO THE COUNTY A MINIMUM OF TWO WEEKS PRIOR TO THE PLANNED INSTALLATION TO ALLOW FOR PLAN REVIEW AND DISTRIBUTION TO THE INSPECTOR. ADDITIONAL TIME MAY BE NEEDED IF SUCH SUBMISSIONS ARE DEFICIENT.

**ALL ABBREVIATIONS AND/OR SYMBOLS  
MAY NOT APPEAR IN THIS PROJECT.**

<p><b>POWER EQUIPMENT</b></p> <p> PANEL</p> <p> GENERATOR</p> <p> MAIN SWITCH</p> <p> DISCONNECT SWITCH, FUSED OR NON-FUSED. THIS EXAMPLE INDICATES A 30 AMP SWITCH, 20 AMP FUSE, SINGLE POLE (EXAMPLE FOR CLARITY ONLY, SEE PLANS FOR EXACT SIZE AND TYPE SPECIFIED)</p> <p> MOTORIZED EQUIPMENT</p> <p> EQUIPMENT DESIGNATION TAG</p> <p> STANDARD WALL MOUNTED DEVICE BACK BOX</p> <p> SPECIAL JUNCTION BOX AS NOTED ON PLANS</p> <p> GENERATOR EMERGENCY STOP BREAK GLASS BUTTON</p>	<p><b>WIRING AND CONDUIT</b></p> <p>SEE GENERAL NOTES FOR DIRECTION ON CONDUIT &amp; WIRING.</p> <p> HOME RUN CONDUIT - SHORT STROKES INDICATE PHASE OR SWITCHED WIRES, LONG STROKES INDICATE NEUTRAL, LONG STROKES WITH DOT INDICATE GROUND CONDUCTORS, WIRE SIZE IS INDICATED IF LARGER THAN #12 AWG</p> <p> CONDUIT CONCEALED IN NEW CONSTRUCTION</p> <p> CONDUIT RUN IN FLOOR OR UNDERGROUND</p> <p> CONDUIT STUBBED UP</p> <p> CONDUIT STUBBED DOWN</p> <p><b>WIRING DEVICES</b></p> <p> SPECIAL RECEPTACLE - AS DEFINED ON PLANS</p> <p> DUPLEX ELEVATED HEIGHT REC. - 120V GROUNDING TYPE</p> <p> DUPLEX RECEPTACLE - 120V GROUNDING TYPE</p> <p><b>LINE VOLTAGE STAND ALONE SWITCHES</b></p> <p> SWITCH - SINGLE POLE TOGGLE +48" AFF UNO</p> <p> MOTOR RATED SWITCH</p> <p><b>ALARM SYSTEM</b></p> <p>ALL NEW DEVICES SHALL BE SUPPLIED FROM THE SAME MANUFACTURER WHEN POSSIBLE.</p> <p> SMOKE / FLAME DETECTOR</p> <p> AUDIBLE / VISUAL NOTIFICATION DEVICE</p> <p> FIRE ALARM CONTROL PANEL</p>
<p><b>ABBREVIATIONS</b> (ALL ABBREVIATIONS MAY NOT APPEAR IN THIS PROJECT)</p>	
<p>AF - AMP FUSE</p> <p>AFF - ABOVE FINISHED FLOOR</p> <p>AFG - ABOVE FINISHED GRADE</p> <p>AHJ - AUTHORITY HAVING JURISDICTION</p> <p>API - AMERICAN PETROLEUM INSTITUTE</p> <p>ATS - AUTOMATIC TRANSFER SWITCH</p> <p>BEMS - BUILDING ENERGY MANAGEMENT SYSTEM</p> <p>BOF - BOTTOM OF FIXTURE</p> <p>C - CONDUIT</p> <p>CB - CIRCUIT BREAKER</p> <p>CSR - MO CODE OF STATE REGULATIONS</p> <p>DNR - MISSOURI DEPARTMENT OF NATURAL RESOURCES</p> <p>DWG - DRAWING</p> <p>EC - ELECTRICAL CONTRACTOR</p> <p>EMT - ELECTRICAL METALLIC TUBING</p> <p>ENCL - ENCLOSURE</p> <p>EPA - U.S. ENVIRONMENTAL PROTECTION AGENCY</p> <p>ETBR - EXISTING TO BE REMOVED OR RELOCATED</p> <p>ETC - ETCETERA</p> <p>ETR - EXISTING TO REMAIN</p> <p>FA - FIRE ALARM</p> <p>FACP - FIRE ALARM CONTROL PANEL</p> <p>FS - FUSIBLE SWITCH</p> <p>GC - GENERAL CONTRACTOR</p> <p>GFI - GROUND FAULT CIRCUIT INTERRUPTER</p>	<p>G - GROUND</p> <p>GEN - GENERATOR</p> <p>GRS - GALVANIZED RIGID STEEL</p> <p>MDP - MAIN DISTRIBUTION PANEL</p> <p>MEZ - MEZZANINE</p> <p>MH - MOUNTING HEIGHT</p> <p>MIN - MINIMUM</p> <p>MO - MISSOURI</p> <p>MRBCA - MO RISK-BASED CORRECTIVE ACTION</p> <p>MSW - MAIN SWITCH</p> <p>MTR - METER</p> <p>NEC - NATIONAL ELECTRIC CODE</p> <p>NFS - NON-FUSED SWITCH</p> <p>PNL - PANELBOARD</p> <p>PB - PULL BOX</p> <p>PROV - PROVIDE, TO MEAN FURNISH &amp; INSTALL</p> <p>PVC - POLYVINYL CHLORIDE CONDUIT</p> <p>SW - SWITCH</p> <p>REQ'D - REQUIRED</p> <p>RSMO - MO REVISED STATUTES</p> <p>T - TELEPHONE</p> <p>TBR - TO BE REMOVED</p> <p>TBR - TO BE REMOVED AND REPLACED</p> <p>TYP - TYPICAL</p> <p>UNO - UNLESS NOTED OTHERWISE</p> <p>UST - UNDERGROUND STORAGE TANK</p> <p>XFMR - TRANSFORMER</p> <p>WP - WEATHERPROOF</p>







- 1 REPLACE EXISTING GENERATOR. PROVIDE NEW JOINT COMMISSION TITLE 19 COMPLIANT, 350 KW DIESEL GENERATOR AND PAD TO START LINE 10 CONDS WITH ANIMAL RESISTANT SCREENING AND ABOVE GROUND BASE TANK SIZED FOR MINIMUM 96 HOUR RUN TIME PER SPECIFICATION SECTION 26 32 13 - ENGINE GENERATORS. FIELD VERIFY EXACT LOCATION WITH OWNER PRIOR TO PAD EXCAVATION.
- 2 PROVIDE CONCRETE UTILITY PAD WITH SEISMIC RATED ISOLATION ANCHORAGE. TOP OF CONCRETE TO BE LEVEL WITH PARKING LOT SURFACE. SOIL SAMPLING, EVALUATION AND PROVISION OF NEW CONCRETE BASE AND ASPHALT PATCHING IN AREA AROUND NEW GENERATOR LOCATION TO BE PROVIDED BY GENERAL CONTRACTOR. CAREFULLY EXCAVATE SO AS TO NOT DISTURB EXISTING GENERATOR CONDUCTORS. REROUTE POLE LIGHT CONDUIT OUT OF PAD AREA AND PROVIDE NEW CONDUCTORS TO MATCH EXISTING. ALSO SEE GENERATOR PAD DETAIL, SHEET E0.1.
- 3 STUB UP WITH GRS WHERE SHOWN IN GENERATOR SHOP DRAWINGS. PROVIDE NEW CONDUITS AND CONDUCTORS PER SHEET E2.0 ONE LINE DIAGRAM, SHEET E0.1 GENERAL NOTES AND SPECIFICATIONS.
- 4 DIRECTIONAL BORE OR TRENCH PER SPECIFICATION 260543 AND SHEET E0.1 GENERAL NOTES AND DETAILS. PROVIDE ELECTRICAL GRADE SCHEDULE 80 PVC OR HDPE CONDUIT UNDERGROUND AND CONDUCTORS PER SHEET E2.0 ONE LINE DIAGRAM APPROXIMATELY 60'47" TO GENERATOR FOR POWER AND CONTROL PER GENERATOR SHOP DRAWINGS. RESTORE DISTURBED SIDEWALKS, PAVEMENT OR SOIL SURFACES AND PROVIDE GRASS SEED AS REQUIRED.
- 5 PROVIDE CONCRETE PAD FOR DOCKING STATION. STUB UP WITH GRS INTO BASE OF DOCKING STATION.
- 6 CORE DRILL. WALL AT DOCKING STATION SHOP DRAWING DESIGNATED LOCATION, PROVIDE SLEEVE-SEAL SYSTEMS. SEAL AIR AND WATER TIGHT AND CONTINUE POWER FEEDERS INTO BUILDING. PROVIDE TEMPORARY GENERATOR JACKET WATER HEATER AND BATTERY CHARGER 30 AMP, 2 POLE CIRCUIT AND CONVENIENCE OUTLET 20 AMP, 1 POLE CIRCUIT FROM NEW PANEL "P-3" FOR UNIT FURNISHED OUTLETS. PROVIDE DOCKING STATION WITH 1200 AMP MANUAL TRANSFER SWITCH (MTS) AND INTEGRAL CAM LOKS IN NEMA 3RX HOUSING PER SPECIFICATION 263600 FOR CONNECTION TO TEMPORARY GENERATOR AND LOAD BANK ON OUTSIDE WALL TO SWITCH BETWEEN TEMPORARY AND NEW PERMANENT GENERATORS.
- 7 EXTEND EMT CONDUIT TO ABOVE DROF CEILING AND CONTINUE TO THE AUTOMATIC TRANSFER SWITCH (ATS) AREA IN ELECTRICAL ROOM 179. REMOVE CEILING GRID AND CEILING MOUNTED FIXTURES AS REQUIRED FOR CONDUIT INSTALLATION. SUPPORT CONDUIT FROM STRUCTURE PER SPECIFICATIONS AND SEISMIC CODES. DO NOT INSTALL CONDUIT WITHIN 1 1/2" OF BOTTOM OF ROOF DECK PER NEC 300.4-B-2-E. RE-INSTALL CEILING GRID AND CEILING MOUNTED FIXTURES AND CLEAN FOR A NEW APPEARANCE. SEAL CEILING PENETRATIONS WITH FIRE STOP CAULK TO RESTORE CEILING INTEGRITY.
- 8 PROVIDE 120/208V, 3P, 4W, 100 AMP MCB, 18 POSITION PANEL "P3" WITH TVSS PER SPECIFICATION SECTION 26 24 16 AND SHEET E2.0 ONE LINE DIAGRAM. REMOVE UNUSED 2 POLE CIRCUIT BREAKERS FROM KP-1 - 14/16, 21/23 AND RETURN TO OWNER. MOVE CIRCUIT BREAKERS FROM 17, 19 to 14, 16. PROVIDE NEW 100/3 CB AT KP-1-LEFT - 19/21/23. PROV. CONNECTION TO PANEL P3 FEEDER AND UPDATE PANEL DIRECTORY.
- 9 PROVIDE NEW GENERATOR CONTROL PANEL. VERIFY POWER AND CONTROL WIRING REQUIREMENTS WITH GENERATOR EQUIPMENT PROVIDER. PROVIDE 20 AMP, 1 POLE CIRCUIT FOR CONTROL POWER AND 30 AMP, 2 POLE CIRCUIT BREAKER AND (2) #10, #10 G. FOR GENERATOR JACKET WATER HEATER AND BATTERY CHARGER CIRCUIT. PROVIDE (2) #16 AWG FOR START SIGNAL, (2) #16 FOR EMERGENCY STOP, A SHIELDED TWISTED PAIR AND A CAT 5e 48MM DIA. CABLE IN (2) 1" HD. FROM THE GENERATOR REMOTE ANNUNCIATOR TO THE ATS AND TO THE GENERATOR PER GENERATOR PROVIDER INSTRUCTION.
- 10 COORDINATE WITH GENERATOR MANUFACTURER AND PROVIDE NEW GENERATOR REMOTE ANNUNCIATOR WITH INTEGRAL AUDIBLE/VISUAL NOTIFICATION DEVICE. PROVIDE SIGNAL CONNECTION TO GENERATOR WITH BASIS OF DESIGN BELDEN 3106A AND 24VDC CONNECTION TO GENERATOR BATTERIES WITH (2) #14 AWG AND SUPPORTED BY J-HOOKS ABOVE ACCESSIBLE CEILING, IN MINIMUM 1" EMT WHERE INACCESSIBLE AND IN SCHEDULE 80 PVC OR HDPE OUTSIDE OR UNDERGROUND.
- 11 PROVIDE NEW GENERATOR WP AUDIBLE/VISUAL NOTIFICATION DEVICE.
- 12 PROVIDE NEW CONCRETE BOLLARD TO PROTECT NEW DOCKING STATION PER SHEET E0.1, DETAIL #4.
- 13 REMOVE EXISTING GENERATOR EMERGENCY STOP BREAK GLASS PUSH BUTTON AND PROVIDE NEW EMERGENCY STOP BUTTON AND CONNECTION TO NEW GENERATOR CONTROLLER.
- 14 PROVIDE NEW CONCRETE BOLLARDS TO PROTECT NEW GENERATOR PER SHEET E0.1, DETAIL #4.
- 15 ONCE NEW GENERATOR IS OPERATIONAL AND TESTED, REMOVE 208/120V, 3P, 4W, 1200A, ATS FROM ETR HOUSING AND PROVIDE NEW CLOSED TRANSITION 1200A ATS. CONNECT TO NEW GENERATOR CABLES AND EXISTING NORMAL POWER SERVICE AND LOAD CONDUCTORS PER SHEET E2.0 ONE LINE DIAGRAM. MODIFY EXISTING PULL BOXES AND SECURE COVERS WITH NEW SHEET METAL SCREWS.
- 16 RELOCATE EXISTING ROOF ACCESS CAGED LADDER FROM BACK OF BUILDING TO THIS LOCATION.
- 17 RELOCATE EXISTING SMALL SHED PER OWNER INSTRUCTION.

- 1 ONCE THE NEW GENERATOR HAS BEEN PERMANENTLY CONNECTED, TESTED AND APPROVED, REMOVE EXISTING 450 KW GENERATOR, ALL UNUSED JUNCTION BOXES, EXPOSED CONDUITS, CONDUCTORS, CONCRETE BASE ETC. AND DISPOSE OF PROPERLY.
- 2 AFTER FINAL APPROVAL OF NEW GENERATOR COORDINATE WITH OWNER'S FUEL PROVIDER FOR EXISTING TANK FUEL REMOVAL, TRANSFER TO NEW TANK AND DISPOSE OF ANY EXCESS OR UNUSABLE FUEL PROPERLY. APPROXIMATE LOCATION AND SIZE SHOWN, FIELD VERIFY EXISTING CONDITIONS. REMOVE EXISTING TANK, CONCRETE, CONTAMINATED SOIL, ETC. AND DISPOSE OF PROPERLY PER UNDERGROUND STORAGE TANK REMOVAL SPECIFICATION, DNR AND EPA STANDARDS AND SOIL TESTING RESULTS. PROVIDE SECURED FENCE PER SPECIFICATION SECTION 105000 PART 3.4 D TO PREVENT RESIDENTS FROM FALLING INTO HOLE. STORE REMOVED CLEAN SOIL ON SITE FOR BACKFILL MATERIAL PENDING SOIL TESTING RESULTS. UTILIZE EXISTING CLEAN SOIL TO FILL REMOVED TANK HOLE AND PROVIDE ADDITIONAL SOIL AS REQUIRED. COORDINATE WITH PROFESSIONAL ENVIRONMENTAL ENGINEERS, INC. FOR SOIL TESTING AND PROVIDE ALL REQUIRED LABOR AND MATERIAL TO REMOVE THE EXISTING GENERATOR AND TANK AND LEVEL THE SURFACE, SEED AND MULCH TO RESTORE THE SITE TO MATCH THE EXISTING SURROUNDING AREA.
- 3 AFTER FINAL APPROVAL OF NEW GENERATOR REMOVE EXISTING GENERATOR CONTROLS. ALSO SEE SHEET E2.0 FOR ADDITIONAL PICTURES AND DESCRIPTION.
- 4 REMOVE EXISTING WALL MOUNTED JUNCTION BOX, CONDUCTORS, EXPOSED RACEWAY AND GROUT SOLID WALL PENETRATIONS AND SEAL WATER TIGHT TO PREVENT INTRUSION OF ELEMENTS UPON FINAL APPROVAL OF NEW GENERATOR SYSTEM. FILL AND SEED HOLES TO RESTORE LANDSCAPE.
- 5 REMOVE EXISTING ROOF ACCESS CAGED LADDER FROM BACK OF BUILDING AND RELOCATE TO SIDE OF BUILDING PER NEW WORK KEYED NOTE 16.



**PHOTO 3: PATH FROM GEN TO BUILDING**



**PHOTO 6: ETR CONDUIT TO MDP**



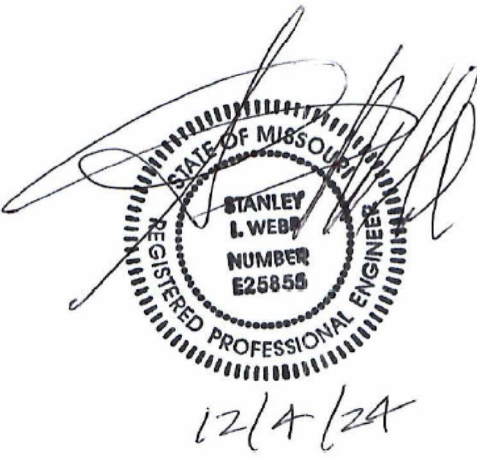
**PHOTO 9: ELECTRICAL RM. 170 CEILING**

3 OF 4 SHEETS  
12/04/2024



**PHOTO 12: ETBR GENERATOR STUB-UPS**





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**WES**

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OFFICE OF ADMINISTRATION  
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GENERATOR REPLACEMENT  
SAINT LOUIS COUNTY  
HABILITATION CENTER

2312 LEMAY FERRY ROAD  
SAINT LOUIS, MISSOURI  
63125

PROJECT LOCATION

PROJECT # M-2328-01  
SITE # 3626  
FACILITY # 47630

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 12/04/2024

CAD DWG FILE: 23012  
DRAWN BY: JLC  
CHECKED BY: MRW  
DESIGNED BY: SIW

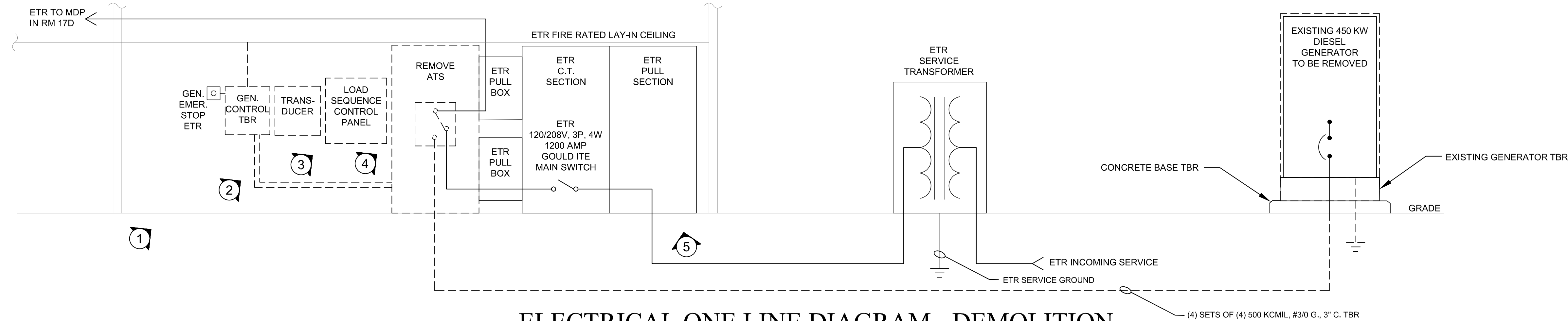
SHEET TITLE:

ELECTRICAL  
ONE LINE  
DIAGRAMS

SHEET NUMBER:

E2.0

4 OF 4 SHEETS  
12/04/2024



## ELECTRICAL ONE LINE DIAGRAM - DEMOLITION

SCALE: NONE



PHOTO 1: ETBR GENERATOR CONTROLS



PHOTO 2: TRANSDUCER

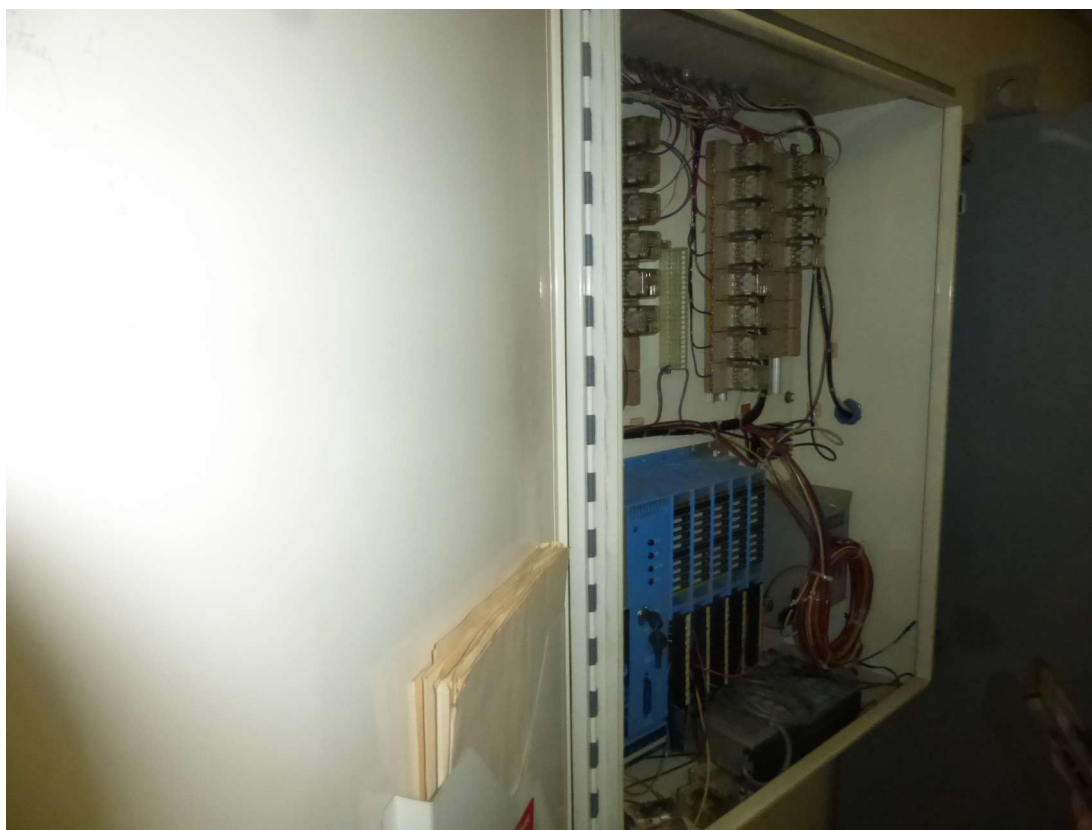


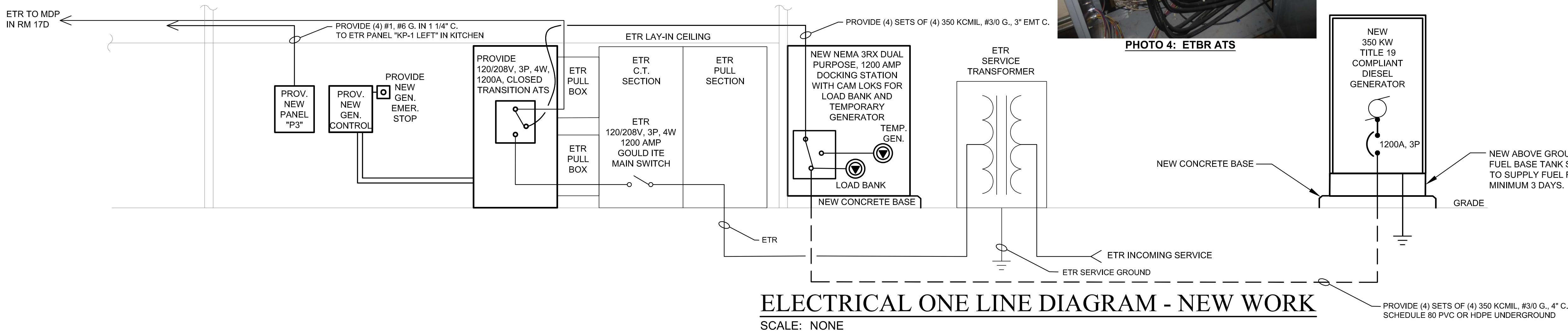
PHOTO 3: LOAD SEQUENCE CONTOL PANEL



PHOTO 4: ETBR ATS



PHOTO 5: ETR MAIN SWITCH



## ELECTRICAL ONE LINE DIAGRAM - NEW WORK

SCALE: NONE

### SUGGESTED SEQUENCE OF OPERATIONS

1. PREPARE NEW GENERATOR LOCATION. DIRECTIONAL BORE OR PROVIDE NEW UNDERGROUND CONDUITS AND CONDUCTORS IN TRENCH PER SPECIFICATION SECTION 26 05 43 FROM BUILDING WALL TO NEW GENERATOR STUB-UP LOCATION.
2. PROVIDE NEW GENERATOR AND MANUAL TRANSFER SWITCH (MTS) CONCRETE PADS.
3. PROVIDE NEW GENERATOR AND FUEL TANK. PROVIDE CONDUCTOR TERMINATIONS AT MTS LOCATION.
4. CORE DRILL PARKING LOT SIDE BUILDING WALL ABOVE EQUIPMENT ROOM DROP CEILING HEIGHT, PROVIDE SLEEVES, CONDUITS, WP LB FITTINGS AND GRS CONDUIT DOWN TO DOCKING STATION CONNECTION LOCATION. SEAL WALL PENETRATIONS TO PREVENT ENVIRONMENTAL INTRUSION.
5. PROVIDE GENERATOR DOCKING STATION WITH MTS, CAM LOCKS FOR CONNECTION TO LOAD BANK AND TEMPORARY GENERATOR AND CONNECT TO NEW CONDUITS. PAINT GRS THREADS WITH ANTI-RUST PAINT TO RESTORE GRS WP INTEGRITY.
6. PROVIDE NEW PANELBOARD "P3", RELATED CIRCUITS, GENERATOR CONTROLLER AND REMOTE ANNUNCIATOR.
7. PROVIDE EMT FROM WALL PENETRATION, ABOVE DROP CEILING TO ABOVE CEILING AREA IN FRONT OF ATS LOCATION. PROVIDE FLEXIBLE METALLIC RACEWAY FROM EMT DOWN THROUGH CEILING TILE OVER TO ATS LOCATION AND PROVIDE CONDUCTORS FROM MTS OF SUFFICIENT LENGTH TO REACH CONNECTION POINTS OF NEW ATS. PROVIDE CONDUCTOR TERMINATIONS AT ATS LOCATION.
8. PROVIDE FIRE STOP CAULK AND AROUND ALL NEW CEILING PENETRATIONS TO RESTORE CEILING'S PREVIOUS FIRE STOP INTEGRITY.
9. PROVIDE ALL CONNECTIONS TO NEW GENERATOR AND ARRANGE WITH OWNER TO PROVIDE FUEL ENOUGH FUEL TO OPERATE GENERATOR FOR AT LEAST 24 HOURS, BUT LEAVE ENOUGH ROOM IN THE TANK TO TRANSFER FUEL FROM THE EXISTING GENERATOR'S TANK.
10. PROVIDE TEMPORARY RESISTOR LOAD BANK, CONNECT TO CAM LOCKS OF DOCKING STATION AND TEST NEW GENERATOR PER SPECIFICATIONS AND MANUFACTURER INSTRUCTION. TAKE ANY CORRECTIVE MEASURES REQUIRED AND RE-TEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED.
11. PROVIDE WRITTEN NOTICE TO OWNER MINIMUM (2) WEEKS PRIOR TO DE-ENERGIZING BUILDING FOR POWER TRANSITION TO TEMPORARY GENERATOR. HAVE NEW ATS ON SITE AND READY FOR INSTALLATION PRIOR TO DE-ENERGIZING THE MAIN DISTRIBUTION PANEL.
12. DISCONNECT AND REMOVE EXISTING AUTOMATIC TRANSFER SWITCH, PROVIDE NEW ATS, BOND ALL GROUNDS AND TEST CONNECTIONS PER SPECIFICATIONS AND ENERGIZE MAIN DISTRIBUTION PANEL AS QUICKLY AS POSSIBLE. PROVIDE AS MUCH PREPARATION WORK AND MAIN POWER AS POSSIBLE. RESTORE POWER TO FACILITY IN LESS THAN (4) HOURS IF POSSIBLE.
13. ARRANGE WITH OWNER TO TRANSFER REMAINING FUEL FROM EXISTING GENERATOR'S 1,000 GALLON TANK TO NEW GENERATOR'S 2,680 GALLON TANK.
14. SWITCH NEW ATS TO NORMAL POWER. DEMONSTRATE GENERATOR CONTROL AND REMOTE ANNUNCIATOR OPERATION TO OWNER.
15. REMOVE EXISTING GENERATOR, TANK AND FEEDERS. SEAL EXTERIOR WALL PENETRATIONS FROM ENVIRONMENTAL INTRUSION. PROVIDE SOIL AND SOD PER EPA REQUIREMENTS.